FINDING PLACE IN PARAGUAY:

RETHINKING THE PLACEMENT OF

PEACE CORPS VOLUNTEERS

By

Sarah Leandra Canepa

Bachelor of Science in Resource Conservation, University of Montana
Missoula, MT, 2001

Professional Paper

presented in partial fulfillment of the requirements
For the degree of

Master of Science
in Resource Conservation, International Conservation Development

The University of Montana
Missoula, MT

Spring 2007

Approved by:

Dr. David A. Strobel Dean,
Graduate School

Dr. Jill Belsky, Chair
Society and Conservation

Dr. Stephen Siebert
Forest Management

Dr. Neva Hassanein
Environmental Studies

Canepa, Sarah L., M.S.   Spring 2007   Resource Conservation

Finding Place in Paraguay: Rethinking the placement of Peace Corps Volunteers

Chairperson: Dr. Jill Belsky

  Peace Corps Paraguay relies on a sectoral approach for training volunteers, making assignments to a particular community, and evaluating performance during their two years of service. Based on views expressed by Peace Corps Volunteers working in the Environmental Sector, including the author's own experience as an agroforestry extension volunteer assigned to the small, rural Paraguayan community of Tacuapity, the paper argues that the sectoral approach fails to enable volunteers to adequately assist communities. It is particularly problematic when a volunteer's sectoral assignment does not match the needs of the community. Environmental concerns were not a high priority in the author's community of Tacuapity where labor availability and insecure land tenure limited community participation in agroforestry activities. The paper concludes with two policy recommendations for Peace Corps Paraguay: to either maintain the sector approach but improve it by conducting and using the results of community needs assessments to better identify and match community needs with the volunteer's sector of work, or take a more integrated approach to training that enables and encourage volunteers to respond to diverse community needs across different sectors.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

After living in the Paraguayan community of Tacuapity for a year and a half,

Gloria, the Program Manager for the Environmental Sector of Peace Corps Paraguay,

came to my site to conduct her third and final site visit. This was a special visit because

in addition to viewing the projects that I had been working on throughout my volunteer

service, Gloria was helping a neighboring volunteer and me facilitate a farmer-to-farmer

exchange between our communities. The goal of the activity was to begin a dialogue

among farmers to share information about soil conservation techniques. This opportunity

was significant to my service because it was one of the few times that I engaged in an

activity that fell within the goals of the Environmental Sector and was directly related to

my training as a Peace Corps Paraguay agroforestry extension volunteer.

As the visit came to an end, Gloria asked me if I had any comments or concerns

about my experience as a Peace Corps Volunteer in Paraguay. I contemplated the

question and replied, "Yes, I would like to see a more thorough process of site

development. It seems as though there are many volunteers wondering why they were

placed in their community. I wonder if there could be a better way for Peace Corps to

identify communities for volunteer placement."

She looked at me with empathy and said, "I know, Sarah, but I just don't have the

time."

In her first year as a Program Manager for Peace Corps Paraguay, Gloria found

herself overseeing forty environmental education and agroforestry extension volunteers

in service. She was also responsible for identifying twenty-five new sites each year for

1

the next group of prospective volunteers.   It was a monumental task for one person and her volunteer coordinator.

Throughout my service, I had approached my program managers with questions about why I had been placed in a community where there was little demonstrated interest in the agroforestry skills that I was trained to teach.   That afternoon, following Gloria's visit, I began to wonder how Peace Corps might be able to help volunteers find either more appropriate work in their communities, or sites that demonstrated more interest in environmental issues. I wondered if site development would be more effective if it relied on the participation of the community to identify their needs and demonstrate interest in working with a volunteer.

My service as an agroforestry extension volunteer had been accompanied by a sense of misplacement, as my attempts to generate enthusiasm around my specialized field repeatedly proved to be unfruitful. These sentiments were echoed by some fellow volunteers as we shared our experiences at community counterpart trainings and volunteer reunions. After a year of trying unsuccessfully to work within an agricultural cooperative, one Peace Corps volunteer shared with me that she never had illusions that she would save the world, but had assumed that people would at least be willing to consider what she had been trained to offer.

These common frustrations throughout the volunteer community in Paraguay helped me to identify the driving question that this paper seeks to explore: Do the current methods used by Peace Corps Paraguay for site development and volunteer training meet the needs of the Paraguayan communities they serve, and give volunteers the opportunity

to meet these needs in their work and utilize the skills and knowledge they received in training?

I begin with a background section to introduce Peace Corps' goals worldwide, program development in Paraguay and the sectoral approach used by Peace Corps in that country. I discuss the use of participatory needs assessments in rural development work to identify community needs and specifically when working with Paraguayan communities. The methods section outlines the approaches I used to gather my information and perspectives on Peace Corps Paraguay's practices for volunteer placement and training, and describes the participatory needs analysis and household needs analysis that I conducted in my rural Paraguayan community of Tacuapity.   The results section follows and explores the way that Peace Corps Paraguay has defined the role of the Environmental Sector and the work that volunteers do in this sector. I discuss the perspective of volunteers in the Environmental Sector as they looked for work opportunities in their community that fell outside the sector goals and objectives but meet their communities needs.

To illustrate the inadequacy of the sectoral approach to meeting communities needs, I discuss my own experience as an agroforestry extension volunteer in Tacuapity. Through my attempts to initiate agroforestry projects in the community, it became clear to me that the community members did not consider environmental issues a top priority and faced obstacles in their ability to participate in rural development activities, such as insecure land tenure and labor availability. Finally, I recommend that to Peace Corps Paraguay either address household livelihood security with a more holistic approach, one that integrates the objectives of a variety of sectors to meet the current community needs,

or to engage communities in a more thorough participatory needs assessment prior to volunteer placement.

Ultimately this paper recommends that Peace Corps Paraguay re-evaluate how the organization prepares its volunteers and identifies communities that it serves. By improving the way in which the organization analyzes community needs prior to placement or by broadening the scope of volunteer work, Peace Corps can better serve the communities it chooses to work with and provide volunteers with placement opportunities that allow them to work with their communities in a more satisfying role.

BACKGROUND

This section provides a brief history of the Peace Corps organization and its approach to international development. It outlines the manner in which Peace Corps Paraguay develops its programmatic objectives in partnership with national agency representatives and identifies the specific sectors that volunteers work under. While each sector implements project objectives that address one aspect of household livelihood security, I identify the limitations of this sectoral approach to addressing household livelihood security more holistically, in a manner that considers a diversity of community needs. Additionally volunteers seeking to make environmental change, face underlying constraints to household livelihood security, such as labor availability and land tenure, which fall outside the scope of Peace Corps objectives but can limit the effectiveness of a volunteer, especially those who work on agroforestry. Finally I discuss the use of participatory approaches as a way to engage citizens in rural communities in the analysis of their own needs. Although volunteers have been trained to use these approaches, I

suggest that because volunteers have limited experience in this process and limited

familiarity with the culture and site specific conditions, they may not be the most

appropriate facilitators in this process to identify the needs of rural communities.

Peace Corps

Peace Corps was launched in 1961, one year after Senator John F. Kennedy

delivered a rousing speech to the students at the University of Michigan and challenged

them to work towards peace and friendship by serving in developing countries around the

world (Peace Corps, 2007). To accomplish this mission, Peace Corps established three

primary goals:

1) Helping the people of interested countries in
   meeting their need for trained men and women.
2) Helping promote a better understanding of
   Americans on the part of the peoples served.
3) Helping promote a better understanding of other
   peoples on the part of Americans (Peace Corps, 2007).

In its forty seven years of operation Peace Corps has given 187,000 volunteers the

opportunity to live and work in 138 countries worldwide through a two-year volunteer

service. Repeated volunteer testimonies verify that Peace Corps is tremendously

successful in its ability to provide cross-cultural experiences that change American's

perception of peoples around the world and has given people in developing countries a

personal face of America (Peace Corps, 2007). This paper does not dispute the value of

the second and third goals and the Peace Corp's ability to effectively provide intercultural

exchange between volunteers and people around the world. Instead, this paper is

evaluating one country's ability to accomplish the first goal; training men and women in developing countries.

The Peace Corp's approach to development is one of human capacity building, teaching people to help themselves (Peace Corps, 2002). With an emphasis on teaching people and empowering them to identify and meet their own needs, Peace Corps focuses on building relationships with communities and individuals as a means to achieve development (Peace Corps, 2002). By building personal relationships, between volunteer and community members, Peace Corps offers a more personal face of America that seeks to make positive change in the lives of individuals.

There are three perspectives that influence the strategy taken by Peace Corps country program officers to identify, design, implement and evaluate volunteer activities. These include: the priorities expressed by the host country's development plan, the interest of the local community where the volunteer might work, and the degree to which these two components comply with the philosophy, objectives and availability of volunteers to address these priorities (Peace Corps, 2002). Using these three perspectives, each country develops a strategy that outlines how Program Managers will design volunteer training and project implementation to achieve the goals outlined in the country plan (Peace Corps, 2001).

Program Development in Paraguay

Peace Corps Paraguay has been in operation since 1967, making it the longest continuously operating post in the world. Currently there are approximately 170 volunteers serving in Paraguay, with 100 volunteers arriving annually (Peace Corps,

2002).   Program development in Paraguay focuses on health, environment, agriculture, small business development, municipal services, urban youth development and education. Program Managers and agency representatives from Paraguay meet periodically to identify the purpose of the sectors listed above and the types of projects Peace Corps will implement to accomplish the goals and objectives of this project in partnership with Paraguayan interests (Peace Corps, 2001).   A similar set of procedures are followed in all countries that Peace Corps serve.

Most projects are sector specific and volunteers working in a particular sector are trained to operate under a set of goals and objectives that guide their work in their assigned community. For example, an urban youth volunteer is trained to work in an impoverished urban neighborhood to engage the youth in self-esteem building activities, promote education and assist youth in developing leadership skills.   An environmental education volunteer is trained to work in the public school system to give lessons and raise environmental awareness.   These types of project objectives are narrowly focused on achieving a specific purpose in the assigned community.

Other projects span across sectors and can be implemented by any volunteer with interest in working on the issue in their community. In Peace Corps Paraguay these multi-sector projects are called initiatives, which are broader work themes that all volunteers can incorporate into the sector work that they pursue in their community. Initiatives range from HIV/AIDS education to youth leadership. In Paraguay, the majority of volunteers participate in activities for the advancement of women's rights. To further this goal, volunteers seek out ways that they can provide more educational opportunities for

young women or assist women in pursuing income earning activities at the household level.

Peace Corps has decided that gender issues are an important area of work world wide and especially in "Paraguay, [where] discrimination against women persists and affects all women, but especially those in the lowest economic strata. Of every 10 illiterate persons, six are women. More than one-fifth of all households are headed by women" (PAHO, 2001). Under the Gender and Development initiative, volunteers in the agriculture sector have worked with women to develop cottage industries from available crops and resources, while health volunteers offer educational workshops in women's reproductive health. All of these activities are intended to address the role of gender in development and provide equal opportunities for both sexes and further the initiative's goals, but in the evaluation process that will be discussed later in this paper, they do not count towards sector goals and objectives.

Peace Corps emphasizes the role of partnership between the agency and the host country of service in defining the areas of focus and how these sectors contribute to national development goals. In Paraguay, some projects such as municipal services have been developed as a direct response to the social and political climate of the country. And one key feature to understanding Paraguayan politics is its extended history of military dictatorships. "Dictatorship is as normal to Paraguay as democracy is to Scandinavian or Anglo-Saxon states. Whether military or civilian, Paraguayan government always has been a dictatorship" (Lewis,1982:8). In 1989, Paraguay finally emerged from 35 years under the reign of General Alfredo Stroessner and began the process of democratization. A new constitution was written in 1992, and outlined many

changes in the governance of the country, one of which was decentralization of to the municipal and departmental governments (Peace Corps, 2002). Since 1999, Peace Corps has assigned municipal service volunteers to work with local municipalities to improve the management of fiscal resources and public service.

Although Peace Corps has developed its sectors of work in small business, education, health, environment, agriculture, municipal services and urban youth development in partnership with the country's development plan, they have done so through very narrowly focused programs that do not encourage volunteers to address household livelihood security in a manner that integrates sectoral work into daily lives.

Addressing Household Livelihood Security

Those with long history in rural development efforts have studied the obstacles to household livelihood security and have found that they are multi-layered and complex. Household livelihood security is defined as the ability for a household to obtain sufficient access to the resources and income to supply basic needs such as clean water, food, health care, education and time for community participation (Frankenberger & McCaston, 1998). A household refers to people who share food and livelihood resources, especially labor and income. Chambers (1989) goes a step further to include in a definition of livelihood security certainty in land tenure, ownership or access to resources and income generating activities to offset risks, ease shocks and meet contingencies (cite in Franken Berger & McCaston, 1998). While some of the basic needs for household livelihood security can be met through improved agricultural techniques and increased environmental awareness such as Peace Corps offers, large structural constraints, such as

the underlying factors that lead to household labor shortages, insecure land tenure and large scale deforestation for commercial agriculture, all of which limit rural development efforts, must be addressed through social, economic and political change.

In the sector based approach utilized by Peace Corps, sector goals and objectives do not address household security in a holistic manner, nor does it account for the limited resources available to rural households to address sector specific issues. Instead projects are developed in response to the Paraguayan government's request for assistance in sectors where they feel that technical expertise could benefit their citizens. Larger issues such as land tenure, labor availability and government policies that lead to environmental degradation, lie outside of the technical realm of an organization such as Peace Corps that focuses on grassroots capacity building.

Therefore, under the Peace Corps partnership approach, a small business volunteer may be assigned to a community that has expressed interest in forming a cooperative to better market products and meet the income needs of community members. This volunteer works with members of the cooperative to help them meet their household income needs more efficiently and to offer the organizational expertise that very few Paraguayans have developed in a country with dramatic market fluctuations and limited citizen participation. Yet this volunteer may find that some of his or her work counterparts are compelled to emigrate to Argentina or another location out of the country to find better work and wages, forcing them to build new relationships to continue the work. The volunteer can do little to address the economic issues that force people to emigrate, although these factors will significantly affect the work they do in the community.

Agriculture volunteers were the first volunteers to be placed in rural Paraguay to help households diversify their food and cash crops and establish family gardens for greater security in food production. Crop diversification can reduce the negative effects in the case of crop failure or market fluctuations that threaten livelihood security (Peace Corps, 2002). Rural farmers in Paraguay have historically cultivated a monoculture of cotton to meet household needs, but cotton production requires high labor and chemical inputs and faces a fluctuating global market that frequently finds small farmers hoping that they will be able to at least pay off their inputs and credits by the end of the season, but leave little hope for profit. The diversification of food crops can also help to sustain families in the event of disease or insect infestation that can threaten to destroy one type of staple food. The promotion of family gardens aims to provide vegetables to people who will otherwise have limited access to fresh vegetables for their family. Therefore livelihood security is closely linked to a household's ability to produce adequate food and cash crops. Agricultural techniques, however, are also closely linked to labor availability and land tenure and these factors can constrain efforts to achieve food security.

The Peace Corps Environmental Sector, whose goals and objectives will be discussed in greater depth later in this paper, emerged from a growing natural resource crisis in Paraguay, and focused their early efforts on the deforestation of the Upper Paraná Atlantic Forest. The country's dependence upon agriculture production and an increasing population is labeled as the cause of the rapid deforestation of the humid forests of eastern Paraguay. Volunteers working in the Environmental Sector are trained to work with families and individuals to increase environmental awareness and modify farming practices at the household level, yet is important to note that the household need

11

for farmland is only one of the causes for deforestation (Geist and Lambin, 2002). Paraguayan government policies implemented in the 1960's, by General Alfred Strossenor, were aimed at relieving public outrage over land shortages by opening up the Paraguayan eastern frontier to settlement. Yet not only was this land available to Paraguayan citizens, but to foreign investors who were encouraged to take advantage of these opportunities to purchase land for commercial agricultural production (Nagel, 1999).

This eastern frontier was heavily forested with the humid forests of the Upper Paraná Atlantic Forest which occupies southeast Brazil, northeast Argentina and eastern Paraguay and is rich biodiversity and known for its high level of species endemism, plants and animals that are not found anywhere else in the world (Aquino, 2006). It is one of the world's most endangered tropical forests and in certain areas over 95 percent of the natural forest has been cut for soy production and cattle ranching (Aquino, 2006).

The rate of deforestation increased rapidly during this period of encouraged settlement and today, Paraguay is the world fourth largest exporter of soybeans, grown on large monoculture plantations in the eastern portion of the country where these forests once dominated (Aquino, 2006). While Peace Corps has developed programs that can work with small farmers to minimized the environmental impact of their subsistence farms, the effects that these policies and commercial agriculture have on the environment and rate of deforestation lie far beyond the scope of Peace Corps and environmental volunteers to address, yet influence their work in rural communities.

Peace Corps response to the deforestation was to create an Environmental Sector with two projects based on promoting the conservation of Paraguay's natural resources.

The environmental education project is aimed specifically at increasing awareness in schools and communities about their environment. The agroforestry extension project objectives are to work with farmers and assist them in incorporating trees into their current farming systems for firewood use, fruit production or other goods. The International Centre for Research in Agroforestry (ICRAF) defines agroforestry as a land-use system where trees or shrubs are used on the same land as agricultural crops (1993). These volunteers not only promote the use of trees but also teach farmers soil conservation techniques to improve soils on existing agricultural land to reduce the need for clearing new land. Agroforestry has been practiced for many years by rural farmers, but this term was first introduced in the mid-1970s in a study led by John Bene that called upon the international development community to recognize the role that trees play in agricultural systems (ICRAF). While the project itself addresses environmental and agricultural issues in a way that furthers the encourages more sustainable uses of the environment at the household level, Peace Corps volunteers are unable to address some of the larger, underlying forces previously discussed that contribute to deforestation in Paraguay.

Peace Corps sectors target specific areas of work, and in through this sectoral approach it begins to address some of the factors that contribute to household livelihood security, but yet cannot respond to the diversity of community needs or the government policies that contribute to environmental degradation. In my work as an agroforestry volunteer in the country, I encountered two significant obstacles that were outside of the Peace Corps realm of grassroots development, but affected my ability to pursue the goals

of the Environmental Sector. These factors were land tenure, which includes a household's access to land and resources as well as labor availability.

Land Tenure Security

Land tenure security is an important factor that influences the ability of rural households or individual farmers to participate in development efforts, especially those that involve land-based resources. According to the Food and Agriculture Organization (FAO) land tenure is defined as "a set of rules that define the rights of access by people to particular natural resources, and is also the form of social endorsement of these relationships" (Herra & Guglielma de Passano, 2006:17). While an individual may not own land or resources by legal title, their relationship to the landowner or the community may give them security in their right to use the land in a long-term agreement. Without this security, it becomes difficult to rationalize the risk of investing capital or labor to adopt technologies for environmental or resource improvement and there is little incentive to manage the land sustainably over the long term (McCulloch, Meinzen-Dick, Hazell, 1998). Numerous studies have shown that insecure land tenure can be a disincentive for people to adopt agroforestry systems in particular, due to the labor inputs required for long term rewards that they cannot guarantee (Belsky, 1993).

Lack of secure access to land and other resources can diminish household livelihood security. In a system of open access resources, without rules or limits to use of resources (Ostrom *et.al*, 2002), community members can take advantage of natural resources without having to personally assume their environmental costs. In an open access regime, the cost of the environmental degradation is shared. This can be a problem as population grows and commercial agriculture expands requiring more land

14

and resources, both of which result in more people using the resource without assuming responsibility for mitigating the long term impacts.

Labor Availability

Labor availability constrains a household's ability to participate in social and community activities and can limit a household's participation in development work. For example a community member who does not have sufficient labor for his fields finds it difficult to leave this work to attend a workshop on soil conservation techniques (Dewee, 1995). When faced with these labor shortages, despite a farmer's recognition that he could benefit from training in soil conservation and other agricultural techniques, he cannot justify the time and energy away from food production to learn and implement new techniques. Labor constraints also take people from their households to seek part-time or seasonal off farm income, which further diminishes the household productivity (Chikwama, 2004; UN, 2000). Therefore the availability of labor can constrain an individual or a whole household's ability to participate in development efforts such as training sessions, farmer-to-farmer exchange opportunities or other development activities. This along with other factors (i.e., lack of access and control over resources), can limit their capability to make agricultural improvements or address environmental concerns.

Peace Corps Paraguay has developed its programs in partnership with country officials to address can through a sectoral approach. Yet this approach does not effectively allow volunteers to with households in holistic manner using an integrated approach to meet their current needs. As volunteers attempt to address livelihood

security through project work, they face structural obstacles that lie outside of Peace

Corps realm of development. Two obstacles that households face, which may not be in

the purview of Peace Corps to address, are labor availability and land tenure. Even if

Peace Corps can't directly address these issues, it needs to recognize how they can serve

to inhibit rural residents from taking part in agroforestry extension. Participation in

agroforestry activities takes time and labor, resources that individual households may

lack.   Through a participatory needs assessment that involves both household and

community, Peace Corps could be able to better identify factors that affect a volunteer's

work.

Participatory Needs Assessment in Paraguayan Communities

Peace Corp Volunteers are largely taught technical skills in particular sectors (e.g.

health, education, agroforestry, etc.) that have been developed through years of work in

the country. Volunteers are also instructed in approaches to development, including

training in Participatory Rural Analysis (PRA) techniques, to teach volunteers how to

assess the needs of the communities they work and live in.

PRA refers to a family of assessment techniques used by development workers to

engage local people in self-defining their resources and needs for development planning

(Chambers, 1997). Other names for a similar approaches includes Rapid Rural

Appraisal, and the results section of this paper will focus on Participatory Analysis for

Community Action (PACA) framework, the one used by Peace Corps. In either case, the

family of participatory assessment methods seeks to place the development worker in the

role of the facilitator, assisting the community in the process of learning, sharing and

planning for the future. An emphasis on local knowledge and community driven needs analysis is a significant shift from previous development approaches that emphasized the role of an outside professional or expert to identify the problems and to provide the necessary technology and training to fix the problem. In a participatory approach to development, local people are the agents of development rather than the beneficiaries of it (Chambers, 1983).

Participatory approaches to working with communities arose in the early 1980's when critiques of "top-down" development realized that such techniques could serve to better learn about and utilize local knowledge for development and in so doing, empower community members to identify and address their own needs (Chambers, 1997). Beyond individuals, they found that by involving communities in identifying their own needs, which were often more complex and diverse than an outside party could determine, there was more enthusiasm in the communities to work together and towards addressing these needs with solutions that they themselves had designed (Bunch, 1982). While outsiders can still play a valuable role in facilitating the analysis process, the level of investment by community leaders and members through active participation has increased dramatically (Bunch, 1982; Chambers, 1983; 1997). Yet the effectiveness of PRA in identifying needs and creating positive change depends upon a few important considerations. One of these considerations is the experience of the facilitator in conducting the process (Toness-Sutherland, 2002).

In 2002, Anna Toness-Sutherland conducted a study on participatory rural analysis to determine the effectiveness of PRA in rural Paraguayan communities. She

also identified specific criteria that could improve the manner in which development agencies used PRA tools in the communities they worked in. One of the factors she identified was the importance of having a facilitator who could adapt to the needs and social environment of a specific community. Toness-Sutherland recognized that good facilitation takes practice and that it is not the PRA tools themselves that will produce results, but the capability of the facilitator to conduct these activities in an effective and ethical manner.

> Not every one has a natural ability for facilitation, group management and conflict resolution. The people who are good facilitators are not necessarily those who are good trainers or educators….Educators are good at providing and conveying information, while facilitators prefer equal dialogue and prefer not to be at the front (Toness-Sutherland, 2002, pg. 250).

As I will discuss later in the recommendations section of this paper, the effectiveness of a facilitator and their ability to practice and communicate can be an important consideration in determining who is the best person to conduct PRA activities. Although Peace Corps volunteers are instructed in PRA/PACA techniques and encouraged to use them in their communities, most volunteers have no experience in facilitation, significant language limitations and are inexperienced with Paraguayan culture upon placement in their community. In addition to volunteers having little experience as a facilitator, the process of meaningful participatory analysis would imply that the identification of needs should occur prior to volunteer placement such that the volunteer assigned has been trained in the skills most relevant to the community's needs.

Toness-Sutherland also cautions PRA practitioners of the ethical risks involved in conducting PRA activities within a community.   Sometimes, while exploring the obstacles a community faces in trying to meet their needs, pre-existing conflicts emerge and if the process is not carefully managed, the participatory activities may enflame the conflict. A facilitator must also be cognizant that the discussion of needs and potential solutions through PRA can create expectations among community members, and if these expectations are not met by the facilitator or the process, this will result in disappointment and disillusion (Toness- Sutherland, 2002). It could also lead to a greater mistrust of the PRA facilitator, and if this facilitator is a volunteer living in the community, this could damage the volunteer's relationships within the community. Again these considerations suggest that a Peace Corps Volunteer may not be the ideal person to serve as a facilitator, unless they can take action to address the identified needs.

The study documented the use of PRA tools with four separate development agencies working in rural Paraguay, one of which was the Center for Human Potential (CHP), the organization that conducts all Peace Corps Volunteer training in Paraguay (Toness-Sutherland, 2002). Toness-Sutherland cautioned all the organizations involved in the study that the effective implementation of PRA activities into an organization's approach to communities will require some fundamental changes in the nature of the relationship that organizations have with communities.   She recommended to Peace Corps Paraguay that if it trained its volunteers to conduct PRA/PACA activities in their community, the organization would need to change its method of volunteer evaluation because

> …they need to take into account that volunteers are
> providing overall community development when they
> engage in PRA and may be able to target their [sector] less
> as a result. Peace Corps needs to be flexible about needs
> and feedback from the communities where volunteers live
> (Toness Sutherland, 2002, pg. 276).

If volunteers use PRA/PACA techniques to assist community members in identifying needs to increase their livelihood security, volunteers should be able to adapt their work plan to meet these needs. Yet because volunteers are currently evaluated by their ability to accomplish sector goals, this does not recognize or encourage this type of flexible and adaptable behavior to meet livelihood security needs.

The use of PRA in communities helps identifying the needs of specific communities where Peace Corps places volunteers, with a much finer filter that the broader national development plan that identifies sector of work. Participatory approaches require the use of an experienced facilitator to be effective in working with communities to identify their current needs and upon identifying these needs, Peace Corps should assess whether or not they can be met by a volunteer working within their assigned sector.

Peace Corps takes a human capacity approach towards development, with an emphasis on training people to help themselves (Peace Corps, 2002). Peace Corps Paraguay's program development takes a sectoral approach that works separately on health, education, small business, municipal services, agriculture and environment issues. Although these programs are influenced by the broader social and political forces in the country, they are not addressing household livelihood security from a holistic perspective that integrates the multiple needs of communities and households. Instead, each sector

addresses one dimension of a household's needs and trains volunteers to meet sector specific goals and objectives. As volunteers try to address household needs and aspects of livelihood security, both land tenure and labor availability can limit a household's ability to engage in rural development outreach efforts, especially in activities that are labor and time intensive. Participatory needs assessments (PRA/PACA) offers an opportunity to identify the household needs for community members and can help Peace Corps to identify priorities specifically for the communities they serve.   In the next section I outline the methods that I used to gather perspectives and information about Peace Corps Paraguay's approach to sectoral work and how I used community needs assessments and household surveys to identify the needs of a rural Paragauyan community as the residents prioritized them.

METHODS

This section describes the methods I used to gather information and perspectives during my two years of service as an agroforestry extension volunteer working for Peace Corps Paraguay in the community of Tacuapity.   I lived in this community of 15 houses for one year and ten months. In this time, I participated in all aspects of community life in Tacuapity including church, memorials, school activities, farmer's committees, birthdays, funerals, weddings and daily activities such as farming, cooking, teaching and community meetings.

As a researcher and community member I was a participant observer, when I was able "to observe the naturally unfolding world of the population under study" (Berg, 2001:117). I was not only an active participant in my community of Tacuapity but also a

frequent visitor to the surrounding communities. My first priority upon entering my

community was to learn to speak Guaraní, the local language. As I learned Guaraní, I

was able to gather first hand knowledge as to how community members interacted with

each other and with outsiders including foreigners, politicians and technical advisors; all

of whom appeared to approach the community with preconceived ideas of what the

community and its citizens needed.

In my first few months, I participated in all community activities as an observer

and struggled to identify community or household needs that I felt applied to my

agroforestry training. Finally, after 15 months of living in Tacuapity, I invited every

household in the village to participate in a series of meetings that I facilitated by using

PACA tools to help community members identify what they perceived to be their greatest

needs.   I held four meetings and utilized the tools and activities I had learned in training

to engage rural peoples in a community needs assessment. These meetings and the

results they yielded gave me insight into how the participants prioritized the needs of

their community.

After these community meetings I had an interest in identifying household needs

separate from the community needs identified by the participants in the previous

meetings. Previous observation at community activities, led me to suspect that

community meetings and conversations held in a private residence could offer very

different perspectives. I designed a community survey, using pictorial representations to

accommodate for the low literacy rate in the community and to help identify household

perception of needs for their family and the community. I personally conducted the

survey in an interview format while speaking in Guaraní and wrote down their verbal responses.

I visited all fourteen households at a time when the heads of the household were available and in a number of these houses there was only one occupant. If the household had both a male and female head of household then I visited at a time when both of these individuals were able to sit and talk. Yet it must be noted that my previous interactions with these families had revealed a very different family dynamic between the times when the man was present and when he was absent. When the male head of household was present, the women spoke less and my interviews were not able to accommodate for this. The interviews I conducted when both the male and female heads of the household were present, reflect more responses from the men than the women.

These fourteen households had all been present when I began living in the community in January 2004. There was one newly arrived household that I was not able to interview due to extenuating circumstances in my personal life. These interviews were conducted in September and October, during a time known as the "hungry months". This term refers to the fact that for most household their previous season supplies of beans, *mandíoca* and corn have run out in October and the new crop has yet to produce. During this time families eat the meager rations that they can afford to buy from the small stores. The timing of the interviews may have had an influence on the answers that I received.

In addition to my work in Tacuapity, I explored the topic of sectoral work and volunteer satisfaction from within the Environmental Sector of Peace Corps Paraguay. My perspective on training is informed through my three months of volunteer training prior to placement, three different community counterpart trainings for agroforestry and

environmental education volunteers and an opportunity to assist in the training of future

agroforestry volunteers. Meetings held between Environmental Sector volunteers and

administrators to discuss the revision of sector goals, provided perspectives from other

volunteers who were facing challenges in their attempts to implement the goals of the

Environmental Sector.

To better understand the internal perspective of site development I contacted five

former Peace Corps Volunteer Coordinators (PCVCs). These are volunteers who chose

to extend their service a third year and serve as an assistant to the Program Manager of

the Environmental Sector. I received four responses to this request for information.

In the last two months of my service I distributed a survey among all the

volunteers in the Environmental Sector asking them to identify the needs they felt their

community had prioritized and if they felt that these needs were best addressed by a

volunteer in the Environmental Sector. This was distributed to 30 volunteers via paper

flier and email in November 2005. I received fifteen surveys from this distribution and

redistributed the survey via e-mail to the volunteers serving in the Environmental Sector

in November 2006. I received five responses to this second mailing, all from volunteers

in their first year of service who had not previously responded to the survey (See Table 1

for key results from survey).

I compared and contrasted the goals and objectives of the Environmental Sector

of Peace Corps Paraguay from the time I entered into service in 2004 and the changes

that were made through volunteer input in 2005. Through this I documented some of the

changes made to the sector goals and objectives in response to volunteer input. During

my two years of service, Environment Sector volunteers sought to modify goals to more

accurately represent the type of activities that they were engaged in, hoping that the objectives would capture the organizing and empowering of people that their work consisted of and not only the exchange of technical training towards sector goals.

In the results section that follows I discuss volunteer training and placement within the Environmental Sector of Peace Corps Paraguay. By examining some of the frustrations that volunteers expressed throughout their service, during meetings and through their surveys, I identify the specific challenges that volunteers felt in trying to implement the goals and objectives of the Environmental Sector in their assigned communities. The second half of the results focuses on my experience as an agroforestry extension volunteer in Tacuapity. Based on the community's available resources, I call into question the appropriateness of placing an environmental volunteer in a community whose ability to participate in agroforestry activities was significantly limited by their lack of secure land tenure and labor availability.

RESULTS AND DISCUSSION

The first part of this section looks at the current methods of volunteer training, site development and placement of volunteers assigned to work in the Environmental Sector of Peace Corps Paraguay. I discuss the challenges that some volunteers face when trying to work in their community to address the goals and objectives identified under the Environmental Sector. These volunteers suggested changing the objectives of the sector to better capture the variety of work that volunteers were doing in their communities.

The second half of this section focuses on my own experience as an agroforestry extension volunteer in the isolated community of Tacuapity. While two previous

volunteers had been placed in this community to do agroforestry extension work, I found

the community had minimal interest in agroforestry activities and that two main factors

of land tenure and labor availability were constraining their ability to address

environmental concerns in their community.

Volunteer Experience in the Environmental Sector

Peace Corps Volunteers receive three months of intensive training in Paraguay to

prepare them for two years living alone in a community.   Prior to this training, the

Environmental Sector Program Manager and Peace Corps Volunteer Coordinator

(PCVC) travel across Paraguay to identify communities as potential sites for

environmental volunteers.   Volunteers are placed in a communities based the

information that the Program Manager has about the unique characteristics of each

community.

Volunteer Training

Upon acceptance into Peace Corps, a volunteer is assigned to a country and a

project that defines the capacity in which he or she will serve. These projects fall under a

variety of sectors which are determined by the programmatic objective of the country of

service. In the Environmental Sector of Peace Corps Paraguay, a volunteer will either

serve in the agroforestry extension project or the environmental education project.   At

the time of my service there were approximately ten volunteers invited to serve in each of

these two projects. These projects are determined by Peace Corps placement officers

working in the US to place volunteers worldwide. Placement officers review the

qualifications of the volunteer, interview the applicant and assign them to a country and

project that they feel is most appropriate. Following my service in Paraguay from 2003-

2005, the terminology for the Peace Corps Paraguay Environmental Sector changed

slightly and the Environmental Conservation Project now has two separate emphasis for

either agroforestry extension or environmental awareness. For the purposes of this study

I will be using the terminology under which I served.

All Peace Corps Paraguay volunteer trainees – in whatever sector - are required to

complete three months of technical, cultural and language training before they are sworn

into service in their assigned community. Training in Paraguay is conducted by the

Center for Human Potential (CHP) from a training center in Guarambaré, Paraguay,

located an hour outside the capital. Trainees live in rural communities located an hour's

bus ride from the main training center. Each trainee lives with a host family in a

community chosen by the staff of CHP to host all trainees assigned to a specific project,

agroforestry extension or environmental education. The volunteers of each project gather

five times a week in a common location within their training community to receive

language and technical training.

Technical training is focused on the project under which the trainee is assigned to

work. Agroforestry extension volunteers have technical training that emphasizes tree

identification, agroforestry systems, tree planting, soil conservation techniques, tree crop

production, vegetative propagation and other techniques developed over many years of

Peace Corps training and service in Paraguay.   In the environmental education project,

trainees learn how to integrate environmental education into the Paraguayan public

school system. They develop classroom lessons and secondary community activities

designed to increased environmental awareness in the school and community. Recently

27

this project has expanded to include partnerships with non-governmental organizations that focus environmental awareness efforts beyond the public school setting.

In addition to learning skills specific to their project, trainees are given an overview and introduction to some of the other types of "secondary activities". Secondary activities are projects that do not achieve the express objectives of the Environmental Sector but the volunteer may choose to work on them if there is interest expressed by community members. These secondary activities include beekeeping, health, sanitation, and working with women's groups and youth groups, all of which are activities that can help a volunteer to gain acceptance into the community before identifying projects within their sector.

Language training is a critical for all volunteers. In the agroforestry extension project, volunteers are expected to operate in two languages: Spanish and Guaraní. Spanish is the language most commonly used in the capital and in larger communities where people have access to education and media. Guaraní is the language of the *campaña*, rural Paraguay, and most volunteers find it necessary to speak both languages in rural communities. Therefore, language is a very important part of volunteer training and a challenge to all volunteers in their attempts to communicate and exchange technical information during their first year of service.

Finally, training provides volunteers an opportunity to learn about Paraguayan culture through interactions with language teachers, host families and the communities they live in during training. Training communities often serve as a practice run for volunteers to use their new language and begin the process of cultural adjustment prior to receiving their site, where they spend the next two years of their life.

Site Development

If a community has been identified as a site where an environmental volunteer might be placed for his or her service, the Program Manager begins the process of site development. Sites are identified in a variety of ways. These include recommendations from volunteers working in adjacent communities or a request for a "follow-up" volunteer to replace the volunteer currently living in a community. Requests for volunteers can be made by local agricultural extension agents or non-governmental organizations working in the area. Among Program Managers there is a wide range of contacts, with Paraguayan Program Managers typically having a more extensive network of partners across the country to help them identify sites and American Program Managers having a more limited network of contacts based upon their knowledge of the country and length of previous experience in Paraguay. Americans were also constrained by a Peace Corps regulation that restricts US citizens to five years of contiguous work with Peace Corps.

The process of site development in Paraguay begins with a lengthy community questionnaire that an individual must fill out to identify the type of work the community is interested in pursuing. The questionnaire asks the community name one or more community members that could host a volunteer for three months and individuals who are interested in serving as community counterparts for work activities. This questionnaire was often filled out by a person with education in the community and should be taken as the opinion of this individual, who may or may not have consulted other members of the community before submitting the reply.

After this questionnaire identifies a community with interest in working with Peace Corps, the Program Manager and the PCVC visit the community to talk with the people who submitted the initial request to Peace Corps. This initial visit focuses on meeting community leaders, such as the director of the school or other people identified as having interest in working with a volunteer. If a follow-up volunteer is requested, then the Peace Corps visits with neighbors, volunteer counterparts and other individuals in the community that the current volunteer works with.

If the Program Manager feels that the site has potential for placing an environmental volunteer after this first meeting, a second visit is arranged. On the second visit, Peace Corps tries to hold a public meeting with the community to share information.   This meeting can include the use of PACA activities conducted by the Program Manager and PCVC to determine the level of interest that the community members express in having a volunteer. The effectiveness of these meetings vary greatly depending on who from a community attends the meeting, if these people feel comfortable sharing their opinions, and the ability of the Program Manager to interpret the sentiment of people attending the meeting.

This single meeting can often be problematic in that interested parties may or may not be able to leave their households due to work load or other conflicts. Such meetings might not be comfortable for people who have had little interaction with outsiders and assume that such meetings could be conducted in Spanish, a language they would prefer not to speak. Occasionally, these meetings are scheduled at times when there is a heavy work load or during the heat of the day, when few people would be likely to attend. This lack of attendance at meetings and workshops is a challenge regularly faced by

volunteers but in site development, not having enough people attend this meeting is even more problematic because does not give the Program Manager an accurate feel for community interest and the residents' willingness to work with a volunteer on environmental issues.

This second visit is the time when the Program Manager decides if the site is appropriate for volunteer placement. The safety of the volunteer is always the first consideration for any site, if there was any indication of danger during the visit it is unlikely that a volunteer will be placed in the site. The Program Manager is also looking for one or more families who can host a volunteer for the mandatory three months of family stay, if not for a longer period of time. They attempt to determine the level of interest that the community has in environmental projects and in using technical knowledge that a volunteer would have to offer. Finally they are looking for individuals in the community that will agree to be a volunteer's counterpart in community work and related trainings.

Site development is a time consuming endeavor and Program Managers rarely find themselves with more than three extra sites for a given group of volunteers. A Program Manager that places twenty volunteers each year has to make, at minimum, fifty site visits for the purposes of site development in addition to their obligations to the forty current volunteers in service under their supervision. It is important to note, that this leaves little time in any single community for Program Managers to tease out the complicated relationships and tensions that exist within a community and can greatly affect a volunteer's service.

Occasionally, after a visit to a community the Program Manager for the Environmental Sector feels that environmental issues are not the priority for the community. In these situations the Program Manager can refer the community to a different sector, but this cross-sector referral means that time and energy is taken away from identifying an environmental site. The site development process must be completed with 20-25 suitable sites for environmental volunteers, before the trainees have completed two months of training.

Volunteer Placement

After two months of technical, cultural and language training, volunteers are assigned to a community in Paraguay where they will live for their two years of service. For volunteers this is an emotional day, leaving some volunteers joyous and others disappointed in their site assignment. Yet volunteer knowledge about the country is still quite limited and is based primarily on a series of three to four excursions that they have taken into the countryside and one longer trip to visit a current volunteer. Therefore reactions to placement are based on descriptions from Program Managers, information learned from current volunteers and their role as "first volunteer" or a "follow-up volunteer" in a community.

A first volunteer is the first volunteer ever to be placed in a community and serves as cultural ambassador to introduce a community to Peace Corps. These volunteers are cautioned that they might not accomplish much "work" related to their sector during their service, but instead they are preparing the foundation of relations for future volunteers to build upon.

A follow-up volunteer may be the second volunteer in the community, working to continue the work that the first volunteer has started. He or she might enter into an existing project or have community members identified by the previous volunteer as individuals who are interested in working with them. Follow-up volunteers might also find themselves serving as a third volunteer, assigned to "close" the site. The assumption in this situation is that multiple volunteers have preceded this individual and therefore the third volunteer's primary responsibility is to ensure the sustainability of the project, the community's ability to continue the project without the presence of a Peace Corps Volunteer.

The volunteer placement process is more informal than that of site development. Placement decisions are largely based on the unique challenges posed by each potential site and how these are best matched with the personalities and strengths of the trainees to be placed. For example, if a volunteer has expressed apprehension during training about living in an isolated site, far from other volunteers, they might be placed in a community that has more regular bus service near a larger community. Trainees are interviewed by their Program Managers at least two different times throughout their three months of training. These interviews are an opportunity for trainees and Program Managers to get to know each other and for the Program Manager to learn about the trainee's background and interests.

Volunteers also have an opportunity during training to identify specific characteristics that they think they would like to have in their site such as internet access, cell phone service, bus service or other such comforts. These requests are taken into consideration but rarely are met for all volunteers when making decisions on placement.

Placement decisions are also informed by technical trainers and language staff who have worked with the trainees for two months at the time of placement.

Community Counterpart Trainings

Once volunteers are assigned to their sites they are given three days a month to return to the capital city, Asunción, to reconnect with other volunteers, take care of administrative details, purchase supplies and access computers and phones.   For some volunteers these visits are primarily social and for others they are extremely necessary. Because some volunteers do not return to the capital city or do so at different times, the volunteers of the Environmental Sector were not reunited until they held their first training four months into service in their assigned communities.

In the first year of service, Peace Corps Volunteers are required to attend two trainings with their community counterparts. The first of these trainings is focused on teaching community counterparts to conduct PACA activities within their community to identify community interests and needs. The success of these efforts in teaching Paraguayan counterparts to be facilitators is largely dependent upon the capabilities of the individual. Seeing that many Paraguayans are uncomfortable with assuming the role of a facilitator the results were varied.

As the environmental volunteers gathered together for the first time in four months, they shared stories and frustrations about their attempts to identify meaningful projects, work opportunities and ways to contribute to their communities. Although many were follow-up volunteers, very few of volunteers had been able to identify sector related work in their communities or saw demonstrated interest from community members in the technical skills they had been trained in. While this sentiment was not

unexpected after four months of service, a number of volunteers wondered why their community had been chosen for an environmental volunteer.

Another volunteer and community counterpart training was held for agroforestry extension volunteers a couple of months later at five months into service. This training introduced community members to the principles of agroforestry and gave them an opportunity to learn through a "farmer-to-farmer exchange", time spent in the field of a farmer who has experience with agroforestry techniques and who shares these experiences with other farmers. Volunteers had been anticipating this training for months by encouraging community members to attend, and while some volunteers found a community member who was willing to attend and participate, other volunteers found that when the date arrived their community counterparts could not or would not attend. Again volunteers expressed frustration among themselves about the lack interest that their community members expressed in working with them on environmental issues.

While we, the volunteers, had not expected that the process of rural development would be straightforward or easy, those of us who found little or no interest in our communities regarding agroforestry projects questioned the appropriateness of our placement in these communities. This was especially challenging for follow-up volunteers, placed in a community to continue previously initiated agroforestry work, but still found little interest in this work. We recognized that there was work to be done in every community, but it seemed that much of this work was not related to the specific training that we had received to address environmental issues.

Critiques from within the Environmental Sector

This section moves away from a description of volunteer training and placement and focuses on the experiences of those environmental volunteers who found themselves pursuing projects outside of the Environmental Sector because these secondary activities appeared to be of higher priority in their community.

Applicability of Environmental Goals to Assigned Communities

In the survey I distributed to volunteers in the Environmental Sector, survey respondents said that there were environmental issues in their community that they had identified, but that their communities did not consider them problems or did not express interest in addressing them (See Table 1). This sentiment was expressed equally among first time volunteers and follow up volunteers both of whom found that community members were more concerned about issues outside of the Environmental Sector goals. While the volunteers who felt that an environmental volunteer was appropriate in their community, said it was because their community members had identified environmental issues, such as soil conservation or deforestation, as their most pressing issue through PACA activities or household visits (See Appendix B for Questionnaire).

Table 1. Key Results of Environmental Sector Volunteer Survey[1]

	Environmental Education Volunteers (n=10)		Agroforestry Extension Volunteers (n=10)	
Survey Questions	**Answer**	**% (n)**	**Answer**	**% (n)**
Upon your arrival did the community express a concern for environmental issues?	It was a primary concern……….20 (2) Equal with other concerns……...60 (6) After I initiated the topic..............20 (2) Did not appear to be pressing…..10 (1)		It was a primary concern………..0 (0) Equal with other concerns……..30 (3) After I initiated the topic………50 (5) Did not appear to be pressing.....20 (2)	
How did you identify community interests? [2]	Community needs assessment…70 (7) Meet with Community leaders….90 (9) Household visits………………...70 (7) Tried projects…………………...50 (5) Given direction by organization...30 (3) Have not identified concerns……10 (1)		Community needs assessment.....30 (3) Meet with community leaders….90 (9) Household visits……………..100 (10) Tried projects…………………..40 (4) Given direction by organization..20 (2) Have not identified concerns…....0 (0)	
What do you believe to be the greatest community concern? [3]	Environmental Concerns[4]……....... (6) Non Environmental Concerns[5]… (12)		Environmental Concerns……............(10) Non Environmental Concerns…… (10)	
Do you believe these concerns fit under the goals Environmental Sector?	Yes, they fit under goals……….40 (4) No, BUT I am addressing them..50 (5) No, I am NOT addressing them..10 (1) No Response……………………..0 (0)		Yes, they fit under defined goals..60 (6) No, BUT I am addressing them…10 (1) No, I am NOT addressing them…10 (1) No Response……………….........20 (2)	
Is the Environmental Sector appropriate for the community you work in?	Cannot say …………………...........30 (3) Yes…………………………...30 (3) No…………………………….40 (4) No Response……………………..0 (0)		Cannot say……………….….…..0 (0) Yes…………………………….80 (8) No……………………………...10 (1) No Response…………………...10 (1)	

---

[1] Total survey sample equals 20 volunteers. The first column includes those in the Environmental Education Project and the second column includes those in the Agroforestry Extension Project.

[2] Volunteers marked all methods that applied; there were 6 possible answers.

[3] Respondents could answer with more than one possible response.

[4] Environmental Concerns are those issues that volunteers were trained to address and are identified as: soil degradation, erosion, deforestation, loss of wildlife, loss of soil productivity, water pollution (NOT water shortage), lack of trees, trash collection/management

[5] Non environmental concerns include the following: Lack of employment, water shortages or lack of access to water, new high school, world trade competition, and health.

What is not captured in the table are the written responses of volunteers that expressed a feeling that if they just worked harder, or if the right volunteer tried, then their community might see the environmental issues. When asked if an environmental volunteer was the most appropriate type of assistance for their community, one agroforestry volunteer replied, "If not agroforestry, then what?" While this volunteer's community had identified their most pressing concerns as obtaining running water and building a high school in the community, the volunteer still felt that they agroforestry was as good as any other project for in the community because this individual was willing to work on a variety of projects anyways. When another volunteer was asked if an volunteer from the Environmental Sector was the most appropriate type of assistance for the community he worked in, he couldn't answer yes or no.

 This volunteer wrote:

> I feel like I am addressing needs in my community, but
> doing so by being creative and flexible to working in
> different areas....but there are also pressing needs that I
> have no capacity to address, such as health concerns
> stemming from the water shortage and lack of a paved road
> to a hospital.

Imbued with an attitude commonly shared in Peace Corps, that volunteers need to be flexible and adaptable in all circumstances, these environmental volunteers recognized that the skills they had been trained in were not relevant to the work prioritized by their community. Yet they were willing to address these other needs for the community because they wanted to contribute to the community's well being. Other volunteers, even though their community had not expressed interest in addressing environmental concerns, thought that if they could, "convince others" or "provide more encouragement"

then perhaps their community would take initiatives to address environmental issues.   In the meantime, volunteers were spending the majority of their time engaged in secondary activities because these were the most pressing needs to the community or ones that they felt they were capable of addressing. While many volunteers were comfortable pursuing projects outside the Environmental Sector, the quarterly evaluation process for volunteers emphasized accomplishments within the sector goals.

All Peace Corps Paraguay volunteers document their ability to accomplish sector goals and objectives quantitatively through quarterly reports. Volunteers prepare these reports to share their accomplishments every three months with their Program Manager. These quarterly meetings are one of the ways that volunteers share with the Program Manger the projects they work on, the success they experience and the challenges that they face in their life and work.

Some of the criteria used to evaluate the accomplishments of the agroforestry project is based on a volunteer's ability to organize trainings for their communities to teach people in tree planting techniques, contour farming, and the establishment of agroforestry systems. While most volunteers were looking to find ways to promote these practices in their communities, those volunteers whose communities expressed very little interest in learning these techniques struggled to account for time spent meeting environmental objectives. These volunteers found that their community welcomed many other types of capacity building and secondary activities not focused on environmental issues. The volunteers I talked to, discussed a variety of reasons their community did not pursue environmental issues including: lack of recognition of the problem, the problem was too large for a single volunteer to address (as was the case with volunteer who lived

next to a large commercial agricultural plantation that was polluting the surrounding fields) or the communities did not see these issues as their greatest need at the time of the volunteer's service. Although many volunteers pursued secondary activities and discussed them with their Program Manager, these secondary accomplishments and the constraining factors were not reported as contributing to the achievement of the sectoral goals.

At an event called the Closing of Service, volunteers from the Environmental Sector gathered to brainstorm improvements to the project and make suggestions to the Program Manager. After two years of service in Paraguay, the environmental education volunteers who were preparing to leave in December 2005, suggested to the Program Manager that the environmental education project be eliminated as a sector specific project. They suggested that the project objectives should instead be incorporated into the programmatic goals of Peace Corps Paraguay as an initiative to be implemented by volunteers across sectors. These volunteers felt that the sectoral approach was not the most effective method of increasing environmental awareness and instead wanted to see environmental education activities incorporated into the training of volunteers in all sectors. This suggestion was considered by the Program Manager and the Country Director but they later replied to the volunteers that they were not prepared to eliminate the project at this time. The administration did say that they would consider making changes to the environmental education project and the way in which volunteers were trained and placed in this project.

Evolution of the Environmental Sector Goals

In 2004, the Environmental Sector of Peace Corps Paraguay began to anticipate the revision of the project goals and objective to update and improve their approach to environmental issues in Paraguay. This project revision was another step in the evolution of the Environmental Sector since it began working in Paraguay with a focus on protecting the environment. The early approach had been to place volunteers near national parks and focus efforts on environmental education in schools. In time, they decided that a more effective way to address environmental issues such as deforestation, poaching and soil erosion would be to work directly with farmers and teach them to live and farm more sustainably, thereby reducing the need to seek out "new land", land recently cleared to plant crops. Yet these programs were not addressing some of the underlying factors that were contributing to deforestation in the realm of large commercial agriculture (Geist and Lambin, 2002), that was becoming increasingly mechanized and dependent upon chemical inputs.

The change in the Peace Corps approach to addressing environmental issues resulted in the creation of the agroforestry project, to integrate more sustainable farming practices and use of trees into farming systems. With these changes, the Environmental Sector moved towards a people centered approach to improve the environment instead of protecting the environment from them. Yet the goals and objectives of the agroforestry project still emphasized the transference of technical knowledge from volunteers to communities to improve the environment.

The programmatic review of the Environmental Sector began with a questionnaire to volunteers and their counterparts asking about the ability of the program to meet

community needs. This was followed by a series of informal gatherings between the volunteers and the Program Manager. In these meetings the volunteers in attendance voiced their desire to see the goals and objectives of the program more accurately reflect the type of activities that they were spending their time on. These activities were varied among volunteers and included youth groups, women's committees, nutritional activities, health, beekeeping, computer training and agriculture projects. The intent of these volunteers was not to have each of the activities listed in the project description, but to have program goals that acknowledged their efforts in capacity building and community empowerment through a wide variety of activities.

Many volunteers talked about how they dreaded filling out the quarterly reports, because in this process of documentation, they found that few of their activities could be counted to meet the current program objectives. Instead, much of the work done by volunteers who could not identify environmental issues in their site was categorized as secondary activities. Some volunteers reported that this left them with the impression that they were not effective in their site because they were unable to motivate the community to take action on environmental issues.

Volunteer input was well received by the Program Manager and some changes were reflected in the project goals redrafted in 2006 as the Environmental Conservation Project (See Appendix A). These included an emphasis on empowering communities to form groups, such as women's groups, youth groups and farmer's committees, to address environmental needs in their community. Yet the goals still emphasize actions within the Environmental Sector framework, though they encourage more capacity building within communities versus the technical training previously emphasized.

While I think these changes in the Environmental Sector goals and the changes to be made to the environmental education project indicate that Peace Corps Paraguay is taking steps towards change for the Environmental Sector, it does not change the question being posed by environmental volunteers in their site: Why is an environmental volunteer placed in a site that does not prioritize or demonstrate interest in environmental issues? Volunteers, who had used PACA tools to identify the needs of their community, reported that they often used this information to initiate projects outside their sector goals. If community assessments conducted by volunteers were revealing that environmental issues were not the highest priority for communities, then why did the site development process not identify these needs prior to the placement of an environmental volunteer in the community?

A second concern expressed among volunteer was based on experiences that indicated that even though a volunteer spent much of his or her service working on projects outside the sector goals, the same community could still be considered for a follow up volunteer from the Environmental Sector. Volunteers felt as though this did not demonstrate that an adequate assessment was being done in all communities to determine if there was an expressed desire to address environmental issues.

Volunteers specifically identified the process of site development as a concern, as is evident in a letter from the Country Director to volunteers and staff. He addresses this concern by writing that, "Our program staff are committed to not only a more thorough and in depth site development process but also a more comprehensive site visit format with your best interest at heart. You deserve that" (J.Geenen, internal memo, October 29,

2004). Volunteers and members of the administration were beginning to recognize that site and project development could be improved for volunteer satisfaction and to better meet the needs of the community.

In the following passage, I reflect back on my own experience as an agroforestry extension volunteer in the isolated community of Tacuapity. In my two years of service, I sought to initiate projects to address environmental issues and teach agroforestry techniques to community members, but after conducting PACA activities and household interviews, I recognized that environmental issues were not the most pressing concerns in their daily lives. Additionally in these two years I observed how insecure land tenure and labor availability can become the factors that serve to limit the ability of community members to participate in rural development activities.

Experiences of an Agroforestry Extension Volunteer in Tacuapity

In this section, I use my experience as agroforestry volunteer, trained to offer technical skills to the residents of the small, isolated community of Tacuapity, to illustrate the obstacles that a volunteer faces when trying to address a problem that is not a high priority for her assigned community, in my case environmental concerns. I begin by describing the social context of the community of Tacuapity, especially its social isolation. This is followed by a description of the work done by previous volunteers in this community. Next I describe my efforts to generate interest in soil conservation techniques and environmental education before finally working with the community to identify and prioritize their own needs. Finally, I discuss how insecure land tenure and

44

labor availability affect the ability of residents in Tacuapity to address environmental issues.

Tacuapity: Geographic and Social Isolation

When I define the community of Tacuapity as "isolated," I am referring to a lack of access to social resources provided by the government and municipality and the distance from centers for communication and information. By social resources, I mean the community's ability to access health care, agricultural extension assistance, educational materials and other services that the municipality provides to the communities it services, but in this case does not consistently deliver to Tacuapity. The isolation can be better understood after a brief discussion of Paraguayan social organization and especially its class structure.

Asunción, the capital of Paraguay, feels like a country apart from its rural brethren. Boasting a visible presence of a rich, educated class, Asunción residents have ready access to material goods, information, technology (internet and cell-phones) and transportation within Paraguay and beyond its borders. The educated, yet "ill- defined" middle class (Lewis, 1982), uses the extensive bus system to commute to their employment in any variety of commercial or service employment. "Some of these people are well to do, while others earn relatively little. What they have in common is that they are educated and do not have to work with their hands – an important social distinction" (Lewis, 1982:5).

An hour out from Asunción sits the department capital, Paraguarí, with a hospital, state offices, and regional church officials. Two hours further down the highways sits the *pueblo*, La Colmena, which serves as the local commercial center

where there are a couple of paved streets, some with rough-cut rock and the furthest reaches use red dirt roads. Middle class residents are evident by the cars and the Spanish that they and their children speak together. The *campesinos,* rural people, walk the streets with heavy loads over their shoulders or balanced on their heads. They come weekly to buy food, visit relatives and sell products. They quietly approach the counter to make their purchases in Guaraní before carefully counting out crumpled bills and coins.

Bouncing further down the red dirt road sits rural Paraguay, where cars are far less common, motorcycles define status, and the majority of people travel by horse, bike or foot. Houses sit next to the dirt road, surrounded by the fields of sugar cane, cotton, onion, and peppers for sale while the food crops of corn, *mandióca* (yucca) and beans are set back from the house. A cow or two is tied in the yard, running water has not yet arrived, but hand wells accompany each house and electricity has been in place for at least ten years. There is a school for the first six years of schooling and three years of high school, after which the students must move to the pueblo to finish high school. Guaraní is the preferred language, both in the school and on the street, but many residents can speak Spanish. Yet even within the *compaña*, there are areas more remote than others.

Past the last bus stop and into the forest, on a rutted route more suited for a wooden cart and oxen, the power lines have also stopped and after five kilometers of walking a house comes into view. Standing alone on the horizon. Perched on top of a hill with no phones or electricity, no bus service, one motorcycle and a few horses, sits Tacuapity.

Tacuapity is not far from the capital in kilometers but upon entering this community, the traveler realizes that most conveniences have been left behind. Clothes are washed in the small creek; water is hauled from springs in the woods or one of the three reliable wells. The first six years of school is held in the only room of a proud new building. Tinny radios blare from a few of the fourteen houses in the village and the entertainment will be cherished until the battery dies. The remaining silence is filled with the constant wind that carries the laughter and conversation spoken only in Guaraní. When darkness falls, the candles and kerosene lamps dimly illuminate the darkness until the residents climb into their one or two room houses to sleep on cots above the dirt floor.

Within the community of Tacuapity, there are slight class divisions, though not as evident as those between people outside of the community and the residents of Tacuapity. There was one household with a motorcycle when I arrived, which provided this family with greater access to the pueblo to purchase and sell goods. This family also had a residence outside the community which they traveled to and from frequently and a salaried position in the school. Other households did not demonstrate distinct division of classes, with each family demonstrating a different set of priorities and different strategies for meeting their household needs. As will be discussed later, another distinguishing factor among the households was their land tenure security and access to resources, both of which affected their household livelihood security.

Previous Volunteers in Tacuapity

Tacuapity received its first Peace Corps volunteer in 2000. A young woman trained as an agroforestry extension volunteer was placed in the community based on a recommendation from an environmental education volunteer in nearby La Colmena. The

volunteer had heard of Tacuapity from previous volunteers and after talking to a resident of the pueblo who owned land in the community, he visited the school to investigate the possibilities. He found that the director of the school had known a previous volunteer from the neighboring community of Isla Alta and she was interested in having a volunteer in Tacuapity.

The first agroforestry volunteer was placed here because of the community's proximity to the buffer zone of Ybycuí National Park, though the entrance to the park lies 25 kilometers from the community. The community is located in an ecosystem known as the Upper Paraná Atlantic Forest, described in the background section as an ecosystem rich in biodiversity and facing a rapid rate of deforestation. Therefore, it was decided by the Program Manager for the Environmental Sector that the placement of an agroforestry extension volunteer in the community could help encourage more sustainable farming practices to lessen the need to clear new land for agriculture.

In conversations I had with the first volunteer and documents given to me upon my placement in Tacuapity, I learned that the first volunteer spent much of her time learning Guaraní and engaging with a community that had little exposure to foreigners. She spent her first four months living with a family, before the community helped her to build a small house adjacent to her host family's house. The volunteer taught soap making, held self-esteem workshops, organized a youth group and frequently worked in the school on a variety of projects.   She had been able to introduce a few farmers to green manure crops to improve soil productivity and had one farmer express interest in beekeeping.   In a conversation with me before she left the country, she said that one of the more challenging aspects of her agroforestry work was that very few people in the

village owned their own property and were able to make long term investments on the land. The topic of land tenure will be discussed in more detail later in this section.

After the first volunteer completed her two years of service, Peace Corps decided that a second agroforestry volunteer would be placed here to continue work to promote green manure crops and soil conservation. The second volunteer moved to the site in December of 2002, where he began his own process of cultural adjustment. He moved directly into the house left by the first volunteer and began to visit households and seek out opportunities for agroforestry work. As with any second volunteer, there was a period of adjustment for the community to accept into their lives a new person of a different gender and different personality. The second volunteer's service lasted for four months before he was medically separated from his Peace Corps service and returned to the states.

When I arrived in Paraguay to begin volunteer training in September 2003, Tacuapity was still being considered for a replacement volunteer. In November 2003, I was told that I had been "selected to live in Tacuapity due to [my] forestry background and [my] high technical skills in agroforestry." As a Master's International student in a resource management program, seeking to do research on land tenure issues, I initially thought that Tacuapity was an ideal placement for these activities. I will discuss the Master's International program and placement implications in the discussion section that follows.

My site assignment also acknowledged that the loss of the previous volunteer may have had an impact on the community and that there would be some "patching up to do" of the community's perception of Peace Corps and volunteers. The site assignment went

on to explain that after the foundation built by the first volunteer and the brief work done

by the second volunteer, the farmers in Tacuapity were "primed to get serious about

agroforestry" (K. Hunter, Site Assignment, November 25, 2006).

<u>Delivering the Environmental Message</u>

I entered my service in Tacuapity with a minimal ability to speak Guaraní and a

desire to let my work be informed by the needs expressed by community members. To

learn about the community's concern, I visited households to practice speaking the local

language and become familiar with local cultural practices. I was also trying to listen for

any specific needs or desires expressed by community members that I felt were within

my capability to address. While I was interested in a variety of activities and did not

limit my participation to environmental issues, I was more actively seeking opportunities

within the agroforestry realm.

Many of the community members were aware of green manure crops and tree

planting based off their experience with the previous volunteers, yet few of them

understood how to incorporate these techniques into their farming systems or even how

these techniques could benefit their soil and crop production. There was one farmer who

served as my counterpart in the community and he was very interested in utilizing these

techniques in his field. He was willing to experiment with a variety of techniques on his

land, and in the first few months of service, I focused much of my energy on working

with him at his farm.

There was interest among the youth of the community to revive the youth group

and the school invited me come to teach environmental lessons on a weekly basis, both of

which I did. I was embracing most opportunities to contribute to daily life in the

community and frequently found myself assisting the school and church in fundraising activities. While these were a satisfying contribution to the community's well being, I hoped that in time I would find more interest in the agroforestry skills that I had been trained to offer.

After four months, my first community counterpart training opportunity came and I prepared to take two community members to a workshop that would teach them strategies for conducting PACA activities in their community. I thought carefully about who might be most effective in implementing these activities in the community and decided to invite two women in the youth group that had recently reorganized. When I went to invite them to participate, they both declined the invitation due to conflicts with their church responsibilities. I was disappointed but I quickly identified two other youths who I thought might be interested. One of the young men was interested but the other remained undecided until the day of departure, when he declined without comment and his sister took his place at the last minute. Again I was disappointed by the lack of interest and involvement from the community and openly expressed this disappointment to my Program Manager in our first meeting.

When our second community counterpart training opportunity arose, to learn specific agroforestry techniques, I found even less interest from the community to attend, even though Peace Corps was willing to pay travel expenses. The man who did finally agree to go with me as a community representative had attended four previous Peace Corps trainings with the other volunteers, but he was a person that the community could expect to take their place when no one else wanted to go. I wondered if I was not being effective in my ability to motivate and generate enthusiasm around agroforestry issues, if

51

agroforestry was not a primary concern among community members or if there were other concerns in their daily lives that prevented them from participating in these activities.

Over my next year of service I hosted a presentation on green manure crops for farmers in Tacuapity. After this presentation I visited the participants individually to draw maps of their farm and to initiate farm planning activities. I managed to find some free seed sources and distributed a small starter package of seeds to the participants. I continued to work with my community counterpart and began consulting agriculture committees in adjacent communities. While I was able to initiate a small amount of interest in using soil conservation techniques, it was still obviously driven by my own interests.

I had also begun teaching environmental education lessons in the school. The lesson plans I drew up included information on ecosystems, wildlife habitat and the significance of the ecosystem that they lived in. The school and community raised money to take 35 people to visit the nearby Ybycuí National Park that many of the residents had never had the opportunity to visit. Although the community was open to participating in these activities, I was plagued by a feeling that despite these efforts I still was not addressing the most pressing needs of the community and had not yet identified what were their issues of greatest concern.

Community Needs Assessment

In May 2005, I had been living in Tacuapity for a year and five months, most of which was spent acquiring language and arranging my work around school and church activities. I decided to invite the entire community to a public meeting to talk about

52

community interests and to identify future work opportunities for myself that they saw as benefiting the community. I held four meetings with a total of twenty-one participants who attended at least one meeting and most of them were present at two or more meetings. These participants included the school director, subsistence farmers, mothers, youth, elderly residents, and my community counterpart, all of whom were full time residents of Tacuapity. Using many of the techniques I had learned through Peace Corps PACA training, I led the meeting's participants in an exercise to draw three maps of the community: one as it currently looks, a historical representation of how they saw the community 15 years ago, and a map of the community as they would like to see it in 10 years from now. From the exercise, we identified five issues of concern that the community members had indicated on their final map: acquiring electricity, better access to secondary education, community and family gardens, reliable water source and better infrastructure for communication.

We continued on to define the nature of each issue and the variety of options that might be able to address this concern. For example, when the community identified water as a concern, they recognized the problem as a shortage of water during the months of drought that we were periodically experiencing. Of greatest concern was the lack of clean water supply available to the school for students to use for drinking, gardening and community activities. We then brainstormed possible solutions, such as the digging of an artesian well, a rain catchment system for the school or a central well and holding tank constructed at the school. The participants analyzed all five of their issues in this manner.

In the last meeting, the group of participants prioritized these issues by voting through secret ballot. The group voted overwhelmingly that the primary issue that they wanted to address was to bring electricity to the community. Secondly they were concerned about water sources and the establishment of family and community gardens, and finally they were concerned about secondary education. With this information, the community decided that they needed to form a committee to petition the local government to consider bringing electricity to the community.

This was a revealing process. I became very aware that none of the issues that the group identified were related to the types of activities I had been conducting or fell within the environmental issues that I had been trained to address. Even though the need for family and community gardens was related to agroforestry, I had not been given extensive training in this area and encouragement to pursue this work as volunteers working in the agricultural sector had received.

As the group began to move forward with their efforts to acquire electricity, there was a distinct sense of pride based on the fact that they had identified this issue themselves. In a meeting with a local politician that the group hoped would help to solicit support by the local government, one man stood up and stated that he knew electricity was important to this community because they had identified it themselves and voted on it. It was their choice.

Household Needs

Intrigued by the results of the community needs assessment, I developed a household survey to identify the priorities of individual households to see if they coincided with the needs expressed by the group who participated in the above exercises

and efforts (See Appendix C for survey and results). My primary interest in conducting two separate needs analyses was based on experiences within the community that had shown me that people would express very different opinions in the group setting versus an individual conversation. The methodology I used to conduct the household survey in Tacuapity is described earlier in the methods section.

In the household survey I asked the individuals present at the time of the survey to identify what were the most pressing needs or concerns for their household on a daily basis. The responses that I heard included: health care, lack of employment, and sufficient food for their family. When each household was asked to identify the needs that they thought were most important in Tacuapity they listed: drinking water, electricity, property ownership, a better road, and employment opportunities for women. It was also interesting to note that six of the households surveyed felt that there weren't really any pressing needs in Tacuapity, that the community had most of what it needed.

These results showed me that the communities concerns were primarily focused around the daily survival of their family, those needs that are associated with household livelihood security. The primary concern of most households was to ensure its ability to provide food for their family or to find sufficient work so that they could buy adequate health care and food to supplement what they produced in their farm. It was also interesting to note that while many of the community needs identified in the public meetings were also identified as needs household level, a number of residents stated in the household survey that they felt that the community had what it needed.

Community Perception of Resource Scarcity

During the household needs assessments, I also wanted to explore the community's perception of resource scarcity, including their sense regarding the abundance of natural resources, as a basis for environmental work in the community. A scarcity of resources is often not acknowledged among communities of resource users, despite observations by outsiders that resources are being degraded and increased effort is required by community members to acquire household goods (Lu, 2001; Tucker, 1999). Before there are incentives to change behavior or limit use, there must first be a perception of resource scarcity by the community of users and recognition that their activities have created this scarcity (McCay, 2002). Therefore I was curious as to whether or not there was a perception by the community that their resources were becoming scarce or degraded.

The community had collectively identified water shortage as one of their primary needs in the community. So during the individual household needs assessment, I asked each household if they thought that in their time of residence in the community if the availability of drinking water for their household had improved, grown worse, or had not changed significantly. Of the fourteen households surveyed, six households said that their water situation had worsened overtime; four households said their water situation had improved, and four households said they hadn't observed any significant change in their water supply.

Because I had focused much of my agroforestry work in the community on soil improvement and conservation strategies, I asked each household about the changes in soil productivity of their agricultural land over time. Five of the households felt that their

soil productivity on the fields they cultivated had declined; two households felt that it had improved and seven felt that there was no noticeable change in their soil productivity.

A few residents of Tacuapity hunted forest animals to supplement their household diet, and I asked residents if they had noticed a change in the availability of game over time. While three households had not noticed a change in wildlife populations and one individual had said that the situation had actually improved, ten of the households said that they saw far fewer animals now than when they had moved to Tacuapity, although their access to the forest and animals had not changed in that time.

These results showed that there were a number of residents who had not recognized a decline in the quality of their soil or their access to water although many of them felt that there was a significant decline in wildlife populations. It was more difficult to get community members to identify potential reasons for the decline during these conversations. A question that I did not ask of households specifically, but considered myself, was the ability for residents of Tacuapity to control the quality and access to resources, given the lack of secure land tenure in the community.

Capacity of Residents to Address Environmental Concerns

In my interviews and observations I noticed two limiting factors that were closely linked to each other and could serve to discourage residents from spending time and energy to address environmental issues, including agricultural improvement. These factors included the varying levels of land tenure security that exists across the community and limited labor availability, both of which existed in a community whose residents had constrained means to meet their household livelihood needs. The limited labor availability I think is especially important for understanding why certain residents

57

were unable to take time away from their farms to attend trainings or organize and participate in agricultural committees. Yet both of these factors that constrained people's ability to participate in agroforestry activities, lie outside the realm of development that Peace Corps operates within and therefore served as obstacles to my work as a volunteer.

Land Tenure Security   Paraguay, like many of its neighbors in Latin America has been marked by a history of inequity of land distribution among its population. The colonization policies of the 1960's were aimed at resettling landless Paraguayans on the eastern frontier but only served to create land disputes on the frontier while doing little to address the needs of the *campesinos* in central Paraguay (Nagel, 1999). Furthermore such policies to colonize the frontier actually served to increase the amount of deforestation as a result of encouraging commercial operations to move into the forested frontier (Geist and Lambin, 2002). As was mentioned in earlier, land tenure is one of the factors that affects household livelihood security and the residents of Tacuapity displayed a wide range of land ownership and land tenure patterns, which some residents told me influenced their ability to adopt soil conservation measures.

For the purposes of this paper I am using the term land tenure security to describe a household's ability to make decisions concerning the use of a given piece of land and its products. A household's land tenure security can influence their decisions as to which livelihood strategies will be most profitable and secure for future investments. Land tenures and arrangements observed in Tacuapity represented a continuum of relationships to the land and rights to use, many of these relationships lack strict definition from my outside perspective but affected my attempts to promote agroforestry techniques in Tacuapity due to lack of decision making authority.

One individual who inherited rights to use a portion of his grandfather's land but did not hold legal title to the land, expressed the most interest in using green manure crops to improve his soils, trees to reduce soil erosion and had considered the use of vegetative contour barriers to further reduce soil erosion. He told me in conversation that his interest in these technologies was based on the knowledge that he would see the benefits to his crops and land after several years of use.

Another young man in my village spent weeks clearing an overgrown plot of land in front of my house to plant cotton for a season. He was given permission to by the landowner to clear the land, burn the field and plant cotton for one season in exchange for paying the landowner 20 percent of his profits.   One day, while we sat discussing the different locations that his family had lived in Tacuapity, I asked him why his family had moved from a previous location to their current. He explained:

> Because we didn't own it. That is the problem here…With
> only a few exceptions, the people in Tacuapity live on
> someone else's land. That is why people don't want to
> plant trees, because it will take fifteen to twenty years to
> reap the benefits and someone else may receive them. The
> same with green manure crops, because someone can put
> all that work into improving soil that isn't even theirs
> (A. Faria, personal communication, August 27, 2005).

Although this young man had participated in workshops on soil conservation, he had no incentive to invest money or energy into this plot of land that he might not be able to use the following year.

Other land tenure arrangements included households that worked as caretakers for an absentee landowner. The caretakers lived on the land and had fields and livestock to supply food and income for their household but also tended to the business interests of

the absentee landowners. In my interactions with these households I found it difficult to determine under what circumstances the resident caretaker had the authority to make decisions or when we had consult the absentee landowner before planting trees, using green manure crops or breaking ground for a new garden. Another household was established fourteen years ago on land repossessed by the bank but their occupancy had not yet been contested. Other households were constructed on the land of a relative with their expressed consent for a time indeterminable. Yet in all of the above mentioned households with less secure land tenure, residents told me in conversation that their ability to expand cultivation is limited and is dependent upon the consent of others.

Land tenure not only refers to a household's right to use land for cultivation and establishing residency, but also refers to people's ability to access the resources needed for livelihood security.   In Tacuapity these resources existed as an open access resource without any clear rules and regulations to their use (Ostrom *et.al*, 2002). In the absence of regulations to determine a sustainable level of use, open access resource regimes are easily exploited by residents who have no incentive to limit their own use when others are not restricting use simultaneously (Ostrom *et.al*, 2002). In Tacuapity this definition of open access resource applies to gathering firewood, fruit from trees not expressly claimed by a current resident, wild animals for consumption, springs for drinking and streams for washing clothes. All of which residents depend upon for their survival.

Firewood is gathered freely from forested areas near the house regardless of ownership. Wood for the construction of houses is preferably taken under expressed consent but trees are occasionally taken from land without consultation of an unseen landowner. Fruits are freely gathered from all properties and only once objection is

60

expressed will such resources be considered private property. Water is also considered to be without ownership. The public stream is used for bathing, washing of clothes and the springs that feed it are the primary sources of drinking water for many residents.

The sustainable use of natural resources and prevention of resource degradation are the types of issues that the Environmental Sector of Peace Corps Paraguay encourages volunteers to address in rural communities. Yet without explicit rules and regulations applying to the use of the resource, especially regulations established by the community, there is little incentive for people to change their use of the resource. Additionally, without a reliable alternative to meet household needs for these resources, residents cannot choose to limit their use of the resource. This was repeatedly illustrated through the overuse and degradation of the only stream in Tacuapity during times of drought.

During my time in Tacuapity, we experienced three months of drought, followed by four months of scattered showers which was followed by another three months of drought. These times of drought found residents seeking new water sources for drinking, while they continued to use the stream for bathing and clothes washing. After a period of a month without rain, the stream was unable to clean and replenish itself and was covered with a film of soap. The women would wash clothes in the stream until it was deemed too dirty to clean clothes or themselves. Then they would travel further and further away from the village to seek pockets of water not yet soiled. Because the community had never regulated the use of the stream in times of drought, there was no incentive for one family to stop using the stream when their neighbors would continue to use in at their disadvantage. In this example, as with others, the community's ability to address

environmental issues was severely limited by their lack of established regulations governing how the resources were going to be used.

This lack of established resource use and secure land tenure served as a disincentive for households to utilize agroforestry techniques due to their inability to predict their future use of the land and the resources that they relied upon to meet their household security needs. Additionally the system of use that allowed for open access to resources in the community, served as a disincentive for the community to conserve these resources and address issues that would lead to environmental degradation.   Yet land tenure security and open access resources were not the only limiting factors to the participation of community members, households were also constrained by labor availability to meet the household need for food and income.

Labor Availability The second limiting factor in the ability for the residents of Tacuapity to participate in agroforestry trainings and activities was based on household labor availability. In the household survey I conducted in Tacuapity, the participants identified one of their primary needs as their ability to work in their fields to produce food or to find sufficient work to buy food and provide health care.

Each household in Tacuapity varied in its available work force, which was heavily influenced by age and gender, factors that defined who could work in the field or seek out opportunities for off farm income. Four of the households were one person households that lived at a high risk to their livelihood security if they could not work themselves. Other households had one or two people who could work in the field or find off farm employment.   With such limitations on the household's ability to provide for

itself, the time and energy that residents had to work on community projects was also limited.

With only 68 people in the community, fifty percent of which were under the age of 15, the community's capacity to participate in agroforestry activities was limited as was participation in all community activities. Therefore the projects that I initiated in Tacuapity were in competition with activities put on by the school, the church and the youth group. I recognized these constraints early on in my service and tried to coordinate my activities with these other organizations, which sometimes caused me to wait four months before I could hold a community meeting.

Time and labor was also limited by the growing season. When the weather was ideal for planting the staple crops or cash crops such as cotton, it was difficult to engage people in off farm activities. Cotton, the primary cash crop, was a high maintenance crop, requiring three cleanings (hoeing of the cotton field), timely applications of pesticides and labor intensive picking. All of these steps required vigilance on the part of the farmer and their family, which rarely left time for outside activities.

My attempts to connect community members with NGOs and Paraguayan extension agencies offering material resources and technical training for agricultural improvement, were also hindered by the residents' lack of time for travel and participation while trying to meet other household needs. Throughout my service there were multiple opportunities offered by agricultural organizations and development organizations for communities to form committees and petition the organization to receive resources. These organizations typically required that the committee consist of ten participants with official identification cards. In Tacuapity, such opportunities could

only be utilized if every community member was willing to obligate themselves to membership, an unrealistic expectation in any community. Some residents would choose to join committees in the surrounding communities, but their participation rarely lasted longer that a couple of months due to the traveling required of them to participate.

This lack of available labor to meet household needs limited the ability for the residents of Tacuapity to participate in the trainings and agroforestry activities that I attempted to organize during my volunteer service. As each training or opportunity arose, the level of participation was dependent upon the workload required for crops and the availability of off farm employment, which would take the young men and farmers from the community to earn household income.

The residents of Tacuapity lived with a high level of risk to household livelihood security due to their insecure land tenure and limited labor availability. "A livelihood is sustainable, according to Chambers and Conway (1992), when it "can cope with and recover from the stress and shocks, maintain its capability and assets, and provide sustainable livelihood opportunities for the next generation..."" (Frankenberger and McCaston, 1998). Few if any of the households in Tacuapity lived with a secure or sustainable livelihood strategy and were constantly at risk of not meeting their household needs for food, income and health. Both land security and labor availability played significant roles in limiting the residents of Tacuapity to participate in activities to address the environmental issues that I was trained to address through my training as an agroforestry volunteer.

Discussion

This section began by describing the process of how volunteers are prepared to live and work in Paraguay during their three months of volunteer training. Training is an intense immersion into the world of Peace Corps Paraguay and volunteers are offered a large amount of technical and cultural information to absorb in a relatively short period of time. While part of this technical training includes instruction in conducting participatory analysis of needs with PACA tools, volunteers are handicapped in their ability to effectively facilitate this process in their first year of service due to their lack of language skills and cultural understanding. Therefore volunteers enter into their communities prepared to focus on immersion into the culture and gaining acceptance and trust by their communities. Yet despite this emphasis on cultural immersion in the first few months of service, there is still a desire that they will be able to identify individuals who are interested in some of the technical skills that they have to offer in their project, in my case agroforestry extension.

The volunteers I talked to expressed frustration with the lack of interest demonstrated by their communities in the environmental issues that they were seeking to address. This lack of demonstrated interest has led a number of volunteers to question the process of site development and the adequacy of the needs assessment conducted prior to the placement of a volunteer in the Environmental Sector to the site for two years of service. These concerns were brought to the Environmental Sector Program Manager and were carried forward to the Country Director, asking that Peace Corps Paraguay look at the way in which it identifies the communities in which it works.

Volunteers also expressed concern with the overall goals of the Environmental Sector and the appropriateness of training volunteers to address environmental issues specifically or if volunteers should be encouraged to address a broader spectrum of community priorities, as identified through PACA.   Volunteers, who found themselves engaged in capacity building activities to empower community members to address their own needs, asked that these efforts be acknowledged under the sector goals and not labeled as secondary activities.   Instead they asked to see these capacity building activities included under the comprehensive goals and objectives of the Environmental Sector.

In my experience as an agroforestry extension volunteer in Tacuapity, I found that the community's ability to access social resources was limited by its social and geographical isolation. While the physical characteristics of the ecosystems surrounding the community led Peace Corps Paraguay to identify Tacuapity as an appropriate site for an environmental volunteer, the social characteristics of the community and the lack of household livelihood security that residents face, made it difficult for residents to address environmental issues. After 15 months of service, I finally felt confident in my language skills and cultural understanding to fill the role of a facilitator. Using PACA tools I led the community through a participatory needs assessment and realized that their priorities were very different from the agroforestry projects that I had tried to initiate during my service. Further analysis at the household level revealed that the priorities of the Tacuapity residents were to meet the household's needs for food and income first, without a recognition that resource scarcity might be affecting their ability to secure the natural resources necessary for daily survival. Therefore my work towards

environmental improvement and sustainable agriculture were not directly tied to their

needs for food and income.

It is also important to take into account that I was serving not only as a Peace

Corps volunteer but within the Master's International program, a program designed to

recruit applicants with more specialized skills into the Peace Corps to incorporate

graduate work with their service, yet I was not placed in a site conducive to using forestry

or agroforestry skills. The College of Forestry and Conservation at the University of

Montana and over a dozen other forestry and natural resource schools around the country

have signed memorandum of understanding with Peace Corps in an attempt to recruit

more volunteers in forestry and natural resource fields (University of Montana campus

Master's International coordinator, personal communication, May 12, 2007). Therefore,

by not using these volunteers in a capacity that will allow them to utilize their specialized

training, is contradictory to the establishment of this program and could serve to

discourage future volunteers.

The residents of Tacuapity and I faced significant obstacles that limited our ability

to work together on environmental improvement projects, even those intended to increase

agricultural sustainability and crop production. Two of the most significant obstacles for

the environmental work in Tacuapity were insecure land tenure and labor availability,

both of which provide disincentives or limitations to investing time and energy in

projects that seek to produce long term results. Although these obstacles are beyond the

scope of Peace Corps Paraguay's programmatic goals for the country, they can still serve

to limit the ability for a volunteer to work effectively in a community. If such limitations

can be identified prior to volunteer placement, they can inform Program Managers of the

challenges that the community faces and can inform their decision prior to the placement of a volunteer.

In the next section I will offer two recommendations to the Peace Corps Paraguay to address the applicability of the Environmental Sector goals and the process of site development as was discussed above. The first recommendation will address concerns about using a sectoral approach to trains volunteers to work towards very specific goals and objectives in the communities they serve. The second recommendation acknowledges the use of the sectoral approach to train volunteers but addresses the concerns raised by volunteers about the thoroughness of the needs assessment done in communities prior to volunteer placement.

RECOMMENDATIONS

As my experience illustrates, the Environmental Sector of Peace Corps Paraguay had identified the community of Tacuapity as suitable for conducting environmental work, but environmental concerns were not the most pressing need for the community members themselves. Volunteers who responded to my survey reported doubt in the appropriateness of their placement or work as a volunteer in environmental activities. The other volunteers, who reported their community had identified soil conservation, deforestation or crop and tree production as primary concerns, felt they were adequately assigned. Why are these environmental concerns relevant to some communities that volunteers serve in and not to others? How might Peace Corps better match communities with volunteers who have skills in the areas they most require? These issues have led me

to identify two recommendations for Peace Corps to consider when matching volunteers and communities.

The first involves broadening the role of a volunteer from an individual trained to work in a specific project, to that of a general community development worker that seeks to address household livelihood needs in a holistic manner. The second involves maintaining a focus on specialized training, but requiring a more concerted effort at needs assessment prior to the assignment of a volunteer to a community. I discuss each below.

Broadening the Role of Volunteers

Despite being assigned as an environmental specialist, volunteers often find themselves engaged in a variety of activities in their sites that address educational needs, water supplies, youth development, expanding women's role in household production and income generating, computer training and a long list of other activities that Peace Corps would consider as "secondary" to their role as an environmental volunteer. Yet all of these activities are "primary" if the community sees them as such. In real life, rural households and communities do not separate out their needs in the ways that western development does; they are interconnected and these needs change and vary with changes in household labor, seasons, markets and the health status of family members.

To meet the general needs of rural peoples and communities, rather than to train them to focus on only a small subset of issues, Peace Corps volunteer training could be focused on a variety of topics in the health, human welfare, farming and environmental sectors. With a broad "tool box" volunteers would enter their service with an understanding that their primary role in the community was to help the community

69

identify their own needs at that particular time and assist them in connecting to in-country resources to meet those needs. As these needs become clear, volunteers could take short courses to gain particular skills, but more importantly they could learn about the resources in the country for helping the community to understand how to access available resource from national organizations that will improve household livelihood security.

Training Peace Corps volunteers as generalists that can address a variety of needs to improve household livelihood security has many benefits. First it is a more flexible way for volunteers to gain the skills they need to be able to respond to specific community needs at particular times. Second, volunteers would report on the issues and actions taken to meet particular community needs, rather than be required to report on their abilities to meet pre-determined programmatic goals and objectives within a particular sector. The emphasis shifts, instead to sharing with their supervisors the needs that they have identified with their community and the activities that they are undertaking to address those needs. Third, and perhaps most importantly, broadening the role of volunteers to that of a community development worker, would create an expectation within volunteers that they were there to help the community identify and meet their own needs. The Peace Corps volunteer is then a facilitator of building local capacity, rather than the expert to whom the community is dependent on to get things done. Dependency leads to actions stopping after the Peace Corps leaves rather than building local capacity for sustaining the activities (Bunch, 1982; Chambers, 1983).

The emphasis on multi-sector training and empowerment of communities is a prime goal of Peace Corps. Roland Bunch's book *Two Ears of Corn* is a text given to Peace Corps Paraguay environmental and agricultural volunteers during training. It

specifically emphasizes the importance of addressing broad human goals simultaneous to a development worker's efforts to improve agriculture (1982). Encouraging development workers to assist a community to address its own needs in any aspect of their daily lives, strengthens a community's ability to address agricultural and environmental issues when they become the primary concern in the community. It is this type of capacity building through building human and social capital that Peace Corps has long espoused and attempted to teach its volunteers. But this capacity building around general issues is not reinforced in the programmatic goals of a sectoral approach, as demonstrated in the Environmental Sector.

A broader approach to helping community members can better meet the needs of their citizens by emphasizing self-help and skills for identifying the available resources that exist within Paraguay and how rural Paraguayans can access them. Connecting Paraguayans to these resources is a critical element to development work. But given the remoteness, limited education and class differences of rural communities, rural communities can benefit from the help of Peace Corps volunteers in learning how to utilize these national resources to improve their own lives. Understanding how the government works and their rights as Paraguayan citizens are not well understood. This was amply illustrated to me in a conversation with a rural woman who stopped me on the dirt road and declared that her government had forgotten her community. She went onto explain how during the time of the dictatorship, they had been taken care of because of the political connections that community members had, but that in more recent times their needs had been forgotten.

After years of living under a strong handed government, this woman and others like her did not know how to ask her government to deliver the resources that they frequently promised in campaign speeches. This isolation from resources is further enhanced by the lack of mobility that the average Paraguayan faces due to lack of monetary resources or their inability to leave their households unattended for extended periods of time. The formation of a committee for an expressed purpose and the subsequent petitioning of the regional government is a complicated and monumental task for citizens who can not read and write Spanish comfortably or travel frequently. These are the types of skills that a volunteer can assist a community in developing such that they might be able to access the resources that their government provides, yet they do not receive.

To broaden the role of a volunteer to a community development worker would require a significant shift in the current structure and organizational operations of Peace Corps Paraguay. It would be limited by Peace Corps ability to restructure training to provide an overview of skills. Additionally, it would require a shift in the role of Program Managers currently assigned to oversee the volunteers of a specific sector. Despite these challenges and constraints, efforts to broaden the role of Peace Corps volunteers to serve as general community development workers may provide volunteers and communities with a different set of expectations and results for the relationship between a volunteer and their community members.

The second recommendation of a Site Development Team does not attempt to eliminate specific projects or sectors of work but suggests a different methodology to be used in the process of site development.

Improving Site Development and Needs Assessment

This recommendation accepts Peace Corp's current focus on aligning volunteers with particular development sectors such as environment, and giving them specialized training, but focuses instead on the urgent need to improve procedures for site development. After forty years of operation in Paraguay, Peace Corps has reached a large number of communities through their work and therefore might find it beneficial to refine the filter by which they screen the communities they choose to work. The current methodology of site development is limited in its ability to assess the needs and interests of the community to work with a volunteer. Below I discuss a recommendation to create a more participatory and objective process of site development through the creation of a Site Development Team to investigate and develop potential sites for all sectors of Peace Corps Paraguay.

The current process of "site development", which identifies communities in which to place volunteers, places the burden of identifying sites appropriate for the different sectors on each individual Program Manager. It is the latter's responsibility to locate potential communities to ensure that they have a sufficient number of sites to choose from at the time that the new volunteers are ready to be placed. I recommend the creation of a Site Development Team to relieve some of this burden from the Program Managers and provide for a more objective assessment of each community.

A Site Development Team would continue to identify communities as potential sites for volunteer placement through introductory questionnaires, a network of national contacts, or existing volunteers, all of which are excellent ways for communities to express their interest in learning more about Peace Corps. Yet upon receiving a

notification of interest, it would not be the Program Manager that would visit the community to explore its interest and potential for volunteer placement. The community would instead be visited by a Site Development Team comprised of former volunteers who have chosen to extend their time of service, Paraguayan professionals or former community counterparts, all of whom have been trained to conduct assessment activities, such as PACA, in Guaraní and Spanish. Ideally the members of the team would have adequate representation of the different sectors or programs within Peace Corps. If this were not possible then the team would be required to meet with Program Managers to ensure that they were updated on the goals of each sector and how they were able to best implement these goals.

After communities have indicated interest in having a Peace Corps volunteer, the Site Development Team would arrange a meeting with the community leaders to spend 2-3 days in the community to conduct participatory analysis activities and to interview a sample of community members individually. These community visits would provide the team with an opportunity to listen to different community members and gain a sense of who in the community has an interest or desire to work with Peace Corps, and in what areas. The team would help community members to identify the issues facing their community and how the community members would prioritize these needs collectively. Household interviews would help team members to determine individual and community interests, and how each may be changing. Finally it would provide an opportunity for the community and the team to offer some preliminary advice on whom in the community is willing to serve as an effective counterpart for the volunteer and who in the community would have an interest in hosting a volunteer for their first few months of service.

The team also needs to determine if the community is an appropriate place for a volunteer to work, based upon volunteer safety considerations as well as community interest. Through their site visits and interaction, another benefit is that it would provide the community with a more thorough and personal introduction to Peace Corps, as well as participatory approaches to needs identification and community organizing, much of which is foreign to rural Paraguayans.

Because the team would consist of former volunteers from a variety of sectors, professional Paraguayans with diverse backgrounds and individuals who had previously worked in their community with Peace Corps volunteers, the team would provide a more diverse and objective lens to assess the appropriateness of the community for a specific type of volunteer. The team would work year round to provide community profiles that each sector could draw from to determine the most appropriate sites for their new group of trainees. Additionally, the team could reassess communities that had previous volunteers to determine if the community's interests had changed and whether a volunteer from a different sector might be more appropriate or if the community no longer seemed to be an appropriate site for a volunteer, due to lack of community contacts or volunteer safety.

Either of the two recommendations I propose above could provide Peace Corps Paraguay with an opportunity to help volunteers to meet with success in their ability to address their community's needs. Whether that success is redefined to include a wider range of activities through a broader volunteer role or by improving the site development process, Peace Corps Paraguay has the opportunity to better meet the needs of Paraguayan communities and provide greater volunteer satisfaction in their service.

CONCLUSION

Peace Corps was established to provide cross-cultural experiences for Americans and peoples of the developing world, while seeking to offer training and technical assistance to the men and women of the countries they serve. It has approached this challenge with a people to people approach, sending volunteers to places where they can build relationships with individuals and offer them assistance in meeting their own needs. Peace Corps programs have evolved over the years and their specific goals and objectives vary between different countries, as does their approach to program development and volunteer training.

In Paraguay, Peace Corps has worked with local agency representatives to identify areas of focus and project objectives that volunteers work towards in their assigned sector. While these broader goals may be effective for guiding country wide activities, the process of identifying individual communities that volunteers will work in has much greater effect on Peace Corps volunteers and the citizens of Paraguay. Each volunteer brings a different personality and set of skills to their assigned community, but all volunteers hope that they will have an opportunity to contribute to the lives of the people they live with. While some volunteers feel that they have been placed in a community that has interest in the skills they learned in training, many others feel as though there are other issues that take greater priority in their community and that these issues should have been recognized prior to their placement.

My own experience as a volunteer in Tacuapity illustrates this stark difference between Peace Corps priorities in placing an agroforestry volunteer in a community and the priorities that the community identified when they were led through their own needs

analysis. While there are environmental concerns in Tacuapity, the residents of Tacuapity had other concerns that affected their household livelihood security with far greater urgency. They did not identify environmental or agricultural improvements as issues that they felt would increase their ability to meet their household needs. In addition to the environment being a low priority, the residents of Tacuapity felt as though they had little control over the land that they lived on and used for agriculture. This lack of secure land tenure was further complicated by the limitations to labor availability that affected each household's ability to participate in development activities. While these issues are not within Peace Corps' ability to address, in Tacuapity they should have been identified prior to the placement of a third volunteer assigned to promote agroforestry technique and influenced the decision as to whether or not this community was an appropriate place for another agroforestry volunteer, especially one with specialized forestry skills under the Master's International program.

In this paper I have identified two ways in which Peace Corps Paraguay could address the issue of site development and volunteer training. These recommendations are based upon my own experience as a volunteer in the Environmental Sector and those of volunteers serving in Paraguay with me. Volunteers expressed that they are willing to be flexible and adaptable to community needs, as they were taught in training, but they wanted to see these adaptations and accomplishments recognized in the evaluation process as part of their primary activities. This approach calls into question the applicability of a sectoral approach to volunteer training and placement and instead suggests that a more holistic approach to meeting community needs might be more appropriate.

The periodic review of programmatic goals and objectives within Peace Corps

Paraguay creates an opportunity for the organization to continually review their approach

to volunteer training, placement and service. Therefore, if Peace Corps Paraguay

believes that the sectoral approach is the most effective, they should re-consider the way

in which they identify communities to work with. The community experience is the bulk

of a volunteer's service and Peace Corps Paraguay should strive to select communities

that can prioritizes their own needs as those that coincide with the specialized skills that a

volunteer has to offer. Using more thorough participatory needs assessments will give

volunteers and communities justification for placement and allow them the greatest

opportunity for meeting community or household needs in the two years they will spend

together.

Returned Peace Corps volunteers speak of the richness of their experience and

how they value the opportunity to spend two years of their lives with a community. The

richness of the Peace Corps experience exists in the relationships that people build with

individuals but volunteers also seek to contribute in meaningful ways to the communities

that they serve. Furthermore, the topic of volunteer placement and site development is

not only a concern among Peace Corps volunteers in Paraguay but in conversation with

volunteers serving worldwide, they too have expressed concern over placement and the

lack of demonstrated interest from their community in the highly specialized skills they

were trained to offer. Volunteers should be provided an opportunity to share with their

communities the skills they have been trained in or awarded the freedom to meet

community needs as they present themselves. Either of these could further enrich the

experience of volunteers seeking to offer meaningful contribution to the country and the community that they serve.

Appendix A: Environmental Conservation Project 2006-2011

Environmental Conservation Project Plan Framework: 2006-2011

Purpose: **Rural Paraguayans, through working at the community, school and farm levels, will improve management of local environmental resources.**

Activities *What major activities will Volunteers and their community partners do to bring about the desired change?* *What target groups?*	Desired Change *What knowledge, attitudes, behaviors, or skills are expected to change because of the activities of Volunteers and community partners?*	Long term Impact: Desired result/s
Objective 1.1		Goal 1: Through the application of environmental assessments, outreach to NGO's and other service organizations and group formation, communities will be empowered to take responsibility for incorporating improved environmental awareness in their communities.
By 2011, Volunteers and their community contacts will use modified Participatory Rural Assessment techniques to identify and implement relevant environmental projects in 50 communities	As a result 20 communities will have successfully implemented at least 2 environmental projects	
Objective 1.2		
By 2011, Volunteers and their community contacts will approach and coordinate with local NGOs to implement 300 environmental activities* where NGOs provide technical support for these communities to address local environmental needs **activities can include: Trash Management Workshops, Needs Assessments for Buffer Zones, Bird Festivals, etc.	As a result 750 community members will have been introduced to technical information and practical skills from NGO's	
Objective 1.3		
By 2011, Volunteers and their community Contacts will support the formation and maintenance of 100 groups* whose goal will be to incorporate environmental themes into their communities * groups can be: youth, women, men, community, special interest groups such as farmers or PTA	As a result 20 groups will be incorporate environmental themes into their communiti	
Objective 1.4		

By 2011, Volunteers and their local contacts will facilitate 300 discussions and/or other activities for promoting awareness about environmental education	As a result 60 participants will identify local environmental problems, and can explain the importance of the environment on their well-being, and the impacts, negative and positive, that their actions might have on the environment	

Objective 2.1		Goal 2: Teachers of primary or secondary education will acquire the motivation, skills, habits and confidence to implement environmental education in their classes.
By 2011, Volunteers and their local contacts will use non-formal education methods to enable and motivate 100 teachers to incorporate subjects and methodologies for environmental education into the basic school curriculum	As a result 25 participants will demonstrate the integration of environmental education into the general curriculum	
Objective 2.2		
By 2011, Volunteers and their local contacts will train 100 teachers in the design and implementation of school-based environmental projects	As a result 10 schools will implement at least two school based environmental projects	

Objective 3.1		Goal 3: Through the use of technical exchanges and trainings, farmers in rural communities will incorporate agro forestry systems and soil conservation practices into their farms.
By 2011, Volunteers and their local contacts will train 1000 community members in the establishment and maintenance of agro forestry systems* in their farms and communities *Agro forestry systems are defined as incorporation of reforestation, plantation management, green manures, soil conservation into traditional agriculture systems	As a result, 200 farmers will incorporate at least one agro forestry technique into their traditional agriculture systems	
Objective 3.2		
By 2011, Volunteers and their local contacts will train 1000 community members in the establishment and use of soil conservation practices that will contribute to increased soil productivity	As a result 200 farmers will incorporate at least one new soil conservation technique into their farms	
Objective 3.3		

By 2011, Volunteers and their local contacts will organize an implement 200 technical exchanges * designed to promote interchange of information and to diffuse successful practices amongst farmers *defined as: farmer-to-farmer exchanges/technical exchanges/visiting technical assistance/field days	As a result 160 farmers will initiate at least one new practices learned during these activities within 6 months of the exchange	
Objective 3.4		
By 2011, Volunteers and their local contacts will train 1000 farmers to experiment with new agro forestry practices.	As a result 200 farmers will have implemented experimental practices on their own initiative in their farms	

Appendix B: Survey for Volunteers in the Environmental Sector

Survey of Peace Corps Volunteers in Environmental Sector October 2005

Group: G-

Project: Environmental Education   or   Agroforestry Extension

First Time Volunteer   or   Follow up Volunteer   (circle one)

(If Follow up Volunteer, how many previous volunteer have been from the Environmental Sector)

Upon arrival in your community did community residents express to you a concern for local environmental issues?   (Please Check one)

___ Yes, they were of primary concern.
___ Yes but on equal standing with other concerns.
___ Only after I had asked or initiated the topic of environment.
___ No, it did not appear to be a pressing issue to the residents.

How did you attempt to identify what were the most pressing concerns in your community?   (Check all that apply BUT circle the most relevant statement that defines how you
                guided your work as a volunteer.)

___ Use of PACA tools.
___ Conversation with community leaders.
___ Household visits.
___ I tried different projects until I found one that appeared of interest.
___ I was given direction by a specific organization/committee to guide my work.
___ I do not feel that I have been able to identify the most pressing concerns in my
        community.

At this point in your service what issues do you believe to be of greatest concern as expressed by the residents of your community? (Please limit to 2 concerns)

  _____   and/or   _____

Do you believe that these concerns expressed by your community fall under your work as a Peace Corps Volunteer in the Environmental Sector?

___ Yes, the expressed concerns fit under the defined goals of the Environmental Sector
        for Peace Corps Paraguay.
___ No, the expressed concerns do not fit into the defined goals of the Environmental
        Sector for Peace Corps Paraguay, BUT I have chosen to work to address these
        concerns in my community.
___ No, the expressed concerns do not fit into the defined goals of the Environmental
        Sector and I am NOT working to address them.

Are there other environmental organizations working in your community?
If so, could you name them and their primary objectives in your community?

_____   _____
              Organization   Stated Objective

_____   _____
              Organization   Stated Objective

Do you believe that a PCV from the Environmental Sector, seeking to accomplish the defined goals of the project is the most appropriate type of development worker to be working in your community?

___ Yes
___ No

          Please elaborate briefly your response:

In your opinion how could the concerns/needs of your community be best addressed?

Appendix C: Household Survey conducted in Tacuapity Sept/Oct. 2005

All questions were depicted through small pictures with check boxes to categorize response and notes taken to clarify responses for individual house holds. All interviews were conducted by the researcher in Guaraní through a visit to the household and a request to speak to both heads of households. Responses from 14 households were documented.

1.   How many people in your family? Living in this house?

         How many years have you lived in Tacuapity? Always in this same house?

         How did you come to live in Tacuapity? Why did you move here and from where?
         _4_ Family
         _8_ Land
         _3_ Work
         _2_ Rural lifestyle

         How many houses were there in Tacuapity when you arrived?

2.   Where does your household get the majority of your food?
         11_ Fields and animals
         _4_ Store
         _3_ Family and neighbors
         ___ The forest

3.   What type of work does your family do for income?
         _5_ Work at home
         _3_ Off farm work (all year)
         11_ Plant and Sell Cotton
         _5_Plant and Sell other crops
         _4_ Off farm work (occasionally)

4.   Does your family plant cotton? *9 said Yes*
         Out of the last five years how many years have you planted cotton?
         What factors determine how much cotton you will plant?
         _4_ Price of Cotton
         ___ Availability in Land
         _4_ Costs of seed and chemicals
         ___ Pending expenses
         _4_ Labor involved

   5.   Are there certain types of work that requires help from other people?
               Yes_11_   No_3_

What types of work?

_7_ Preparing the field
_9_ Cleaning a planted field
_8_ Harvesting Crops
___ Making fences, houses, corral for animals, digging wells
_1_ Using a chainsaw

Is this typically paid labor or under a shared labor system (minga)?

4 said paid labor   *7 said minga*

6.   How frequently does someone in your house travel to buy groceries?

Isla Alta or Barrientos		La Colmena
___	Every Day	___
_5_	Once a week	_2_
_1_	Twice a month	_4_
_1_	Once a month	_4_
_1_	Less than once a month	_4_

By what means of transport do you travel?

7.   What changes have you observed in Tacuapity during your residency?

Water Sources:
_4_ Better
_6_ Worse
_4_ No Change

Firewood supplies:
_2_ Better
_2_ Worse
10_ No Change

Wild Animal Populations:
_1_ Increased
10_ Declined
_3_ No Change

Amount of Fruit available in Forest or Campo:
_0_ More Available
_9_ Less Available
_5_ No Change

Soil Productivity:
_2_ Improved
_5_ Declined
_7_ No Change

Transportation and Access:
11_ Improved
_2_ Declined
_1_ No Change

Availability of Off Farm Employment:
_4_ More Employment
_6_ Less Employment
_4_ No Change

Educational Opportunities:
_7_ Improved
_2_ Declined
_5_ No Change

8. What needs are of the greatest concern for your household on a daily basis?
Employment, food, being able to work in the field enough to provide food for the family, clothing, school supplies, health care

9. What needs are most urgent in the community of Tacuapity
Electricity, water, property, better road, sense of unity and cooperation
A number of residents said that Tacuapity had all that it needed.

BIBLIOGRAPHY

Aquino, Lucy. (2006). *Paraguay extends forest conservation law.* Retrieved March 10,
    2007, from
    http://www.panda.org/about_wwf/where_we_work/latin_america_and_caribbean/
    country/paraguay/

Arce, Juan Pablo. (2005). *A Framework for Sustainable Conservation Practices
    in the Guaraní Aquifer of Paraguay.* Retrieved February 21, 2007
    http://www.natureserve.org/library/guarani_report.pdf

Belsky, Jill. (1993). Household Food Security, Farm Trees, and Agroforestry: A
    Comparative Study in Indonesia and the Phillippines. *Human Organization.* Vol.
    52, No. 2.

Berg, Bruce. (2001). *Qualitative Research Methods for the Social Sciences.* Needham
    Heights, MA: Allyn and Bacon.

Bunch, Roland. (1982). *Two Ears of Corn: A Guide to People Centered
    Agricultural Improvement.* World Neighbors, Oklahoma City, Oklahoma.

Chambers, Robert. (1983). *Rural Development: Putting the Last First.* Essex: Longman
    Group Limited.

Chambers, Robert. (1997). *Whose Reality Counts? Putting the First Last.* England:
    ITOG Publishing

Chikwama, Cornilius. (2004). *Rural Off-Farm Employment and Farm
    Investment: An Analytical Framework and Evidence from Zimbabwe.* Centre for
    Economic Reform and Transformation, School of Management and Languages,
    Heriot-Watt University, Edinburgh, Retrieved March 16, 2007 from
    http://www.sml.hw.ac.uk/cert

Dewees, Peter (1995). *Social and Economic Incentives for Smallholder Tree Growing:
    A Case Study from Murang'a District, Kenya.* FAO Community Forestry Case
    Study Series. U899/E.

Frankenberger, Timothy; McCaston, M. Katherine. (1998). "The household livelihood
    security concept." from ftp://ftp.fao.org/docrep/fao/X0051t/X0051t05.pdf

Geist, Helmut; Lambin, Eric. (2002). Proximate Causes and Underlying Driving Forces
    of Tropical Deforestation. *BioScience.* Vol. 52, No. 2.

Herra, Adriana; Guglielma de Passano, Maria. (2006). *Land Tenure Alternative Conflict
    Management.* Land Tenure Services, Rural Development Division, Food and
    Agriculture Organization.

International Centre for Research in AGroforestry (ICRAF). (1993). *Annual Report 1993.* Nairobi. pp 208.

ICRAF. *Definition of agroforestry.* Retrieved March 20, 2007, from http://www.worldagroforestrycentre.org/

International Atomic Energy Agency. *Guarding the Guarani: Improving Management of South America's Precious Groundwater.* Retrieved Feb 21, 2007, from http://www.iaea.org/Publications/Booklets/Ssp/guarani.html

Lewis, Paul.(1982). *Socialism, Liberalism and Dictatorship in Paraguay.* Praeger Publishers, New York.

Library of Congress. (1988). *Country Study: Paraguay.* Retrieved February 18, 2007, from http://lcweb2.loc.gov/frd/cs/pytoc.html

Lu, Flora. (2001). The Common Property Regime of the Huaorani Indians of Ecuador: Implications and Challenges to Conservation, *Human Ecology*, Vol. 29, No. 4.

McCulloch, Anna; Meinzen-Dick, Ruth; Hazell, Peter. (1998). *Property Rights, Collective Action and Technologies for Natural Resource Management: A Conceptual Framework.* SP-PRCA Working Papers, International Food Policy Research Institute, Washington, DC.

McCay, Bonnie J. (2002). Emergence of Institutions for the Commons: Contexts, Situations, and Events. In *TheDrama of the Commons.* Committee on the Human Dimension of Global Change. E. Ostrom, T.Dietz, N. Dolsak, P. Stern, S. Stovich, and E.U. Weber, (eds.) Division o Behavioral and Social Sciences and Education, Washington, D. C., National Academy Press.

Molina, Janice. (2000). *Global Environment Facility Concept Paper: Environmental Protection and Sustainable Integrated Management of the Guaraní Aquifer* Retrieved February 21, 2007, from http://wbln0018.worldbank.org/LAC/Guarani/AR/cover.nsf/HomePage/1?OpenDocument

Nagel, Beverly. (1999). Unleashing the Fury: The Cultural Discourse of Rural Violence and Land Rights in Paraguay. *Comparative Studies in Society and History.* Vol. 41:1:148-181.

Ostrom, Elinor; Dietz, Thomas; Dolsak, Nives; Sterm, Paul. (2002). The Drama of the Commons. In *The Drama of the Commons.* Committee on the Human Dimensions of Global Change. E. Ostrom, T. Dietz, N. Dolsak, P. Stern, S. Stovich and E.U.

Weber, (eds.) Division of Behavioral And Social Sciences and Education, Washington, D.C., National Academy Press.

Pan America Health Organization (PAHO). (2001). *Country Health Profile: Paraguay* Retrieved February 18, 2007 http://www.paho.org/English/sha/prflpar.htm

Peace Corps. (2002). *The Peace Corps Welcomes You to Paraguay: A Peace Corps Publication for New Volunteers.*
_____. (2002). *Roles of the Volunteer in Development: Toolkits for Building Capacity.* Information and Collection Exchange, ICE #T0005
_____. (2007). Retrieved March 5, 2007, from www.peacecorps.gov
_____. (2001). *Programming and Training: Booklet 1, the Basics*. Information and Collection Exchange, ICE #T0113.

Sciscioli, Alejandro. (2007). *Sweet Experiment with Organic Sugar.* Tierraamerica: Environment and Development. Retrieved February 25, 2007, from http://www.tierramerica.org/english/2005/0611/iarticulo.shtml

Toness, Anna Sutherland. (2002). "Assessment of Participatory Rural Appraisal (PRA): The Effects of Practicing PRA Among Development Institutions and Rural Communities in Paraguay." Dissertation. Austin, TX: Texas A&M University.

Tucker, Catherine M. (1999). Private versus Common Property Forests: Forest Conditions and Tenure in a Honduran Community. *Human Ecology*. Vol. 27, No 2, 201-230.

Transparency International. (2005). *Transparency International Corruption Perceptions Index 2005* Retrieved February 25, 2007, from www.transparency.org.

United Nations. (2000). *Sustainable agriculture and Rural Development*. Economic and Social Council Commission on Sustainable Development Eighth session, 24 April-5 May 2000, E/CN.17/2000/7/Add.1