

Lessons Learned from two Community-Level Green Development Projects

An Internship with Madres Maestras

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Presented to Dr. Rafael Samudio

April 2005
Panama Field Study Semester
McGill University

Resumen Ejecutivo

Madres Maestras es una organización católica non-gubernamental que hace la promoción de la educación de los niños al nivel de la comunidad. En escuelitas en diferente parte de América Central, madres voluntarias planifican e implementan programas de educación informal para los niños de su comunidad. Este año, los estudiantes de McGill trabajaron con Madres Maestras para promover educación ambiental y desarrolló comunitario.

Dos grupos de estudiantes de McGill se fueron designados dos comunidades, Belén y San Vicente. Con la sugerencia de la organización y de la de las dos comunidades, cada grupo inicialmente decidió de enfocar sobre las plantas medicinales y los árboles frutales. Para tratar de las cuestiones del desarrollo comunitario, de la sostenibilidad y de la preservación del conocimiento local, los dos grupos eligieron de hacer estos proyectos con un enfoque participativo. El objetivo del grupo de San Vicente era:

Tratar de encontrar los objetivos de Madres Maestras con un enfoque participativo y de probar la eficacia de este intento de generar la participación.

Para encontrar el objetivo primario, el grupo de San Vicente se concentraba en establecer una visión comunal del proyecto con los participantes, planificando actividades participativas, involucrando los vecinos y recursos locales, y consultando y preguntando consejos de la parte de las Madres Maestras implicadas. Para evaluar la eficacia de estos intentos, los estudiantes reflexionaron sobre la asistencia de los participantes a los reuniones y a las actividades, a sus participación en la toma de decisión, a su participación en la supervisión del proyecto, y a sus contribución de fondos y de material.

En frente de una falta de participación al nivel de la comunidad de Belén, tal enfoque no era posible y el objetivo del grupo de Belén fue:

Evaluar la necesidad y la factibilidad de un Análisis de Situación en proyectos de desarrollo comunitario.

Para encontrar este objetivo, el grupo de Belén conducía entrevistas con diferentes actores en la comunidad de la escuelita y con participante de proyectos pasados McGill-Madres Maestras. La información así colectada era evaluada en un intento de componer una imagen mas clara de las dinámicas afectando la participación en la escuelita.

Durante toda la experiencia, los dos grupos intercambiaron lecciones aprendidas pertinentes a la implementación de proyecto de desarrollo comunitario. Descubrimos que la Análisis de Situación y el enfoque participativo son complementarios. Estas dos metas ayudan a crear relaciones de confianza, ayudan a lo que el proyecto seria más efectivo, eficiente y sostenible. También promueven la equidad, confianza y entendimiento mutua de la importancia de la experiencia humana en las iniciativas de desarrollo comunitario.

Executive Summary

Madres Maestras is a Catholic non-governmental organization with the goal of promoting child education at the community level. In small schools around Central America volunteer mothers design and implement informal education programs for local children. This year, the McGill students worked with Madres Maestras to promote environmental education and community development. Two groups of McGill students were assigned to two different communities, Belén and San Vicente. With the suggestion of the organization and the two communities, each group initially decided to focus on medicinal herb and fruit tree gardening. To address the issues of community development, sustainability and the preservation of local knowledge, the two groups decided to approach these projects through a participatory framework.

The objective of the San Vicente team was:

To try to meet the objectives of Madres Maestras with a participatory approach and assess the effectiveness of this attempt in being participatory.

To meet the primary objective, the San Vicente team focused on establishing a common vision of the project with the participants, designing participatory activities, involving neighbors and local resources, and consulting and requesting feedback from the volunteer mothers involved. To measure the effectiveness of these attempts the students reflected upon participants' attendance at internship meetings and activities, their participation in decision making, involvement in the supervision of the project, and their contribution of funds and materials.

Faced with a lack of participation at the community level in Belén, a similar approach was inappropriate and the objective of the Belén team was:

To examine the potential need and feasibility of a Situation Analysis in community level development projects.

To meet this objective, the Belén team conducted interviews with the different stakeholders in the school community and participants in past McGill-Madres Maestras projects. The information collected was assembled and analyzed in an attempt to paint a clearer picture of the dynamics affecting participation in the school.

Throughout the study the two teams exchanged lessons learned regarding the implementation of a ground-up, participatory, community development project. It was discovered that a Situation Analysis and participatory approach must go hand in hand. They are complementary approaches that help to develop trust relationships, help make projects more effective, efficient and sustainable. They promote equity, trust, empowerment and mutual understanding of the importance of the human experience in community development initiatives.

Approximate Allotment of Time
(hours)

	TOTAL
<i>Out of field</i>	
Cocktails: 3hrs	3
Two meetings with flora: 4hrs	4
Internship weeks: 30 hrs(3wks)(2groups)	180
Preparation for field every week: 4hrs(12wks)(2groups)	96
Oral presentation preparation: 2hrs(2groups)	4
Symposium preparation: 15hrs(2groups)	30
Report: 100hrs(4people)	400
Research fieldtrips (Diablo gardener, ANAM, Altos de Campana, La Cabima, Genesis) :	17
TOTAL hrs	734
TOTAL days	92
 <i>In field</i>	
San Vicente:	
Summer months: 5hrs(9wks)	45
School year: 8hrs(3wks)	24
Belén:	
Summer months: 5hrs(9wk) -10hrs	35
School year: 5hrs(3wks)	15
TOTAL hrs	119
TOTAL days	15
 <i>Transportation</i>	
San Vicente: 5hrs(12wks)	60
Belén: 8hrs(12wks)-10 hrs	86
Meetings: 9hrs	9
TOTAL hrs	155
TOTAL days	19

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A. Introduction

Madres Maestras is a Catholic non-governmental organization with the goal of promoting child education at the community level. In small schools throughout several Central American countries volunteer mothers design and implement informal education programs for local children. The organization is in its seventh year of hosting McGill University students as interns. Each year the students have been posted in a different community to work directly with the local Madres Maestras school. This year, two teams of McGill students worked in two separate communities: San Vicente and Belén. Both communities are located in the Las Manañitas area in the suburbs of Panama City¹.

Las Manañitas is a metropolitan area belonging to the *Corregimiento de Tocumen*. The area is geographically large and very heterogeneous, featuring a wide range of living conditions (Garralda, 2001). The area was largely originally established as a series of squatter settlements and the legalization of land holdings remains a pertinent issue today. The unplanned urban growth that occurred in Las Mañanitas as the population rapidly grew has resulted in a general lack of basic resources and services in the area (Garralda, 2001).

Of 5441 houses studied in the area in 2000, 6.8% had dirt floors, 3.5% lacked potable water, 2.3% had no sanitation facilities, 2.7% lacked electric lighting, and 57.9% had no telephone (Garralda, 2001). In comparison to the average well-being indicator numbers for the *Region Metropolitana de Salud*, Las Mañanitas fares significantly worse. In 2000, the area had a high infant mortality rate of 17.2%. The natural population growth rate was extremely high at 23.8% - almost double the *Region's* average. The fertility rate was also significantly higher at 84.8% (Garralda, 2001).

While access to basic services is clearly a major concern for the area of Las Mañanitas, it comes second to unemployment from the perspective of the residents. When questioned about the most pressing problems faced by the local people of Las Mañanitas, almost 50% of residents asked answered employment-related problems (Garralda, 2001).

The project goals established by Madres Maestras were the same for both communities. These goals, as presented in an early meeting with Flora Eugenia Villalobos, the director of the organization's Panama chapter, were as follows:

1. Que la niñez se relacione con jóvenes estudiantes de otras naciones.
2. Que puedan relacionarse con otro idioma. En este caso el Inglés.
3. Que tengan la oportunidad de manejar conocimientos sobre plantas medicinales, árboles frutales y plagas.
4. Que tengan una experiencia vivencial con la generosidad de la Madre Tierra.
5. Que puedan descubrir respuestas en torno a la salud.

¹ Refer to Appendix D: Maps of Panama, Belén and San Vicente

With these goals in mind, each student team discussed the priorities for their respective communities with the local mothers volunteering for Madres Maestras. Each community decided to focus on environmental education about medicinal plants and fruit trees through the creation of gardens². Communities garden have been cited to be important for food production, plant domestication, and transfer of local knowledge from generation to generation (Corlett et al, 2003). In urban environments they are often situated in low income areas, and are considered to be safe places that provide residents with a sense of nature, community, belonging, and power, especially for women and children (Schmelzkopf, 1996).

Working with the same set of goals, the two McGill groups decided together to approach the projects under the same theoretical framework. It became clear that the underlying theme of these projects was community development, covering a spectrum from the emotional to the tangible. It was emphasized that the goal be continuous and ongoing after the end of the internship. In order to achieve this desired sustainability, it was felt necessary to use a bottom-up, participatory approach drawing primarily upon local resources. Given this premise, the project's primary objective was established as:

To try to meet the objectives of Madres Maestras with a participatory approach and assess the effectiveness of this attempt in being participatory.

From the beginning the two projects evolved relatively differently. San Vicente had a core of four dedicated mothers who came every week to work with the interns, and a consistent number of children. The project in Belén started with similarly promising numbers. While there was a group of dedicated women, prior commitments most often prevented more than one at a time from attending school. Participation on the part of the children decreased almost entirely by mid February³. For obvious reasons, a participatory approach was no longer feasible in Belén. This initial problem presented an opportunity to test the theory of Situation Analysis as an alternative project. Given this opportunity, the secondary objective was established as:

To examine the potential need for and feasibility of a Situation Analysis in community level development projects, using the Belén zone 13 school as a case study.

Not only did the adoption of this objective allow for the exploration of the present community dynamics of Belén, it also provided an opportunity to better understand this widely used environmental and community development tool.

The primary and secondary objectives will be addressed independently throughout the paper in a parallel structure. In conclusion, the implications and relationships between the two objectives will be examined.

² Refer to Appendix C: List of Medicinal Plants assembled by older Belén Children.

³ See Appendix B: Calendar of Events

B.1 EXECUTED PROJECT IN SAN VICENTE MADRES MAESTRAS SCHOOL

1.1 Introduction

The participatory approach is one that encourages the participation and contribution of all the people involved in a project. When a project based on the participatory approach involves foreigners, it is an approach in which foreigners work with a community instead of for a community. All stakeholders involved help realize the visions that are created conjointly. Ideas and resources are shared, agreed upon and implemented together. The goal of the participatory approach is to increase the self-sufficiency and sustainability of a project. This approach is in contrast to international aid approaches that favour tactics that have worked well in the West and are prejudice toward a Western perspective. The participatory approach is used in development projects by experts in the IUCN, the UNDP as well as countless smaller non governmental organizations. The Sustainable Livelihoods unit of the IUCN describes the participatory approach as both a means and an end. As a means it is explained as, “A process whereby local people cooperate or collaborate with externally introduced development programmes or projects.” As an end it is explained as, “a goal that can be expressed as the empowering of people in terms of their acquiring of skills, knowledge and experience to take greater responsibility for their development.” (Sustainable Livelihoods unit of UNDP, 1999)

The participatory approach focuses on the value of local resources, both human and physical. This trend of utilizing local resources has been popular in conservation initiatives and has been described positively as an “erosion of faith in the role of experts” and an “undermining of traditional institutional ties,” (Goodwin, 1998). Involving local stakeholders builds the human resources available for the project through the exchange of ideas and skills. Local human resources are integral to a project since community members have the best understanding of what is needed and what will work in their own community. Involving locals has increasingly positive effects in that knowledge and excitement for the project can spread easily and additional ideas and resources will become available. Utilizing local physical resources often reduces the costs of a project, can help get more people involved and can help outsiders to meet more people in the community. In addition, focusing on local human and physical resources promotes the sustainability of a project in that the resources necessary for the project are available to the locals. Most importantly and most simply, highlighting the importance and value of local knowledge and resources is empowering for the community.

Participation encourages a sense of ownership, responsibility and interest in a project, all of which can help to ensure its continuance in the future. This can be especially significant to the sustainability of a project after temporary foreign support leaves the community. People who have taken a risk and invested time, energy and

money in a project are more likely to contribute, manage and improve the project in the future and thus promote its sustainability. The Canglon women's organic agro-ecological farm in Darién, Panama exemplifies this point. The fact that it is an organization with "hands-on ownership and shared responsibilities" has been attributed to why it is "successful and approaching sustainability." (Empowering Local Women through Micro-Credit, UNDP)

Development projects that involve foreign contributions run the risk of miscommunication and misunderstanding based on cultural biases and different cultural perspectives. Taking a participatory approach helps to overcome these challenges by bringing people together face to face with a common goal. The participatory approach requires a common vision so stakeholders can work together. This necessitates communication and discussion that help to eliminate misunderstandings about the project that are inefficient and frustrating for those involved.

The 2005 internship between McGill University and Madres Maestras has been approached as a community development project and the participatory approach has been selected as a means of accomplishing the goals of this project because of its focus on human development and sustainability. In addressing the goals of Madres Maestras the students want to focus primarily on the shared experience among themselves, the volunteer mothers and participating children of the program. The ambition is to create a sense of pride in local botanical knowledge, an appreciation for the earth, excitement about nature, an interest in working together, an opportunity for community bonding, and a feeling of empowerment through participatory environmental education. The primary objective of the students of this project is as follows:

To try to meet the objectives of Madres Maestras with a participatory approach and assess the effectiveness of this attempt in being participatory.

The following section of this paper is a case study that assesses the students' participatory approach. It is an attempt to answer how effective they were in making the project participatory. It is also a reflection upon this approach, the experiences and the lessons learned in regards to community development. The methodology section describes the means the students took in an attempt to make this project participatory, as well as a description of the indicators used to analyze the effectiveness of their attempt at participation. The results section will review these indicators one by one and use anecdotes to create a picture of the students' effectiveness. Lastly, this study on the participatory approach will conclude with a discussion section based on reflections on the lessons learned and a revised proposition to how to implement the participatory approach.

1.2 Methods

The students used various methods to try to create a participatory project. These attempts can be combined into different categories: creating a common vision, consulting and requesting feedback, involving neighbours and local resources and designing

activities that are themselves participatory to get children and mothers actively involved in the project. This section will elaborate on these participatory means.

Subsequently, to assess the effectiveness of these attempts in making the project participatory, Okafor's indicators of participation were used and then quantitatively and qualitatively reflected upon as they apply to this particular project. It is hoped that this will give an assessment on how successful was the attempt to make this project participatory. These indicators were developed in the context of assessing self-participation in various Nigerian rural development projects. The indicators are:

1. Attendance at project meetings
 2. Participation in decision-making
 3. Involvement in the supervision of development projects
 4. Contribution of funds
- (Okafor, 1987)

Reflection on the actions of the mothers and the children within each of these categories will be conducted in the results section. After each internship day detailed notes were taken by the students on participants' attendance, the activities performed, initiatives taken, etc. which serve as a basis for assessing the success of specific attempts at creating a participatory project. The discussion section will reflect upon these results to formulate suggestions for implementing participatory development projects.

1.2.1 Means of Making our Work Participatory

a. Creating a Common Vision

On the first day in our community, the students brainstormed ideas for the future garden with the participants. They also drew pictures of the potential garden and then discussed the components of the drawings, which were finally posted on a wall in the school under the heading: *Our garden*. With the mothers the students sat down and had a conversation about the potential garden. All of this was recorded in the students' notes.

After half of the project time had passed, it was felt there was a lack of a common vision with the mothers and it was needed to reassess the situation. The students their goals and asked the mothers questions about theirs. This occurred in an informal discussion.

One of the hardest difficulties in creating a common vision was due to limited Spanish abilities. One of the approaches to this problem was to plan and write down that which was desired to be communicated before actually speaking with the mothers. This way it could be used as a guide when speaking, or, as in the case with the Work Plan, the mothers read it themselves.

b. Consulting and Requesting Feedback

Advice and feedback were requested in informal conversations with the mothers before and after some of the activities for the children. For example, the mothers suggested that the students institutionalise a fruit break between the activities. The children also participated in an informal evaluation, when they were asked what had been their favourite part of the day. Once the school year started, the students met every day an hour before class started with the mothers to share thoughts on the activities and

organization of the day. This was an opportunity for the mothers to offer suggestions and feedback on ideas.

c. Involving Neighbours and Local Resources

When activities were designed, it was decided to try to prioritise the use of local resources. To learn more about local medicinal plants the mothers were asked who in the community might be knowledgeable on the topic. The mothers then took the children and the students to visit a few community members, and they asked them about plant uses, growing tips, and if they had extra seeds or seedlings to donate to the project. On other occasions local resources would voluntarily seek out the project. One community member visited the school frequently and was particularly knowledgeable and interested in talking about medicinal plants.

A neighbouring catholic Sister, who was introduced to the students on the first day, was also a valuable resource for the project. She took them to a local commercial plant grower, suggested a functional compost bin design particular for the tropical climate, donated material to construct the compost bin, and gave them an informative pamphlet on compost practises that had been produced for and by Madres Maestras a few years earlier. A street fruit vender also contributed to the functioning of the compost by donating her left over products that otherwise would have been wasted.

When additional materials were needed, the students either contributed to the local economy to purchase them, or mothers donated materials from their houses. For example, the students purchased fruits and products from local stores, and constructed individual projects with local palm leaves, bamboo and soil from a near river.

Near the end of the internship a fieldtrip was organized with the mothers and children to *Semilla de Dios*, a local agricultural parcel which is owned by Madres Maestras. Here the students introduced the participants to the head gardener who is especially knowledgeable and experienced and will potentially act as a new resource who the mothers can easily access and consult in the future. Likewise, the students introduced the gardener to this project so if he ever has extra seeds or supplies he knows of an organization that would gratefully use them.

d. Designing Participatory Activities

When designing activities to meet the goals of Madres Maestras, the students wanted to make sure that they would be far from conventional teaching, given the alternative education philosophy of the organization, the young age of the children, and the type of knowledge and experience we wanted to share. Interactive activities are an effective learning process since participants are actively engaged in what they are learning. This tends to inspire more enthusiasm and a more thorough understanding of the topic. During the visit to *Semilla de Dios*, the children were left free to explore the organically cultivated land on their own. It was hoped to inspire more excitement and curiosity about nature which would be applied to the cultivation back in San Vicente. This approach was in contrast to lecturing to the children about the land or even leading them through the property ourselves.

A few activities did not involve the actual steps of gardening, but they were still interactive and considered important as a means sharing knowledge about basic concepts essential to gardening. For example, the children were instructed to compare different

types of soil by collecting dirt from various parts of the yard. The children then shared their collections, felt them, looked at them and described the components that made them different. Another activity involved the children composing a poster of all the plants the school possesses with their uses. First the children had to find the plants in the yard and count them, and then the students helped to match them with their uses. The students also used a memory game that was created by the Belén team that introduced the children to many medicinal plants, their names and their uses. As part of the game, the mothers participated by writing additional uses of the plants that they knew on the cards of the game.

Almost all the other activities were designed to include the participation of the mothers and children in the steps of making a garden: bringing kitchen scraps from their homes for the compost, collecting the material to compost from the street fruit vendor, collecting leaves to add to the compost; collecting seeds from fruits we are together, planting seeds in the nursery, mixing soil and planting seeds in containers, bringing plants from home, planting in the yard around the school, planting an ornamental, medicinal, edible and a cactus garden, and fulfilling daily responsibility such as collecting compost from the school's kitchen, watering plants or picking up trash from around the school⁴.

1.3 Results and Relevance of Indicators

The Okafor indicators were created to be measured quantitatively through surveys for the purpose of doing comparative studies (Okafor, 1987). The results from San Vicente will differ from this methodology and be analysed primarily qualitatively and used for a singular analysis study. With the exception of the attendance results, it was decided not to assess the results quantitatively because this would require asking the mothers to review the experience on some numerical scale and most attempts to collect feedback from the mothers throughout the project were met with limited success. In addition, remnants of a misunderstanding of the students' role as "initiators with all the answers" instead of "participants learning conjointly with the mothers" may limit the mothers' comfort level in criticizing the work of the students. Since this study is not comparative but instead a case study with the intent of learning and recording the lessons learned from a particular community development project, measuring the results on a comparable numerical scale is not necessary. The students recorded the events and results of every internship day to generate material for reflection and assessment.

1.3.1 Attendance at Meetings

According to the Okafor indicators, the one of the four means of measuring participation is through attendance at meetings. For the purpose of this study "meetings" are considered equivalent to internship days spent in San Vicente at the school with the mothers and children. Figure 1 records the attendance of the mothers of San Vicente throughout the internship time period. Each mother is represented by a different colour.

⁴ For collection of many of the activities performed, refer to Appendix A: *El Libro de la Memoria* (a gift to the community).

Two mothers attended the most regularly, coming to every internship day except two. The general increase in the attendance level of mothers over time is mainly due to the fact that a new mother started attending regularly when the school year started in mid March. Disregarding this new mother, participation was relatively constant and averaged about three or four mothers.

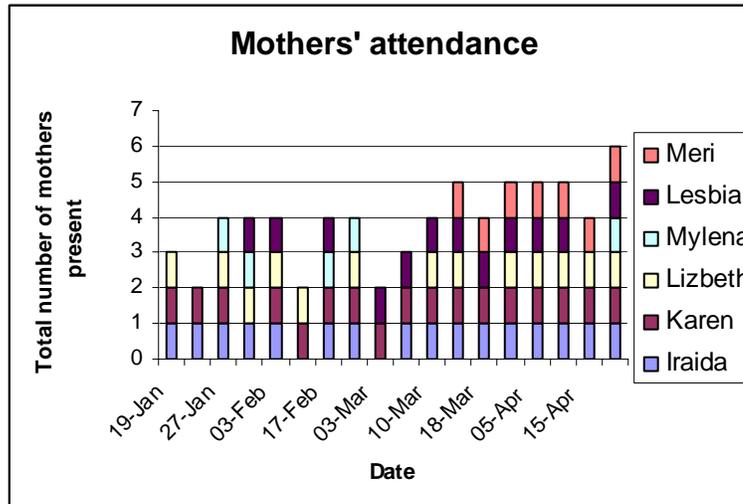


Figure 1.3A: Mothers' Attendance

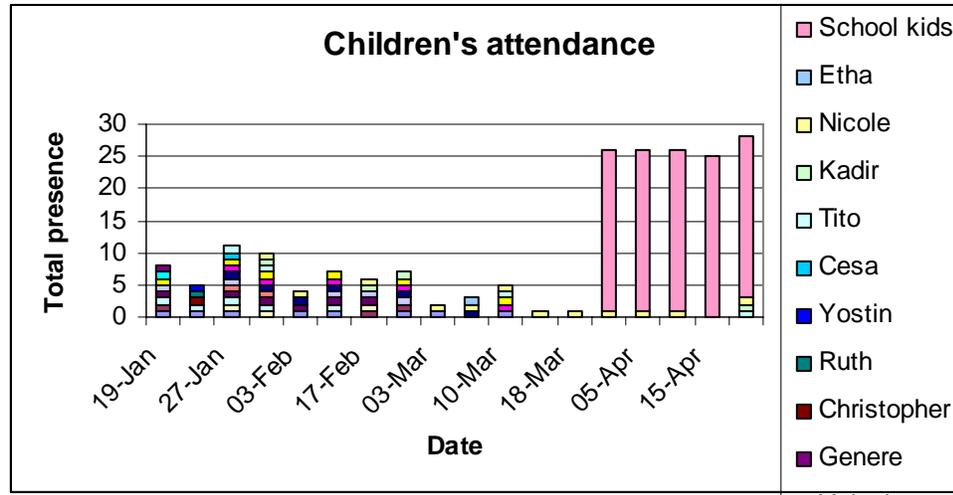


Figure 1.3B: Children's Attendance

Figure 2 records the attendance of children throughout the internship time period. As the summer passed, fewer children attended our activities at the *escuelita*. However, there was always at least one child and on average we had approximately five children attending. It is important to note that during the summer months there was a lack of consistency among the children who attended from week to week. When the school year started, many more children came on a regular basis because they were enrolled and registered for school.

1.3.2 Involvement in Supervision of the Project

The second indicator of participation according to Okafor is involvement in the supervision of the development project. In the context of San Vicente, this is equivalent to the participants' involvement in leading activities.

In general, the students lead most of the activities in the summer environmental education program. During the school year the students continued to lead most of the activities related to environmental education, although these were allotted only two out of five days of school per week, whereas during the summer the theme of all the activities was environmental education. It is important to note that as time passed, the mother's participation in leading activities grew and became substantial. Following are some examples of the positive effects of the students' attempts to be participatory and the women's involvement in leading activities.

On various accounts children helped lead activities that they had learned previously and were then repeated. For example, after the steps for creating compost had been explained to and practiced by the children, one child was able to explain the steps to a new child who missed the previous compost activities. Having the children actually perform the steps of composting themselves, they were able to learn it well enough and were interested enough to share the experience with a new child. On a second occasion, a different child showed similar understanding and enthusiasm for another activity. The children each planted a plant and were taught the importance of watering as well as how to water them. About a week later when one of the interns was watering a different collection of plants, a child came up to her, indicated she wanted the water jug and proceeded to lead the activity of watering by finding her plant amid all the others and watering it. This action shows that the child felt a sense of ownership and responsibility for her plant having planted it herself in the interactive planting activity we designed.

The mothers have taken initiatives to lead activities that were developed cooperatively with the students when the students were absent. Most of the internship was during the dry season which meant if any plants were to be grown from seed and be ready for planting by the time the rains came, it was necessary for the mothers to water the seedlings on days when the children and students were not present. One of the mothers came to the school just for that purpose and kept the plants alive and ready for planting when the rains came. On a different instance, the mothers were planting with the children in absence of the students. The students had planted with the mothers and children earlier in the season and at the second planting the mothers took the initiative to use the compost that the students had brought to the school and used in the first planting. Lastly, by the end of the semester, the woman preparing the snack for the children put food scraps into the compost bucket on her own accord. There have also been clean examples of the mothers' intentions of utilizing some of the teaching tools we developed together after our departure. One example is the large effort one of the mothers has made to help the children learn the song about the significance of water that the students introduced, ensuring they would be able to sing it after the students left. Another teaching tool was the introduction of three daily chores: watering, taking out the compost and taking out the trash. To select three children for these tasks, three necklaces were

made which each child can wear. One teacher deliberately asked the students where they were storing the necklaces presumably so that she could use them when students leave.

The extent to which participants help lead activities can also be noted with the instances when the mothers noticed where they could be of assistance and spontaneously jumped in to help facilitate an activity. For example, after all the participants went out into the community to speak with neighbours and collect seeds and plants for the school's garden, one mother took the initiative to record all the plant names and uses that had been collected while the children were reporting on them. Because of her initiative this valuable information is neatly and safely recorded for future reference. Also, during the second half of the internship began, the mothers started helping the students explain activities to the children when the students were having trouble with their Spanish. Lastly, during the construction of the *semillero*, one mother skilfully showed the students how to use a machete to cut the bamboo and offered to help dig the holes for the poles, two very necessary steps for the completion of the shade structure.

One of the most significant instances of participants feeling comfortable taking part in leading the activities occurred when the school year began. Classes began at 8:00 AM but the mothers traditionally met an hour earlier to plan and get ready for the day. Before the school year started the mothers requested that the interns show up at 7:00 AM as well, indicating they wanted them to share this planning time together. This signified a common vision in that both the mothers and the students viewed the role of the students as a participating *maestra*, just like the mothers.

1.3.3 Participation in decision making

The third indicator is participation in decision making. For this study, this refers mainly to when the mothers helped design activities.

In general this project suffered from a major imbalance of decision making between ourselves and the mothers, with the input of the interns carrying a larger weight in the design of the activities that were lead. However, a definite increase in participation in decision making on the part of the mothers occurred over the extent of the internship. The following examples occurred either right before or during the organized school year, that is, during the last month of the internship.

Prior to the beginning of organized school, the mothers decided the precise role the interns would play when school started. Having seen their methods of interaction with the children, and the direction the project was taking, the mothers decided that Thursdays and Fridays would be the “garden days” and that the students would then be in charge of giving activities. The students would arrive one hour in advance to share the activities with them and organize their involvement. Thursdays would be more indoors and Fridays would be more outdoors, and therefore the children would be dressed to get dirty.

The mothers stressed the importance and effectiveness of songs in their own teachings. They encouraged the interns to work on a song to teach the children to help express the lessons we were trying to convey. To help them, the mothers handed them a book of songs in which they found multiple nature themed songs that were pertinent to environmental education

Also, before the regular school year started, the mothers shared with the interns their idea of having every child bring a plant from home. This would give every child the

opportunity to learn how to plant and nurture it as it grew in the school's yard, and at the same time help to beautify the area.

1.3.4 Contribution of Funds

Okafor's "contribution of funds" indicator refers only to monetary contributions. Given the very low budget of this project, any material contribution is considered, as well as that of money, as an indicator of participation. In this study, the mothers' contributions are compared to those of the students to assess how equal participation was. With this approach, it appears the students contributed more materially to this project. All the following contributions were agreed upon communally.

The students paid for sand and palm leaves that were needed for the nursery. They paid for the bus to transport all the children and mothers to *Semilla de Dios* for the fieldtrip. They also brought food for snack time during the summer. Lastly, the interns also purchased a bag of compost in order to start growing seedlings.

The costs were split for cutting the grass around the school. Food for the fiesta at the end of the internship was brought by both the mothers and the students. Both brought food scraps for the compost, and plants or seeds from their homes for the gardens at the school.

The mothers alone supplied the large quantity of bamboo that was required to build the nursery.

1.4 Discussion

After having tested the means of making this project participatory, the discussion is organized under the new means that are more effective in making a project participatory. With the previous indicators of participation, this section illustrates how these means would more effectively generate participation.



Figure 1.4A: Participatory Approach Project

1.4.1 Observation time⁵

From the first day, an attempt was made to create a common vision with the participant Madres Maestras. This was done even before knowing who they really were or asking them if this project that was proposed by the head organization was suited to their needs and desires. This was a mistake because it is now realized that building trust takes time and that without it, no individual will share his or her views with strangers. The lack of observation time in the beginning of the project resulted in difficult communication and lack of understanding that prevented a common vision to rise. This, in turn, impacted the level of participants' involvement in decision making and in implementation of activities.

Yielding feedback from the participants was also impeded by this lack of acquaintance with each other. In the first half of the project, discussion was hard and sometimes impossible to initiate. An observation time on our part would have enabled a more casual and comfortable atmosphere, and more sharing of idea may have taken place.

Moreover, this time would have allowed the students to discover a larger set of local resources. This in turn would have contributed to making the project more participatory in that more people from the community could have been involved.

Halfway through the project, there was a high level of frustration on the part of the students because they felt their efforts to make the project participatory were not resulting in a greater involvement of participants in the decision making and activity leading processes. When the interns tried to explain their perception about the roles of all the participants and the mothers understood their concerns, the mothers shared much information about their views. The interns were finally able to achieve a more refined common vision for the rest of the project. This was only possible because, by that time, they had established a relationship of familiarity and trust, and they understood our perspective well enough to answer the concerns of the students.

It is after this meeting that the students realised they had been overlooking the important step of observation before they began the project. Had they not rushed in and been anxious about implementing the physical components of the project, the interns would have better learned how the community functions, how mothers interact with each other, what their teaching tactics are with the children, and in general how they organize themselves. After realizing this, it became clear that it was a necessity to take a temporary break from participating and only observe the mothers on the first day of school in mid-March. The amount of knowledge gained during this short observation, such as their methods of teaching, were invaluable to the rest of the project. This knowledge allowed the interns to approach the situation with the mothers' perspective which permitted a real common vision of the project to take place. They also sensed that the mothers were empowered by the fact that the students valued their perspective so much that they were interested in observing their approach to teaching. This feeling subsequently promoted participation.

⁵ For more precision on how and why this observation time should be implemented, please refer to B2: EXECUTED PROJECT IN THE BELÉN ZONE 13 MADRES MAESTRAS SCHOOL

1.4.2 Creating a common vision of the project: What is the project

Only at the meeting previously mentioned was it realized exactly how the results of this work would be used. The tangible products themselves (the gardens for example), would be used as teaching tool during the school year. As for the intangible results, it is only then that it was really appreciated what environmental education meant to the participant Madres Maestras.

Unlike the necessity of observation time, the importance of creating a common vision between parties was realized from the beginning. The only problem with the application of this was the timing: trustful relationship must be implanted before a common vision is realized.

1.4.3 How to implement common vision: How to realize the project

Deciding on the concrete means by which the common vision of a project will be implemented is an integral step. This includes which human and material resources are to be used, as well as the clearly defined roles people will play to help realize the project.

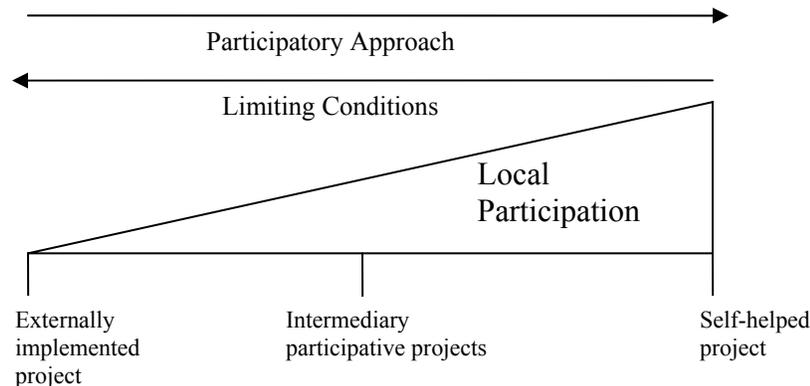


Figure 1.4.3A: The Participatory Spectrum

In desiring participation, it is obviously desirable to have locals play significant roles in the design and implementation of the project. This leads into the “how” to implement a project. In a self-help project, local participation is 100%, and in an externally implemented project local participation is 0%. The participatory approach aims at higher levels of local participation. However there are conditions that limit the amount of possible participation.

When foreigners are involved with a local community project, it is impossible to have a 100% local participative project, or a self-helped project (see Figure 1.4.3A). It is however possible to have an intermediary participative project. The reasons for this limitation are a number of conditions that will determine how far on the spectrum of participation a project can operate. Such limiting conditions include:

- The limitation of **communication**. Having different mother tongues and being from different backgrounds can result in difficulties in understanding each

other's perspective. Hence the students can be limited in the extent by which they involve and share their vision of participation with the other people involved.

- Second, the limitation of **time**. First, a participatory approach is dependent on relationships of trust and communication, which takes time to develop. Secondly, if a project has an imposed time limit, it is often more efficient for a foreigner to access resources on their own, then to work with the community every step to locate resources together. For instance we travelled to Rio Hato to visit a tree nursery and gathered information and seeds for the San Vicente project. By not involving the other participants it was not completely participatory. To coordinate a time for one of the mothers to join the students on this excursion would have pushed the visit beyond the timeframe of the project.

- The third condition limiting participation is the **participants' proficiency** on the project topic. If the participants don't feel that they are qualified enough to decide how the project's vision should be implemented, some experts should be introduced in the process of designing the work plan. These experts don't have to be necessarily from the outside of the community. However, there are some occasions where these local experts do not exist or cannot be found, and then it is required to refer to outside resources.

- A fourth limiting condition in attaining high participation is the **level of organisation** within the participating group. This is important because it affects the ability of the participants to coordinate within themselves and to create a common vision.

It is important to distinguish the participatory nature of *generating* ideas and the participatory extent by which they are *implemented*. Both steps can be participatory, but given the above discussed conditions, sometimes this is not possible. In this case, it is of the utmost importance to share the ideas or the knowledge that does not result from the local participants so that they can be involved at least in the implementation. It is also important that participants are given enough time to process the outside information and get the chance to add their suggestions.

In an effort to clarify the roles of the participants and to what degree they will participate, it can be useful to state what each participant can offer. For example, University students could be considered as typically good at organizing the steps of the projects, and the local participants, experts at tapping from local resources. This emphasises the importance of the two-way exchanges of knowledge and aptitudes.

To ensure improvement throughout the project implementation, evaluation periods are crucial. Often it is helpful to institute regular times for these updates to make sure they do not get forgotten. Tiredness or the impression that everything is going well often distracted our attention from this important step.

In conclusion, when implementing a participatory, community development project, it is first necessary to have an observation period which then enables the participants to create a common vision, which is then necessary in order to agree upon how to implement the project.

1.5 Limitations

The language barrier was one of the largest limitations in this project. Each student was at a different level of Spanish, and each felt limited in their ability to communicate with the women and children. While this was a major obstacle in a project so dependent on communication and cooperation, it provided an interesting benchmark. Not only did improvement of the student's Spanish indicate the amount of effort they were putting forth, but the increasing amount that the women helped the students communicate with the children indicated one aspect of the women's level of involvement.

Time was also a large barrier for this project. This project was largely dependent on the level of comfort and trust between participants and the development of such relationships can not be scheduled within specific time restrictions. The establishment of comfort and trust is affected by the continuity of interactions and a few times during the semester the schedules of the other McGill classes prevented the students from going to their community. Even the time limitation of the students' stay in Panama was a restriction since it forces the project to end on an arbitrary day, regardless of the stage of development of the project.

There are also limitations regarding the indicators chosen to assess the participatory approach that the students used. First of all the two participants most involved with this project were also the ones to assess it. While they know more about the project than anyone else, they also obviously have a biased perspective, being emotionally and personally involved and invested.

The fourth indicator which compares the amount of funds contributed is not applicable in all development projects. In the results section it was already mentioned that because this project had such a low budget, comparing the contribution of materials would be more applicable. However, problem lies in this as well in that some participants have more available materials to donate, regardless of their level of interest in the project. A suggested compensatory indicator for future projects would also include the amount of time contributed outside the normal meetings.

Also, it is important to note that many integral aspects of a successful participatory, community development project are impossible to measure and even record. For instance, personal growth, feelings of empowerment and inspiration for change. Another integral aspect of this type of project is sustainability. However often the most important and sustainable part of such a project is simply in the human bonding that has occurred and the memories and inspiration that will last. Not only are these results impossible to measure but they are also impossible to reflect upon until time has passed since the end of the project.

B.2 EXECUTED PROJECT IN THE BELÉN ZONE 13 MADRES MAESTRAS SCHOOL

2.1 INTRODUCTION

2.1.1 Motivation for the Project

The motivation for this project – examining the need and feasibility of a situation analysis in a micro-scale development project, using Belén as a case study – arose out of an attempt to understand and aid a failing participation-based project. The original project undertaken with the Belén zone 13 Madres Maestras community was designed to be a project on environmental education. The details of the project were designed with concern given not only to feasibility of every step, but also sustainability. Great importance was placed on developing both sustainable physical results (e.g. a garden that will be up kept in coming months and years) and intellectual and emotional results (e.g. a sufficient understanding of and interest in the themes at hand to continue to exploring and developing them as a regular part of the school curriculum). The primary strategy in attempting to benefit the community as profoundly as possible and achieve the desired sustainability was the adherence to a strict participatory approach⁶. Broad goals included:

- Motivating the mothers to learn and teach their children about environmentally-related topics
- Introducing and instigating a level of interest among the children for the following environmentally-related themes
 - Interrelation
 - Dependence
 - Food production
 - Nutrition
 - Scale
- Developing strong trust relationships and friendships with both the mothers and children of the Belén zone 13 Madres Maestras school community

More specific goals included:

- Discovering, with the mothers, a range of useful human and non-human resources in the community
- Creating an extensive seed collection from local sources of medicinal plant seeds to be used in a school garden

⁶ For a concise definition and detailed explanation of this approach, refer to B1: EXECUTED PROJECT IN SAN VICENTE MADRES MAESTRAS SCHOOL

- Designing and constructing a school garden with the mothers and children
- Developing educational tools, on medicinal plants and the five educational themes mentioned above, to be left in the school
- Integrating the mothers into every step of the project development, both planning and implementation. Exceptions to this were financial commitments and the final educational tools, both of which were considered gifts to the community

Two-hour meetings/classes were to take place with the mothers and children two days a week at the Belén zone 13 school. A range of tools and activities – ranging from games, to field trips, to manual labour – were chosen in an attempt to reach the established goals⁷.

The project began with strong participation on the part of both the women and the children, with five mothers and over fifteen children present on the first day. For the days in the following three weeks, child participation fell, but remained consistent and stable. There was a group of three mothers that was consistently present and committed to the project.

It was in mid-February that participation problems got severe enough that the project could not continue as planned. At this point, one of the three committed mothers began to experience health problems and had to withdraw herself and her children from the project. The presence of the other mothers grew inconsistent as well due to schedule conflicts (at times with other Madres Maestras organized events and meetings) and unknown reasons. Parallel to this fall in mother participation was an essential cease in child participation. From mid-February until the beginning of the formal school year at the end of March, few planned activities from the original project were successfully carried out. The regularly scheduled weekly meetings were rarely attended by any children or more than one mother. At one meeting, the school was empty and locked.

The meetings began to take the form of discussions about the history and nature of the Belén zone 13 Madres Maestras school and its surrounding community. It quickly became apparent that the problem of waning participation and interest in the school was perhaps not unique to this particular project. Generating interest in the school and securing participation has been an ongoing struggle for a number of years.

The “unsuccessful” unattended meetings proved to be relatively productive, as they began to reveal dynamics within the community that had not been accounted for in the design of the original project. Many meetings generated ideas and discussion about the source of and potential solutions to the problems at hand.

Given this evidence of problem profundity and the interest within the community in working toward a solution, the situation merited closer examination. Without completely forgoing the original project, focus shifted in a more observational and analytical direction. In order to gain a better understanding of the situation at hand – why the initial project failed and what may have prevented this from happening – the remaining project time would be used to assemble a brief profile of the Belén zone 13 Madres Maestras school community: its history, its actors, its stakeholders, and its

⁷ For a complete record of activities planned and accomplished with regard to this project, refer to Appendix B: Calendar of Events

perceived role in the community. These factors would be used to examine the general welfare of the school, the progress of the original environmental education project, the priorities of the community, and the potential future direction of the school and its community. Finally, suggestions would be made for potential projects that could more appropriately aid in strengthening the Belén zone 13 school community.

The International Union for the Conservation of Nature's (IUCN) Situation Analysis theory and practice is very appropriate for the state of affairs encountered in Belén. While a full Situation Analysis would have most appropriately answered the questions and met the goals mentioned above, time and resource constraints led to an abridged analysis, custom designed to most effectively and efficiently fill the criteria of the IUCN Situation Analysis while adhering to these constraints.

2.1.2 *The Theory of the IUCN's Situation Analysis*

Situation analysis is a tool that was developed by the IUCN agency to be used as the first component in their project design process (IUCN, 1999). It is utilized in order to better prepare their projects, and anticipate the future to determine if the most urgent needs will be addressed and if they have the available skills to assess these needs (IUCN, 1999). They define situation analysis as: "An analysis of the status, condition, trends and key issues affecting ecosystems, people and institutions in a given geographic context at any level (local, national, regional, international)." It is a general assessment of what is happening and why, and in order to formulate future project priorities themes or areas for action that will need a more detailed planning in following stages of the project (IUCN, 1999). By analysis they also mean: "a critical look to deepen, clarify and structure information, understand interconnections and examine cause-effect links, identify core elements, in order to arrive to the identification of key issues or problems that can form the basis of a relevant project initiative (IUCN, 1999)."

There are many reasons to adopt a situation analysis approach, for example:

- As a scanning mechanism to assist in monitoring and adapting projects
- To provide early warning signals for organizational change processes

A Situation analysis is undertaken when starting a project from scratch, when revising a project "en route", or both (IUCN, 1999). The duration of a situation analysis depends of the intended purpose and the time available (IUCN, 1999). It can be undertaken as a detailed assessment lasting many months (6-24 months) or a more as an overview version over 3-4 months (IUCN, 1999). Obviously, the longer version will result in a better quality analysis and deeper understanding of the situation. However, the overview version is very reliable to provide an indication of gaps in programming, and a preliminary indication of organizational weaknesses (IUCN, 1999).

Situation analysis intends to make better use of existing information by asking series of questions, and identifying the information needed to answer these questions. It stresses the importance of participation of all the different stakeholders in answering these questions during a working session. It is defined in two basic components:

- A. Preparation
- B. Working session

- C. Documentation of the results of the working session
- D. Logical framework session (project design)

Chronologically the steps are:

A. Preparation

1. Clarify the purpose of situation analysis and decide who should be involved
 - Who will use the situation analysis and for which purpose?
2. Collect data and information
 - Assemble the data and information (background paper that presents the status and condition of people and ecosystems in the region of the project) to answer these questions:
 - a. What is happening in the wider environment?
 - b. What are the key issues and trends that are particular concern to our organization and Mission?
 - c. What are the root causes of these trends and issues?
3. Preparation of participants
 - Invite participants in advance with a clear outline including reasons why they are invited to the session and what are the expected outputs of the session.

B. Working session with key stakeholders

1. Consensus about the standards that the situation analysis is to achieve
 - Clarify the definition of situation analysis and adjust it if necessary
 - Develop together clear indicators by which the participants will be able to judge the quality of the situation analysis. For example, a possible indicator could be: analysis of past actions and experiences in the area, and their histories.
2. Develop a common vision for the situation being analyzed
 - Identify different aspirations and dreams of all the different stakeholders.
 - How things should look in 20 years?
 - What are your expectations from this project?
 - What are the key opportunities to realize our visions?
3. Brainstorm the issues, forces, trend affecting people and ecosystems in the area.
 - Ask people to list top five issues affecting people in the region and top five issues affecting ecosystems.
4. Develop a problem tree (s)
 - A visual aid to group issues and identifies root causes (direct or indirect) of the problem (s).
5. Identify the gaps in our knowledge and information about root causes of problems.
 - Rank root causes understanding (poor to excellent)
 - Identify areas where more information access and research is needed.

6. Compare organization current thematic areas in the regions against the key issues and root causes.

7. Identify gaps and opportunities in theme/issues

-Useful when revising a project.

8. Choose the most relevant and feasible issues/themes for the organization by imposing a set of filters.

-Is it relevant to our missions?

-Is it within our comparative advantage?

-Can it be done (taking in account all the limitations)?

-Do we have the human/financial capacity to work on the identified issues?

-What is our reach of action for maximum impact?

-This is aim to reduce the list of issues/themes so we eliminate the less relevant and less significant ones.

9. Identify other organizations

-Brainstorm together on the organization that are active in your geographic area and which are invested or keep records on similar issues.

-At what level these organizations are involved (community, regional, national, etc.)

10. Determine potential effective partners

-Who are the organizations working on initiatives connected to the key issues?

-Do they have mandate, capacity, and resources to undertake this work?

-Are they organized effectively to meet our collective objectives?

11. Examine your organization performance

-Does the organization have the skills, systems, capacities and resources in place to effectively respond to these issues?

C. Documentation of the results of the working session

-Include justification for new or refocused areas of work and the options to the partners.

-Share the written outcome with participants and stakeholders for final comments.

D. Logical framework working session

-Insert the prioritized issues into a logical framework planning working session to design a new or refocused project.

-Turn into goals, objectives and activities the results of the problem tree analysis the filtered issues.

2.2 METHODS

The purpose of applying a Situation Analysis to the Belén zone 13 Madres Maestras school community is two-fold. Firstly and most specifically, it aims to bring a greater understanding of the reasons for the failure of the initial participation-based environmental education project. Secondly and more generally, the analysis aims to reorient the project toward the broader history and functioning of the Belén zone 13 school community in order to gain a deeper understanding of the causes at play in the decreasing school interest. To achieve these goals, an approach is needed that allows investigation and analysis of all levels involved: the community of Belén, Madres Maestras as an organization, the McGill University students, and the involved academic supervisor. Situation Analysis is an approach that allows for the collection of information at these different levels through the asking of specific questions during working sessions.

As mentioned earlier, the Situation Analysis procedure had to be adapted from the IUCN design because the original participatory project was already well underway when the analysis was adopted. Due to this shortage of time, it was not possible to follow the chronological order as presented in the actual theory. The nature of the role of the McGill students in this project presented further limitations. This role did not provide the necessary power and resources to organize meetings that could generate discussion between and properly convey the perspectives of all different stakeholders, as is required by the original IUCN Situation Analysis design. This would have been possible only as active participants in the administration of Madres Maestras, or in another larger agency, such as the IUCN. As such, the students' role was defined as one of objective observers, focused on information collection rather than on planning.

The method of information collection was guided by a series of selected questions taken from the IUCN "Situation Analysis, an IUCN Approach and Method for Strategic Analysis & Planning" (1999). These are general questions, targeted at information that can be collected informally to help establish cause-and-effect links and potential alternative ways of working. They are as follows:

1. What is the collective vision of the McGill project? What are the expectations of the different stakeholders for the future of the Belén zone 13 school community?
2. What is happening in the wider environment of Belén?
3. What are the key issues and trends related to the success of the school that are of particular concern to the Belén zone 13 school community and the Madres Maestras organization?
4. What are the root causes of these trends and issues?
5. What is the achieved level of understanding of these issues and their causes? What issues do need to be better understood before making any decisions?

6. What core issues should be addressed by the McGill students and what issues should be left to others?

Stakeholders are considered to be all those who have a share or interest in a particular undertaking or project. In the case of the subject of this project – the Belén zone 13 Madres Maestras school, its direction, and progress – the defined stakeholders are:

- The head women in the school during the summer project
- The women involved in the school during the school year
- The children who attend the school
- The women and children involved in the Belén zone 5 school
- The administrators of the organization Madres Maestras

It was this list of stakeholders that was consulted in an attempt to answer the above questions. The following methods were used to collect information on the perspectives of these different stakeholders:

- a) Informal meetings/classes with the Belén zone 13 school mothers:
 - These meetings/classes occurred each Thursday and Friday for two hours from mid January until mid-April. They were designed to be informal environmental education sessions with Madres Maestras summer students and their mothers. When the children were present, these meetings included designing and implementing the educational activities discussed in Appendix A. When child participation ceased, these meetings took the form of informal discussion.
- b) Scheduled meeting with the main Madres Maestras in the Belén community:
 - This meeting was scheduled in mid-February when it became apparent that there were severe child participation problems with the project. The meeting was held to discuss potential reasons for the lack of interest and new directions in which to take the original project.
- c) Meeting with the administrators of Madres Maestras:
 - This formal meeting took place at the head office of Madres Maestras in San Miguelito. In attendance were the McGill students, Rafael Samudio (academic supervisor), Flora Eugenia Villalobos (head administrator), and two other administrators who work in the office. The meeting was scheduled by the students in order to discuss the situation in Belén, internal administrative aspects of the organization, and ideas for future McGill - Madres Maestras projects.

- d) Informal interviews with women who send their children to Divino del Rostro:
 - Two class sessions were spent at Divino del Rostro, the more popular Madres Maestras school in zone 5 of Belén. Mothers at this school were asked about their thoughts on the organization, their motivation and their perceptions of others' motivation for sending their children to school, their knowledge of the other Madres Maestras school, their knowledge of the McGill project, and their perceived priorities for the community of Belén in general.
- e) Visits to past McGill project sites:
 - Madres Maestras schools involved in McGill environmental education projects were visited in La Cabima, Semilla de Dios, San Vicente, and Genesis. Informal interviews were conducted with the local school community members to investigate the progress and success of past projects, perceptions of such projects, current priorities and needs within these communities, and thoughts about future projects.
- f) Consulting past project reports:
 - These reports answered many of the same questions that were answered by community members at past project sites, but from the perspective of a different set of stakeholders: the McGill students.
- g) Weekly meeting with McGill supervisor, Rafael Samudio:
 - These meetings allowed for the discussion of project progress and direction. Information about Madres Maestras and past McGill project experiences from a supervisor's perspective were also shared.

2.3 RESULTS

1. What is the collective vision of the McGill project? What are the expectations of the different stakeholders for the future of the Belén zone 13 school community?

This question can be conveniently divided into two sections: visions and expectations of the initial participatory environmental education project, and visions and expectations for the school in general. The nature of these visions differs greatly.

The Stakeholders' visions and expectations of the McGill project proved to feature great inconsistency, evidence of poor communication, and a lack of discussion. The project had begun under the assumption, on the part of the McGill students, that communication about these issues had already taken place and that all stakeholders and actors were in agreement and understanding. This was not the case. No direct communication had occurred between the entire group of women to be involved and the administrators of Madres Maestras.

The organization, Madres Maestras, was interested in accomplishing three main goals. Firstly, they wanted to provide a meaningful cultural experience for the children.

This would take place through the children spending time with individuals from another country, observing cultural differences, and learning some basic English words. Secondly, the organization hoped to provide the children with an educational experience. This would occur through the environmental education tools to be developed and implemented by the McGill students. The educational theme of choice was medicinal plants. Finally, the administrators of Madres Maestras hoped to provide the children of the Belén zone 13 school with a meaningful emotional experience. The project was intended to help the children to develop a sense of value for the Earth and an understanding of its importance in their lives.

The Belén zone 13 Madres Maestras school community had a different vision for the McGill project. The women directly involved in the school are more concerned with generating a collective vision for the general future of the school rather than for concrete plans or projects, such as that of the McGill students. Within the school community there seems to be a collective vision for increased participation in the school and its projects

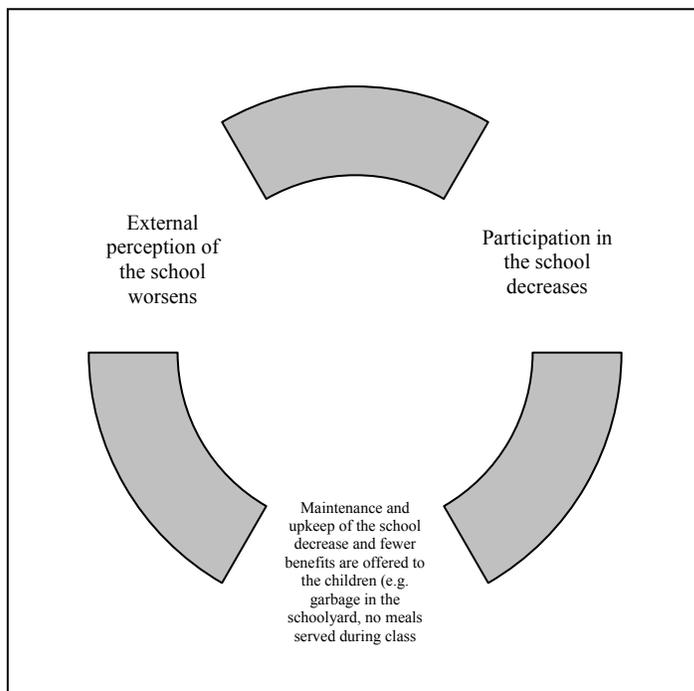


Figure 2.3A: Cyclical degradation of the Belén zone 13

(during the summer and school year) on the part of both mothers and children. The mothers involved in the school share the expectation that a cleaner, more beautiful school with a garden would attract more mothers and children than the school in its present state. The McGill project was seen as an opportunity to begin working toward this greater goal of school beautification to increase participation year-round.

In the vision for the general future of the Belén zone 13 school community, there is more consistency between stakeholders. The organization of Madres Maestras and the mothers involved in the school

seem to share a vision of cyclical degradation and revitalization of the school.

There is a general acknowledgement that the initial efforts to pull the school out of its current downward spiral will require great effort on the part of the stakeholders and may lead to the development of new actors from the greater community. The assignment of the McGill project to this particular school is evidence of this effort. Efforts continue to create new roles in the school that involve knowledgeable family members and other local resources (e.g. recruiting individuals to cook for the children or to work on a garden throughout the school year). All stakeholders seem to believe that these efforts will lead to a self-fulfilling process of school improvement and increased interest.

2. What is happening in the wider environment of Belén?

There are many forces in the wider environment of Belén that are potentially affecting the state of the Belén zone 13 Madres Maestras school community. As mentioned in the initial introduction to this report, the area around Belén was originally established as a squatter community and legal holding of land is still a concern for members of the community. The unplanned urban growth that occurred in Las Mañanitas as the population rapidly grew has resulted in the general lack of basic resources and services that is present today (Garralda, 2001).

Lacking potable water is a concern within the community (Garralda, 2001). This has direct implications for quality of child health, which is a great concern for mothers interested in committing time to the Belén zone 13 school. Another force of concern is unemployment (Garralda, 2001). This is a widespread problem in the community which is closely correlated to the area's poverty. Poverty is an important force at play in the wider environment of Belén. Because Madres Maestras is an unfounded organization, there is a yearly fee of \$3 and a daily fee of \$0.25 for meals served during school hours. Lack of income discourages, or even prevents, some mothers from sending their children to the school. Furthermore, the reality of personal poverty seems to be a very strong part of the women's self-perceptions. There are potential feelings of self-doubt and a lack of personal motivation accompanying the poverty in Belén that should be considered.

Other common problems in Belén that are frequently discussed include the problem of educating the new generation of this rapidly growing population (the population growth rate in Las Mañanitas was 23.8% in 2000 (Garralda, 2001) managing the problem of delinquency, and improving the garbage disposal system.

3. What are the key issues and trends related to the success of the school that are of particular concern to the Belén zone 13 school community and the Madres Maestras organization?

The key issue related to the success of the Belén zone 13 school that is of particular concern to both the school community and to Madres Maestras as an organization, is the lack of interest in zone 13 Belén. Participation on the part of mothers and children – which is essential to the proper functioning of the school – has been declining for several years. There currently only seem to be two women from the zone who are interested in teaching at the school and no zone 13 residents interested in cooking or coordinating. No zone 13 mothers took part in the McGill summer environmental education project. This lack of interest requires that, in order for the school to stay open, women from the other Madres Maestras school in zone 5 Belén become involved in coordination, teaching, and extra projects at the zone 13 school.

Those Belén mothers and administrators that have been working with Madres Maestras since the zone 13 Belén school was established are very aware of the potential benefits the school is able to bring to the community. It used to be one of the region's most attended and successful Madres Maestras schools (Flora Eugenia, 2005). Today, the organization and the women involved are not interested in shutting the school down. Given the promise for community building that the school holds, the stakeholders believe that it should be possible to rekindle the interest and participation that once existed.

4. What are the root causes of these trends and issues?

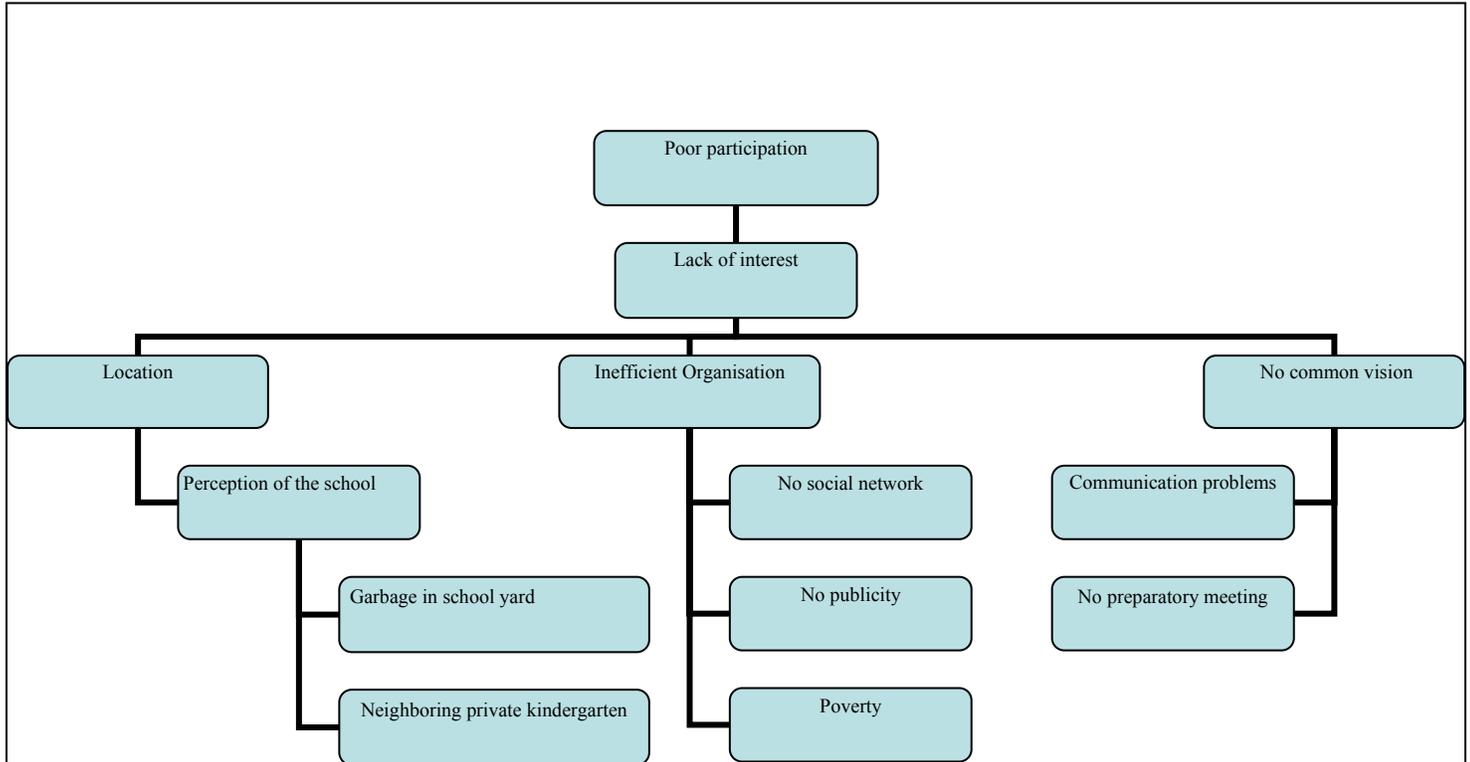


Figure 2.3B: Problem tree explaining the participation problem in the Belén zone 13 school

The stakeholders are very aware of the issue of poor participation in the school and many meetings were held to explore the causes of this situation. School community members identify the lack of interest in this project and in the general activities of this school as the major cause of the participation problem. The causes of the lack of interest, the school can be divided into two categories. Firstly are the causes related to the lack of a common vision. This was observed primarily with regard to the McGill implemented environmental education project. It can be assumed, however, that this problem is common to other projects in the school because decisions about the McGill project were made through the standard Madres Maestras procedure that would be applied to all projects. Secondly are the causes related to inefficient organization. Thirdly and finally are the causes related to location of the school. These final two causes are related to issues with internal community dynamics in Belén.

The first problem, the lack of common vision, exists between the main participants in the project: the McGill students, the organization of Madres Maestras, and the women from the community volunteering at the school. This problem was identified by the McGill students early in the project. The problem arose primarily because no preparatory meeting had been held by Madres Maestras in which all project participants could discuss their visions of the project and its implications for the school. Furthermore, this problem was exacerbated by the difficulty of communication between the different parties. Language barriers played a tremendous role in creating difficulties in expression

of visions between the McGill students, the community participant, and the Madres Maestras administrators. Furthermore, the hierarchical structure of Madres Maestras contributes to poor communication. Even in preparation for a community-level project, information is never shared directly between the community participants and the organization administrators. Rather, there are designated regional coordinators (in the case of the Belén zone 13 school, the coordinator happens to have been involved in the McGill summer project) that participate in monthly meetings with the administrators to discuss progress, problems, and project ideas. Each of these coordinators is responsible for representing the interests of several schools. The subject and location of the McGill project were decided in one of these meetings before the arrival of the McGill students. The distance put between the decision-makers and the direct project participants led to a clear miscommunication of expectations.

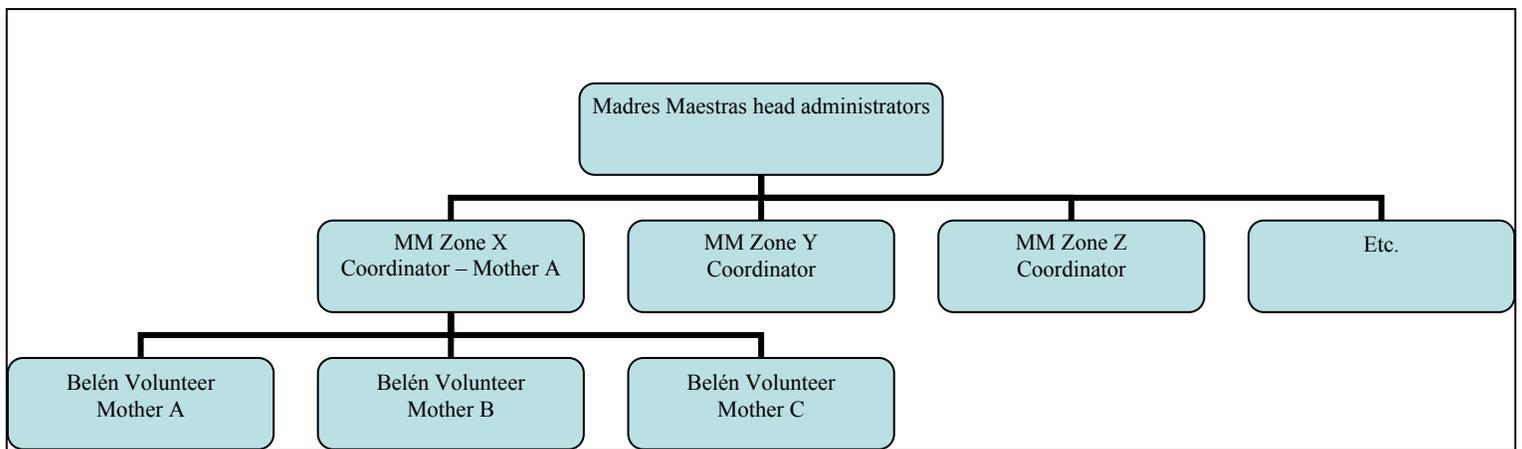


Figure 2. 3C: Hierarchical organizational structure of Madres Maestras

Refer to Question 1 for a detailed explanation of the specific expectations of the different stakeholders.

There were many conditions that worked against the fulfillment of the community participants expectations. Firstly, upon arrival the McGill students knew little about tropical medicinal plants and tropical agriculture. Secondly, there was a lack of available resources in carrying out the project. All funds to be put into the project were to come from the students. Thirdly was a severe time constraint. The project was to last only three months: just enough time to form stable trust relationships between the students and the community. Fourthly, the project was to be carried out during the dry season. No planting could occur until the beginning of the rainy season, just two weeks prior to the end of the project. Finally, the project was carried out during school vacation. As such, students were not scheduled to be in school. The project was supplementary to the normal school curriculum.

When some of the participants realized that their expectations had great chance of not being met their interest and participation in the project declined. It is unclear, but would be useful to know, exactly how the Madres Maestras administrators had presented the project to the community participants. Again, this one example of poor communication between levels of the organization is likely not an isolated incident.

The second set of causes of disinterest in the school and the McGill project – internal community dynamics – was related to the unpopular location and inefficient organization of the school. The location of the school in zone 13 seems to be a great force in reducing interest and participation in the school. Informal interviews with project participants and women at the zone 5 school revealed widespread negative perceptions of zone 13 (see map appendix D). It was generally perceived as “dirty”, “ugly” and “dangerous”. Upon arrival of the McGill students, there was a significant amount of garbage in the schoolyard; the garbage was later cleaned up by the mothers. Further investigation revealed that the perception problem was enhanced by the presence of a neighbouring private kindergarden (see map appendix D). The owner, a past volunteer with Madres Maestras, hopes to acquire the land on which the zone 13 school is situated in order to increase the size of her institution. Informants reported that the kindergarden owner has partaken in negative publicity for the Madres Maestras zone 13 school by making deliberately false affirmations that the school was closed.

Finally, the inefficient organization of the school has three main causes: an underdeveloped social network, poverty, and poor publicity. Throughout most of the project the women and children attending the classes at the zone 13 school were from the zone 5 school in Belén. Volunteers from zone 13 only attended once the actual school season had begun. The lack of a stable social network of volunteers in zone 13 – as exists in zone 5 – is widely believed to be a major contributor to inefficient organization of the school. There is no head organizer in zone 13 who could recruit and inform potential volunteers. The second cause to inefficient organization is poor publicity. No publicity had been done for the McGill project or for other activities taking place at the zone 13 school. Very few women interrogated knew about this project or even the existence of the school. Finally, poverty is a contributor to the inefficient organization that is preventing the school from functioning properly. Some women from zone 13 claimed to not have the time, or the financial resources to take active part in the organization of the school.

5. What is the achieved level of understanding of these issues and their causes? What issues do need to be better understood before making any decisions?

A clear basic understanding of the issues and causes at hand was gained through this brief situation analysis. However, this level of understanding remains relatively low and of questionable validity. Firstly, most of the information collected came from many hours spent with only three individuals. While the perspectives of these individuals are likely accurately represented, there are many missing perspectives. For example, no general Belén community members were interviewed. Furthermore, at the time of the analysis, it was unknown who would be involved in the school community after the end of the project when the school year would begin and the original three women were to return to the school in their zone of residence. As such, the views and concerns of these women are not represented in the analysis. The women who will take over teaching at the zone 13 school are very important stakeholders. Their concerns and priorities are of utmost importance and need to be examined and included in the analysis. Not only are they poor women who could greatly benefit from the network of resources provided by the NGO, but they also hold the power to help bring this network into zone 13, Belén.

Secondly, time constraints were a factor in the quality and quantity of information collected. The actual concentrated execution of the Situation Analysis lasted little over one month. This is not sufficient time to discover and access all necessary sources.

Thirdly, the nature of the students' role as students and foreigners hindered the extensiveness and validity of the analysis. This reality contributed to the problem of time constraints as trust relationships took exceptionally long to establish. Also, the information shared may not have been as complete or honest as would be desired.

In addressing validity, it is important to recognize that the information collected is drawn almost entirely from a series of communicated personal opinions. Not only are these opinions themselves subjective in nature, their interpretation is as well. Language barriers also potentially played a role in creating miscommunications.

More time in the community would be needed to understand the full complexity of the community dynamics affecting the situation.

6. What core issues should be addressed by the McGill students and what issues should be left to others?

Given the position of the McGill students as students and foreigners, it was not the goal of the project to address the issues at hand. The goal upon entering the analysis was to attempt to objectively collect information that can be discussed with and left to the organization. The problems at hand were not revealed for the first time through this project. They are issues that the stakeholders have independently shown interest in addressing. Given this interest demonstrated by the stakeholders and the fact that they are directly affected by any changes made, the issues can be most appropriately and effectively addressed by the stakeholders themselves. A series of recommendations is being assembled that, if considered appropriate, will be presented to the organization.

The one issue that the students did contribute to addressing was that of community building. Educational tools that were constructed and contributed to the school can facilitate teaching and use of the school.

2.4 DISCUSSION

The Situation Analysis attempt and assessment performed in Belén proved to be an extremely useful approach to the problems that arose in the initial project. Many lessons can be drawn from this experience. This investigation into Situation Analysis has allowed for a deeper and more complex understanding of the community dynamics of the Belén zone 13 Madres Maestras school community. Many connections between these dynamics and the problem of securing participation in the school were revealed. The process of extracting important information from the community was very effective in allowing the assemblage and understanding of community priorities and the potential future direction of the Belén school.

The Situation Analysis approach was needed to understand why the initial project design was so poorly suited to the reality of the Belén school community. The failure of the initial project raises questions about the practice of applying a fixed development

model without consideration for individual community characteristics. For a project to be successful, it is crucial to ensure that the necessary means are in place prior to project implementation. Situation Analysis allows for a case specific project design, capable of more efficiently address the most pressing needs of a community.

Questions can be raised about the validity of applying a Situation Analysis to this micro-scale project. Indeed, this approach was developed by an international agency and is usually used to evaluate large-scale projects. Furthermore, the procedure is most commonly used in the preparatory phase of a project rather than in a latter phase after problems have already been encountered. This case study of Belén demonstrates, however, that it is possible to adapt the Situation Analysis approach to create a flexible and useful tool for community-level development.

The Situation Analysis approach to this project did, however, have its weaknesses. Firstly, it was very difficult to get an accurate picture of the dynamics of the geographic area of interest over such a short span of time. In theory, an IUCN Situation Analysis should take at least 3 to 4 months for the shorter version, or 6 to 24 months for the more detailed and complete version (IUCN, 1999). In the case of this project, the analysis was not adopted until three months had passed, leaving only one month for its implementation. More time would have been needed in the community to better understand the complexity of the dynamics affecting the Belén Madres Maestras school community.

Another issue to consider is the nature of the outsider's objectivity in his or her role as information collector. Even if an effort was given to avoid suggestive questioning, the very reality of being an outsider to the Belén community may have influenced the interlocutor's answering and interpretation of questions. Furthermore, the general nature of the McGill students' role in this project was somewhat ambiguous. Given their extended involvement in the school itself, it was difficult to take on the pure role of objective observer upon adoption of the analysis. The students had been organizing weekly activities with the children for three months at that point and were expected to continue taking part in the organization and implementation of classes. This problem was addressed on some level by extending the analysis beyond the McGill project into the general dynamics of the Belén school community. Furthermore the scientific discourse used by the McGill student may have led to confusion for interlocutors due to the fundamental fact that people use language depending of their cultural and educational background differences (Webler, 1995). The "perfect" participation encourages multi-way communication where people are actively participating as speakers and listeners (Webler, 1995). Taking all of these limitations into account, with the time that was available, the information collected is sufficient to paint a satisfactorily clear picture of the complexity of the community dynamics that are feeding the ongoing participation problem at the Belén zone 13 Madres Maestras school.

Finally, every community responds to participation and the concept of community mobilization in a different way. The lack of common vision between the McGill students and the community participants was recognized as a major problem from the beginning of the project. However, a true common vision was only developed between these two groups once the causes of poor participation had been identified. This vision was to collectively search for solutions to these ongoing problems faced by the Belen zone 13 Madres Maestras school. The participants willingly implicated themselves in

this reflection and realised that they were their own means to generating this desired change. This is an important achievement. Even if the initial participatory project failed to raise sufficient interest, the nature of the Situation Analysis, which is itself very participatory, generated motivation among the participants to organize differently to effectively address the issues affecting the Belén school.

C. EXECUTED PROJECT ANALYSIS: Bringing the two together

1. ADVANTAGES

The performance in this project of both a Situation Analysis and a participatory development initiative is significant. Though the projects took place at different sites, the characteristics of the two communities in question are nonetheless very similar. As such, project results can be justifiably combined for the extraction of several important lessons about the potential contribution of the participatory approach and the Situation Analysis to micro-scale community development initiatives.

1.1 Trust Relationships

Relationships build on trust are necessary among participants when implementing a participatory approach in order to establish a common vision, have open, honest criticism and cooperation among participants. The process of Situation Analysis can be an extremely helpful tool in aiding the formation of stable trust relationships between the project worker and the community. The analysis provides a ground on which to exploit knowledge from community members that cannot be attained elsewhere. Regardless of education level or experience, an outside worker cannot possibly be as aware of internal community dynamics as the community members. Situation Analysis has the flavour of necessary contribution - stakeholders are blatantly and obviously involved in information collection and decision making. Furthermore, their participation in this decision making clearly makes the process more efficient and accurate. They are contributing something evident.

This differs from the knowledge exchanges that occur in the direct implementation of a micro-scale project, as there can exist feelings of insecurity about personal knowledge and misperceptions about the nature of the worker's knowledge. Beginning a micro-scale project with Situation Analysis communicates an interest and trust that the information transmitted through the community is valid and important in future actions. The Analysis demonstrates that community preferences, interests, and problems are of utmost importance and that adjustments will be made in designing the project in order to meet the needs of the stakeholders.

Also aiding in the development of trust relationships is the fact that Situation Analysis asks participants for little more than verbal input. People generally enjoy chatting and discussing their lives and everyday concerns. This means little effort is demanded of participants at the beginning of the project, before they have had the opportunity to fully consider costs and benefits of participation. Trust and understanding increase during this initial part of the project, until full participation is required for the implementation of the participatory project. This gradual introduction of demand will likely yield a greater sense of trust and a higher level participation for the final project.

1.2 Project Effectiveness

As mentioned in the discussion of the participatory approach, an initial observation time is integral to the success of creating a common vision and carrying out a

project. A Situation Analysis does exactly this and in general, the performance of a Situation Analysis prior to the design and implementation of a micro-scale community development project has great potential in making the project more effective. The performance of a Situation Analysis allows for the making of informed decisions. This process attempts to ensure that the problems being addressed are, in fact, the local problems most in need of addressing. Furthermore, the information that is obtained and assembled during a Situation Analysis allows for more effective project design. There are many approaches to any micro-scale community development project and increased background knowledge on the situation and priorities in the community allows for the choice or design of more suitable methods. Finally, the performance of an initial Situation Analysis encourages an awareness of any potential project weaknesses.

1.3 Project Efficiency

The efficiency of a participatory approach project can be increased through the performance of a Situation Analysis prior to the design and implementation of a micro-scale community development project. Initial Analyses can greatly increase cooperation on the part of the stakeholders; this is due to increased trust, interest, and pertinence of issues and methods. Additionally, during an initial Situation Analysis, available resources (both human and material) are revealed that could be useful during project implementation.

1.4 Project Sustainability

One of the major rationales for applying a participatory approach is to promote the sustainability of a project. Closely related to the above benefits of Situation Analysis is its potential contribution to a project's sustainability. By finding issues that are important to the community, using methods that capitalize on available resources, and generating trust in human relationships and the project, stakeholders are given a strong reason to invest in both implication and maintenance of the project in question.

1.5 Coinciding with greater goals of development

In development based on values of equity, trust, empowerment, and a mutual understanding of the importance of human experience, the values of Situation Analysis are a central addition to participatory community-level development.

2. PROBLEMS

2.1 Situation Simplification

Situation Analysis, especially as outlined by the IUCN, simplifies many complexities that exist in micro-scale community development. This is firstly through its very nature as a uniform model. Secondly – with specific reference to the IUCN model of Situation Analysis – the model is very detailed but lacking much true content. Because of the detailed structure of the methodology, methodological adjustments are intimidating and would appear to have compounding effects. Within this detail, however, there is very little information about actually executing the individual steps of the

Analysis: about the “how to”. The IUCN model further simplifies many development realities in its reliance on participation and importance placed on generating stakeholder consensus.

2.2 Dangers of confident misperceptions

Despite thorough efforts, misunderstandings can, and will, arise during a Situation Analysis. This can be due to language, culture, absent representatives, time constraints, etc. As there are inherent barriers to understanding in these types of interactions, they cannot be ignored. Denied misperceptions that arise out of an over-valued Situation Analysis will simply grow exponentially throughout the life of a project. An unrealistic perspective of the accurateness and depth of understanding gained from a Situation Analysis can be dangerous and detrimental to a micro-level participation based project.

3. CONCLUSIONS

Situation Analysis is a very useful tool on which participatory micro-scale community development initiatives should capitalize; this tool has the potential to contribute very strongly to the effectiveness, efficiency, and sustainability of such projects. However, it is of utmost importance to recognize the weaknesses of the tool. Flexibility and constant re-evaluation of perceptions throughout both the Situation Analysis and the implementation of a participatory project are essential in avoiding compounded complications.

D. History with McGill

1. Method of community selection

Even if Madres Maestras is present throughout the country, the organization has so far selected communities to host McGill students in the suburban area of Panama City. These communities are typically located about two hours by public transportation from *Ciudad del Saber*, where the McGill students are permanently based. This allows for a more regular presence in the communities, which seems to be very important for Madres Maestras.

The *escuelitas* that are to host the students are chosen during the Madres Maestras meetings that gather the Madres Maestra district coordinator. This year at least, the locations of the McGill projects were selected based on the area of land available for gardening and the community's degree of need for a project. This need seems to be assessed on the basis of the appearance of the terrain as well as the state of community participation in the *escuelitas*. The organization believes that a project will cause motivation in the community and more people will be interested in engaging in the *escuelitas*' activities in general if a project is held.

2. Method of project selection

Due to the inflexible time period in which McGill students are available for an internship, Madres Maestras has to cope with the fact that students from McGill are present for only four months, mainly during the dry season, when children are on vacation (until mid-March). Madres Maestras has given a diversity of options to students in regards to the specifics of the project, although they always insist that the project focus on young child environmental education. One theme the organization promotes is gardening, likely because it coincides well with their hands-on approach to education.

Additionally, the organization has to consider the interest and aptitudes of PFSS students. For this reason, all projects are somehow related to environmental issues even if this does not address all possible needs of the community. For example, Madres Maestras has some interest in having a pamphlet on the organization's history since its beginnings, but it is aware that the subject and the language skills required for this sort of project may not be matched by McGill student skills and interest.

As for the precise theme of the environmental education project, last year the organization asked the McGill students to list a few themes that they thought should be used the following year. This method seems to be favoured for the following years.

3. Project Implementation

Madres Maestras provided this year McGill student with a list of children and mothers that would be participating in the projects during the summer. When we got to our respective communities, the project implementation was left to us, having to deal with the varying level of participation of the mothers and children. This year some misunderstandings arose as to the roles of all of the participants, including the McGill students, which brings to question what sort of communication occurred between the

heads of Madres Maestras and the community members in regards to the nature of the internship.

4. *Project evaluation*

Project evaluation is left to the community's discretion. There are no processes of evaluation that are carried out by the organization, yet informal discussion does occur between district representatives. It is unclear if these discussions are brought to the attention of the higher members of the hierarchical organization. This lack of complete transmission of evaluation would impede improvements from being made from year to year in the process of carrying out these projects.

5. *Past projects design, execution and current status*

- **2002 La Cabima:** The approach of this project was to convert a relatively unproductive urban piece of land into a productive garden beside the *escuelita*, and at the same time exchange with mothers and children on the techniques of small scale, urban agriculture. This would hopefully inspire a physical and spiritual connection to the land that could spread throughout the community. The students themselves performed most of the manual labour needed for the creation of the garden, as the participation fell after the first weeks. The community participants were consulted initially on what they desired from the project and again for the more precise vision of the garden. Sustainability was a concern for the students and they consequentially adopted different measures: they designated one of the mothers to be responsible for the garden after they left, they left the organization with a guide on organic agriculture and made the recommendation that McGill student should come back to this community.

To this day, the garden can be considered inactive, as very few plants grow in it, and as it does not seem to be used (note that it was visited during the dry season, and that it seem to be a common practice to leave annuals die during summer to replant only in the rainy season). The compost is inactive now, but the woman with whom we spoke hopes that when the school year starts again, it will be reactivated. During our visit, one of the women in charge said she wished to plant again at the beginning of the rainy season, but that the precise time was unsure because part of the garden would be dug out to install a new water pipe. An important problem occurred last June; a heavy rain completely washed the topsoil and plants away. These observations show that even if participation is still not very high, and that some major technical problems lied in the garden design, motivation for gardening is still present, positive human connections were made, and important agricultural lessons were learned.

- **2003 La Colorada:** This project was twofold, it consisted of an analysis of the possibilities of agricultural production on a one hectare plot owned by the organization as well as an analysis of possible market strategies. Additionally, the students produced pamphlets for the Madres Maestras to use on different agricultural topics. The agricultural recommendations were supposed to be translated into Spanish by Ernesto Piga, an Italian intern working for five years with the organization. The students specified that their study was prescriptive and

suggested that the people executing the project should themselves plan the use of the land.

Today, a new family maintains this agricultural land, which was not present when the McGill research took place. The husband is the one who works the most on the land and he said that when he got there, a year ago, there was very little in terms of plants on the land. Chances are that the prescriptions elaborated by the McGill student were not considered as we are unsure if they have been translated, and as the present land use is designed by someone who is unaware of the project. The main teacher that is leading the *escuelita* at this location does not know about the project either.

Unfortunately, projects' reports anterior to 2003 are not available. Hence information gathered on them while visiting Genesis is partial and we can only assess the community perception of them.

- *2002 Genesis*⁸: This project focused on nutrition. Part of it resulted in child education and the creation of a pamphlet and poster on the food pyramid. The product for McGill University included a study about nutrition in Genesis which included visits and interviews with community members which were then used to analyse children nutrition (Anonymous 2005, personal communication). It was observed that the posters on nutrition were successfully transferred in other communities: after three years, it was still on the wall in San Vicente, Las Mananitas.
- *2001 Genesis*: This year focused on broad environmental education and the design of activities for the *escuelita* children. A guide explaining these activities was produced and the Madres Maestras of Genesis still use it to inspire newly arrived Madres Maestras. It was not clear if they still use the activities themselves. There was a desire to plant a garden, but it was considered unpractical because of the lack of fence surrounding the yard and the lack of protection from thieves.
- *2000 Genesis*: This project was not truly remembered by our respondent but she mentioned that it had to do with walking around the community and studying the geographical extent of the town of Genesis.
- *1999 Compost. Mother house*: This project was held in the Madres Maestras headquarter in San Miguelito. It focused on gardening and compost production.

⁸ The information gathered here comes directly from the Madre Maestra in charge of Genesis and also of the broader district. She admitted that she could not distinguish very well the three consecutive years of McGill project anymore, so there might be some confusion between 2000 and 2002.

6. *Past community perceptions of McGill projects*

- *La Cabima:* The members of the community that we talked to had very good feelings about the project and most importantly towards the McGill students, Kate and Jerome. What they seemed most proud of and proceeded to show us was not the agricultural guide that they left behind, but the pictures they had with the McGill students. We noticed that some important agriculture concepts were associated with the project, like compost, and also that some useful lessons were learned from the project mistakes.
- *Genesis:* The Madre Maestras we talked with thought that the products left by the students were useful: her son remembered after a few years that he did some activities on nutrition and desired to use the guide left by the students for homework, and the guide on environmental education is still used today. Most importantly, she felt that the community truly appreciated the students' presence. A few twelve years old approached later when we were still in the community and mentioned that they had participated to various McGill initiatives. They remembered the students and seemed particularly at ease with us. Considering that Genesis has requested and received the McGill projects for three years, and that they still desire to hold more, we can characterize the perception as excellent.

7. *Technical Lesson learned from past projects*

On a technical note and because gardening seems to be an important part of the relationship between McGill and Madres Maestras, it is important to mention the lesson learned from the top soil washout in La Cabima. A way that this could have been avoided would have been to plant near a stable root system such as existent trees, instead of in a traditional, North American, square garden. We also observed while visiting different backyards that this is a common practice, as is burying pots in the ground with the plant coming out just at ground level.

E) RECOMMENDATIONS

1. Themes

In the past, students have produced a list of themes that were passed on to the subsequent year as suggestions for projects. This approach is securing for the McGill students in that they know even before leaving for Panama a few topics on which they could be working. However, this should not restrain the development of a common vision with the community members at the beginning of the project. It is always possible that the communities have other needs and interests than the suggested themes. Themes should only be considered by the students and the communities as a starting point of discussion about the shared vision of the project. They should be laid out in a list and act as a source of inspiration. This implies that the communities hosting the McGill project know that they will have to take part in the discussion about WHAT the project should be, as well as HOW it will be implemented.

2. Communities

If the organization wants to continue to pursue environmental education projects with McGill, it should make sure that the community in which they are sending students has the ability to hold environmental education activities, that is, sufficient human capital.

3. First Visit

The head members of Madres Maestras who are in the San Miguelito central office have a good vision of what form the McGill project could and should take, and therefore ought to accompany the students on their first day to the chosen community. They could then act as mediators because they know both the McGill students and the community members. This would minimize miscommunication between the students and community members and help to limit any false expectations. They could also help initiating the discussion that will lead in the creation of a common vision of the project.

4. Observation Time and Situation Analysis

The students should not rush into the implementation of the project. Building trust within the community, discovering what people are interested in, and assessing the feasibility are all time intensive activities. Initially, time should be spent meeting members of the community and organizing only simple activities for the children to establish a sense of familiarity and comfort.

5. Common vision of the project

After a sufficient observation period has led to a stronger relationship and better understanding of community dynamics, students should design what the project should be along WITH members of the community. Community-level development projects are globally moving away from the “foreign expert” approach to a more participatory approach. McGill students should be able to apply this modern approach to community development, especially when they learn about it throughout their studies.

6. How to implement the project

When the common vision is finally created, the roles that each participant (including the students) will play in the project are important to define. This preparation also includes the material means with which the project will be implemented.

7. Meeting with Madres Maestras supervisor

The students’ home and the communities in which they typically work are often far from San Miguelito, and therefore contact with the supervisor can be inconvenient. Additionally, the organization tends to exert no pressure on the students to provide progress reports. A set meeting with the supervisor should be initiated by the students and implemented on a regular basis to provide updates on the project and ask for assistance if needed. This communication is essential in order to limit any disparity between the different perspectives of the University and the NGO.

8. Product for Madres Maestras

Year after year the organization provides students with very broad goals, such as environmental education for children. The most significant results of obtaining such encompassing goals are often intangible. Technical “how-to” guides appear not to be passed around or used frequently within the communities, while more accessible products such as educational posters seem to be more practical for the communities. The communities also seem to value more personal souvenirs of the students. This emphasises the superiority of the human emotional impact of the students on the community over a more technical role like that of advisors. For example, it seems that a scrapbook that includes pictures and details that recount what happened during the project and acts as an informal presentation of what was learned is more appreciated and meaningful for the community. What ever product is decided upon, the accessibility and appropriateness for the community that will be using it must be prioritised, while keeping in mind that it is usually the memory of the human interaction that outlasts any physical product.

9. Product for McGill

Every year vast amounts of knowledge are gained from these internships. For the sake of improving the experience between students and Madres Maestras year after year, knowledge must be successfully transferred from year to year. Students must make sure

to leave the results from the work that has been completed in a location and a form that enables it to be used by those who will build upon that work in the future, whether these are Panamanians or future McGill students.

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APPENDIX A: El Libro de la Memoria

El Libro de la Memoria

Proyecto San Vicente 2005

Madres Maestras



Por Nina Berryman y Claudia Paquin
Universidad McGill

¡Gracias!

Gracias para aceptar nos con tanta paciencia.

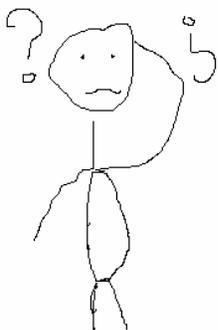
Ustedes nos aprendieron tanto sobre su maravilloso país y su ambiente.

En su escuelita, nos sentimos como en nuestra casa. Con las madres y los niños como en familia.

Ya que empezamos a entender y amar profundamente su comunidad, tenemos que irnos, con mucha tristeza. Pero memorias también que siempre van a quedarnos. Nunca vamos a olvidar las sonrisas sobre sus caras, el entusiasmo de ver que las semillas que sembramos juntos nacen.



(Preparando la clase del jueves próximo)



Que Aprendimos

Ya que los cuatro meses con ustedes terminan y que volvemos por Canadá, queremos estar seguras que compartimos toda la información que aprendimos durante estos meses. Encontremos en su comunidad gente que sabia como usar las cosas disponibles. Eso pensamos que es una gran riqueza. Haciendo las cosas, aprendimos mucho y compartimos aquí lo que funcionaba.

Construcción de la abonera

El primero día que llegamos en la escuelita, Iraida quería presentarnos la hermana Janet. Janet tiene en su patio una abonera que funciona muy bien y que produce tierra negra rica para alimentar sus numerosas plantas y árboles. Es que a veces, las plantas necesitan mas alimentos que lo que hay disponible en la tierra. Así, con abono, ellas crecen mas rápidamente y efectivamente. Janet nos explico como hacer la abonera.

Debe encontrar:

- Alambra de metal
- Trazos de metal para cerrar el alambra
- Bolso de plástico muy grande y fuerte para cubrir la (así el agua no entre y el sol no seca el motón)

Consejo: Encontremos que era mejor de cavar un hoyo y de poner el cilindro de alambra a dentro. Así, la abonera es más estable. También es preferible de encontrar un lugar donde hay sombra. El sol seca demasiado el abono, y falta agua para el proceso de descomposición de los alimentos.



¿Cómo Hacer Abono Orgánico?

1. Poner las cáscaras y los restos de frutas y verduras en la abonera.
2. Poner la misma cantidad de hojas secas en la abonera.
3. Mezclar el motón con una pala cada semana para que tome aire.
4. De un puñado de abono deben salir 2 ó 3 gotas de agua. Si no, colocar más agua.
5. Después que sea imposible reconocer las cáscaras u hojas (3 meses más o menos), el abono está listo para las plantas.

SI	NO
Verduras	-Carne
Frutas	-Leche
Pastas (Solamente limpias)	-Aceite
Pan	X
Cáscaras de huevos	

Para más información, ver el Libro de Matemática.

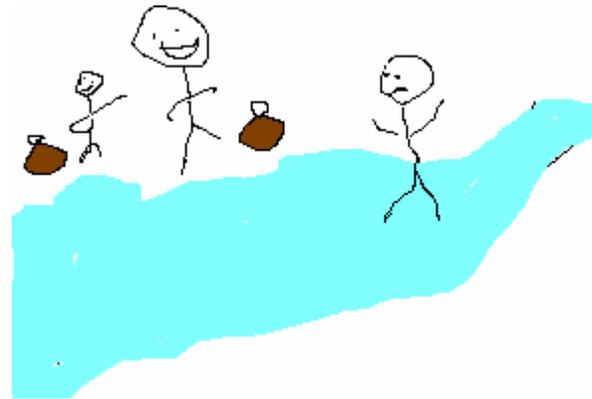
Haciendo abono

Ya que tenemos la abonera, tenemos hacer el abono. Primero, porque era el verano y que nadie cocinaba en la escuelita, no había ninguna cáscara, o restos de comida que podíamos usar para el proceso... Entonces nosotras preguntábamos a los niños de traer cáscaras y restos de la casa, en recipiente que ellos decoraban. También avisemos la dueña de la pequeña tienda de frutas y vegetales que si ella recupera las cáscaras y lo que no se vende, podríamos recopilar los para nuestra abonera. Eso funciona bastante, pero ya que ustedes cocinan en la escuelita va

a ser más fácil de tener materias a abonar. Aquí ponemos un guía para la fabricación del abono orgánico que Janet nos daba. Esta hecho por y para las Madres Maestras. ¡Es muy completo! Lo usemos también para hacer el afiche.

Encontrando tierra rica

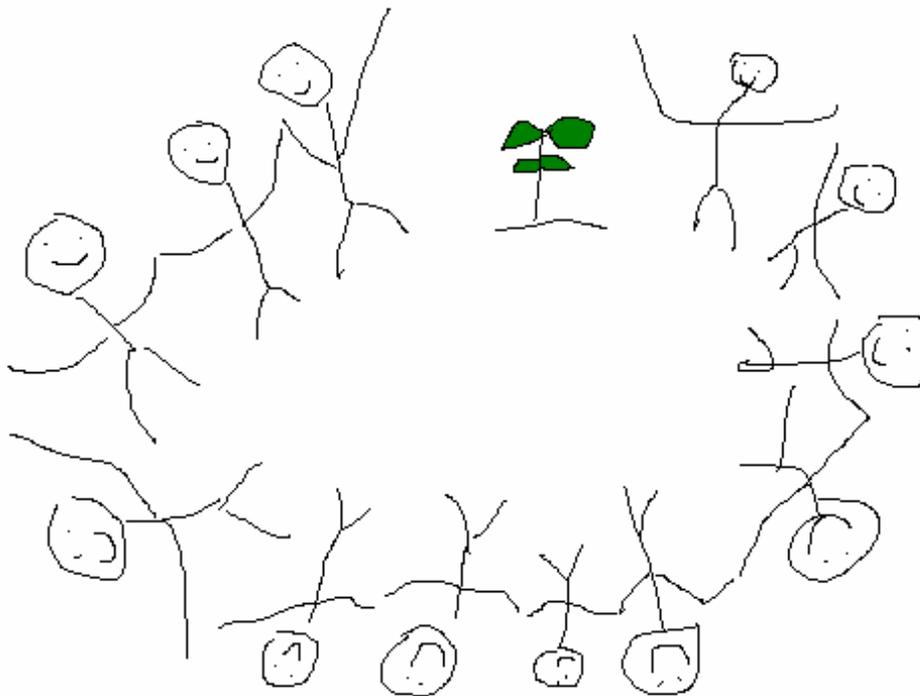
Lizabeth proponía de ir a buscar tierra buena al lado del río cerca de su casa. Eso ayudaba mucho a las plantitas en el empezó de su desarrollo (después de su germinación). Acuerdan que es siempre bueno de mezclar la tierra con abono, si eso es disponible.



Empezando una colección de plantas y semillas

Porque nosotras no conocíamos muchas cosas de las plantas medicinales de Panamá, fuimos con ustedes a dar la vuelta en la comunidad, para hablar con las personas que sabían y que tenían plantas. Augustino el vecino de

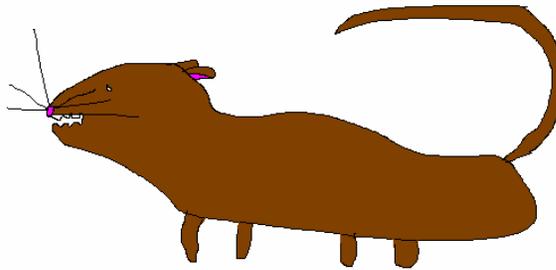
Karen, Jose cerca de la casa de Lizbeth y tambien su vecino que vive al frente, el hijo de Maruja: Todos ayudaron a conocer y encontrar plantas. Los niños recordaban los nombres de las plantas, sus usos y como se sembraba. Volvimos con muchas plantas y semillas. Después otras personas contribuyeron a encontrar mas plantas medicinales y semillas: Lizbeth, Janet, Karen, señor Amado... ¡Entonces, su colección de semillas y plantas medicinales, realmente es la contribución de toda la comunidad!



Compilación de las Visitas en la Comunidad

Nombre de la persona	Nombre de la planta	Uso de la planta	Como se sembra	¿Tiene semillas para nuestro huerto?

¡El ratón comió algunas semillas que eran en bolsas! Ahora las semillas están en una caja de plástico con compartimientos.



Porque era la estación seca, no era posible de sembrar o de dejar las plantas a fuera en el sol. Entonces las dejamos temporalmente en una mesa, cerca de la ventana en la escuelita.

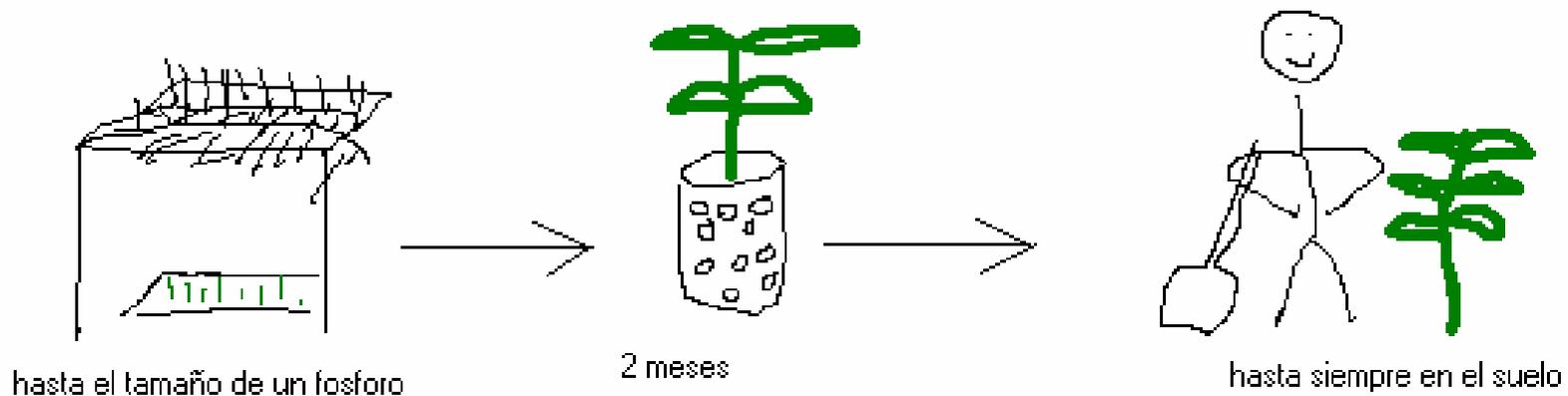


Perro, cuando la escuela empecé, teníamos que salir las matas... ¡el espacio era necesitado!

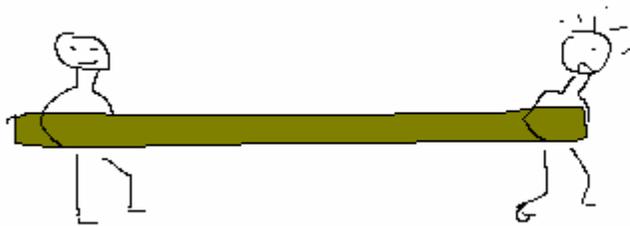


Construyendo el semillero

Fuimos a visitar, en Rio Hato, un oficina de la ANAM (Autoridad Nacional del Medio Ambiente). Ellos siembran semillas de arboles para vender los palos. Nos explican que lo que funciona muy bien es de sembrar las semillas en arena para que germinen. Eso puede durar de ocho hasta veinte días, depende del tipo de árbol. Cuando la planta es del tamaño de un fósforo, ellos la siembran en tierra con abono, en una bolsa de plástico con huecos. Después de dos meses (cuando la planta es mas fuerte), puede sembrar la en el suelo.



Para la construcción del semillero, Lizbeth nos permitió de recopilar el bambú de su casa. ¡Era una real aventura de traer lo!



¡Después que Meri nos explico como cortar el bambú, todo era más fácil! Compramos palmas para hacer el techo y la arena viene de la empresa de cemento cerca de la escuelita. Es arena del río y no del mar. La sal no seria bueno para las semillas.



Haciendo un inventario de las plantas de la escuela

Con la información que los niños recordaron y otros recursos (internet, libros de la biblioteca) hicimos un afiche que es como un inventario de las plantas que tienen. Hay una imagen de la planta, su nombre, su uso y cuantas de estas plantas tenemos en la escuela. Este afiche es interactivo. ¿Cómo? Ustedes pueden añadir y quitar cualesquiera plantas o números cuando ustedes siembran o que las plantas mueren. Tambien este afiche puede ser una fuente de actividades: los niños podrían dibujar las plantas que traen de su casa, ellos podrían buscar y aprender las plantas que están en la escuela, contando las plantas...



Haciendo las actividades

Dejamos un libro de actividades que encontremos en la ANAM. Hay a dentro, actividades sobre el medio ambiente para los niños.

Haciendo el afiche *¿Donde Estan?*

Este afiche ayuda los niños a entender de donde venimos, y también más importante el contexto donde ellos viven. La ultima foto a bajo es una foto aérea (desde un avion) del barrio de Ciudad Jardín. La encontramos en la Universidad de Panama, en el *Instituto Geografico Tomy Garcia*.

Visitando un jardinero profesional en Las Mañanitas

Este hombre tiene un montón de plantas para vender, él es muy amable. Para visitarlo, va recto después de la casa de la hermana Janet, a través de la propiedad de la escuela de teología, cuando llega a la calle, doble a la derecha hacia la calle de pavimento, allá doble a la izquierda. Después doble a la derecha. Baja el camino hasta que velo a su izquierda. Pregunta para Santos.

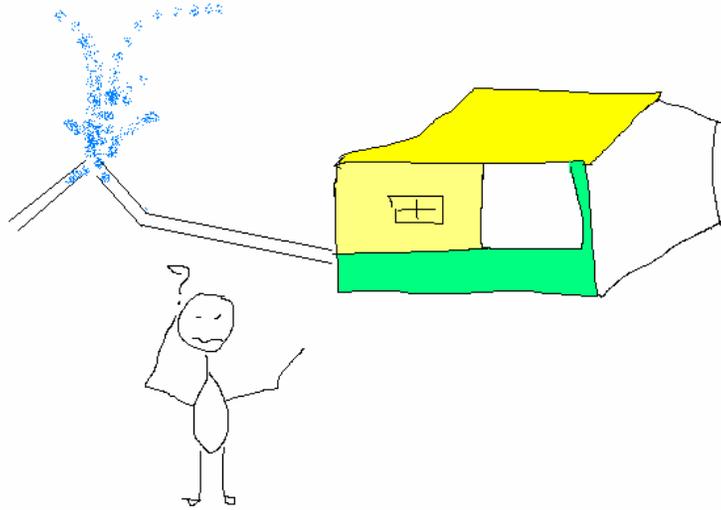
Tratando de ayudar para el problema de agua

Buscamos en el directorio telefónico el numero de teléfono de IDAN para reparación.

229-3419

229-3477

229-4661



Durante que estábamos confundidas, ustedes sabían exactamente lo que hacer.

Canción que enseñemos

El Agua nos Quiere

El agua, nos moja
El agua nos limpia
El agua, nos quiere
El agua nos lava

Bendita sea el agua
Bendito sea Dios
El que nos la regala

Barcos en, el agua
Peces en el agua
Plantas en, el agua
Niños en la playita

Y una invención sobre el mismo tema que la gallinita

A ver, A ver
Las plantas medicinales (2)

Si te duele la cabeza
Puede tomar té de salvia

Hojas de salvia son blandas
Como la piel de la coneja

Si te quieres purificar
Toma bebida de noni

¡El olor es muy horrible
Pero es bueno para ti!

... (*¡pueden añadir!*)

¡Mas canciones!

Mi amigo el sol

Hoy en la mañana
Cuando desperté
No había salido el sol
Triste me quedé
Pero ya más tarde
Cuando me vestí
Vi que había salido
Que alegría sentí

Las frutas de mi país

El guineo y la naranja
Son frutas de mi país
Marañon, piña y mamón
Todas son de aquí

¿Pero cuál ustedes piensan
Es la que me gusta a mí? (2)
La naranja, la naranja
Me gusta a mí
La naranja, la naranja
Es fruta de mi país



Hola → *Hello*

Planta → Plant

Gracias → Thank you (*tank yu*)





Las Madres Maestras





Los Niños



Appendix B: CALENDAR OF EVENTS

January 13, 2005

- First visit to community of Belen in Las Mananitas

Plan:

- To observe how the class works, to meet the Madres Maestras, to visit the community

Accomplished:

- A classroom of about 20-30 kids from 3 to 14 years old are waiting for us
- We explain we are coming as observers since they seemed to think we were prepared to give a class today about English and gardening
- We try to explain that we need time in the community and in the library to prepare our “scientific research”. The term scientific is interpreted as pretentious and upset our interlocutor; she thinks we were saying that our scientific research is more important than the community needs
- We asked to visit the community with the mothers
- The women showed us a lot of medicinal plants on the way, their knowledge seems to be well developed
- We met a woman that grows plant in tanks. We are interested in learning more about this

Conclusions:

- We suffer from a huge lack of communication as they realize that our Spanish is very basic
- There is a lot of confusion between their expectation and ours. We need to reach a common vision in terms of expectations
- They are disappointed about that and our lack of preparation
- We realize we have to be more culturally sensitive and careful
- Our first impression is that the community is less poor that we had imagined: cement house, lots of plants (especially fruit trees, and flowers)
- There is obvious garbage disposal problem (lots of burning going on and problems with people’s mentalities) and of brackish water (little river of dirty water running all over the community)
- Our concerns were: if we spend too much time with the kids we won’t be able to work on the project for McGill (we see the two products as different)
- There is a lacks of resources (material and human) to built and sustain that garden
- We need to design a valuable McGill experiment, with some academic concern
- We need to compensate for our lack of knowledge about agriculture and medicinal plants in the region (research)
- We need to come more prepared next week (prepare activities for the kids)

January 14, 2005

Plan:

- Spend the day at the library researching about tropical agriculture, local medicinal plants, and similar development projects

Accomplished:

- We found books about tropical agriculture
- We found web site about simplified hydroponics (tanks) for urban agriculture

Conclusions:

- We think it is possible to make a different academic project for McGill. It could be an urban agriculture project where we will compare the growth of plants in hydroponic tanks with the ones planted in the garden
- We realize we need to search for more information on community development projects and on the approach taken to make these projects sustainable

January 20, 2005

Plan:

- We prepared activities to develop a sentiment of being part and caring for the garden, so after we leave will be willingness to pursue the work
- We want them to understand the interconnections between them, the garden, and the food they eat. For example, we will ask them if they know where the foods they eat come from
- We also want to develop a sense of connection and caring in the children for “the Earth”. It is important since they live in an urban environment and are more disconnected from land issues

Accomplished:

- We came more prepared this time
- We started by asking their names and explaining where we are from
- We made them draw pictures of their ideal gardens. The activity worked well and we noticed that there is a preference for imported fruits such as apples. We tried to explain that these fruits don’t grow here and we should value local fruit that grows in Panama more. One of the mothers understood and explained it more clearly for us (Spanish problems)
- We also tried to draw a parallel between human health and garden health. We asked the kids what they need to be healthy and explained it is also what a garden needs (clean environment, food, water, sun, love, etc.)
- We explained the steps that lead to a healthy garden (cleaning, cutting grass, etc.), but we rapidly lost the kids’ attention
- We visited the other Madres Maestras school (Divino del Rostro) in zone 5. This school is older, closer to many mothers’ houses, and there is already a garden
- We asked the older girls to make a list of the medicinal plants they knew
- Some women started to make suggestions about how to start the project. One tried to motivate the women to come on a weekend to cut the grasses
- One woman proposed we go to Altos de Campana to visit the farm of her parents in law next Friday with, the other women, and older kids
- We also went to visit Nina and Claude in their community in San Vicente and also went to Semilla de Dios

Conclusions:

- We are happy with Woman A's participation in the activities; she seemed to understand the philosophy of them very quickly. She could be really helpful in the next weeks to help us communicate our ideas, considering our limited Spanish
- We realized they know a lot about medicinal plants and that many of these plants are already present in the community
- The participation today was good (15 kids) and it felt like we communicated more efficiently. The women also realized they have a part to play in the project
- The kids have very short attention spans; the activities need to be as interactive as possible to keep their interest
- San Vicente is very different from Belén (more urban, populated, different organization, etc). A comparison of the two communities could be a good idea in the report

January 21, 2005

Plan:

- Library search, and meeting with Carmen Goldamez at STRI herbarium to find the scientific names of the medicinal plants on the list made by the girls in our community

Accomplished:

- We went to the STRI library to search on medicinal plants, especially the ones indigenous to Panama and Central America
- We met with Carmen Goldamez, at STRI herbarium. She helped us to find the scientific name of the medicinal plants on the list made by the girls in our community. She suggested a book "270 Plantas Medicinales Iberoamericanas", and also to go to the fruit market to buy medicinal plants that are available there and that bear seeds. This will help to make the bridge between scientific and common names
- We went to the market and bought the medicinal plant that bear seeds to start a seed collection
- This evening, we had a meeting the four together about the goals of the project and our method to arrive to these goals

Conclusions:

- The meeting helped us to understand that our concerns about the sustainability of the project were related to our lack of direction
- We are uncomfortable with the expectations of the women in our communities – they think we are coming with all the answers and to construct a garden for them
- We decided to use a more participatory approach and to make them participate in every step of the project
- We also decided to make a non-scientific product for McGill
- Our product will be more a community development project
- We are going to test the participatory approach in two different communities and compare and contrast our results
- We decided that we need to do more research on different development models

January 27, 2005

Plan:

- Cleaning the backyard of the school with the kids
- Doing a participatory activity to compare the quality of the soil at different locations in the backyard

Accomplished:

- When we arrived the grass had been cut by the women
- We spent time collecting the grass with the kids. We put the grass in a pile in the corner of the backyard. We explained that we will use it later
- We did a soil comparison activity: the kids were paired (one young one old) and sent to different spots to collect spoonfuls of soil. After, we compared the soil samples by asking them the basic characteristics and which is the best agricultural soil. They identified the darker one as the best and the most compacted and light one as the worst. We explained, with the help of the mothers, that soil quality varies in the field and will influence plant growth
- We also collected the garbage with two of the older girls
- We brought melon for everyone, but many kids did not like it

Conclusions:

- We had better interactions with the kids and we felt the mothers starting to trust us more
- About 10 kids were present, many that we had not seen before
- The participation was really good today for all the activities, and generated enthusiasm
- We think it would be a good idea to do wrap up and reminder sessions at every meeting by asking the kids what we have done and learned in past weeks
- This will help the kids remember and so the new kids can be aware of what they missed

January 28, 2005

Plan:

- Visit to the farm in Altos de Campana, and collect seeds if possible there

Accomplished:

- We met at the women and children Albrook terminal and took a bus to Campana
- To get to the farm we had to hike uphill for one hour
- We collected new plants (mostly medicinal ones) and seeds with the help of the father-in-law

Conclusions:

- The experience was really bonding and everyone was really happy to escape the city
- We were put in a different position, one of vulnerability where we were not in charge of the situation, but there to learn from them – this was helpful

February 3-4, 10-11, 2005

- Carnival weeks, no internship

February 17, 2005

Plan:

- Do an activity to explain how compost works
- Ask some kids to tell the story of our visit to Campana and show the seeds we collected

Accomplished:

- Nina and Claude came to visit the community
- No one was present except Woman A, she said everyone was tired because of Carnival. We could not do any activities
- We chatted with her and went for a short visit of the community
- We noticed that colonies of leaf cutting ants have invaded the backyard!!
- Woman A suggested using garlic to control them (put some in the entrance of the nest) as a natural insecticide

February 18, 2005

Plan:

- Same as yesterday

Accomplished:

- Again, only one woman was at the school with one child
- We discussed the low participation problem with her – she told us people are on vacation and don't want to wake up early
- She accompanied us in the community for a publicity tour principally in zone 5
- We went house-to-house to meet women that have children, tell them about our project, and invite them to our next Thursday meeting

Conclusions:

- We are scared that this is the beginning of a participation problem
- We were uncomfortable disturbing people in their houses to ask them to come to the school
- We found this missionary method to be a bit aggressive

February 24, 2005

Plan:

- Build a compost bin with the kids and explain its function by asking the kids questions
- Ask the kids to cut and put garlic in the ants' nests

Accomplished:

- The three regular women were there and 10 kids (many new faces) were present

- We built the compost bin with the materials we brought (chicken wire and plastic bag) with the help of two of the older girls
- During that time we asked the mothers to cut the garlic and gave it to the younger kids to put in the ants' nests
- We explained how compost works and what it needs to be healthy
- We asked the kids to bring vegetable and fruits residues in the coming weeks to put in the compost

Conclusions:

- Today's activities worked well. The kids were excited to do them. However, at the beginning the women were not very helpful; they were lazy and didn't want to work

February 25, 2005

- No internship, schedule conflict with sociology course

March 3, 2005

Plan:

- Going to the fruit kiosk to ask for vegetable and fruit waste
- Seed collection activity in the community, so the kids can talk with the people of the communities, make friends, find human resources, and collect local seeds for the project

Accomplished:

- About 5 kids were present
- We did a revision of last week's compost activity because most of the kids were different from last week
- Some brought kitchen residues for the compost
- We went to the fruit kiosk to ask for vegetable and fruit waste to put them in the compost

Conclusions:

- Very little enthusiasm about the project
- Woman A was not there and today's group wanted to wait for her to do the seed collection activity

March 4, 2005

Plan:

- Work at home, brainstorm about possible solutions to the participation problem and search for alternatives to save the project

Accomplished:

- We decided we would like to investigate the causes of the participation problem by asking questions to the mothers about their perception of the project, etc.

March 10, 2005

Plan:

- No plan, only to see if someone will be present
- If there are kids we would do the seed collection activity intended for yesterday

Accomplished:

- Only one woman was there
- We chatted with her about the participation problem
- She told us the other mothers do not like to come to that school because they think it is far and are not from zone 13. She also told us that they usually perceive this school as dirty and the neighborhood as dangerous
- They seem also to have some problems with the private kindergarten next door which has done some negative publicity for the Madres Maestras school
- She suggested moving the project to the Madres Maestras school in zone 5 where 30 kids are registered for classes starting next week
- We went to visit one of the mothers at her house since she is sick, cannot walk long distances, and has not been at school for the past few weeks
- We arranged a meeting with the three main women for next Wednesday evening at the zone 5 school to discuss solutions to the participation problem at the zone 13 school

Conclusions:

- We realized that there are some important community dynamics that would be interesting to explore in order to understand the problem of poor participation at the zone 13 school
- We also realized that we need some kind of methodology for our new project

March 11, 2005

Plan:

- Brainstorm about our new approach to redirect the project in light of the participation problem and the new information we have

Accomplished:

- We worked at home and decided to use the Situation Analysis approach from the IUCN
- We came up with a list of questions that we would like to answer in order to better understand the situation at the school
- We agreed that we need to discuss our new approach with the mothers

March 16, 2005

- Zone 5 school

Plan:

- Evening meeting with the 3 main mothers at the zone 5 school to discuss the lack of participation at the zone 13 school
- Propose a shift of focus to an informal Situation Analysis including very casual interviews to explore motivation for sending kids to a MM school (zone 13 and

- 5), perceptions of zone 13 (internal and external), and general knowledge about the presence of Madres Maestras
- Sample groups: a) Mothers in the zone 5 school, b) Mothers in the zone 13 school, c) Residents zone 13
 - Areas of interest/questions:
 - Are you familiar with the MM schools?
 - Do you have children?
 - Do they attend a MM school? Why/why not? In which zone?
 - Do you know other parents in the area who have children? Do they send their children to a MM school?
 - What do you think their motivation is for their decision to either send their children to MM school or keep them at home?

Accomplished:

- Meeting was a relative success (we think)
- In attendance: Two of the three main women and one woman from the beginning
- We presented our thoughts on the lacking participation
- We proposed some investigation: talking to women at the schools and community members
- Woman A offered to help starting tomorrow
- We discovered recent meetings (one last week, one tomorrow) at both schools with the parents of the new school children. This must be an annual thing and would be very useful for us to attend. We should warn next year's students to ask about it. Very efficient way to collect information and stay informed
- One woman claimed that, "No realizamos el proyecto"
- We tried to convince her otherwise but it didn't seem very effective
- We agreed to split our last two weeks of time between the two schools: Thursdays at one Fridays at the other

Conclusions:

- Communication is still a big barrier
- The priorities of the women who have been helping with the zone 13 project clearly lie in zone 5 (they all live right by the zone 5 school). They are administrators there
- Woman A seems to have a clear understanding of our problems, goals, and potential solutions – the other main woman present doesn't
- Their interest is fading...??

March 17, 2005

- Zone 13 school

Plan:

- Seed collection activity with children – originally planned for March 3
- Meeting with new mothers about the state of the project
- Informal interviews with community members in zone 13 about the Madres Maestras school accompanied by Marina

Accomplished:

- School was empty and locked
- We sought out Woman A. Ended up at her house and discussed our plan for a Situation Analysis and investigation into community dynamics, the NGO, publicity, project potential
- Brainstormed with Woman A about reasons for waning participation
- All reaffirmed our need for a Situation Analysis
- We visited another of the main women at her home to get list of parents with children enrolled in the zone 5 school

March 18, 2005

Accomplished:

- Work at home, we made a more complete list of questions to ask to the mothers
- We started to build a problem tree to better identify the causes of the participation problem and to get a clearer understanding of the situation
- We started to work on a memory game about medicinal plants to give to the school

March 23-24, 2005

- No meeting – it is Holy Week
- We worked on the game, discussed the community situation, and worked on an outline for the report

March 31 and April 1, 2005

- No internship – field-trip for Environment Management class
- Madres Maestras classes start officially, every day from 8:00-10:00 am

April 4, 2005

- Zone 5 school

Plan:

- Observe class dynamic and organization, since it's our first time in a "real" class
- Talk with the new women in this school and perform our informal interviews

Accomplished:

- Songs were sung with the children – one in English (Old McDonald has a farm)
- We participated in the art activities as helpers
- We talked to about five new women. For them the more important issues in the community are education, delinquency (alcohol, drugs, gang, etc), water pollution, and garbage disposal. When we asked them why they send their kids to Madres Maestras they answered:
 - It's cheap
 - It's good preparation for formal school

- None of them were from zone 13 and only one knew about our project at the zone 13 school

Conclusions:

- There are still some communication problems – they thought we were teaching the kids today
- It was very difficult to approach women that we don't know and to ask them questions about their opinions and their lives
- Many of them were not very receptive

April 5, 2005

- Zone 13 school

Plan:

- Same as yesterday

Accomplished:

- Two new women from zone 13 were present, four kids, and Woman A
- We had an informal meeting on the participation problems and on potential solutions for the zone 13 school

April 7, 2005

Plan:

- Work at home.

Accomplished:

- We compiled a list of questions about the administration of Madres Maestras that we would like to ask in tomorrow's meeting with organization administrators

April 8, 2005

Plan:

- Meeting with Madres Maestras in their mother house with our two groups and Rafael Samudio, our supervisor

Conclusion:

- See report

April 14, 2005

- Zone 5 school

Plan:

- Planting tree seeds with the children (we provided yogurt container pots, seeds, and sand)

Accomplished:

- We sang songs with the children
- We did the planting activity

April 15, 2005

- Zone 13 school

Plan:

- Same as yesterday
- Presentation of our final products to the school (poster, seed collection, and medicinal plants memory game)

APPENDIX C: List of Medicinal plants assembled by older Belén Children

Common Name	Scientific Name
Salvia*	<i>Pluchea carolinensis</i>
Mastranto o Hierba buena	<i>Lippia alba</i>
Noni	<i>Mosinola citrifolia</i>
Paico*	<i>Chenopodium ambrosioides</i>
Tilo*	<i>Justicia pectoralis</i>
Savila	<i>Aloes Vera</i>
Valeriana	???
Calaguala*	<i>Polypodium aureum</i>
Anamú*	<i>Petiveria alliacea</i>
Guanábana*	<i>Annona muricata</i>
Marañón *	<i>Anacardium occidentale</i>

* Plants native to Central America region

APPENDIX D: Maps of Belén, San Vicente and la Ciudad de Panama

Map of the Community Dynamic in Belén

