Office of Strategic Information, Research, and Planning

Host Country Impact Study
Mexico

Final Report prepared by the Office of Strategic Information, Research, and Planning

About the Office of Strategic Information, Research, and Planning
It is the mission of the Office of Strategic Information, Research, and Planning (OSIRP) to advance evidence-based management at Peace Corps by guiding agency planning, enhancing the stewardship and governance of agency data, strengthening measurement and evaluation of agency performance and programs, and helping shape agency engagement on certain high-level, government-wide initiatives.

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Acknowledgements[1]

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Acronyms and Definitions

Acronyms

APCD	Associate Peace Corps Director
CIATEC	Centro de Investigación Aplicada en Tecnologías Competitivas *(Center for Applied Research in Competitive Technologies)*
CIATEJ	Centro de Investigación y Asistencia en Tecnología y Diseño en el estado de Jalisco *(Center for Research and Assistance in Technology and Design in the state of Jalisco)*
CIATEQ QRO	Centro de Tecnología Avanzada – Querétaro *(Center for Advanced Technology – Querétaro)*
CIATEQ SLP	Centro de Tecnología Avanzada – San Luis Potosí *(Center for Advanced Technology – San Luis Potosí)*
CIDESI	Centro de Ingienería y Desarrollo Industrial *(Center for Engineering and Industrial Development)*
CIDESI APODACA	Centro de Ingienería y Desarrollo Industrial – Apodaca Municipality *(Center for Engineering and Industrial Development – Apodaca)*
CIDETEQ	Centro de Investigación y Desarrollo Tecnológico en Electroquímica, S.C. *(Center for Research and Technological Development in Electrochemistry, Inc.)*
CIQA	Centro de Investigación en Química Aplicada *(Center for Research in Applied Chemistry)*
CONACYT	Consejo Nacional de Ciencia y Tecnología *(National Council on Science and Technology)*
HCN	Host Country National
IPICYT	Instituto Potosino de Investigación Científica y Tecnológica *(Potosi Institute of Scientific and Technological Research)*
IST	In-Service Training
OSIRP	Office of Strategic Information, Research, and Planning
PEMEX	Mexican Petroleum (the national oil company *Petróleos Mexicanos*)
PCV	Peace Corps Volunteer
PST	Pre-Service Training
SRE	Ministry of Foreign Affairs (*Secretaría de Relaciones Exteriores*)

Definitions

Beneficiaries	Individuals who receive assistance and help from the project; the people whom the project is primarily designed to support.[3]
Counterparts/ Project partners	Individuals who work with Peace Corps Volunteers. Volunteers may work with multiple partners and counterparts during their service. Project partners also benefit from the projects; but when they are paired with Volunteers in a professional relationship or when they occupy a particular position in an organization or community (e.g., community leader), they are considered counterparts or project partners. In this study, counterparts are divided into two groups: those who were designated or understood to be 'formal' (or official) counterparts at some point in the Volunteer's service and those who were 'informal' (unofficial) counterparts.
Host family members	Families with whom a Volunteer lived during all or part of his/her training and/or service.
Project stakeholders	Host country agency sponsors and partners.[4] These include host-country ministries and local non-governmental agencies that are sponsoring and collaborating on a Peace Corps project, defining their needs and negotiating with the Peace Corps staff to meet those needs. There may be a single agency or several agencies involved in a project in some capacity.

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[3] In the case of this particular project, the beneficiaries were from institutions that were expected to benefit from the work of staff at CONACYT Centers and Peace Corps Volunteers.

[4] This definition, while narrower than the one commonly used in the development field, is the definition provided in the *Peace Corps Programming and Training Booklet I*.

Introduction

In 2008, the Peace Corps launched a series of studies to determine the impact of its Volunteers on two of the agency's three core goals: building local capacity and promoting a better understanding of Americans among host country nationals (HCNs). The Peace Corps conducts an annual survey that captures the perspective of currently serving Volunteers.[5] While providing critical insight into the Volunteer experience, the survey can only address one side of the Peace Corps' story. The agency's Host Country Impact Studies are unique for their focus on learning about the Peace Corps' impact directly from the host country nationals who lived and worked with Volunteers.

This report presents the findings from a study conducted in Mexico in 2010. The focus of the research was the Technology Transfer for Sustainable Economic Development Project (subsequently referred to as the technology transfer project). The results of the findings from the local research team were shared with the post upon completion of the fieldwork through an oral briefing and a written report in Spanish and English. This Office of Strategic Information, Research, and Planning (OSIRP) final report is based upon the data collected by the local team and contains a thorough review of the quantitative and qualitative data, supported by respondents' quotes, presented in a format that is standard across all the country reports.

Purpose

Mexico's Host Country Impact Study assesses the degree to which the Peace Corps is able: (1) to meet the needs of the country in technology transfer; and, (2) to promote a better understanding of Americans among host country nationals. The study provides Peace Corps/Mexico with a better understanding of the technology transfer project and its impact on local participants and organizations. In addition, the evaluation provides insight into what host country nationals learned about Americans and how their opinions about Americans changed after working with a Volunteer. Finally, the study identifies areas for improvement.

The major research questions addressed in the study are:
- Did skills transfer and capacity building occur?
- What skills were transferred to organizations and individuals as a result of Volunteers' work?
- Were the skills and capacities sustained past the end of the project?
- How satisfied were HCNs with the project work?
- What did HCNs learn about Americans?

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[5] Peace Corps surveyed Volunteers periodically from 1975 to 2002, when a biennial survey was instituted. The survey became an annual survey in 2009 to meet agency reporting requirements.

- Did HCNs report that their opinions of Americans had changed after interacting with the Peace Corps and Peace Corps Volunteers (PCVs)?

The evaluation results from this study will be aggregated and analyzed alongside the results from other Host Country Impact Studies to assess the agency's broader impact on local partners and participants across a variety of posts around the world.

Evaluation Methodology

This report is based on data provided by formal and informal counterparts, beneficiaries, stakeholders, and host family members of the technology transfer project during interviews with the research team. The study included interviews with:
- 46 Counterparts from 10 National Council for Science and Technology (CONACYT) Centers[6]
- 9 Stakeholders belonging to different Centers and the Ministry of Foreign Affairs
- 6 Host Families
- 2 Counterpart and Beneficiary Focus Groups totaling 10 individuals

The study reached individual respondents in ten technology centers, located in six cities (Querétaro, San Luis Potosí, Guadalajara, Monterrey, León, and Guanajuato). Two focus groups were also conducted in order to develop a deeper understanding of two cases where Peace Corps Volunteers assisted their counterparts in providing technical assistance to an institution which was a client of the specific Center where the Volunteer was working. All interviews were conducted from February 6 to November 6, 2010.[7]

Project Design

The technology transfer project is a joint collaboration between Peace Corps and the National Council for Science and Technology in Mexico. The Council (referred to by its acronym in Spanish, CONACYT) conducts its work through a network of 27 technology "Centers"[8] that are devoted to the advancement of science and technology in Mexico. The purpose of the project was to build the technological and managerial capacity of the Centers to better meet Mexico's economic development priorities. The project stakeholders reported the objective of the

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[6] 25 of these counterparts were considered to be 'formal' and 21 were 'informal'.

[7] A full description of the methodology is found in Appendices 1 and 2. Please contact OSIRP for a copy of the interview questionnaires.

[8] "The National Council on Science and Technology (CONACYT) was created by the Mexican Congress in 1970 as an independent, publicly-funded federal government organization. Its overall objective is to provide leadership at the national level in science and technology. As part of this role, it offers scholarships to science students, funds technology projects, oversees the qualification of Mexican scientists, and generally promotes science and technology. Specifically, it also operates a network of 27 research centers throughout Mexico that offer a wide range of research and technical services." The areas of specialization are: natural science (10); social sciences and humanities (8); development and innovative technology (8); finance and post graduate studies (1). (Source: Peace Corps Project Plan and the CONAYCT website http://www.conacyt.gob.mx/Centros/Paginas).

project was to provide them with specialized Volunteers with extensive experience in project development who could contribute to meeting the Centers' objectives.

Project Goals

The project framework identified three specific goals for Peace Corps in the Centers where Peace Corps Volunteers work:

1. **Strengthen Technological Capability:** Enhance the technological capability of the Centers in priority areas in order to better meet Mexico's development priorities.

2. **Strengthen Organizational and Management Capacity:** Strengthen the Centers' management capabilities to perform more effectively and efficiently.

3. **Strengthen Technology Transfer:** Strengthen the Centers and expand their capacity to transfer technology to communities, local government agencies, organizations, and small businesses.

Evaluation Findings

This report contains detailed information about the contributions made by Volunteers to the technology transfer project. It identifies areas where tangible evidence of impact can be detected and how the project was assessed by stakeholders and counterparts.

Although some respondents referred to work that was still underway or that needed further strengthening at the time that this survey was conducted, notable achievements were realized. The project had its greatest impact in terms of strengthening technical English language skills and the counterparts' capacity in engineering and applied technology. All of the stakeholders who were interviewed and 95 percent of the counterparts were satisfied with the project's achievements.

As a result of working with Peace Corps Volunteers, counterparts changed the way they perceived people from the United States. There was a dramatic shift from 33 percent with a positive or very positive opinion of Americans before this project to 81 percent with a positive opinion afterwards.

The strongest testament to the success of the project was the fact that nearly everyone who was interviewed expressed a desire to continue the work with additional Volunteers. The advice that stakeholders and counterparts offered on the placement of any future Volunteers centered on clarifying their roles and planning the projects more carefully in advance. This is arguably a process that is already underway at Peace Corps posts where there is renewed emphasis on negotiating project frameworks with key stakeholders.

While the report provides a detailed analysis of the findings from this study, key highlights are listed below:

Goal One Findings

Volunteer Activities
- Volunteers and project partners interacted regularly about their work
  - 46 percent of the counterparts interacted daily with the Volunteer; 33 percent interacted with the Volunteers several times a week

Training Provided to Project Participants
- When asked to spontaneously recall which Peace Corps-sponsored events they had attended, 24 percent of the counterparts reported participating in some type of initial meeting or workshop to welcome or introduce new Volunteers
- 72 percent of the counterparts received training in technical English and 65 percent in a technical area related to their work
- 90 percent of the counterparts interviewed reported training enhanced their technical skills (40 percent significantly; 50 percent somewhat)

Intended Outcomes: Organizational Capacity Building
- Counterparts were asked about seven outcomes that were targeted by the technology transfer project:
  - 96 percent reported strengthening technical English language skills (50% much improved; 46% somewhat improved)
  - 68 percent reported strengthening capacity in engineering and applied technology (22% much improved; 46% somewhat improved)
  - 45 percent reported strengthening their collaborations and networking with small businesses/municipal governments (4% much improved; 41% somewhat better)
  - 43 percent reported strengthening organizational, management and leadership skills (13% much improved; 30% somewhat improved)
  - 43 percent reported that 'new services' were improved (26% much improved; 17% somewhat improved)
  - 37 percent reported strengthening skills related to marketing technologies (9% much improved; 28% somewhat improved)
  - 35 percent reported strengthening skills related to the application of technology to social projects and sustainable development (9% much improved; 26% somewhat improved)
- Among the counterparts who reported positive changes on the seven outcomes at the organizational level, the proportion who saw the changes as enduring ranged from 100 percent for 'organizational, management and leadership business skills', 'collaborations and networking with small businesses/municipal governments,' and 'new services' to 88 percent for 'marketing technologies.'

Intended Outcomes: Individual Capacity Building
- Two of five outcomes showed changes at the individual level for at least half of the counterparts:
  - 74 percent of counterparts acknowledged improving their technical skills and knowledge
  - 50 percent of counterparts acknowledged improving their management skills in areas such as leadership, planning, and organizational development
- 90 percent of counterparts said that the Volunteers' work was effective in strengthening the technical and technological capacities of the staff at their Centers (33% very effective; 57% somewhat effective)
- All 9 stakeholders concurred with the counterparts in saying that the Volunteers' work was effective (3 very effective; 6 somewhat effective)

Once Capacity Building was Achieved, It Was Sustained
- 84 percent of counterparts used their new skills in their personal life on a daily (70%) or weekly (14%) basis after the Volunteers' departure
- 69 percent of counterparts used their new skills daily in their professional life on a daily (56%) or weekly (13%) basis

Changes Met Organizational Needs to Some Extent
- The proportion of counterparts who reported that positive changes were 'completely' meeting the Centers' needs varied as follows:
  - 46 percent reported improved technical English
  - 32 percent reported increased capacity in engineering and applied technology
  - 21 percent reported improved organizational, management, and leadership skills
  - 12 percent reported additional collaboration and networking with small businesses/municipal government

Unintended Outcomes: Community and Individual Capacity Building
- In addition to the specific outcomes that the project sought to achieve, counterparts reported additional benefits that ranged from specific technical accomplishments and new ways of working together in a participatory way that were modeled by Volunteers to increasing understanding and developing lasting friendships between host country nationals and Americans

Satisfaction with Peace Corps Work
- 62 percent of counterparts and 7 of 9 stakeholders were very satisfied with the changes resulting from the Peace Corps project
- 96 percent of counterparts expressed a desire to work with another Volunteer

Factors Contributing to Project Success
- Counterparts reported that the primary factors that explained how the Volunteers in the project were able to generate the changes were:
    - The experience of working hand-in-hand with the Volunteers (52%)
    - The training that Volunteers provided (46%)
    - The new ideas that Volunteers proposed to their counterparts (26%)
- Counterparts used words such as '*methodical*', '*organized*', and '*committed*' to describe the successful Volunteers.
- Counterparts also reported internal factors in the Centers themselves that supported changes including the following:
    - Support from the Center staff (63%)
    - Having trained people to sustain the work (46%)
    Center leadership (35%)

Barriers to Project Success
- When asked what obstacles or challenges hindered the project's success, 30 percent of counterparts (14 people) named at least one negative factor, with internal changes in the Centers themselves (including areas of work and a lack of continuity in Center leadership) being the most common responses (3 counterparts)

Goal Two Findings

Changes in the Understanding of Americans
- Among counterparts:
    - Before interacting with a Volunteer, 32 percent of counterparts felt they had little (28%) or no (4%) knowledge of Americans
    - After interacting with a Volunteer, the percentage who felt they had little knowledge had dropped to 6 percent. The other 94 percent of counterparts felt they had a thorough (35%) or moderate (59%) understanding of Americans after working with Volunteers

- Among host family members:
    - Before interacting with a Volunteer, 2 of the 6 host family members reported that they had minimal prior knowledge of Americans
    - After interacting with a Volunteer, all 6 of the host family members felt that they knew a great deal about Americans

Changes in Opinions about Americans
- Among counterparts:
    - Prior to meeting a Volunteer, 33 percent of counterparts had either a very positive (13%) or somewhat positive (20%) opinion of Americans
    - After interacting with a Volunteer, counterparts indicated that they had a more positive opinion of Americans with 81 percent now seeing Americans in a positive light (24% very positive; 57% somewhat positive)

- Among host family members:
  - Prior to meeting a Volunteer, all 6 of the host family members who were interviewed said they had a positive impression of Americans and this continued after their hosting experience

Causes of Change in Opinions about Americans
- 80 percent of counterparts reported that they had worked with more than one Peace Corps Volunteer.
- For counterparts, the close, personal interaction that came from working side-by-side with Volunteers in their Centers led to a more positive point of reference from which to understand Americans. Those who had expressed negative or mixed opinions prior to working with Volunteers now described them as hard-working and disciplined (4); warm, friendly, neighborly (4); trustworthy (1); and practical (1). These positive experiences with particular Volunteers, however, were not sufficient in all cases to undo the negative perception of 'Americans' in general that had been acquired from exposure to other Americans (e.g.: tourists) in Mexico.

Changes in Behaviors and Outlook on Life
- Five of the six host family members who were interviewed made at least one positive change as a result of interacting with a Volunteer.
- 30 percent of the counterparts (13 people) cited concrete examples of their own personal growth when asked how they had changed as a result of interacting with the Volunteer. Having a change in attitude toward other nationalities was the most common response (4). Personal changes such as becoming more friendly, positive or patient (3); establishing relationships at work that transcend age and culture (1); increased openness to new ideas (1); increased self-confidence (1); becoming more athletic (1); and, being inspired to do volunteer work (1) were also mentioned.

Chapter 1: Introduction

Background

The Peace Corps traces its roots and mission to 1960, when then-Senator John F. Kennedy challenged students at the University of Michigan to serve their country in the cause of peace by living and working in developing countries. Peace Corps grew from that inspiration into an agency of the federal government devoted to world peace and friendship.

By the end of 1961, the first Peace Corps Volunteers were serving in seven countries. Since then, more than 215,000 men and women have served in 139 countries. Peace Corps activities cover issues ranging from education to work in the areas of health and HIV/AIDS to community economic development. Peace Corps Volunteers continue to work alongside countless individuals who want to build a better life for themselves, their children, and their communities.

In carrying out the agency's three core goals, Peace Corps Volunteers make a difference by building local capacity and promoting a better understanding of Americans among host country nationals (HCNs). A major contribution of Peace Corps Volunteers, who live in the communities where they work, stems from their ability to deliver technical interventions directly to beneficiaries living in rural and urban areas that lack sufficient local capacity. Volunteers operate from a development principle that promotes sustainable projects and strategies.

Peace Corps' Core Goals

Goal One - To help the people of interested countries in meeting their need for trained men and women.

Goal Two - To help promote a better understanding of Americans on the part of the peoples served.

Goal Three - To help promote a better understanding of other people on the part of Americans.

The interdependence of Goal One and Goal Two is central to the Peace Corps experience, as local beneficiaries develop relationships with Volunteers who communicate in the local language, share everyday experiences, and work collaboratively on a daily basis.

The Peace Corps conducts an annual survey of currently serving Volunteers; however, it tells only one side of the Peace Corps' story.[9] In 2008, the Peace Corps launched a series of studies to better assess the impact of its Volunteers. These studies are unique for their focus on learning about the Peace Corps' impact directly from the host country nationals who lived and worked with Volunteers.

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[9] Peace Corps surveyed Volunteers periodically from 1975 to 2002, when a biennial survey was instituted. The survey became an annual survey in 2009 to meet agency reporting requirements.

Purpose

This report presents the findings from the impact evaluation conducted in Mexico from February to November 2010. Impact evaluations describe "...long-term economic, sociocultural, institutional, environmental, technological, or other effects on identifiable populations or groups produced by a project, directly or indirectly, intended or unintended."[10] The project studied was the Technology Transfer for Sustainable Economic Development Project. The study documents HCNs' perspectives on the impact of Peace Corps Volunteers (PCVs) as they work alongside formal and informal host country counterparts, transferring skills and building their capacity. It also documents the way in which Volunteers broadened the understanding of Americans among both counterparts and host families.

The major research questions addressed in the study are:
- Did skills transfer and capacity building occur?
- What skills were transferred to organizations and individuals as a result of Volunteers' work?
- Were the skills and capacities sustained past the end of the project?
- How satisfied were HCNs with the project work?
- What did HCNs learn about Americans?
- Did HCNs report that their opinions of Americans had changed after interacting with the Peace Corps and Peace Corps Volunteers?

The information gathered is designed to inform Peace Corps staff at post and headquarters about host country nationals' perceptions of the projects, the Volunteers, and the resulting impacts. In conjunction with feedback from the Annual Volunteer Survey and a forthcoming Counterpart Survey, this information will allow the Peace Corps to better understand its impact and identify areas for performance improvement. For example, the information may be useful for Volunteer training and outreach to host families and project partners.

This feedback is also needed to provide performance information to the Office of Management and Budget (OMB) and the United States Congress. As part of the Peace Corps Improvement Plan, drafted in response to its 2005 Program Assessment Rating Tool review, the Peace Corps proposed the creation of baselines in countries with Peace Corps presence "...to measure the promotion of a better understanding of Americans on the part of the peoples served."[11]

Feedback from three pilot studies conducted in 2008 was used to revise the methodology which was then rolled out to nine more posts in 2009, eight posts in 2010, and four posts in 2011. A total of 24 posts across Peace Corps' three geographic regions – (1) Africa; (2) Inter-America and the Pacific; and, (3) Europe, the Mediterranean and Asia – have conducted host

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[10] Bamburger, M., Rugh, J. and Mabry, L. (2006). *Real World Evaluation*. Thousand Oaks, CA: Sage Publications, p. 39.

[11] Office of Management and Budget, Program Assessment: Peace Corps. International Volunteerism, 2005 Improvement Plan.

country impact studies. Taken together, these studies contribute to Peace Corps' ability to document the degree to which the agency is able to both meet the needs of host countries for trained men and women and to promote a better understanding of Americans among the peoples served.

This report is based upon the findings from a study conducted in Mexico by the local Mexican research firm "Encuentro y Diálogo." The findings of the local research team were shared with the post upon completion of the fieldwork through an oral briefing and a written report in Spanish and English. This OSIRP report is based upon the data collected by the local team and contains a thorough review of the quantitative and qualitative data presented in a format that is standard for all the country reports. The following section of the report describing the project draws heavily from the original researcher's report.

The Technology Transfer for Sustainable Economic Development Project[12]

The technology transfer project is a joint collaboration between Peace Corps and the National Council for Science and Technology in Mexico (CONACYT). CONACYT conducts its work through a network of 27 technology centers.

The technology transfer project has its direct antecedents in the first collaboration between Mexico and the Peace Corps in 2004. Peace Corps signed an agreement with the National Council for Science and Technology in 2003, following an agreement between then Presidents George Bush and Vicente Fox. The two countries agreed to establish a project for technical exchange under the auspices of the Peace Corps. The focus on technology derived from the recognized success of many countries – especially in East Asia – in leveraging technology to rapidly improve their national well-being. The example of those countries – strong economic growth concurrent with reductions in income disparities – was widely seen as contrasting markedly with Mexico's slower growth and persistent poverty despite the presence of significant human and natural resources, such as oil reserves.

Since this initial agreement, Peace Corps/Mexico has worked closely with the leading Mexican technology organization, CONACYT (a federal agency roughly similar to the U.S. National Science Foundation) that broadly directs the country's scientific program and funds a network of research centers around the country. Responding to specific CONACYT requests, the Peace Corps placed 64 Volunteers in ten research Centers with the goals of:
- Enhancing underlying technical capabilities, such as water treatment technology for use in municipal sewage plants or plastic molding engineering used by auto parts manufacturers
- Strengthening management capacity in the areas of planning and human resources
- Identifying opportunities to provide services to more users and to diversify economic resources, such as selling engineering services to fee-paying customers to complement federal funds

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[12] This section is based on the *Host Country National Impact Study: Mexico* by Encuentro y Diálogo, pp. 13-14.

Between 2004 and 2009, CONACYT came under increasing pressure to direct its investments in science toward the overall benefit of the country, and the Peace Corps increased its activities associated with the application of technology to society. In 2009, the two organizations agreed to make technology transfer the centerpiece of their collaboration.

At its heart, technology transfer is the movement of advanced knowledge from technology sources (typically universities or other public institutions) to user organizations (typically small technology businesses). These companies - if successful – grow rapidly on the basis of their innovative technology, generating significant and sustainable employment at good wages. These technology advances may also provide other benefits to the country (for example, improvements to the environment or better health). The final goal of these activities is to promote sustainable development in Mexico and to increase the general well-being of the Mexican people.

The needs of the technology transfer project created special requirements for the recruitment and training of Volunteers. First, Volunteers needed to have strong technical or business skills. Many of the Volunteers in this project were around 45 years of age on average with significant experience (often 25 – 30 years) in their fields and advanced degrees in business, engineering, or other technology fields. Second, Volunteers received a 12-week training course in Spanish as well as cultural adaptation skills to enable them to work collaboratively with both Mexican technology specialists and the private sector.

Project Goals

The technology transfer project was designed to enhance the capabilities of CONACYT Centers to transfer technology. The specific goals were as follows:

1. **Strengthen Technological Capacity**

    CONACYT Centers will enhance their technological capacity in priority gap areas to better meet Mexico's sustainable development priorities. Volunteers will cooperate with Mexican colleagues to build understanding of the types of technology that can be transferred.

2. **Strengthen Organizational and Management Capacity**

    CONACYT Centers will strengthen their organizational and management capabilities to perform more effectively and efficiently. Volunteers will work to strengthen the organizational and management capabilities of CONACYT centers to offer technology more effectively and efficiently.

3. **Strengthen Technology Transfer**

    CONACYT Centers will strengthen their commitment and outreach capacity in order to transfer technology to communities, local government agencies, organizations and small businesses by implementing projects that meet priority needs for sustainable development. Volunteers will help identify opportunities

for the use of technology by society, and they will develop the technical and legal capacity for technology transfer to end users.

A model of the theory of change[13] underlying this project approach is presented in Figure 1 below. This model provided the foundation for the impact evaluation.

Figure 1: Overview of the Theory of Change for the CONACYT Institutional Strengthening Program in Mexico (revised 11/03/09) [14]

Problem	Goals	Activities	Outcomes
A need to build CONACYT's technology Centers' capacity to develop and transfer technology that better meets Mexico's sustainable economic development priorities	CONACYT Centers will enhance their: • Technological capacity in priority gap areas (Goal 1) • Organizational and management capacity (Goal 2) • Ability to implement projects that increase technology transfer (Goal 3)	Provide technical assistance and mentoring in: • Priority technical areas • Identification of market or societal needs which can be provided either by CONACYT center or a licensee • Business plan development and Implementation • Negotiation of licensing of CONACYT technologies • Outreach from Centers to clients (e.g. small businesses, government)	Increased CONACYT capacity in: 1.Applied technology and engineering 2.Technical English 3.Organizational management 4.Participatory leadership 5.Strategic planning, business and marketing 6.Planning/ implementing projects 7.Developing partnerships • Improved provision of innovative, efficient and sustainable services • Increased commercialization of CONACYT technology • Improve technical and operational capacity of small businesses, local governments and other organizations • Greater economic inclusion of underserved groups • More sustainable development projects

Public Benefit

Accelerate sustainable economic growth through the use of innovation and technology

Evaluation Methodology

In 2008, as part of the Peace Corps' Improvement Plan, Peace Corps' Office of Strategic Information, Research, and Planning (OSIRP) launched a series of evaluations in response to the OMB mandate to assess the impact of Volunteers. Three countries were selected to pilot a

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[13] A theory of change is a conceptual model used to understand the relationships between the problems a program is designed to alleviate and the way program activities are expected to address those problems.
[14] Source: Adapted from the Peace Corps/Mexico Project Plan.

methodology that would examine the impact of the technical work of Volunteers, and their corollary work of promoting a better understanding of Americans among the people with whom the Volunteers lived and worked.

In collaboration with the Peace Corps' country director at each post, OSIRP collected information directly from host country nationals about skills transfer and capacity building (Goal One), as well as changes in their understanding of Americans (Goal Two).

The research was designed by OSIRP social scientists and implemented in country by an experienced local researcher under the supervision of the local Peace Corps staff. The OSIRP team provided technical direction.

In Mexico, the team conducted semi-structured interviews in ten technology Centers where Volunteers worked. A representative sample was drawn from a list of sites where Volunteers had been assigned between 2005 and 2010. Interviews were conducted in Spanish between February and November 2010. Interviewers recorded the respondents' comments, coded the answers, and entered the data into a web-based database maintained by OSIRP. The data were analyzed by OSIRP researchers and the senior researcher and his team.[15]

Respondents

Four groups of Mexicans were interviewed (Table 1):

- **Counterparts**: 46 team members and other co-workers from 10 CONACYT Centers and two focus groups. 54 percent of the counterparts who were interviewed individually were identified as 'formal counterparts' of the Volunteers, while the remaining ones were considered to be 'informal counterparts' (usually colleagues or supervisors at these facilities).

- **Stakeholders:** Two CONACYT national directors, four regional center directors, one research director, one individual from an academic secretariat who was supporting a center director, and one individual from the Ministry of Foreign Affairs who was Peace Corps' counterpart at the level of the Mexican government.

- **Host Family Members:** Families the Volunteer lived with and/or landlords of the Volunteers, including five host family members from Pre-Service Training, one of whom continued to host the Volunteer during his/her service and one family that hosted a Volunteer during service, but not during PST.[16] Host mothers accounted for five of the six respondents; the remaining respondent was a host father.

- **Focus Groups:** Two focus groups totaling 10 counterparts and beneficiaries were formed to discuss the technical assistance provided by CIATEC to the Footwear Industry Association and by CIATEJ to the Guadalajara Civil Hospital.

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[15] Appendix 1 contains a full description of the research methodology.

[16] Five of the six host family members that were interviewed were from Querétaro; the other family member was from León, Guanajuato. As such, these families do not represent the full range of CONACYT centers.

Table 1: Number and Type of Respondents

Type of Respondent	Number of Respondents	Number of Sites
Counterparts	46	10
Host Family Members	6	2
Stakeholders	9	n/a
Focus Groups	10	2
Total	**71**	**14**

The quantitative results that are presented in this report are based primarily on the 46 interviews with counterparts.

Figure 2: Locations of the CONACYT Technology Centers, by Numbers of Respondents
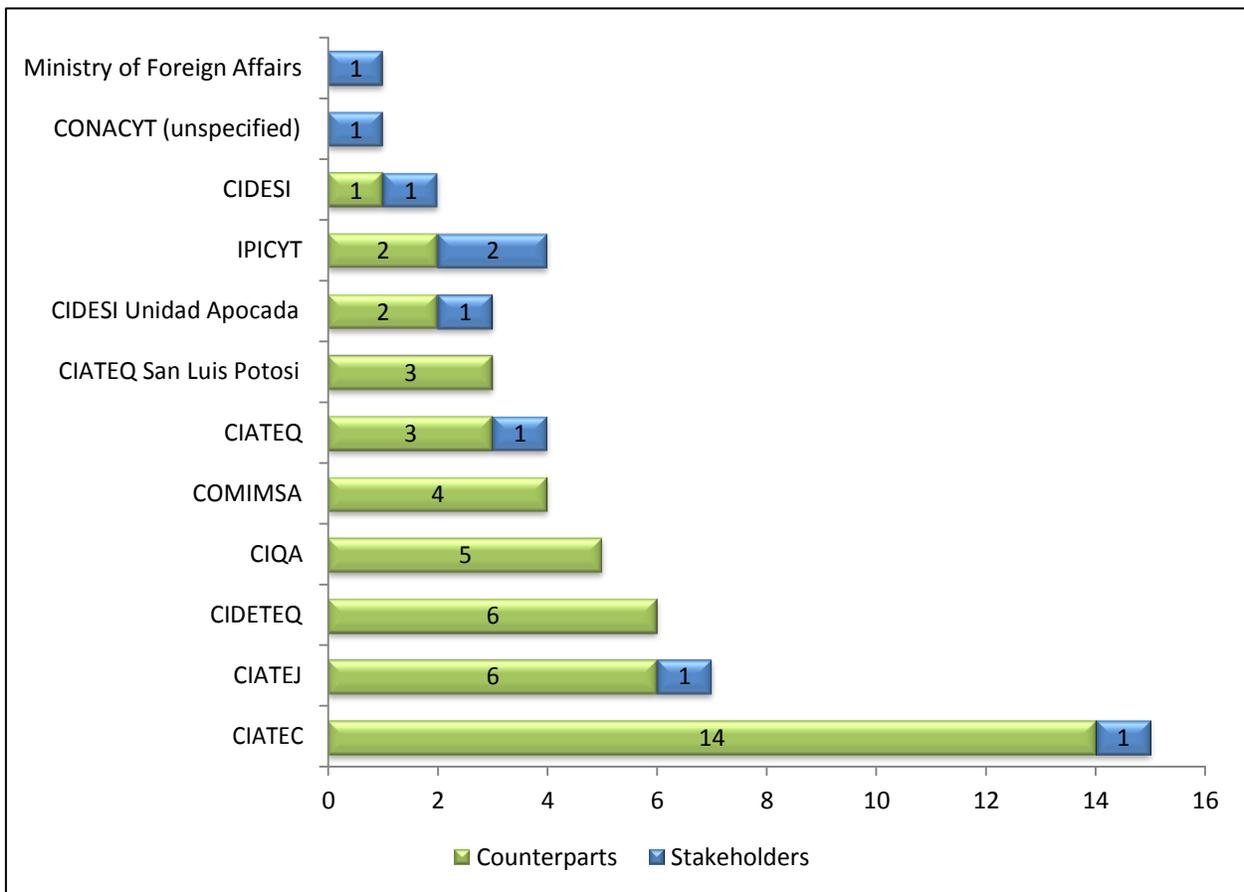
Figure 3 shows the types of staff at these facilities who were formal (official) and informal counterparts to the Peace Corps Volunteers. These data show that the formal counterpart was usually a unit director or the chief of a project. Most colleagues were informal counterparts. Some counterparts worked with the Volunteers in multiple capacities (e.g.: unit director and chief of a project). (Figure 3) Half of these counterparts had been with their Centers for 10 years or more (Figure 4).

Figure 3: Number of Counterparts, by Level of Position and Type of Role (Formal or Informal Counterpart)[17]
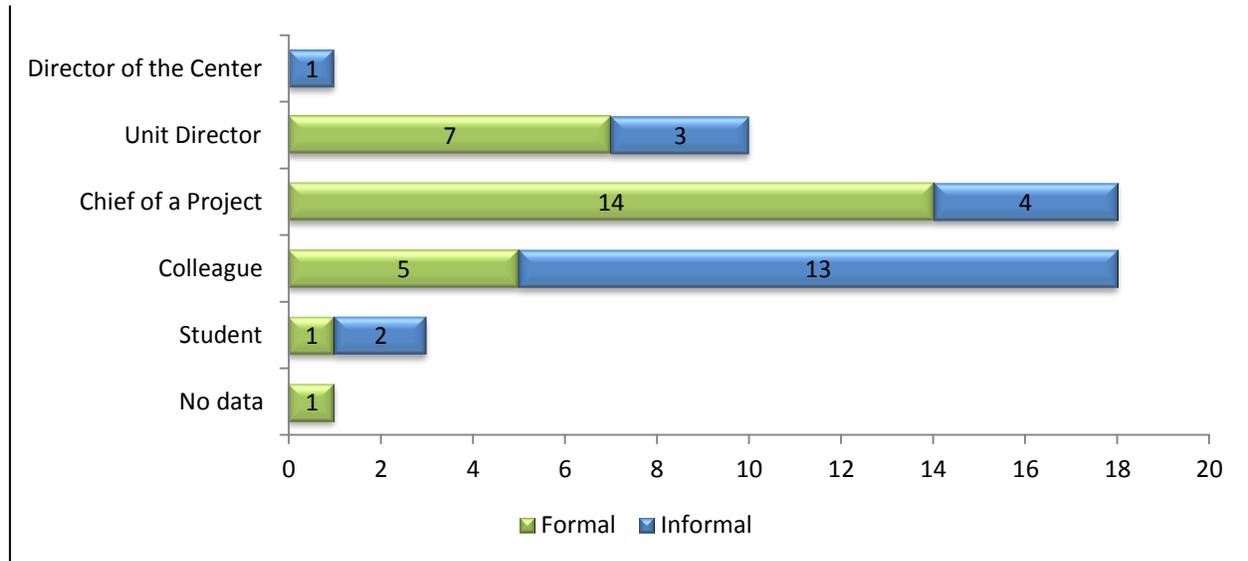
Figure 4: Number of Years Mexican Counterparts Had Worked in a Technology Center

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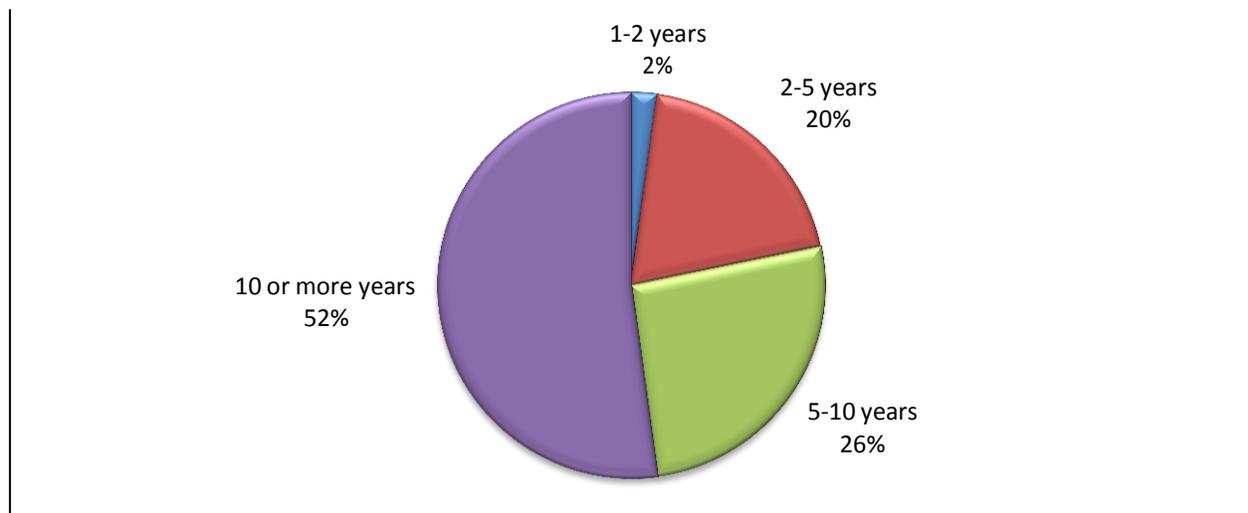
[17] The 'colleague' group includes colleagues in the same unit and others at the Centers, as well as one individual who was described as an international volunteer from another organization who was engaged in similar activities. Some counterparts were described in multiple ways (for example: project director and colleague).

Three quarters of the counterparts had had a technical role at some point in their careers. Nearly half of them had five or more years of experience in technology transfer (Figure 5).

Figure 5: Respondents' Experience in Technology Transfer
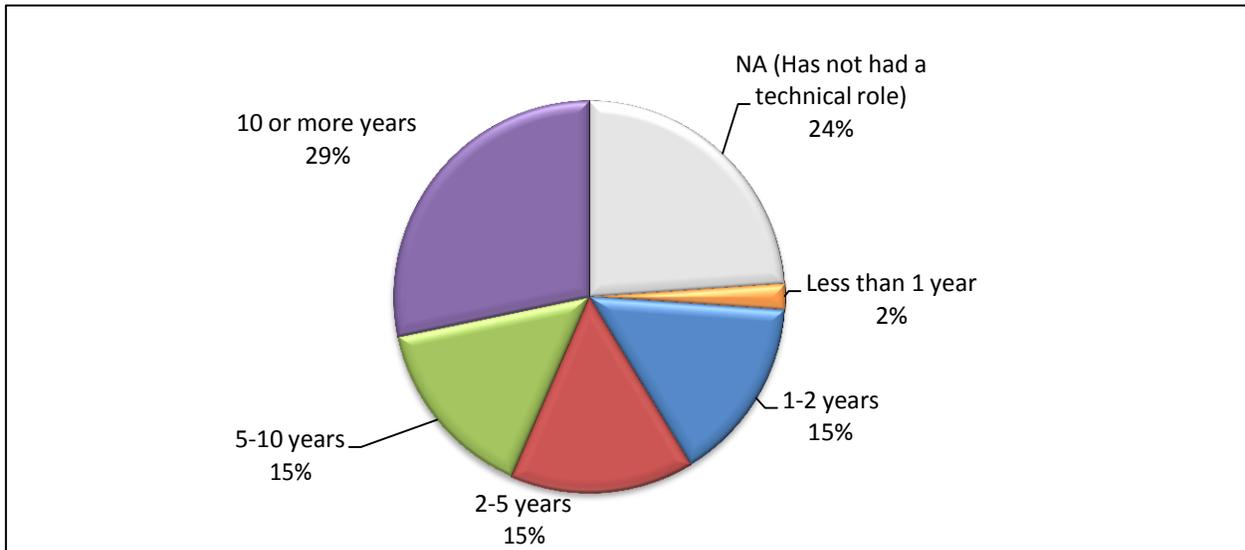
Prior Experience Working with Peace Corps Volunteers

Of the counterparts interviewed, 80 percent had worked with more than one Peace Corps Volunteer — 20 percent had worked with one Volunteer, 26 percent had worked with two Volunteers, 33 percent had worked with three Volunteers, and the remaining 22 percent had worked with four or more (16% with four, 4% with five, and 2% with six Volunteers).[18]

The number of years that the counterparts had worked with Volunteers ranged from 1 to 6 years, with 87 percent reporting two or more years. The average was 2.8 years.

The stakeholders who were interviewed were also familiar with the Peace Corps. Over half of them had worked with the Peace Corps for at least five years and none had worked with Peace Corps for less than a year.

Host family members who were interviewed were asked to recall the number of Volunteers with whom they had worked. One person reported hosting a single Volunteer, two reported 5 Volunteers, and three reported 7 Volunteers.

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[18] The sum of percentages may vary slightly due to rounding.

Chapter 2: Goal One Findings

All Peace Corps projects support the agency's first goal of building the capacity of local men and women to improve their own lives and conditions within their communities. The primary goals of the technology transfer project were to strengthen technological capability in priority areas of development, to strengthen organizational and management capabilities to perform more effectively and efficiently, and to strengthen technology transfer. Volunteers working on this project were expected to achieve these goals through specific activities outlined in the project plan.[19]

Project Activities

The goals of Peace Corps' project plan with CONACYT included the following:

1. **Organizational Development** - Strengthen CONACYT's systems and procedures to build capacity to identify, develop, and respond to the needs of a diverse range of clients.

2. **Environmental Management** - Strengthen the capacity of CONACYT to provide technical services to municipalities and other clients in the areas of water supply and treatment, solid waste management, and environmental monitoring and remediation.

3. **Knowledge Management** - Enhance CONACYT's knowledge management systems and capacity to provide support services for information technologies and their application to industry and other clients.

4. **Business Systems Development** – Improve CONACYT's financial viability or that of its clients through the adoption/promotion of recommended alternative business practices and the expansion of fee-based business consulting services to clients.

5. **Engineering Support** – Enhance CONACYT's ability to provide high quality research and development support services to clients in specialized areas.

6. **Advanced English for Engineers** – Improve the conversational and writing skills of CONACYT staff in order to increase their on-the-job effectiveness.

Some of the activities of Volunteers in this project included working with several of the CONACYT Centers that have focused their work on environmental investigation, research, and development. Volunteers provided environmental technology services to Mexican organizations, local municipalities, and small businesses. Their primary duties included laboratory research, work in the field analyzing environmental risks, and outreach training in environmental services.

Volunteers also worked with CONACYT on outreach efforts to provide environmental technology services to Mexican organizations, local municipalities, and small businesses. These

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[19] For more information, please refer to "Project Goals" on pp. 19-20.

services included assessments, training courses, research projects, and technological development. Volunteers trained professionals in safe environmental practices, facilities operation and maintenance, personnel training, and sustainable development planning to manage increasing demands and output. Volunteers in the water and sanitation engineering component worked with CONACYT environmental technology departments, utilizing their advanced technical expertise in both basic and applied research efforts related to water management and wastewater treatment technology.

All of these activities were designed to help local organizations improve their competitiveness by making them more environmentally responsible and/or efficient while increasing the capacity of the CONACYT Centers to become more client-driven, fee-based, cutting-edge, technology-oriented enterprises. Volunteers provided high-quality technical assistance in areas where there were relatively few skilled host country nationals, and they helped to identify systemic factors that not only hampered the effectiveness of the individual Centers but, more importantly, CONACYT as a whole. In the long term, this work was intended to support the creation of new jobs for Mexicans, as well as to strengthen environmental protection in Mexico's rapidly developing economy.

Frequency of Interaction with Volunteers

During work hours, 46 percent of all counterparts (formal and informal) worked with the Volunteer on a daily basis, while an additional 33 percent worked with them several times a week. 15 percent of counterparts worked side-by-side with the Volunteer on a weekly basis. Formal counterparts were more likely to report daily contact than informal ones; but, in both groups, a large majority saw the Volunteers at least several times a week. Interestingly, even staff at the highest levels of these organizations reported having at least weekly contact with the Volunteers (e.g.: 10 of 11 senior managers at the unit director and center director levels and all 17 project leaders/managers) (Figure 6).

Figure 6: Frequency of Interaction with Volunteer during Work Hours, Total and by Type of Counterpart
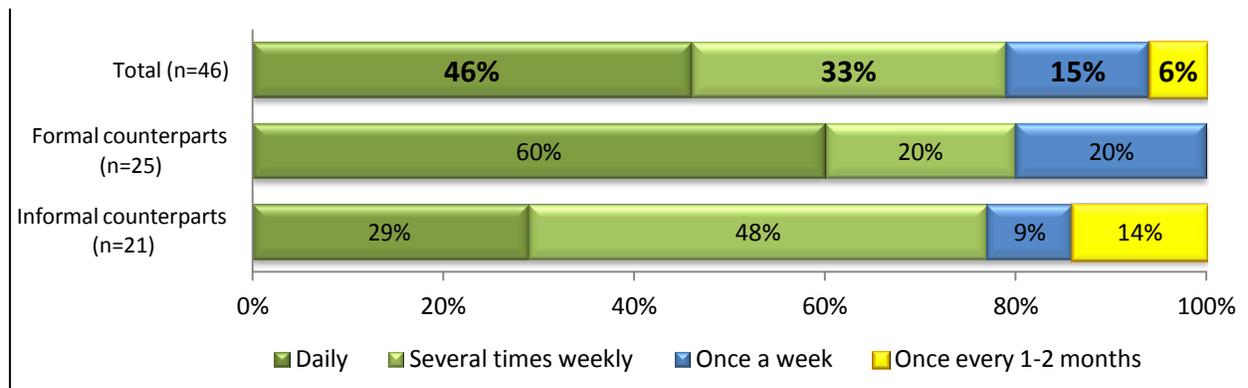
In addition, almost half of all counterparts who were interviewed socialized with the Volunteers outside of work hours at least once a week (17% on a daily basis, 17% several times a week, and 11% at least once a week). This was true of both formal and informal counterparts (Figure 7).

Figure 7: Frequency of Interaction with Volunteer Outside of Work Hours, Total and by Type of Counterpart

	Daily	Several times a week	Approximately once a week	1-2 times a month	Less than once a month	Never
Total (n=46)	17%	17%	11%	24%	24%	7%
Formal counterparts (n=25)	16%	12%	16%	36%	16%	4%
Informal counterparts (n=21)	19%	24%	5%	10%	33%	10%
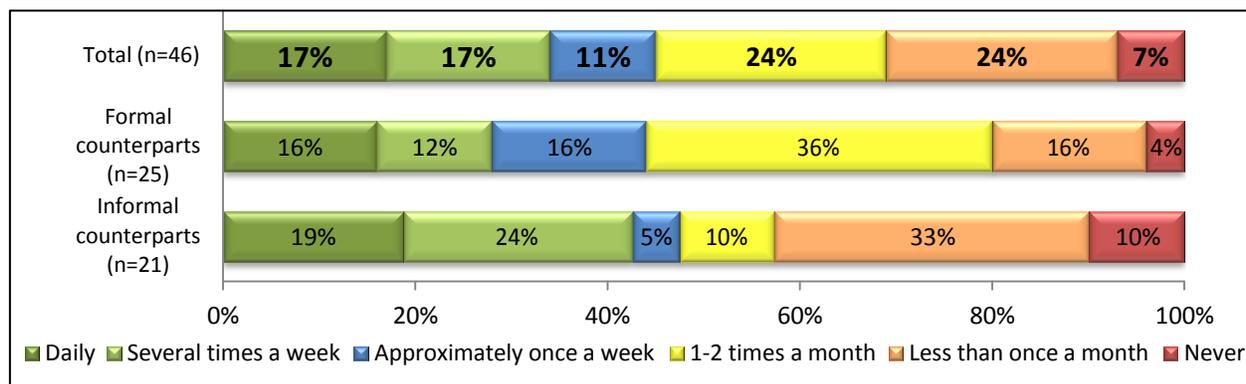
When asked about the quality of their relationship with the Volunteers, the vast majority of counterparts reported positive experiences with Volunteers whom they described as friendly, easy-going, social, and open. In some cases, close friendships developed that lasted beyond the end of the Volunteer's service:

- *"The relationship has been good in general. It went even further than work. We became friends; they even attended my wedding and we are still in constant communication."*

- *[The relationship] "…has been a good one. We played soccer and other sports of outside work."*

- *"Excellent, because there was a human approach, more than just a regular relationship at work."*

- *"I was surprised by his ability to adapt just like a Mexican; he was very social. I attended his wedding; he took care of us quite well. I interacted with many others, all very nice people. (…) I used to tell him he was not a 'regular gringo.' We developed a friendship; he emails me. After two years, we are still in touch."*

- *"Contributed to opening my vision of the diversity of people …"*

- *"The relationship was pretty good, we still write to each other. One of them even fell ill and came back afterwards. They have gone beyond just being Volunteers. There is appreciation [for his work]; he was supportive. He developed so much as a technology transfer specialist that it was he who helped shape what Peace Corps is doing here. This initiative came from working together."*

- *"They are very kind people and funny, always ready to help, interested in knowing more. We shared points of view about politics, shared meals together;*

[it was] a very enriching experience. I even had more contact with one of them than with my own boss."

Cases where the relationships were not as positive were very rare. Four people described a neutral relationship that did not become more personal than simply what was required for the Volunteer in his/her role as advisor or a reporting or professional relationship. Only two counterparts reported negative relationships. One person explained that the Volunteer would not 'compromise,' and the other one just described the relationship as 'difficult.'

Intended Outcomes

Performance under the Peace Corps' first goal was examined in three ways:

1. The extent to which the local counterparts noted changes on a personal or organizational level and the extent to which they reported gaining new technical skills.

2. The extent to which there was capacity for sustaining changes once the project ended.

3. The extent to which the project was perceived as meeting the needs of local participants.

Changes Resulting from the Project

The project theory of change (Figure 1 on page 20) generated a list of project outcomes. Counterparts were asked about the following outcomes:

1. Applied technology and engineering
2. Organizational management, planning, efficiency, leadership
3. Participatory leadership
4. Strategic planning, business and marketing
5. Planning/implementing sustainable and economic development projects
6. Developing more diverse and productive partnerships
7. Advanced technical English language skills

Counterparts were asked about these project outcomes through a matrix question. For each project outcome derived from the project plan, they were asked if changes had occurred, the extent of the change, whether the change had been maintained, and to what extent the change met the Centers' needs. Each of these questions will be considered in turn.

First, respondents were asked about changes corresponding specifically to the seven major areas of focus in the project. No respondents reported that these aspects of the Centers' work

were any 'worse' after the Volunteers had worked with them. A significant number of counterparts chose not to respond to one or more items, ranging from a quarter of the respondents not taking a position on whether there had been any changes in capacity in engineering and applied technology at their Center to more than half not responding to the question of application of technology to social projects (Figure 8). It is not clear whether this may be related to the broad scope of the question (e.g.: asking about the Center as a whole). It is possible that some respondents may not have felt they were in a position to make a broad judgment. All respondents did, however, respond to at least one of these elements, and 72 percent of all 46 respondents reported that at least one element was 'much better' than it had been before the Volunteers' service (Figure 8).

Improvements in technical English received the most positive feedback with 50 percent of all respondents saying that it was 'much better' and an additional 46 percent saying that it was 'somewhat better.' Only 2 percent said that it had remained the same and 2 percent (1 person) did not respond. Capacity in engineering and applied technology was the second aspect of the project where respondents reported the greatest change, with 22 percent perceiving this capacity as 'much better' and 46 percent as 'somewhat better.' 'New services' was considered to have been 'much' improved by 26 percent of respondents, with 17 percent reporting some strengthening. (Figure 8)

Figure 8: Extent to which Respondents Perceived Organizational Changes in Key Elements of the Project
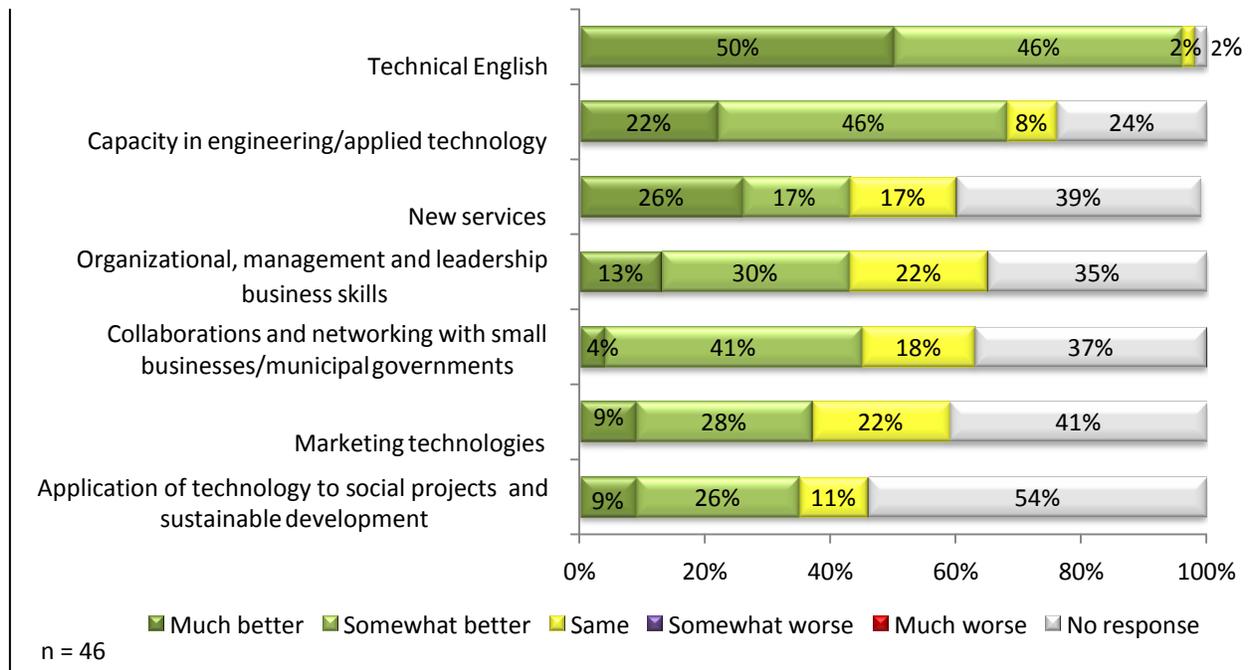
Sustainability of Organizational Changes

The next portion of the analysis considered whether the changes that had been observed were still in evidence according to the respondents. This portion of the analysis is limited to those who reported that a particular element had changed to become 'somewhat better' or 'much better.' As Figure 9 illustrates, 70 percent of the 44 respondents who had seen changes in technical English reported that they were still evident, while 23 percent saw them as somewhat sustained. Of the 31 counterparts who reported that the capacity of the Center in engineering and applied technology was somewhat or much better because of the Peace Corps project, 68 percent reported that the improvement was still apparent and 29 percent reported that it was somewhat apparent. Similarly, 65 percent of the respondents who had reported changes in new services and 70 percent of the respondents who had observed organizational or management changes still saw clear evidence of sustained changes.

Overall, very few respondents who had seen changes felt that they were not sustained (12% in marketing/commercialization of technologies that were developed, 7% in technical English, and 6% in the application of technology to social projects). There are two possible ways to interpret these results: either sustained changes were the only ones that were noticed and reported by respondents or once an organizational effort had been made to initiate a change, the staff at the Centers were able to sustain it.

Figure 9: Extent to which Organizational Changes Were Sustained (as a Proportion of Those who Saw Changes)
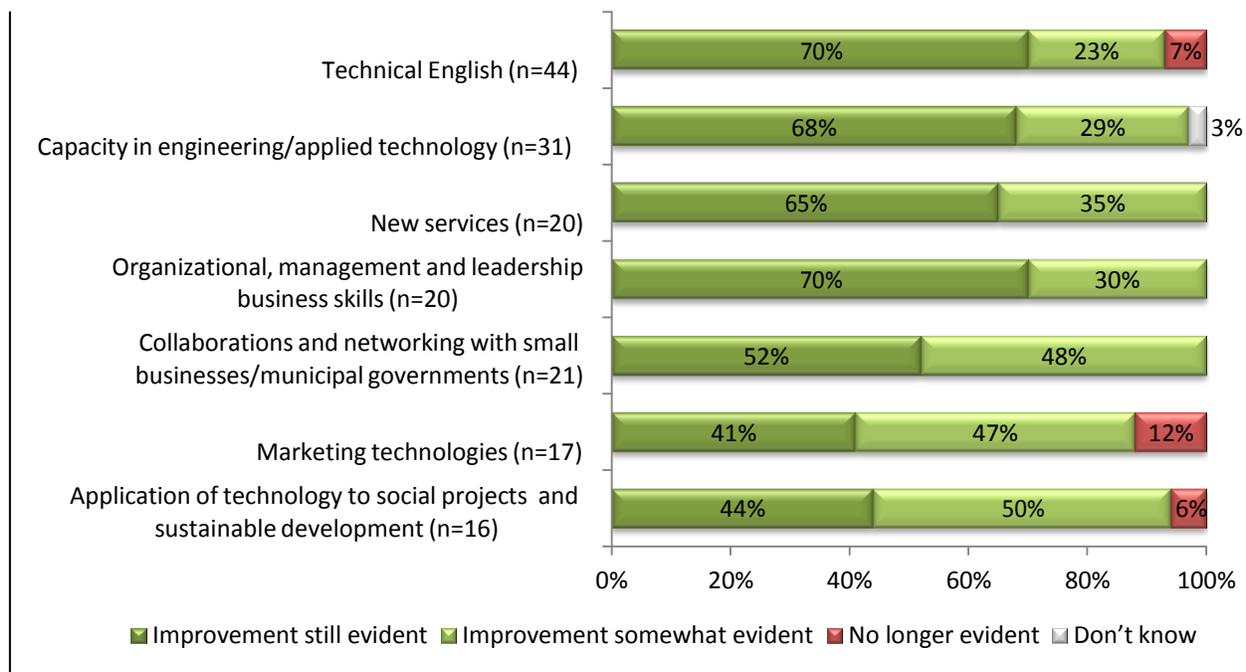
Extent to which Changes Met Organizational Needs

When asked to what extent the Peace Corps project had addressed the needs of the Centers in which they worked, the vast majority of counterparts reported that the needs related to improving the level of technical English had been met, either completely (46%) or in large part (35%). An additional 15 percent said that they had been met to a limited extent. This was the strongest statement about needs met of any of the components of the project.

Meeting the needs in the areas of engineering and applied technology was the next strongest result. Of the 41 who responded, 32 percent said that the needs of the Centers were completely met, and 27 percent said that they were met in large part. Another 22 percent said that they were met in a limited way.

For the measures regarding the development of new services, organizational management and leadership, collaborating with business and local government entities, and applying technology to social projects, the proportion of counterparts who affirmed that the Centers' needs had been met surpassed 40 percent, with the results split between those who felt they had been completely met and those who felt they had been met in large part. Marketing technologies was the area where the least progress in meeting the Centers' needs was found, with 33 percent saying that the needs had been met (completely: 18%; in large part: 15%). For all of these measures, three to six counterparts (9% - 16% of those interviewed) reported that the needs had not been met at all (Figure 10).

Figure 10: Extent to which Changes Met the Needs of the Organizations

31 | P a g e
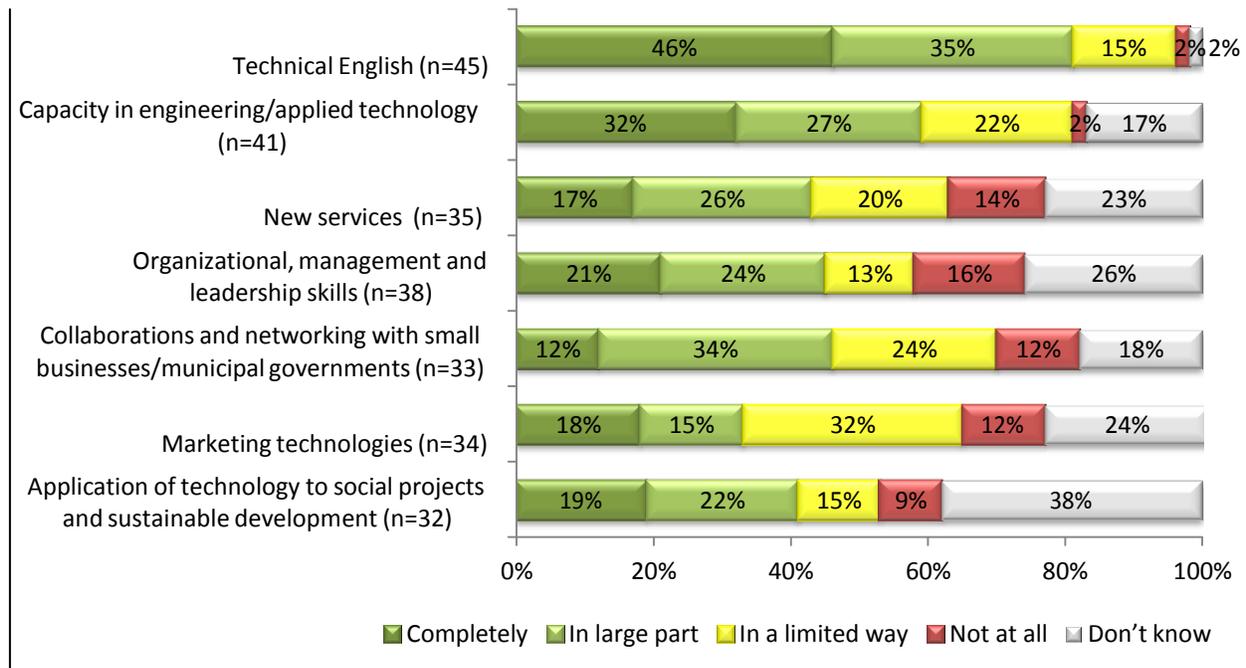
To summarize the measures related to the organizational impact of the Volunteers' work, it is helpful to consider the opinions of the 28 organizational leaders (center directors, unit directors, and project leaders) who were interviewed as counterparts. These positions require the development of a broader perspective on the Centers' needs than what might be expected at the level of the technical staff. The Centers' needs related to technical English were reported to have been met completely or in large part by 82 percent of these leaders. This was the single most successful component of the project. Although the other components of the project produced more mixed responses, 86 percent of these leaders reported that at least one other element besides technical English had met the Centers' needs 'completely' or 'in large part.'

Case Studies of Beneficiary Organizations Needing Targeted Technical Assistance

In addition to the questions that were posed to counterparts at all of the CONACYT Centers, the local research team also conducted two focus groups with counterparts from specific Centers and staff from one of the large client organizations that was intended to benefit from the transfer of technology. These two focus group discussions are included below as brief case studies.

Case #1: CIATEC and the Footwear Industry[20]

In Mexico, the footwear industry is considered an important part of the local economy. It not only generates profits from exported goods, but it also creates a large number of jobs.[21] In spite of its importance, the footwear industry in Mexico was viewed as one of the most fragile in the country due to trade liberalization in Mexico and a growing need to be competitive internationally. In the four years leading up to this survey, the *Encuentro y Dialogo* team reported that this had led to an alarming decrease in industrial capacity and production.

From 2006-2008, CIATEC developed a project with the Footwear Industry Association with the aim of defining a strategic vision for the year 2020 and increasing the market share of such industries in Mexico by 200 percent. To reach this objective, a business development model was needed that would include the implementation of an effective supply chain and boost production and sales. Training CIATEC teams with business and technology management tools was also seen as a critical factor for the success of this project. The *Encuentro y Diálogo* research team investigated the contribution of Peace Corps to this project as a special case study. One key industry person and two CIATEC counterparts were interviewed for this case study.

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[20] This section is based on the *Host Country National Impact Study: Mexico* by the local research team Encuentro y Diálogo (pp. 53-55) and reflects the views of that team.

[21] Perspectives of the Foot Wear in Mexico 28/07/2009 http://www.gestiopolis.com/marketing/perspectivas-de-la-industria-del-calzado-en-mexico.htm as quoted in the *Host Country National Impact Study: Mexico* by Encuentro y Diálogo.

The research team found that the vision for 2020 was developed with a strategic business model, an efficient supply chain design, technological tools to manage production, an industry assessment, and an increase in related technical skills. The most significant contribution of the Peace Corps Volunteers was in the industry assessment and related capacity development. The Volunteers were perceived by their CIATEC counterparts as people with a great business vision, who managed innovative information and were capable of resolving complex situations among diverse companies.

The focus group participants provided the following testimonials on the Volunteers and the importance of their work:

"They are exceptional people, very cooperative and patient. We want them [Peace Corps] to continue sending Volunteers to work here in the technology transfer program." (a counterpart)

"The vision which the Volunteers brought contributed to establishing the foundation for many more projects on competitive advantage." (a beneficiary)

"It was important to get to know other ways to promote the autonomy of the companies and how the CIATEC role can be more efficient as consultancy center." (a counterpart)

"It's difficult to know the direct impact because we are still in the process of seeing the benefits; however, now the Footwear Chamber has better information. The Chamber offers its services to its affiliates, which includes 1,000 companies. From there, about 65 percent of the national industry has access; the potential impact could be great." (a beneficiary)

"I learned new ways to interact with the companies, how to gather information and organize it, [how to] take advantage of knowledge in the companies so they find their own answers." (a counterpart)

The recommendations that the counterparts made for such projects in the future included defining more clearly what is expected of the Volunteers and providing an overlap between Volunteers so that they can pass along information about what they have done to the Volunteer who follows them.

Case Study #2: CIATEJ and the Guadalajara Civil Hospital[22]

Between 2006 and 2008, CIATEJ and the Peace Corps developed a specialized food safety project for hospitals that was based on Hazard Analysis and Critical Control Point (HACCP) training. "HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product."[23] This training was offered to 30 hospitals, of which 8 showed interest. Data for this case study were collected at one hospital – the Guadalajara Civil Hospital – where this training was intended to be applied to the preparation of meals that were administered to patients through feeding tubes. In the year prior to this project, this hospital fed patients more than 37,000 meals, none of which were tested at the level of HACCP standards for food safety.

Three key staff from the hospital and four counterparts from CIATEJ were interviewed for this case study. The respondents reported that in the first stage of the project, the CIATEJ team (including a Peace Corps Volunteer) conducted a study on hygiene practices related to food preparation and storage at the hospital; and they provided training to 100 people. This initial effort was discontinued due to lack of support and a change in the senior leadership at the hospital; however, the work did pick up again. In the second stage, a HACCP plan was developed with training on the quality assurance/quality control process. The researchers report that the nutrition officer and area manager at the hospital saw the positive impact of this project in changing work processes, documentation, and training. They felt that the safety of the patients was improved with quicker, cleaner formulas and a reduced risk of diarrheal disease. The hospital staff reported that 100-300 people are benefitting from this project per day. The Director General of the hospital reported that the changes can still be seen, and they are in use every day.

The focus group participants spoke about the key role played by one Volunteer and how her personal perseverance and commitment made a difference. She was able to engage her colleagues effectively even as she worked through difficulties in learning Spanish. They provided the following testimonials on the Volunteer and the importance of her work:

> *"I liked how she moved the technical knowledge into a service component. It was an interactive experience. I learned and now I can replicate it."* (a counterpart)

> *"I learned about how to supervise better and better control quality. What I learned personally was her humility and her interest in helping; she was very tenacious."* (Head of Nutrition)

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[22] This section is based on the *Host Country National Impact Study: Mexico* by the local research team Encuentro y Diálogo, pp. 56-59.

[23] Cited from the U.S. Food and Drug Administration's website at http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm

If this type of project were to be planned again, the focus group participants suggested that it should be more formalized and that the Volunteers' background be shared more widely so that other groups could also approach them for technical assistance.

"It is very important to give the Volunteers an appropriate and more in-depth orientation about the Centers. When they arrive, they get assigned to a work group and from there, the group describes its activities, but they do not know the other areas and this limits them..." (a counterpart)

"I propose to have the agreement for collaboration be more formalized and for it to be transparent and auditable. The location, the people and the amount [of money] have to be formalized. A work plan should accompany this document (signed by both parties). It is important to have evidence in writing, including the work plans and to place this into our Mexican bureaucracy. Create an entity that withstands changes in order to have greater impact." (a counterpart)

Summary of Outcomes at the Organizational Level

It is clear from the results outlined in this chapter that the vast majority of counterparts felt that their technical skills were enhanced by the work of the Volunteers and that the effort that the Volunteers put into understanding the local language and culture contributed to their success. As one stakeholder put it, "*The more they learn our culture and language, the more impact the Volunteers can have with their collaboration.*"

It is also clear that technical English was the single most successful component of the project. Nearly universal appreciation was expressed by the counterparts who were interviewed and who stated that the level of proficiency had improved in a sustainable way. The vast majority felt that the organization's needs in this regard were met.

Among the other components of the project, capacity in engineering and applied technology showed the greatest improvement with 68 percent of the counterparts reporting that it had improved. For the other components, fewer than half of the counterparts saw changes at the organizational level, but those who did stated nearly universally that the changes were sustained.

The feedback that Peace Corps received from the stakeholders who were interviewed is consistent with what the counterparts reported. When asked about the benefits of this type of collaboration, all nine stakeholders had positive responses. The opportunity afforded to the Centers staff of having a group of specialized Peace Corps Volunteers to provide technical support, share their expertise, and exchange ideas with their Mexican colleagues was highlighted by all nine stakeholders, either in general comments or in reference to specific work products like the performance evaluation system, linkages to other institutions, and publications. As the stakeholders explained, the main benefit is to have people with a high

level of experience that complements that of the staff in the Centers saying, *"They contribute with valuable recommendations."* Another cited the fact that Centers are reporting on the Volunteer activities and requesting more Volunteers as evidence of the contributions that this project is making to their work.

Four stakeholders also mentioned cross-cultural exchange and English language training as other major benefits of having Peace Corps Volunteers. "*It is hard to measure it in a quantitative way, but it is useful to establish linkages between different cultures. We realize there are well-intentioned Americans and that we can bring these two countries together. [We can] extend bridges that prove there is good will."*

One stakeholder compared the special efforts that two different Volunteers had made: one in English and one in establishing linkages to other organizations. He first described the work related to English saying: "*He got so involved that they even made a theater play in English*." He then compared them saying: "*The other Volunteer has been incorporating himself more and more in the area of linkages, with a more strategic role, of promoting linkages with the companies that are conducting research. The impact in the two cases is important. In one of them it is perhaps more visible at the moment; the other one has an impact more in the medium term, but definitely it is very important because by strengthening the linkages, the whole institute will be supported..."*

Changes at the Individual Level

The project theory of change model (Figure 1 on page 20) generated a list of individual or personal-level project outcomes. Counterparts were asked about the extent to which they saw changes in themselves related to each of the following:[24]

1. Technical skills and knowledge

2. Management skills such as leadership, planning, and organizational development

3. Skill in contacting and working with other organizations that may benefit from the transfer of technology

4. Ability to identify new uses for technologies

5. Skill in applying technology for social benefit and economic development

Counterparts were asked about the individual-level project outcomes derived from the project plan through a matrix question. For each individual outcome, they were asked if changes had occurred, the magnitude of those changes, whether the change was still visible, and whether their needs had been met.

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[24] Stakeholders were not asked about individual-level changes since they did not work with the Volunteer on a daily basis, and were more involved in the design and implementation of the project.

Training Received

Training provided by Volunteers is one method for increasing the technical capacity of local teachers and one of the immediate outputs of this Peace Corps project. In this section, the training received by counterparts, and the extent to which training enhanced their skills, is presented first. Then the feedback from counterparts as to what aspects of this training were most and least valuable or useful to them is presented.

The most frequent subject of training reported by the counterparts in this project as a whole was technical English (72%), followed by training in the technical aspects of their work (65%). Specific technical skills in market research and organizational management and leadership were reported by 28 percent and 24 percent, respectively, while training in business plan development and identifying potential clients for CONACYT services were each reported by 22 percent. Technology marketing, in the sense of product licensing, was mentioned by 13 percent of the counterparts who were interviewed. 32 of the 46 counterparts (70%) mentioned more than one type of training. Two counterparts did not report any training at all.

Figure 11 provides a greater level of detail by type of counterpart. These results show that formal counterparts of the Volunteers were more likely to receive training than informal counterparts in organizational management/leadership and development of business plans.

Figure 11: Subject Matter of Training Received by Counterparts, Total and by Type of Counterpart
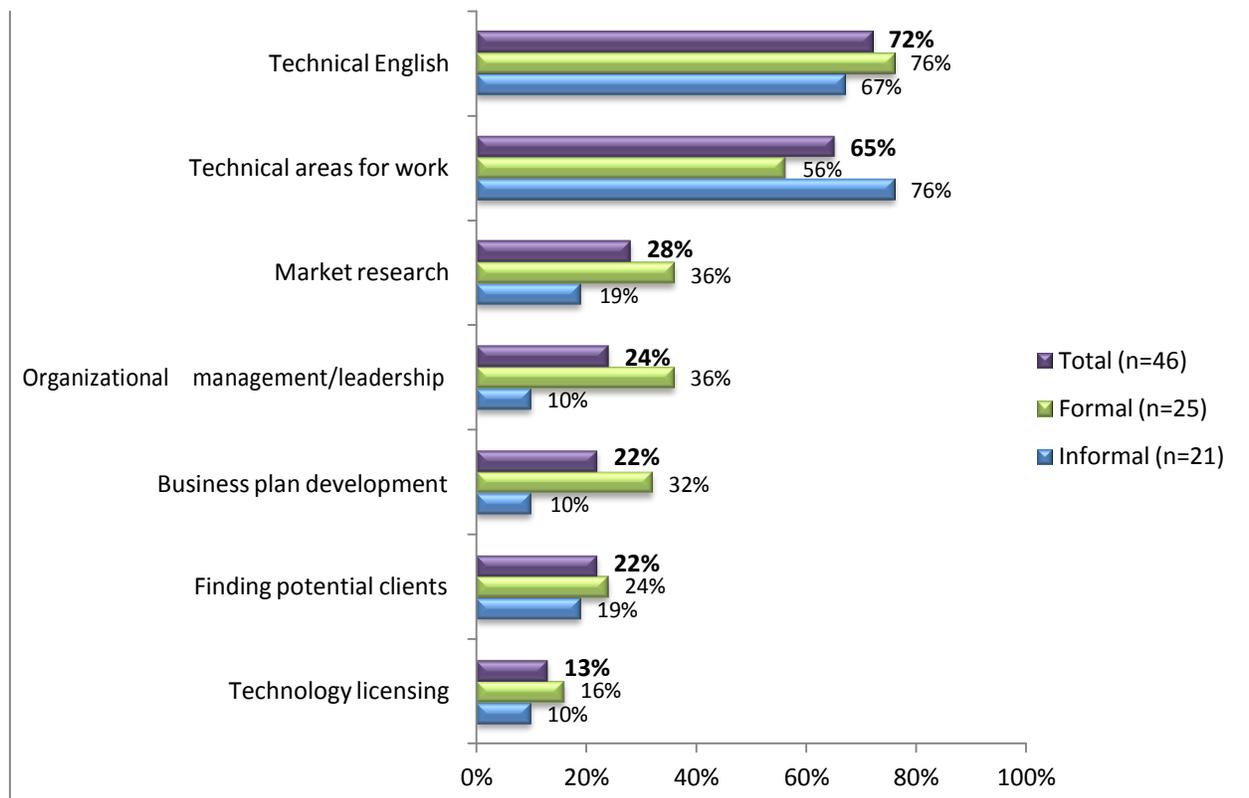
Among the counterparts who had received training, the highlights that were mentioned most frequently as adding value were technical information and skills (such as learning about new technologies, materials like plastic foam, quality control, soil conservation, identification and quantification of compounds, chromatography, standards, a diagnostic tool, and AutoCad software for the presentation of reports and drawings; 18 respondents). Counterparts also reported training in technical English (13), organizational development and management tools like business plans and proposal writing (5), and production of publications (2).

One person mentioned that the most valuable aspect of the training was that it helped him/her "*to have contacts and experience in a laboratory in the US*." One unit director who had worked with three Volunteers reported, "*I was impacted by their leadership*" while another said that "*they demonstrate entrepreneurial spirit, with initiative,*" and a third said, "*The Peace Corps Volunteers show that they do know their stuff.*" A project leader reported that they "*started a whole new activity*" that they had not had before: plastic foam. "*The Volunteer trained us and a new opportunity was opened up to implement it.*" The only two somewhat negative responses to the question on the value that Volunteers added were from an informal counterpart (a student) who said that he/she did not gain that much from training because of the language barrier, and one project manager who reported that it was hard to quantify the value added because the work was left half done.

Counterparts were then asked which aspects of the training they found to be *least* useful. Thirty-four respondents of the 44 who responded (77%) said they did not have any negative feedback. Among those who did, four respondents reported that the 'technical part' of the training was lacking or that it did not fit the requirements of their jobs. In one case, this was related to a technical tool that needed to be adapted to their needs and in another, the problem stemmed from the Volunteer not understanding the work of the Center well enough to help them develop professional contacts effectively. In the last case, the issue was related to a broadly written document that did not accomplish what was envisioned in the business plan.

Two people mentioned that the English language training was enriching, but unnecessary, for their work. Two of the other respondents reported concerns that were more closely related to the management of the project and their expectations than any issues with the Volunteers' work. These concerns included: needing a "*volunteer-manager who could have dedicated more time to their personal and professional needs;*" and, internal, organizational barriers. "*I believe it was our fault given that a Volunteer was based in a specific area and due to the organizational hierarchy, we weren't able to get too much benefit from him. We created a barrier that did not allow us to benefit from all of the Volunteers' abilities.*" The only comment that was primarily related to the Volunteers was from the head of a project who expressed frustration about "*a situation with two Volunteers with a low willingness [or interest] to collaborate in certain activities, unless the director requested them.*" At the same time, this person said this concern did not take away from the value of the training that was provided.

All counterparts were asked to assess the extent to which the training they received had enhanced their overall skills. Of the 42 counterparts who responded, 90 percent reported that

it enhanced their skills (40%: significantly, 50%: somewhat). This result was similar between official and informal counterparts (Figure 12).

Figure 12: Extent to which Training Enhanced Skills, Total and by Type of Counterpart
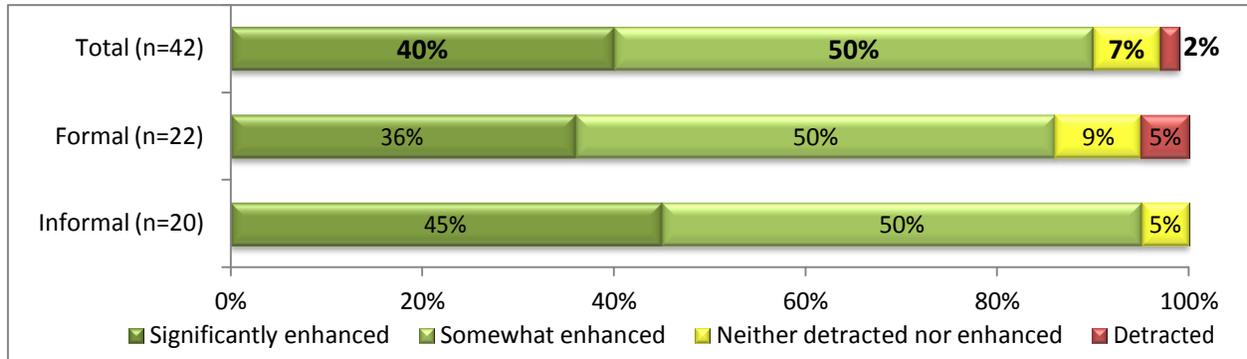
Note: The sum of percentages in each row may not total to 100% due to rounding.

The counterparts were asked their opinion on the extent to which the Volunteers' cultural and linguistic skills in Spanish either contributed to or hindered the project. Overall, most counterparts felt that cultural skills contributed either significantly (40%) or to some extent (38%) to the results of the project. Similarly, language skills were felt to contribute either significantly (48%) or to some extent (15%). Seven percent of the respondents responded to these questions saying that culture neither helped nor hindered the success of the program; 13 percent had a similar neutral view about the Volunteers' language ability. Sixteen percent of all counterparts felt that the Volunteers' level of cultural adaptation somewhat hindered the project, while 24 percent thought that the lack of language skills on the part of the Volunteer was something of a hindrance. No counterparts reported that the hindrance was significant. Figure 13 displays these results by the type of counterpart.[25]

Figure 13: Extent to which Linguistic or Cultural Skills Contributed to Project, Total and by Type of Counterpart

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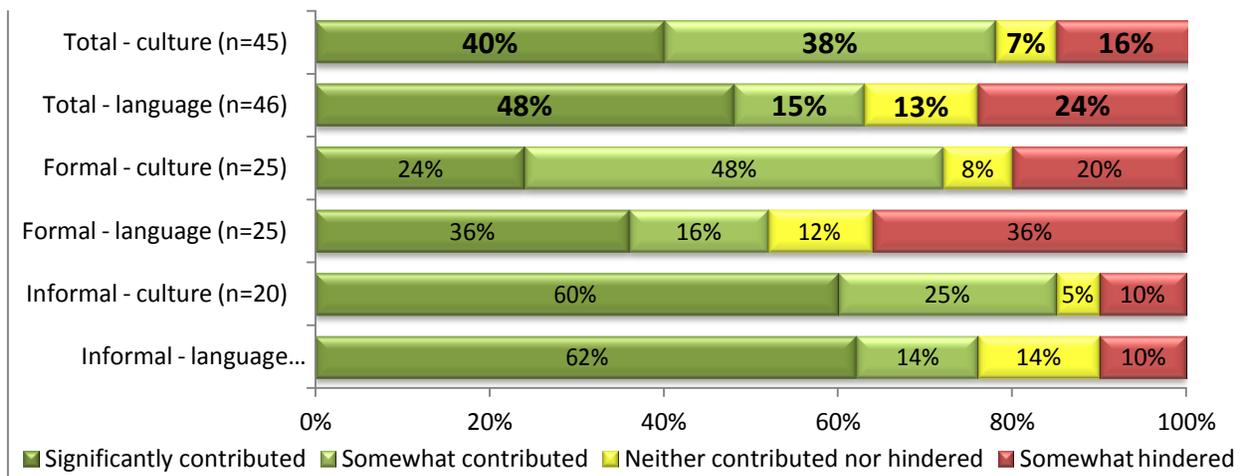
[25] One respondent who did not answer the question on culture is excluded from this analysis.

Individual Changes Resulting from the Project

Overall, 95 percent of the 45 counterparts who responded to the question about changes at a personal level felt that at least one of the five elements listed on page 36 under individual-level changes had improved. Fifty-five percent described this improvement as 'somewhat better,' while 40 percent reported that at least one element was 'much better.' Results were similar between formal counterparts and informal counterparts.

No counterparts (0%) reported that any of these aspects of the Centers' work were any 'worse' after the Volunteers had worked with them. As the results in Figure 14 show, however, more than a third of the respondents chose not to respond to four of these items. One person chose not to respond to any of these questions; but he/she had previously reported being 'very satisfied' with the work of the project.

The results at the individual level were most positive for changes in technical skills and knowledge. Seventy-four percent of all the counterparts who were interviewed reported that they had improved in this regard (much better: 20%; somewhat better: 54%), 11 percent reported that they had not changed; and 15 percent (7 counterparts) did not respond.

Management skills (such as leadership, planning, and organizational development) were also perceived to be improved by 50 percent of those interviewed (with 22% saying they were 'much better' and an additional 28% saying that they were 'somewhat better'). The ability to identify new uses for technology saw similar changes with 47 percent reporting an improvement; (17% categorized this change as 'much better' and 30% as 'somewhat better').

For counterparts, the outcome with the smallest observed personal change was related to skill in applying technology to issues of social benefit and economic development. Here 37 percent of the counterparts reported improving their skills (7% much better; 30% somewhat better).

Figure 14: Counterpart Assessment of Individual Changes Related to Project Outcomes
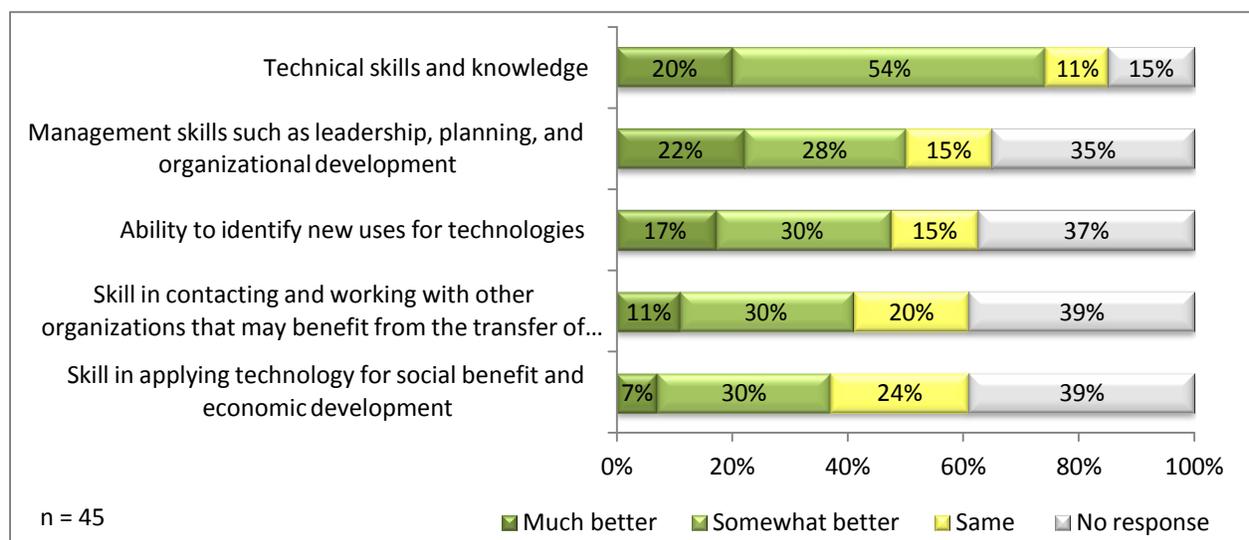
Sustainability of Individual Changes

The next portion of the analysis examined whether the changes that had been observed were still apparent or visible to the respondents. This portion of the analysis is limited to those who reported that a particular element had changed to become 'somewhat better' or 'much better.'

Of the 34 counterparts who reported that their technical skills and knowledge were 'somewhat better' or 'much better' because of the Peace Corps project, 71 percent reported that the improvement was still apparent, and 29 percent reported that it was somewhat apparent. This was the strongest result (Figure 15).

Changes in the ability to identify new uses for technologies and management skills such as leadership, planning, and organizational development were reported to have been 'sustained' by 59 percent and 57 percent of the counterparts, respectively, with the remainder (41% and 43%) seeing them as 'somewhat sustained.'

Of the respondents who had seen changes in their skills related to contacting and working with other organizations that might benefit from the transfer of technology, 47 percent reported that they had been sustained while 53 percent saw them as somewhat sustained.

Improvements in skills related to applying technology to economic and social issues lagged behind the other measures with 29 percent reporting sustained change and 71 percent reporting the changes as continuing to be somewhat sustained.

As Figure 15 illustrates, no respondents who had reported changes felt that they had not been sustained at some level. These results suggest that sustained changes were the only ones that were noticed and valued by respondents.

Figure 15: Counterpart Assessment of the Extent to which Individual Level Personal Changes Were Sustained (as a Proportion of Those who Saw Changes)
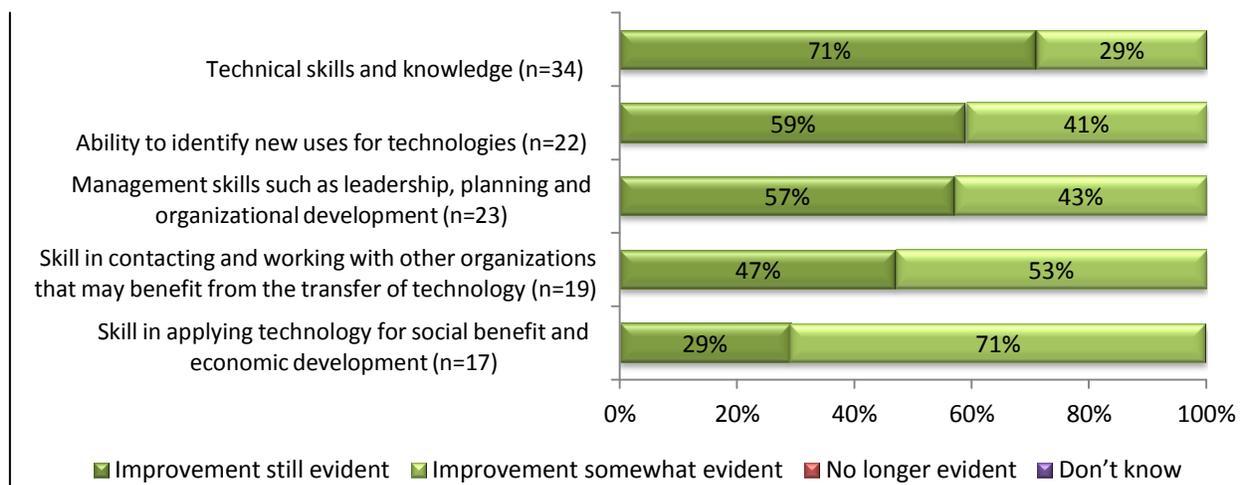
How Often Skills are Used Professionally and Personally

Counterparts were asked how often they used the skills gained from the project in their professional and personal lives. A large majority of the counterparts responded that they use their new skills on a daily (56%) or weekly basis (13%) in their professional life.[26] Another 24 percent said that they use the skills on a monthly basis. One of the counterparts who reported using what he/she had learned on a daily basis said: "*Now this has become part of my way of thinking.*"

Two formal counterparts (8%) reported that they use the skills only a few times a year. One informal counterpart (5%) reported never using the new skills, but this person did acknowledge a moderate gain in knowledge and positive effects of the Volunteer's work. In response to other questions, he/she noted that the Volunteer had somewhat limited language skills and was somewhat inflexible. These characteristics and the fact that the changes were still 'in process' may have lessened the perception of impact (Figure 16).

Figure 16: Frequency of Skills Used in Professional Life, Total and by Type of Counterpart
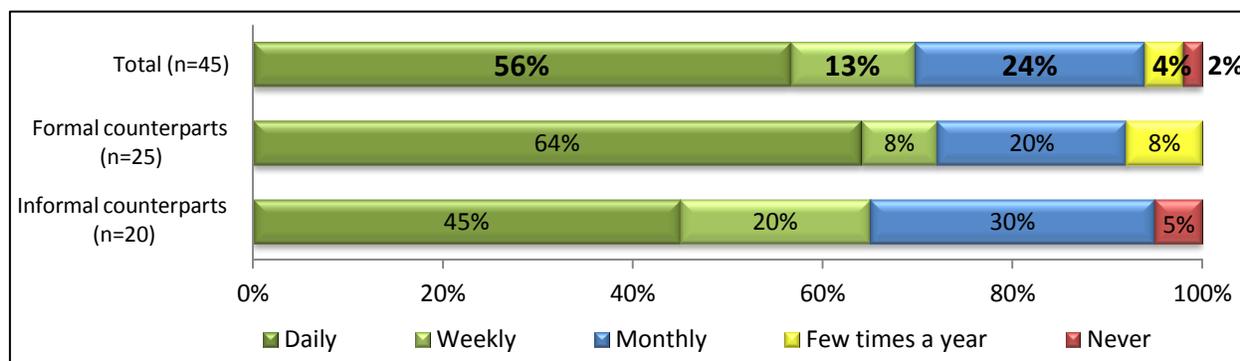
Counterparts were even more likely to use what they learned in their personal lives.[27] Here 70 percent reported that they used what they learned on a daily basis with an additional 14 percent using it weekly. Two percent used it monthly and two percent used it a few times a year. Twelve percent said that they never used what they learned in their personal lives. In all five of these cases, these counterparts were in contact with the Volunteers at least once a week on average, so the lack of adoption of what they were learning in their personal lives may simply be due to fact that what they were learning was related just to the technical content of the project (Figure 17).

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[26] One counterpart of the 46 who were interviewed did not respond to this question and is not included in this analysis. Elsewhere in the survey he/she expressed being 'very satisfied' with the project.

[27] Three counterparts of the 46 who were interviewed did not respond to this question and are not included in this analysis. One of these people did, however, report using what he/she had learned on a *daily* basis in his/her *professional* life. The other two did report having contact several times a week with the Volunteer both professionally and socially.

Figure 17: Frequency of Skills Used in Personal Life, Total and by Type of Counterpart
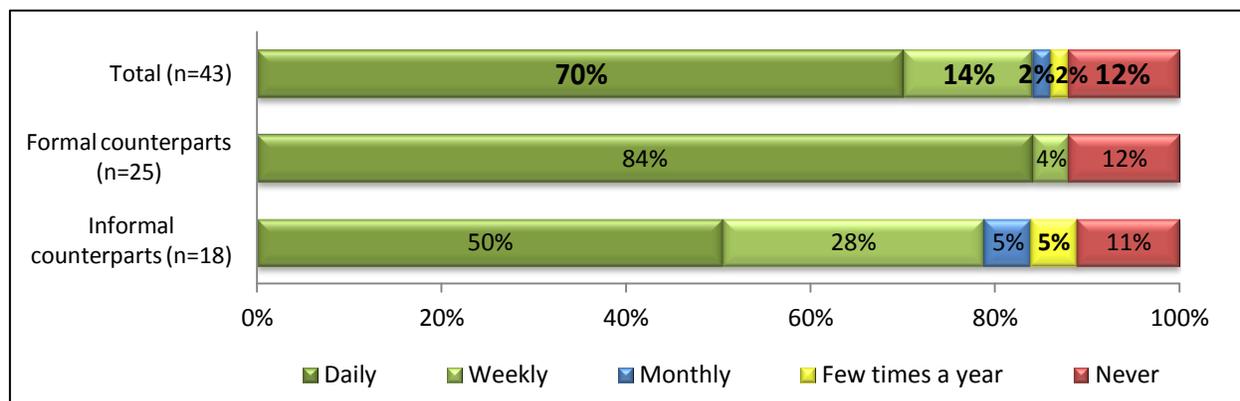
Summary of Individual-Level Outcomes

Overall, there was a nearly universal perception among counterparts that at least one of the five changes targeted by this project was at least somewhat improved, with the strongest results being reported in relation to changes in technical and managerial skills. This is an important accomplishment given that these counterparts were themselves engaged as technical professionals in their Centers. It is also important to note that all of the counterparts who reported changes felt that they were sustained after the departure of the Volunteers, with large majorities reporting that they used their new skills in their personal and/or professional lives on at least a weekly basis.

Other Changes and Accomplishments

Projects frequently produce unintended or unanticipated outcomes, both positive and negative. For this reason, research teams asked respondents an open-ended question about other changes and accomplishments resulting from the work of the Volunteer that were not described in the project plan. Some of the responses to this open-ended question were framed as additional technical accomplishments such as a research study (1), development of new software for a client's supply chain (1), increased knowledge about licenses and patents (1), a new linkage to the Polytechnic University (1), support provided in preparing for a major conference (1), and development of a performance evaluation system (1). One project leader reported that the Volunteer "…*became an icon in the CIATEC Tula Refinery which was what opened the door to other PEMEX refineries.*"

Another project leader reported that his area or Center had not received a Volunteer in several years, but he recalled that "…*the program was a good one, and the Volunteer was excellent. His contributions were quite valuable, as were his skills and attitude as well.*" Another reported that even though the full measure of impact was not yet clear because the changes were still underway, "… *Peace Corps appeared as an intermediary, a facilitator on the topic of technology transfer…It facilitated the dynamics for a better understanding. I know of some Centers that have approached Peace Corps for support.*"

Some of the other accomplishments of the Volunteers that were mentioned by the counterparts related to modeling ways of working such as taking a participatory approach rather than doing the work alone. The counterparts said:

"They helped to strengthen trust between CIDESI and an important client."

"They made it easier for working groups to integrate internally. They promoted collaboration."

The Volunteer *"motivated others to work despite his/her age."*

[I saw a] "change in the attitude in people who have worked directly with the Volunteers. The English skills have improved, and the commitment and responsibility of the teaching Volunteers had a lot to do with it because they took it very seriously and made us value it."

Finally, some comments reflected Peace Corps' other goals around increasing understanding between host country individuals and Americans. Some of the counterparts responded along these lines when asked about the 'accomplishments' of the Volunteers, while others went beyond cordial working relationships to describe friendships that had developed:

"A closer view of the US culture. Before we didn't really have cooperation; the program is still too recent. People were very reserved at the beginning, we had some wrong ideas and we labeled them (Americans). It is very different from the image that the media gives of the United States…."

"The coexistence, the cultural exchange, the chance to get to know a different point of view…"

"They [Volunteers] got very involved with all the employees at the Centers, from there we have a very good impression of the Peace Corps Volunteers. One of the Volunteers decided to extend his stay for 3 years and that helped us out a lot."

"To have his friendship, he was a friend of everyone. We were sorry to see him leave. The people were very fond of John.[28] What I want is another John!"

"New friendships, we are still writing to each other. It has not finished here; it is nice to keep in touch. It speaks about camaraderie; it means they were happy with us as well."

Counterparts' Perceptions of the Effectiveness of the Volunteers

Once each of the individual elements of the project had been reviewed with the respondents, the discussion turned to the respondents' summary opinions on the effectiveness of the Volunteers with regards to strengthening technical and technological capacities, organizational

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[28] The name has been changed to maintain the anonymity of the respondent.

capacity, and capacity in the transfer of technology. Here again, among counterparts, the strongest result was seen in response to the perceived effectiveness of the Volunteers in strengthening the technical and technological capacities of the staff at their Centers. Three of the 9 stakeholders reported that they were very effective while the other 6 said that they were somewhat effective. The responses from counterparts were similar with 33 percent reporting that they were 'very effective' in this regard, while 57 percent said that they were 'somewhat effective'. Two percent (1 counterpart) described them as somewhat ineffective and another (2%) as very ineffective. Three counterparts (6%) did not respond to this question. Of these, one person did not respond to any of the questions in this series (Figure 18).

In relation to strengthening capacity in the transfer of technology, 13 percent of the counterparts perceived the Volunteers as 'very effective', while 61 percent said they were 'somewhat effective'. Similarly, 13 percent of the counterparts reported that the Volunteers were 'very effective,' while 57 percent categorized them as 'somewhat effective' in strengthening organizational capacity.

For these last two elements, it is worth noting that one quarter of the respondents did not answer the questions. It may be that in these cases, the respondents chose to report on the element where they felt the Volunteers had been most effective.

Overall, when all three measures are combined, 43% of the counterparts felt the Volunteers had been very effective in at least one, and the other 52% reported that they had been somewhat effective in at least one of these measures. Among the rest, there is only one counterpart (2%) who reported that the Volunteers had not been effective in any of the three measures, and one (2%) who did not respond (Figure 18).

Figure 18: Effectiveness of Volunteers' Work
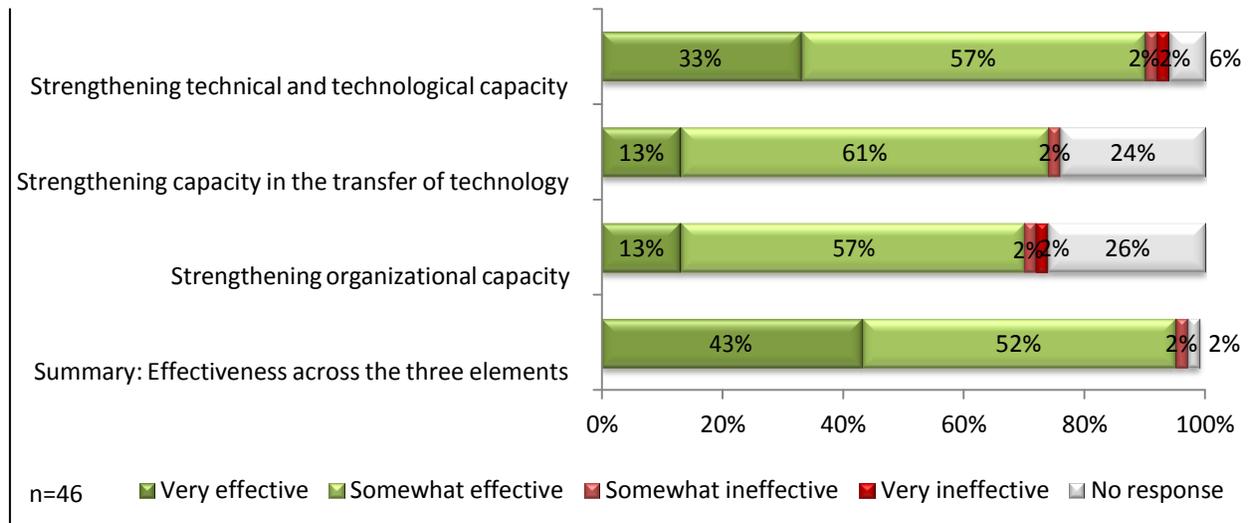
Impact of the Volunteer's Work

When asked what the greatest impact of the Volunteer had been, many counterparts mentioned specific elements of the work or the way in which the Volunteers worked with them, although some were also careful to point out where additional work was needed:

> *"At the beginning, there were some reservations, and now there is trust. They were able to show good intentions to help and support."*

> *"The tools they gave us allow us to work in an effective way on a long-term basis."*

> *"The training and skill development."*

> *"They come with new ideas that in some way will help us make our daily work easier. They helped us to make better use of the resources at our disposal."*

Many others referred to the cross-cultural sharing with comments about the ways that the Volunteers had helped them learn about the U.S.:

> *"I realize they are as human and as critical as I am; they changed my perception about the people of the U.S."*

> *"The change of vision about [how] Americans think and feel; they are just like us in many ways. That makes me think that we are not alone; we have the same needs."*

Finally, in relation to organizational and personal changes, the counterparts were asked what advice they would give to other organizations that might be interested in implementing a similar collaborative project with the Peace Corps. The themes that emerged in the responses clustered around having a coordination mechanism through a key person who is fluent in both languages; having the organizations articulate and plan for their needs in advance of the Volunteer's arrival; having clarity about the Volunteer's role, expectations and how to integrate them into the organization; choosing the best candidates to be placed in Mexico as Volunteers in view of the local needs; and, managing the Volunteers well once they arrive.

> *"It's necessary for the Centers to identify their opportunity areas beforehand and then to seek Peace Corps personnel to cover these needs."*

> *"I strongly suggest an orientation course before their arrival at an institution and a written work plan, and that this plan be developed [in collaboration] with the Center. Peace Corps should publish a list of available people and their skills to generate a work plan, which could support the institution in a direct way."*

Stakeholders were asked a slightly different question about the advice they would give to the Peace Corps if it planned to implement a similar project in another organization. One stakeholder responded: *"I would ask for a bit more flexibility with the Volunteers, given that sometimes they have rules and restrictions that make no contribution to their quality of life."* Although this person did not specify to what restrictions he/she was referring, other stakeholders commented along a similar vein highlighting the physical conditions in which the Volunteers lived (such as not having air-conditioning), limited transportation options since they were not allowed to drive, and perceived artificial limitations connected to not being allowed to do 'what a Mexican could have done.'

Two stakeholders provided advice on the recruitment of Volunteers, but one added: *"... I believe they do it quite well as regards the specialty area and their personal skills to make it easier for them to integrate into the country."* This stakeholder went on to say though that some of the Volunteers *"...are people who seem so reserved that it seems they are not enjoying [the experience] (just some of them)."* This focus on the Volunteers' social interactions with Mexicans was a theme that emerged throughout the survey, and it may reflect the importance that the Mexican culture assigns to interpersonal relations and not just the quality of the Volunteers' professional work. Another stakeholder suggested 'refining' the selection and assignment process "*which could be by having a prior interaction [with the Volunteers] before they came. It would help both sides a lot, especially now with the modern communication media, to have more information and clarity on the expectations and projects.*"

When stakeholders were asked about Peace Corps' impact on the initiative to transfer technology, the comments were generally less positive than for other questions. Two stakeholders specifically reported that the work was still at an early stage and more time would be needed to see how it would develop. Another felt that the impact had been 'minimal' although it had served to build capacity in the transfer of technology. This same stakeholder shared the observation that the Volunteers had told them that they did not expect the Mexican institutions to be so developed, indicating the need for better orientation for the Volunteers to help them gauge the level of their counterparts and provide an appropriate level of technical support to match it. One stakeholder reported that the role of the Volunteers was conceptualized too narrowly as simply a mechanism to create linkages with other institutions. Another echoed this observation, saying that the success of the project rested on its design and the specific personality of the Volunteer: "*There has been little impact, given the scope of the projects and also [it depends] on the Volunteer's personality, on their own way of being interactive or more reserved.*"

Factors Contributing to or Hindering the Project's Success

Respondents were asked a series of questions to ascertain what factors contributed to the success of the project, what factors hindered the project outcomes, and the ways in which interaction with the Volunteer produced change.

Counterparts reported that the primary factors that explained how the Volunteers in the project were able to generate the changes that were seen included: the nature of the experience working hand-in-hand with the Volunteers (52%); the training that they provided (46%); and, the new ideas that they 'proposed' to their counterparts (26%). While recognizing that these categories overlap to some extent, it is interesting to note that both formal and informal counterparts cited the close working relationships with the Volunteers as a key factor (56% and 48%). Training (capacity building) was mentioned more often among informal counterparts than formal ones (62% to 32%). For formal counterparts, the exchange of new ideas and approaches was often mentioned (32% to 19%). Some counterparts mentioned more than one factor (Figure 19).

Figure 19: Factors that Explained how Volunteers Generated Changes, by Type of Counterpart
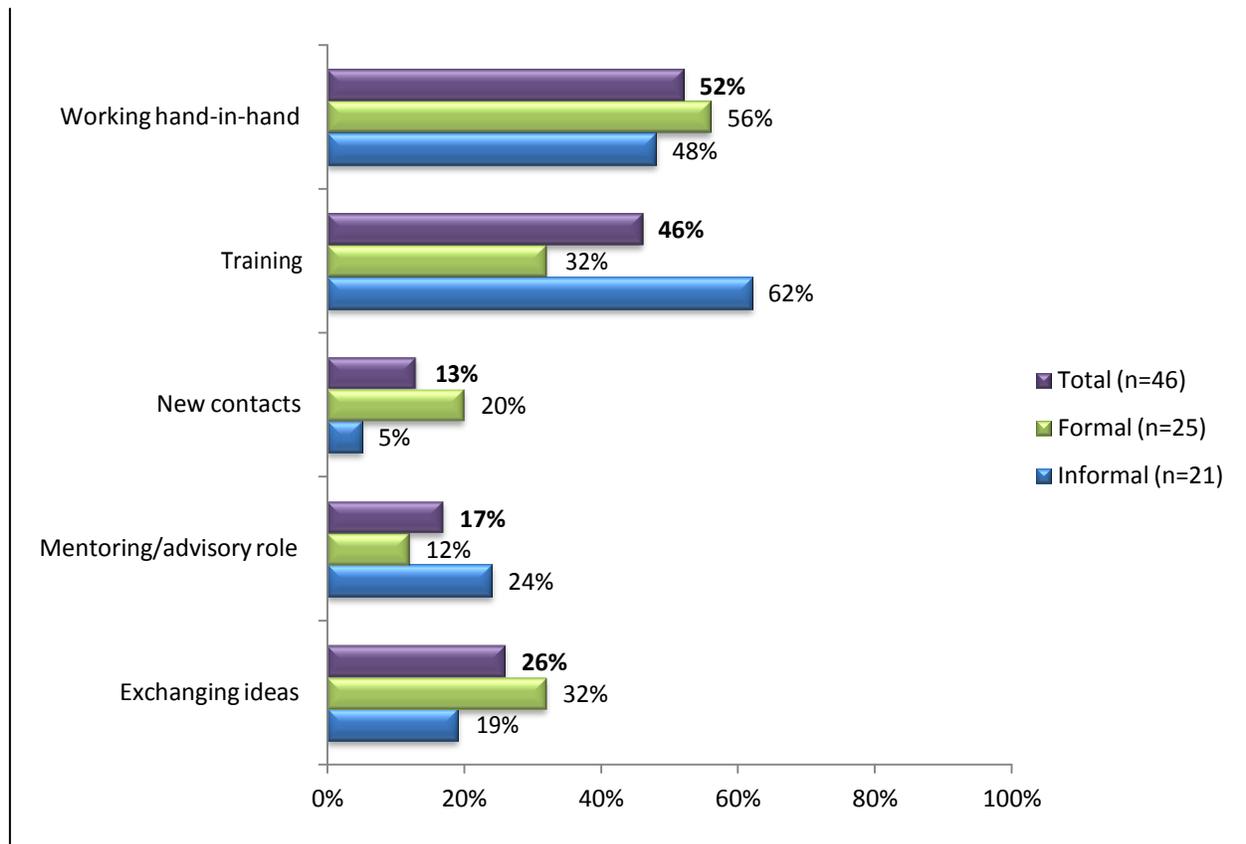
Counterparts spoke of the Volunteers' affinity for '*constructive discussion/debate*', '*discipline,*' '*willingness*' to work, and '*maturity*'. As articulated by one counterpart, "*They were quite receptive, proactive; they participated with the entire working team, gave advice. They were always available to participate.*"

One counterpart recalled a Volunteer who "…*gave a lot of theoretical information and taught us about it.*" Another recalled that:

[The Volunteer] *"… tried hard to transmit his knowledge about foams, plastics. He collaborated when we needed to get materials; he helped us request them. He collaborated in modifying the equipment and because of his knowledge, we were able to contact suppliers and develop contacts in different countries. We are still following this process."*

Counterparts and beneficiaries were also asked what obstacles or challenges hindered the project's success. Thirty-two counterparts (70%) did not mention any negative factors associated with the project when asked this question. Fourteen counterparts mentioned at least one negative factor, and some chose to mention more than one. Lack of leadership, lack of funds, and lack of support from the Centers' administration were each cited by one counterpart as negative factors. Lack of support by Center staff (other than the administration), and lack of people capable of sustaining the work were each cited by two counterparts; and internal changes within the Centers themselves (including areas of work and a lack of continuity in Center leadership) were reflected in comments by three counterparts.

The remaining comments were each provided by a single counterpart: early termination of the Volunteer's service; Volunteers requesting information that the Center staff did not have; the need for better coordination on the part of Center staff; not involving the Volunteers in some processes; lack of clarity on the role that the Volunteers were expected to play; treating the Volunteers as 'just another staff member;' challenging clients who were not open to new ideas; and, conflicts of interest in sharing information with other Centers.

In addition to these pre-established categories, counterparts also provided their individual reflections on negative factors in more detail. One counterpart reflected on cultural differences that initially created a barrier: *"At the beginning they asked us for information and they found it hard to believe we don't have it... Culture shock for them; it's hard for them to understand. This difficulty did not last; expectations were being adapted. At the beginning, they come with the idea that they are here to aid Third World countries and that is not viewed well here."*

In another case, the counterpart described the lack of clarity in the Volunteers' job as the key negative factor, saying: *"CIDESI is a brand new Center and the Volunteers entered at the same time as the Director. This Center has not matured as a consolidated project, and this influenced the vision of the Volunteers' work. Along with the poor definition of the tasks, this caused some instability in the Volunteers. Also, one of them was a little passive. There was an important business plan that was not consolidated due to the early departure of one of Volunteers, among other circumstances."*

Another counterpart referred to the need to set up the project in a way that would facilitate the Volunteers' success, saying: *"Peace Corps has to establish good relations with the key person. We have managed to take advantage [of having one here], but we are at an impasse; we needed to request this. There are not yet any mechanisms to ensure better coordination for the Volunteer."*

Forty-two counterparts of the 46 who were interviewed (91%) responded to the question on positive factors affecting project outcomes with one or more comments. Support from the Center staff was the most common response mentioned by the counterparts (63%), followed by support from administrative staff (48%), having trained people to sustain the work (46%), and leadership (35%). All of these factors relate to the human resources and capacity of the Center staff in some sense. Having the project goals seen as priorities was also an important consideration that was mentioned by 30 percent of the counterparts. Support from the community and funding were rarely mentioned, which is not surprising given the nature of these Centers as sources of expertise in technology (Figure 20).

Figure 20: Counterparts' Perspective on Positive Factors Affecting Project Outcomes
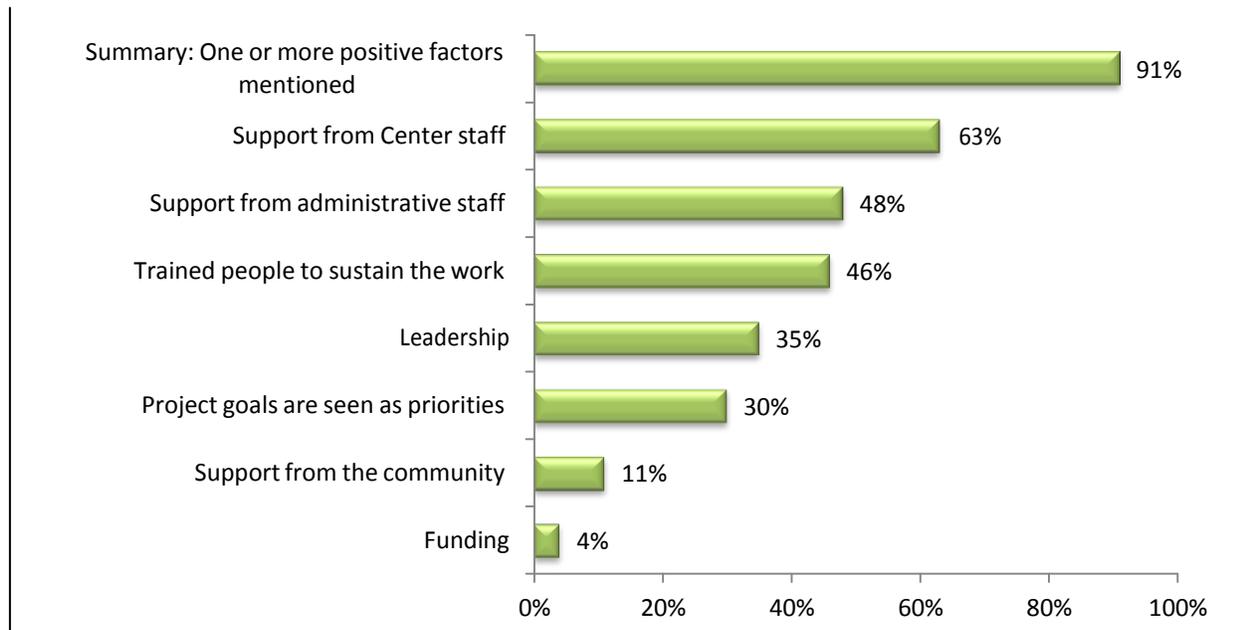
In addition to these pre-established categories, counterparts also provided some more detailed individual reflections on other positive factors. One series of comments related to personal characteristics of the Volunteers, including: professionalism (specifically mentioned by 4 respondents); the relationship with the counterparts that the Volunteers developed (4); and, the extent to which the Volunteers' become involved in their Centers and motivated their colleagues (3). Counterparts used words such as '*methodical*', '*organized*', and '*committed*' to describe the successful Volunteers.

Another theme was that the counterparts themselves believed or were convinced of the value of the changes being promoted by the Volunteer and their potential to solve core problems (9). They used words such as '*useful*' and '*tangible benefits*' to describe the changes. Counterparts described the Volunteers' approach as follows:

- "*He convinced people, he sold me successfully on the idea and now it all relies on us.*"

- *"They [the changes] do endure because of the professional way they worked, the commitment the Volunteer showed and because they convinced the working team."*

- *"We are convinced these positive changes are good for the Institution."*

Satisfaction with Outcomes

Researchers asked counterparts two different questions about how satisfied they were with the changes brought about by the project. One directly asked about satisfaction level and reasons for satisfaction, while another asked if respondents would host another Volunteer.

Overall Satisfaction

All nine stakeholders reported that they were satisfied with the contributions that the project was making (7 very satisfied, 2 somewhat satisfied). They commented that the project was well structured (1), communication flows well with the Post staff (1), and the Volunteers were humble and engaged (1). One stakeholder said: *"The effort that is made to get the support is paid back in the support we receive. Being a bit self-critical, I believe we also have to consider what the counterpart does, to support and get the maximum benefit out of the Volunteer."*

The counterparts who were interviewed were also satisfied with the project. More than half of them reported they were 'very satisfied' (62%) with the changes resulting from the project, and another (33%) were 'somewhat satisfied'. The remaining two respondents were 'somewhat dissatisfied' (4%, Figure 21).

Figure 21: Counterpart Satisfaction, Total and by Type of Counterpart
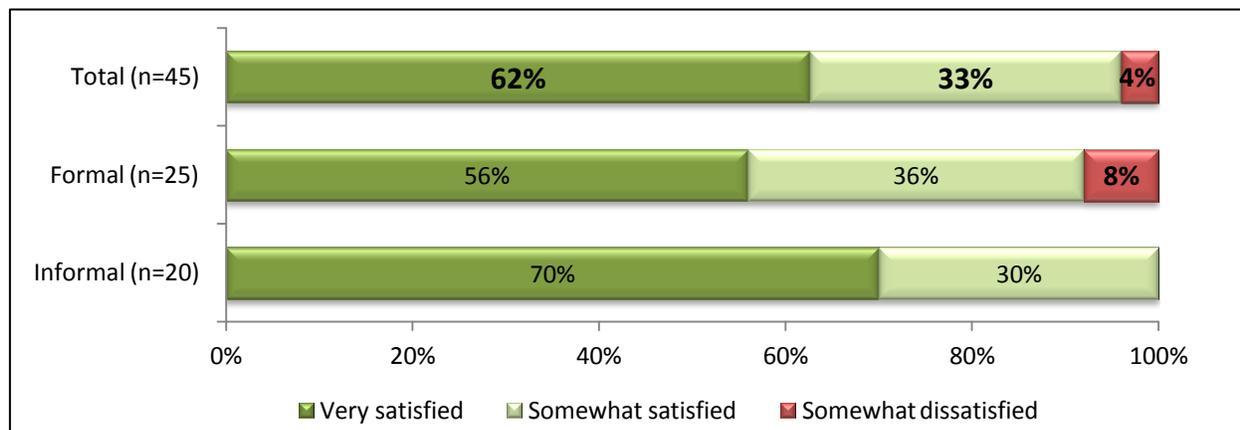
Some of the respondents who felt very satisfied identified one particular area of the project as having been of greatest benefit to them such as technical English. This was the case even in the absence of other technical training or support. Others talked about the 'personalized' way the Volunteers interacted with them, and the way that their efforts demonstrate the value of volunteer work.

"They [Volunteers] are very noble people, open, sincere, with a great willingness to support [us]."

"He adapted rapidly to the changes and applied his skills. He diversified the activities; there was nothing that would limit him."

In some cases, the counterparts responded in more general terms about positive aspects of the project.

"We are very happy; we are very grateful. We believe that it is beneficial from many points of view: quality, not just for the cost, for the very nature of the program. It is a global activity. It has helped us in cross-cultural exchange, which is necessary in a scientific research center."

Interestingly, one respondent referred to the other goals of the Peace Corps as not needing to be part of a technical cooperation project: specifically, the Volunteers' desire to help them understand aspects of American culture. This was perceived to be "*a real preoccupation of the Volunteer,*" but the respondent's perspective was that "*in one case it seemed that they wanted to show us that Americans are good, for me that is not important.*"

In some cases, even respondents who were 'very satisfied' with the support they received were still able to identify additional areas in which they would like support in the future (e.g.: physical chemistry) or the need for more time to consolidate changes. One said: "… *We were lacking enough time to consolidate the area; one more year [was needed]. We lacked time. We did not know how to take advantage [of this]; time was lost.*"

The two counterparts who were 'somewhat dissatisfied' overall related that to a lack of preparation on the side of the Center, conceptual clarity around this as a long-term project, and a lack of continuity.

Desire to Work with Peace Corps Again

Another measure of satisfaction is whether counterparts would want to work with another Volunteer. Among counterparts, 96 percent stated they definitely wanted another Volunteer. The remaining 4 percent (2 formal counterparts) were unsure (Figure 22).

Three of the counterparts who definitely wanted another Volunteer mentioned that they would also like to have more of a hand in selecting the next one. Of the two who were unsure about working with another Volunteer, one did not provide any additional information and the other one mentioned a 'lack of continuity' as the reason.

Figure 22: Counterparts Who Want Another Volunteer, Total and by Type of Counterpart
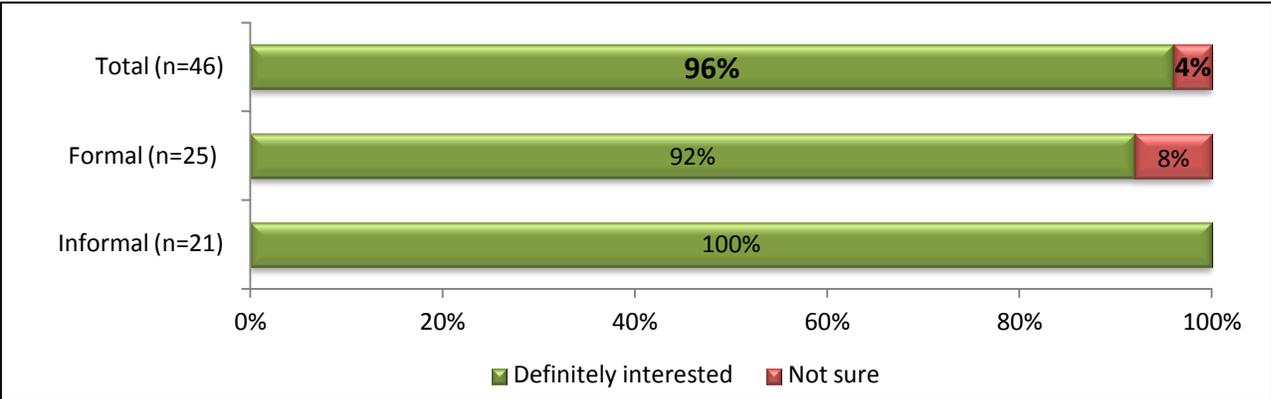
Three stakeholders specifically mentioned wishing to have more Volunteers. One commented: *"I currently have 4 or 5 requests for Volunteers that have not yet been answered; that is my only complaint."*

Summary of Satisfaction

Nearly all of the counterparts and all of the stakeholders were satisfied or very satisfied with the changes resulting from the project and the Volunteer's work. Furthermore, the desire to work with another Volunteer was expressed almost universally.

Chapter 3: Goal Two Findings

This section addresses how and to what extent Volunteers accomplished Peace Corps' goal of promoting a better understanding of Americans among the Mexicans with whom they worked and lived. The section begins with a description of project participants' sources of information about Americans. That is followed by what counterparts, stakeholders, and host families thought about Americans prior to working and living with a Volunteer and how their opinions of Americans changed after interacting with Volunteers. The section also describes the ways in which counterparts feel they changed or the Volunteers changed and their best memories from this experience.

Sources of Information about Americans Prior to Interacting with the Volunteer

Prior to meeting a Volunteer, two thirds of the counterparts stated that they had some (50%) or a lot (17%) of knowledge about Americans. Twenty-eight percent felt they had little knowledge, and 4 percent reported that they did not know anything about Americans.

Previous knowledge of Americans among counterparts was usually obtained through some type of interpersonal contact either by interacting with Americans in Mexico (24%), relationships with Americans in the U.S. (22%), traveling to the U.S. for tourism or professional conferences (9%), and/or living in the U.S. (9%). Counterparts had also heard about Americans indirectly from other Mexicans living in the U.S. (13%) and from conversations with friends and family (7%). Nearly one third mentioned a media source such as TV shows and movies (20%) or newspapers and magazines (9%, Figure 23).

Figure 23: Counterpart Sources of Information about Americans Prior to Interacting with a Volunteer
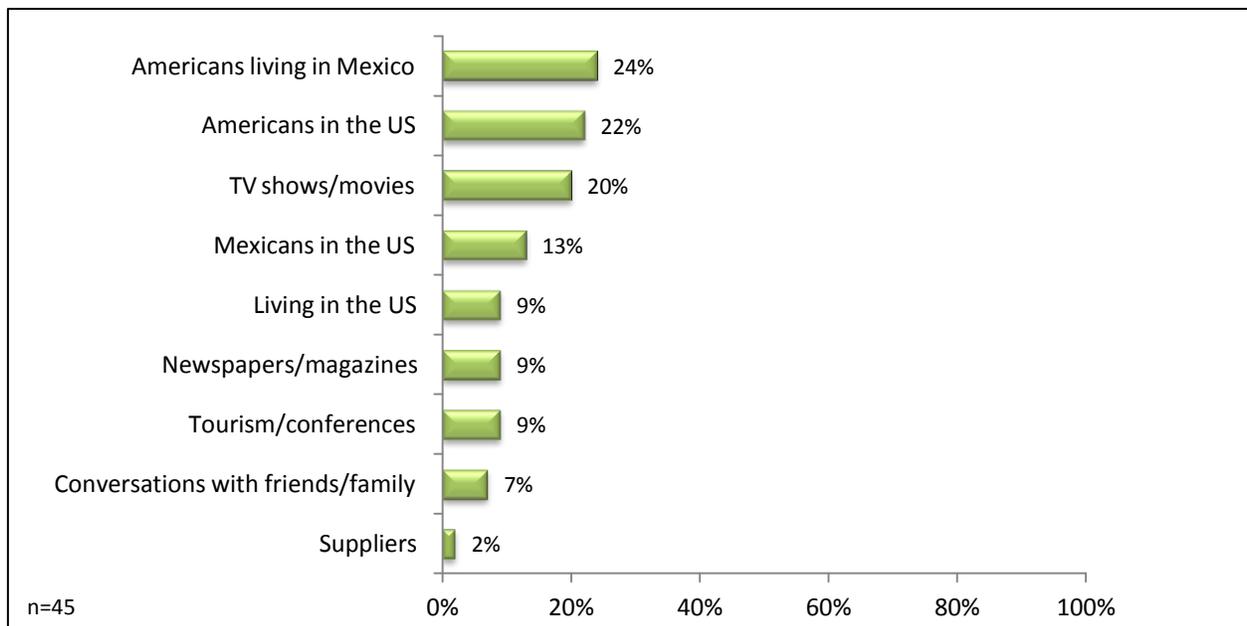
Among the 6 host family members who were interviewed, the results for knowledge of Americans prior to becoming involved with Peace Corps were evenly distributed with respondents reporting substantial (2), moderate (2), or minimal prior knowledge (2). The sources of their prior knowledge were serving as host families for other programs (4), television (2), travel to the United States (1), or living briefly in the United States (1).

Changes in Understanding and Opinions about Americans[29]

All of the host family members had a positive perception of Americans before working with Peace Corps. They described their perceptions of Americans as kind and friendly (1), open (1), practical and focused on saving money (1), and diverse (1). One person distinguished between a good overall impression of Americans as a people and a less favorable view of the U.S. government. Another spoke more about American accomplishments in science, technology, education, and business rather than personal characteristics of Americans.

In contrast to the uniformly positive perceptions of Americans among host families, 28 percent of the counterparts reported having a negative opinion about Americans (22% somewhat negative and 6% very negative) before interacting with a Volunteer. Another 39 percent had an opinion that was based on a combination of positive and negative elements. The open-ended comments provided by the counterparts who had a negative or mixed opinion of Americans described them as superior, egocentric, or arrogant (8 counterparts); cold, closed-minded, or unfeeling (8); racist/discriminatory (6); rigid (4); imperialistic or 'wanting to control the world' (2); and, opportunistic/calculating (2). The remaining counterparts (33%) had either a very positive or a somewhat positive opinion about Americans (Figure 24).

Figure 24: Counterparts' Opinions about Americans
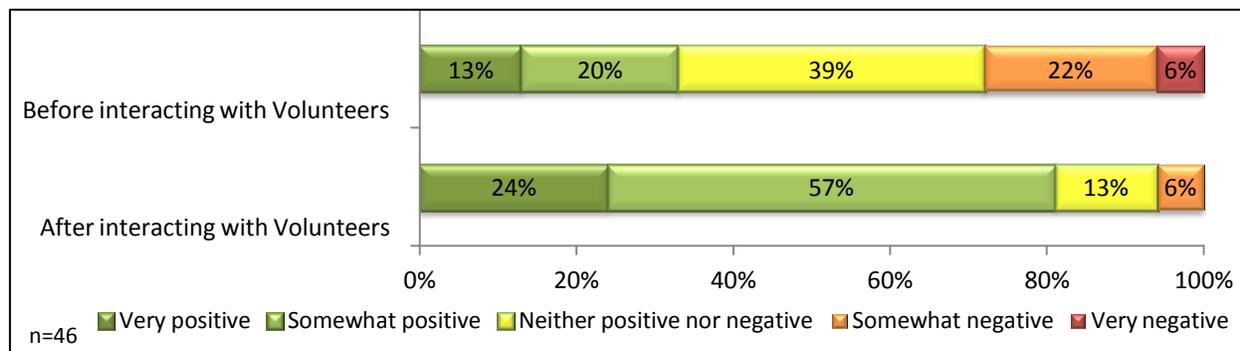
After working side-by-side with Volunteers in their Centers, the overall impression of Americans became substantially more positive among counterparts with 81 percent reporting a very positive or a somewhat positive opinion of Americans. Three counterparts (6%) continued to

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[29] Understanding is defined as "achieving a grasp of the nature, significance, or explanation of something." Opinion is defined for this study as "a view, judgment, or appraisal formed in the mind about a particular matter, in this case, people from the United States."

have a somewhat negative opinion of Americans (Figure 24). In these cases, the respondents did report having good relationships with the particular Volunteers at their sites. One said that the Volunteer "… *is one of my best friends*…" Another counterpart mentioned how hard the Volunteer worked and tried to fit into life in Mexico; a third said that the Volunteer worked "*like a regular member of the team*" in a "*respectful*" relationship with his/her Mexican colleagues. These positive experiences with particular Volunteers were not, however, sufficient to entirely undo the negative perception of 'Americans' that had been acquired from exposure to Americans on vacation in Mexico. Another referred to the fact that "*it's not the people but their institutions; they are not conscious of the impact they have on other countries.*"

For other counterparts, a close, personal interaction with the Volunteer led to a more positive point of reference from which to understand Americans more generally. Those who had expressed negative or mixed opinions prior to working with Volunteers now described them as hard-working and disciplined (4 counterparts); warm, friendly, neighborly (4); trustworthy (1); and, practical (1). Eight counterparts made the observation that there are both good and bad Americans:

> "*My opinion was confirmed that they are not good or bad; they are people like us.*"

> "*They did not change my opinion about Americans in general, since I see them as people and I value their particular way of being, but I don't generalize nor do I think that all Americans are like this.*"

> "*The Volunteer is an exception to the rule of what I had known [about Americans]. I know that all of them are not like this. We have to see people as individuals since you cannot generalize, you have to know them first to be able to say [what they are like].*"

> "*Without talking about the 'spring breakers', I realized that they have a history and are multicultural; they are more open and like us they have regions with different customs. The concepts of racism and arrogance changed completely…*"

After establishing a close working relationship, 35 percent of the counterparts felt they knew 'a great deal' about Americans and 59 percent knew something about them; only 6 percent still knew little about them. The principal aspects of American life that they learned about from the Volunteer included learning about ethnic diversity (59%), U.S. customs (52%), learning English (41%), daily life (39%), holidays (33%), food (30%), and work style (4%, Figure 25).

Figure 25: What Counterparts Learned About Americans from Volunteers
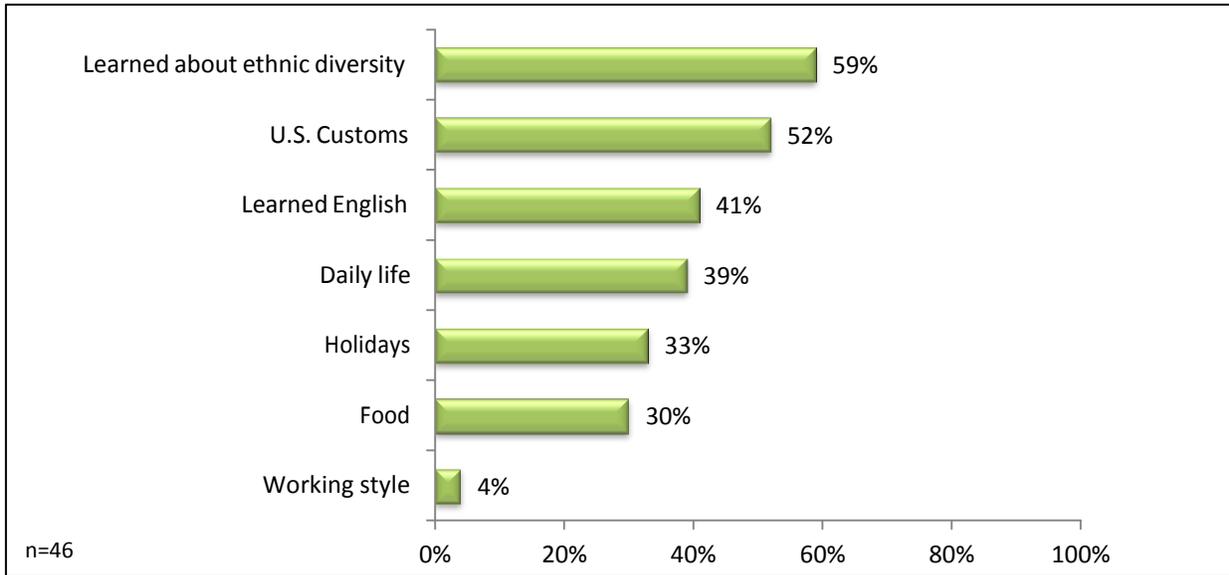
Similarly, the six host family members reported that they had learned about food (4), U.S. holidays (3), U.S. customs (3), English (3), diversity (2), and daily life (2). All of the host families felt they knew a lot about Americans after living with one or more Volunteers, and all of them said they had a positive impression of Americans. They recalled cooking, shopping, and eating together; going to social events; and, talking with the Volunteers they had hosted about Mexico and the Volunteer's life, friends, and family in the United States. Although problems with particular Volunteers were mentioned when the host families were asked directly (e.g.: having a Volunteer leave early, having one that drank too much at a party, and having one with a number of food allergies), these experiences did not affect their positive view of the program overall. All six of them confirmed that they would recommend hosting Volunteers to other Mexican families.

Impact of the Changes on Participants' Behavior and Outlook on Life

Respondents were asked how they had changed their behavior or outlook on life as a result of interacting with the Volunteer. Five of the six host family members who were interviewed made at least one change such as: asking a son not to smoke (1); reading more (1); more exercise and healthier eating habits (1); and, becoming more organized (1). One person reported: "*It has opened my mind, to get to know about other cultures and to interact with other people.*"

Some counterparts responded to the question on personal changes by reiterating their observation about what the Volunteer had done or stated that no changes had been made. Fourteen of the counterparts (30%) were able to respond to this question with concrete examples of their own personal growth. Personal changes were mentioned such as becoming more friendly, positive, and patient (3); establishing relationships at work that transcend age

and culture (1); increased openness to new ideas (1); and, increased self-confidence (1). Changes in attitudes toward other nationalities were mentioned by 4 counterparts: "*My stereotypes of the American people have changed*." One counterpart reported that he was inspired to become more athletic by the Volunteer at his Center, and another reported that he was inspired to do volunteer work. Finally, one counterpart now values his ability to move decisions forward and to work on development opportunities for his country.

Impact on the Volunteer

In addition to being asked about their own personal growth, counterparts were asked if they felt that the Volunteer had also changed in some way. Forty counterparts of the 46 counterparts who were interviewed (87%) felt that the Volunteer had changed in a positive way. Three counterparts felt the Volunteer had become more open-minded or flexible; three saw an increase in self-confidence; and, two referred to professional gains. Ten counterparts referred to changes in the Volunteers' perceptions of Mexico, but the most frequent responses were references to the Volunteers learning about or adapting to Mexican food and culture (23) and becoming more social or more engaged with them (14). Four counterparts reported that their Volunteer had gotten married during his/her service.

Similarly, all six host families reported at least one positive change in the Americans they had hosted. For two of them, this was simply a greater appreciation for Mexican food, but others spoke about changes at a deeper personal level, such as an increased appreciation for Mexican culture or a broader sense of 'family':

> "*They became more tolerant.*"

> "*They changed their image of Mexico. [Now] they know what a Mexican family is like; they are surprised by how united the Mexican family is and they like it.*"

> "*At first she was very reserved. When she left, she was more open to sharing personal stuff. She behaved with more and more confidence and more like a part of the family.*"

Most Memorable Activities

As the final question of the interview, respondents were asked what they found to be the most memorable aspect of their experience with the Volunteer. The host family members all had positive memories of interacting with their Volunteers. One said: "*I like them asking me to cook something I had made before, it's flattering for me. I feel like I'm doing my job properly.*" Five of the six host family members said they were good friends (1) or 'like family' (4) with the Volunteers they hosted.

All but five counterparts (9% of those interviewed) shared a personal story or a work event that stood out in their minds. Several counterparts referred to lasting friendships that had been

forged during the Volunteers' years in Mexico, social events, and the Volunteers' spirit of adventure and discovery. Others referred to a particular work event where the Volunteer had gone above and beyond their expectations. In the words of the counterparts:

> *"I learned from them their willingness to drop everything to come to another country to work, their ability to venture out and uproot themselves from their country."*

> *"He is very respectful of the organization and relationships, was always available, did whatever was asked of him. (…) They are very generous people to give the best of themselves; I appreciate it very much."*

> *"The U.S. Independence Day celebration that Peace Corp organized. We were invited along with our families, and it was a great experience."*

> *"On one occasion we had to present the progress of the [technology] transfer model for Mexico. There were late nights; we worked overtime. There was a lot of effort. These are the teammates that one always wants to have. They suffer with you and celebrate with you. At the end the whole team celebrated."*

Chapter 4: Conclusions and Recommendations

Mexico's Host Country Impact Study was conducted to assess the degree to which the Peace Corps was able to meet the development needs of Mexico related to technology transfer (Goal One) and to promote a better understanding of Americans among host country nationals (Goal Two). The project was largely successful with regard to both of these goals. The opportunity afforded to the Center staff by having a group of specialized Peace Corps Volunteers to provide technical support, share their expertise, and exchange ideas with their Mexican colleagues was highlighted by all of the stakeholders who were interviewed, either in general comments or in reference to specific work products.

Summary of Goal One

At an organizational level, it is clear that the project was successful from the fact that the vast majority of the counterparts felt that at least one element of the project was 'much' improved by the Volunteers' work, coupled with the high level of sustainability that was reported once changes were achieved. Technical English was clearly the single most successful component of the project, with the vast majority reporting that the organization's needs in this regard were met. Capacity in engineering and technology was the next most successful element at an organizational level. These same two elements of the project were also the ones where the counterparts reported having received the most training at an individual level. A large majority reported that the training they received strengthened their technical and managerial skills.

Among all counterparts and stakeholders who were interviewed, there was a widespread feeling that the project was implemented effectively coupled with nearly universal satisfaction and interest in continuing the collaboration with Peace Corps. Although some respondents voiced more qualified responses, reporting that the Volunteers were 'somewhat' effective and that they were 'somewhat' satisfied, the concerns that emerged were usually in relation to needing more advance planning and clarity around the Volunteers' role, a mechanism to ensure a good 'match' of Volunteer skills with the Centers' needs, and/or needing more time for the project to develop.

Given the nature of these Centers and the counterparts – who are themselves experienced professionals – this finding is not surprising. It speaks to the need for Peace Corps to invest in more advance planning for this type of specialized placement since it is critical that the 'profile' of the Volunteers, in the sense of their experience and professional level, meets or exceeds that of their counterparts. Peace Corps might also consider more long-range planning for multiple 'rounds' of Volunteers to work in each location so that the work has time to come to fruition and be incorporated into the Centers' way of doing business. The fact that the changes that occurred were nearly universally sustained speaks to the long-term impact that such an approach can have.

Summary of Goal Two

Since Mexico shares a border with the United States and there is a large Mexican population living in the United States, it is not surprising that the majority of the respondents in this survey had some knowledge of Americans prior to working with or hosting a Volunteer. What was interesting to note, though, was how the perceptions of Americans became noticeably more positive among the counterparts after they had the opportunity to work side-by-side with a Peace Corps Volunteer. In addition, a greater understanding of ethnic diversity in the United States was the factor that the counterparts most often mentioned as something they had learned. Some counterparts reported being inspired to make positive changes in their own lives by this experience, and the vast majority felt that the Volunteers they knew had also grown personally.

The findings reported here support the idea that the effort that Volunteers put into understanding the local language and culture clearly contributed to their success. Project participants developed relationships with Volunteers who communicated with them in Spanish and learned to appreciate their culture and overcome stereotypes they had about Mexicans as they worked collaboratively on a daily basis. As one stakeholder put it: *"The more they learn our culture and language, the more impact the Volunteers can have with their collaboration. They are very capable, well-prepared people and they can bring more if they are prepared in that sense beforehand."*

As this report has shown, the Technology Transfer for Sustainable Economic Development Project was successful in meeting both Goal One and Goal Two objectives. The project results illustrate how the two goals were interconnected, with Mexican counterparts frequently commenting about Volunteers who were engaged and committed to their work teams and how these relationships evolved both professionally and socially. In many cases, this created deep, long-lasting friendships and greater openness to new ideas. Thus, the "Goal Two" element of Peace Corps' work contributed to success in "Goal One" as did the unique spirit that Peace Corps Volunteers bring to their work. Counterparts saw the latter reflected in "*the unconditional support they offered, giving of themselves in every sense, both professionally and personally."*

Finally, perhaps the best summary of what this project accomplished in furthering the mission of the Peace Corps to promote world peace and friendship was expressed by one counterpart who said: *"The Volunteers that I have worked with have been wonderful, empathetic people. Peace Corps recruits them. They have brought us the best of the Americans."*

Appendix 1: OSIRP Methodology

Data Collection

The research questions and interview protocols were designed by OSIRP staff and refined through consultations with the Country Director and regional staff at the Peace Corps. OSIRP staff then developed the study's work plan, trained the in-country research team, and supervised the collection of data in the fieldwork database.

A team of local interviewers, trained and supervised by a host country senior researcher contracted in-country, carried out all the interviews based on lists of participants in this project that were prepared by the Peace Corps post for face-to-face, semi-structured interviews with the following categories of Mexican nationals:

- 46 counterparts from 10 CONACYT Centers
- 9 stakeholders belonging to different Centers and the Ministry of Foreign Affairs
- 6 host families
- 2 joint counterpart and beneficiary focus groups for specific organizations linked to CIATEC and CIATEJ

The study reached individual respondents in ten Technology Centers, located in six cities (Querétaro, San Luis Potosí, Guadalajara, Monterrey, León, and Guanajuato). All interviews were conducted from February 6 to November 6, 2010.

Interviewers recorded the respondents' comments, coded the answers, and entered the data into a web-based database maintained by OSIRP. The data were analyzed by OSIRP researchers and the senior researcher.

Process

Interviewers used written protocols specific to each category of respondents. The counterparts were asked questions related to both Goal One and Goal Two. Host family members were only asked questions related to Goal Two, and stakeholders were only asked questions related to Goal One. The categories covered with each of the three groups are shown below (Table 2).

Table 2: Summary of Interview Questions by Respondent Type

Respondent Type	Question Categories	Approximate Length of interview
Counterpart	**Goal One** Respondent's work history in the field and with the Peace Corps Frequency of contact with the Volunteer Receipt of formal and informal training Project outcomes and satisfaction with the project Organizational and individual-level changes Sustainability of project outcomes **Goal Two** Sources of information and opinion of Americans prior to working with Peace Corps Volunteers Types of information learned about Americans from interaction with the Volunteer Opinions of Americans after interaction with the Volunteer Particular behaviors/attitudes that the counterpart or the Volunteer changed based on this experience	45 minutes
Host Family Member	**Goal Two** Sources of information and opinion of Americans prior to the Peace Corps work Types of information learned about Americans from interaction with the Volunteer Opinions of Americans after interaction with the Volunteer Behavioral changes based on knowing the Volunteer	30 minutes
Stakeholders	**Goal One** Clarification of the purpose of the project Respondent's work history in the field and with the Peace Corps Project outcomes and satisfaction with the project	30 minutes

Appendix 2: Host Country Research Team Methodology[30]

Evaluation Methodology

1. Overview

This study uses both quantitative research methods to generate summary statements on key findings as well as qualitative explorations of each topic for a deeper understanding of the respondents' perspectives.

2. Sample

A sample comprising 71 counterparts, beneficiaries, stakeholders, and host family members who had interacted in a direct or indirect way with a Volunteer and/or the Peace Corps Project in the last five years was surveyed. This attained sample was somewhat smaller than the original sample of 80 that had been planned. The reason for the reduction in the number of completed interviews was that some people who had worked with the Volunteers were no longer working at the surveyed Centers or were otherwise not available for the survey.

The sample was selected from listings that the Peace Corps post in Mexico had compiled of the people involved in the Program. The Peace Corps sent these lists to the *Encuentro y Diálogo* team, who then made contact with each Center in order to coordinate the logistics for the interviews.

The final sample was divided in four categories for the survey and subsequent analysis: counterparts, beneficiaries, stakeholders, and host families.

1. **Host Families**: 6 family members were interviewed including 5 from Queretaro and 1 from León.

2. **Focus Groups:** 10 people were interviewed for the case studies. This included beneficiaries who were representatives from the organizations that benefitted from technical assistance from CIATEC and CIATEJ as well as the counterparts from those organizations, IPICIT, and a person from the footwear industry.

3. **Counterparts:** The 46 interviewed counterparts were selected from 10 different CONACYT Centers for in-depth interviews along with 9 stakeholders in 8 locations.

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[30] This section is based on the *Host Country National Impact Study: Mexico* by Encuentro y Diálogo, pp. 15-17.

Table 3: Counterpart and Stakeholder Interviews and Sites

CENTER	Counterparts	Stakeholders
Ministry of Foreign Affairs	-	1
CONACYT Head Office	-	1
CIATEC (León)	14	1
CIATEJ	6	1
CIATEQ (San Luis Potosí)	3	
IPICYT	2	2
CIQA	5	
COMIMSA	4	
CIDESI (APODACA)	2	1
CIDESI (QUERÉTARO)	1	1
CIDETEQ	6	
CIATEQ (Querétaro)	3	1
TOTAL	46	9

Instruments

In-depth interview guides were created for the different types of respondents and then revised in joint working sessions with Peace Corps staff. Two pilot tests of the tools were then conducted: the first one with 5 Peace Corps team members and the second one with four counterparts and one family member. Each instrument is described as follows:

1. **Counterparts**: A questionnaire was created containing an introduction, general data describing the respondents, and 44 questions. Both open-end and closed-end questions were used as well as matrices. In many cases, closed-ended questions which allowed summary quantitative statistics to be calculated were paired with open-ended questions that served to provide data for a deeper understanding of the counterparts' perspectives.

2. **Stakeholders:** Similarly, for the stakeholders, a questionnaire was developed that contained an introduction and general data describing the respondents, but in this case the in-depth interview consisted of 12 questions, only 3 of which were closed-ended questions.

3. **Host families:** Here, the questionnaire contained an introduction and general data describing the respondents as well as 24 questions for the in-depth interview. 12 of the questions included a closed-ended component while the others were open-ended.

Systematization and Analysis of Information

The close-end questions were analyzed and reported in graphs in this report. The answers from the open-end questions were assigned to categories, where appropriate, to summarize the responses into themes. The open-ended questions provided the quotes that are used in this report to better illustrate the accomplishments of the project.

For the beneficiaries' analysis, a case study methodology was used which consisted of interviewing the counterparts who participated in a successful project in which the Volunteer took part along with key people at the facility that benefitted from the technical assistance wherever feasible.

Recommendations for the Study Methodology

The standardized instruments that were used in this study were designed to cover a broad range of projects, technical subjects and countries. This imposed some difficulties on their adaptation to the present project. When used in Mexico, the instrument was perceived by the counterparts to contain repetitive questions and this was reflected in some counterparts' responses such as: "I've answered it already." Secondly, the length of the tool meant that the interview sometimes lasted for more than an hour, and in some cases the interviewee did not have enough time to complete all the questions. Thirdly, the length impacted the interviewers' ability to record all the testimonials in the open-ended questions. A number of questions were not answered by one or more respondents because of these reasons. The research team thus recommends taking this in consideration in any future evaluations of this nature.

Another recommendation of the research team is to consider the number of interviews in the research design[31] and logistics for data collection, taking into account possible reasons for selected participants choosing not to participate because of other priorities or not being available at the time that the research team is visiting the Centers.

Finally, if this tool were to be used again in the future, the research team recommends streamlining the number of open-ended, qualitative questions to a select few that focus on strategic points. This will contribute in a significant way to the simplification of the data analysis while maintaining the richness of the insights that it provides.

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[31] In particular, the local research team recommended reducing the number of interviews. OSIRP may consider this recommendation for any future studies, but it will also be important to ensure that the quantitative variables are based on a sufficient number of respondents.