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Evaluation Report

PROJECT CONCERN INTERNATIONAL

GUATEMALA

Primary Health Care Project

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## Contents

	<u>Page</u>
I. EXECUTIVE SUMMARY	1
II. BACKGROUND	3
A. Project Concern International (PCI)	3
1. PCI Overview	3
2. Second Matching Grant, 1983-1986	4
B. Project Site	6
1. Santiago Atitlan	6
2. Local Health Problems	7
3. Program Development	10
III. PROJECT OBJECTIVES AND ACHIEVEMENTS	13
A. Improve Health Status	13
B. Expand and Continue Programs	17
1. Expand Community Health Worker Programs	17
2. Continue Existing Services	17
a. Maternal-Child Clinic	18
b. TB Program	19
c. Nutrition Centers	19
d. Santiaguito Clinic	20
C. Train and Upgrade Skills of Health Workers	20
1. Trainers	21
2. Community Health Workers (CHWs)	21
3. Traditional Birth Attendants (TBAs)	21
4. Support/Supervisory Personnel	22
D. Develop Health and Administrative Subsystems	22
1. Community Participation	22
2. Training Subsystem	23
3. Field Supervision and Support of CHWs	23
4. Treatment and Referral Protocols	24
5. Drug and Supply Subsystem	24
6. Health Information Monitoring and Evaluation Subsystems	24
7. Subsystem for Information Sharing and Collaboration	25

	<u>Page</u>
IV. PROJECT MANAGEMENT ANALYSIS AND RECOMMENDATIONS	26
A. Planning	26
B. Staffing	29
C. Training	33
D. Supervision	34
E. Monitoring and Reporting	35
F. Evaluation Systems	36
G. PCI Headquarters Support	38
V. INSTITUTIONAL DEVELOPMENT	40
A. Organizational Status of PCI/Guatemala	40
B. Cooperation with Other Private Organizations	41
1. Catholic Church	41
2. ASECA	42
3. CARE	42
C. Cooperation with MOH	42
D. Replicability	45
1. Training and Supervision of CHWs	45
2. Mothers' and Fathers' Committees	46
3. Latrine and Stove Building	46
E. Sustainability	47
1. Project Administration	48
2. MOH/PCI Relationship	48
3. Proposed Regional PHC Training Center	49
F. Project Costs and Cost-Benefit Analysis	49
G. Benefit Distribution	53
VI. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS	55

## APPENDICES

	<u>PAGE</u>
1. About This Evaluation	58
2. Maps of PCI/Guatemala Project Site	59
3. Principal Causes of Death in Children Under Five in 1985	61
4. "State of Health Report", Betsy Alexander, Santiago Atitlan, October, 1975	62
5. History of Clinica Santiaguito, by Betsy Alexander, Santiago, Atitlan, October 1985	67
6. Working Plan for Two Nutrition Centers in Santiago Atitlan, by Susan Emrick, PCI/Guatemala Nutritionist, ca. 1981, (?) undated	70
7. Health Survey, Santiago Atitlan, December 1977 and June 1985	74
8. "Organization of Programs" Chart	82
9. Tasks of Rural (Community) Health Workers, 1986	83
10. Summary of Outreach Program Statistics, 1983-85	84
11. Tasks of TB Volunteers, 1986	85
12. Numbers of Malnourished Children Treated and Recuperated at PCI Nutrition Centers, 1983-85	86
13. Summary of Training Activities, 1983-1985	87
14. Job Descriptions of PCI Project Staff, 1986	89
15. Tasks of Members of the Mothers' Committees	95
16. Analysis of Personnel Costs, 1985	96
17. Analysis of Income and Personal Costs by Activity, 1985	97
18. Chart Comparing Income-Generating and Subsidized Activities	98
19. Relations with Cooperating Agencies	99
20. PCI/Guatemala Expenses for 1983, 1984, and 1985 with Notes	102
21. Comparison of PCI Medical Services and Fees with Other Services	109
22. "Budget, Guatemalan Program", Memo to Evaluators by B. Alexander, March 1986	110

## ABBREVIATIONS

ASECSA	Asociación de Sistemeros Com. en Salud Chimaltenango
CHWs	Community Health Workers
FTEs	Full Time Equivalents
GOG	Government of Guatemala
MCH	Maternal and Child Health
MG	Matching Grant
MOH	Ministry of Health
MSH	Management Sciences for Health
PCI	Project Concern International
PHC	Primary Health Care
TBAs	Traditional Birth Attendants
TSR	Rural Health Technician
USAID	US Agency for International Development

## I. EXECUTIVE SUMMARY

This evaluation report of Project Concern International's primary health care (PHC) project in Guatemala is the thirteenth in a series of evaluations of PVO projects in health and nutrition partially supported with matching grants from AID. The major purpose of the AID-sponsored evaluations is to document PVO capabilities and experience and to provide information to improve the impact of PVO health and nutrition activities.

The evaluation team was composed of two specialists in PHC with experience in PVO health program evaluation, one of whom had long-term health planning and evaluation experience in Guatemala, and a third evaluator specialized in health and social science research (see Appendix 1.) The team visited all PCI project sites in and around Santiago Atitlan in Guatemala in March and April 1986.

Section II, Background, describes the social, economic, and organizational setting for the project and describes how the project developed. Serious political problems often resulting in bloodshed (particularly from 1980-83) have challenged PCI to develop innovative approaches to PHC. Section III describes project achievements from the perspective of its three major objectives: continuing existing health services, training health workers, and developing supporting subsystems. The project has only partially attained the objectives and targets specified in 1982 in the project's design and logical framework; fewer than half the number of Community Health Workers (CHWs) originally planned for training were actually trained. Instead, new activities have been implemented in response to political instability, particularly the MCH home visiting of the Mothers' and Fathers' Committees. PCI-backed clinical services have been able to continue and serve as a referral and support system for various new outreach activities in maternal/child health (MCH) and nutrition. Self-sustaining small businesses funded by PCI revolving loans are helping families build composting latrines and "smokeless" ceramic stoves which save on fertilizer and firewood.

Section IV analyses PCI's management of the project and recommends various improvements. Section V, "Institutional Development", discusses the prospects for the project to achieve PCI's goals of sustainability and replication, both of which are of particular concern to USAID/Guatemala City and AID/FVA in Washington.

Our discussions with PCI and collaborating MOH personnel, both in Santiago Atitlan where PCI is located and in the regional capital (Solola) across Lake Atitlan, and review of available MOH data indicate the need for stronger collaboration between PCI and the MOH in delivering inpatient and outpatient services and in future training of CHWs. New CHWs could work under MOH supervision, supported by PCI, in other towns and villages north of Santiago Atitlan on the Western shore of Lake Atitlan. Local community education activities of mothers' and fathers' committees could expand, especially within Santiago. Until more people benefit directly from this project it cannot be called cost-effective (current costs are about \$80 per beneficiary direct per year.)

The evaluation team strongly supports the objective PCI is now working toward, to gradually reduce PCI's curative activities throughout its various operations (currently consuming most of paid staff time) and in-patient activities in PCI's underutilized 12-bed Santiaguito Clinic. The costs of providing such curative services far outweigh the income they produce in fees and drug sales. If managed jointly by PCI and the MOH, the Clinic can eventually be converted into a Regional Training Center for Health Promoters, with outpatient activities continued on a limited basis primarily to strengthen the training experience. Some outpatient and inpatient care might be shared by PCI and the MOH in the Clinic, and/or might be shifted from the Clinic to the MOH health center in Santiago, which should be upgraded. PCI could work with the MOH to develop a model health center in town and eventually strengthen the MOH's role in the Santiaguito Clinic in training and inpatient care. In the long run, if all goes well inside and outside the project, PCI/Guatemala would not need expatriate staff, would be funded increasingly from local fees and income generating projects, and would play an advisory role to the MOH.

Despite its high costs per beneficiary, its limited measurable impact, and limitations imposed by the Guatemalan socio-economic-political environment, PCI's work in Guatemala ranks high among those PVO projects MSH has evaluated because of lessons learned and potential growth and replication. It is an example of how a PVO can increase the availability and self-sufficiency of some basic health services where a government cannot do so by itself. PCI/Guatemala's accomplishment has resulted more from the teamwork of its two hard-working Project Coordinators, one American and one Guatemalan, than from the technical support provided from PCI headquarters. While the project has much to improve and to learn, it also has much to offer the people of Guatemala and much to teach the MOH and international observers. It deserves AID's strong and continued support.

## II. BACKGROUND

### A. Project Concern International (PCI)

#### 1. PCI Overview

PCI is a private, non-profit, nonsectarian health care training and development organization which provides services to governments of developing countries and local organizations in underserved communities. Founded in 1961, PCI receives most of its support from individual and institutional donations in the U.S., Canada, Australia and New Zealand. PCI has received about \$450,000 annually from AID -- 9.5% of its total program budget or 13% of its total cash budget. Its funding operations are supported by a network of volunteers throughout the USA. Presently, PCI has programs in Bolivia, Belize, Guatemala, Mexico, and Indonesia as well as disadvantaged areas in the U.S. in Navajoland and Eastern North Carolina. Programs are presently being developed in Somalia and Papua New Guinea.

The objectives of Project Concern's overall program are to:

1. "Bring an affordable, socially acceptable and accessible system of health care to underserved communities;
2. Demonstrate to the country's central governments the feasibility of a low-cost, effective PHC system;
3. Develop host country capacity to assume responsibility for projects;
4. Provide financial and technical support within a given time frame;
5. Promote local responsibility for the development of future PHC health care services;
6. Establish host country nationals as CHW trainers; and

7. Train CHWs in basic curative health and, more important, preventive health educations." (PCI Matching Grant Proposal, San Diego, 1982).

In most of the six countries where PCI operates - Guatemala is an exception - PCI project staff work directly within regional or central offices of ministries of health, thus pursuing AID's strategy to "assist host countries to effectively deliver existing and improved health care technology through policy reform, manpower development support, management improvement, institutional development and promotion of private sector participation in financing and service delivery;" (AID Health Sector Strategy Paper, Washington, 1984). Because PCI has developed a track record over several years in health training activities of high priority to AID, PCI received its first MG in 1979. This grant supported the development of programs in Guatemala as well as in The Gambia, Belize, Bolivia, and Mexico.

## 2. Second Matching Grant, 1983 to June, 1986

The second matching grant (MG) awarded to Project Concern by AID became effective in January 1983 and initially committed a total donation of more than \$1.2 million for a three-year period. PCI's original contribution to the grant program is projected at \$1,206 million, or 50.1% of the total estimated expenditures. Country programs begun under the previous MG, including Guatemala, were to be continued and expanded; in addition new programs were to be initiated. The present MG from AID, which was extended from 1985 to June, 1986, totals \$1.35 million.

The ultimate goal of PCI programs is to attain "self reliance," that is "the ability of the program to sustain itself indefinitely on in-country resources, without the need for personnel, money or equipment from outside the country." The purpose of PCI's programs, as expressed in the second MG proposal, reflects organizational objectives. The proposal asserts PCI's intent to increase "the capabilities of ministries of health and other levels of health service in planning, designing, implementing, and evaluating programs of PHC at the village level." PCI's PHC strategy focuses on the training of villagers, the use of local resources, and encouraging self-reliance and host country replication.

The indicators of purpose achievement and the specific outputs of the program activities are somewhat overlapping in the MG proposal. Basically, these refer to the establishment of detailed plans and the development of support systems; the training of supervisors, trainers, and support personnel; the training of CHWs and TBAs; and the establishment of functioning local committees and local sources of financing. To accomplish these objectives and activities, PCI commits itself to providing field staff of PHC specialists to work with the MOHs and funding for additional technical assistance, materials, equipment, and administrative support. Host governments are to provide counterpart personnel, physical infrastructure, and limited support funds.

## B. Project Site

### 1. Santiago Atitlan

Guatemala's population, now estimated at 8.6 million, is the largest in Central America, excluding Mexico, and is increasing at more than 3% annually. Life expectancy at birth is 59 years, the lowest in Central America. Although the official estimates of per capita income in Guatemala are relatively high (\$1110) and infant mortality rates are moderate (71 per live births) compared with other Central American countries, these are averages which hide the serious effects of poverty on health in rural areas and in poor urban populations. One such population is the site of PCI's project in Guatemala.

Since its beginning in the mid-1970's, PCI activities in Guatemala have concentrated in and around the town of Santiago Atitlan, situated at the foot of a mountain on the edge of Lake Atitlan (see Maps, Appendix 2). The project services a target population of 25,000-30,000 within Santiago Atitlan plus several thousand more from surrounding areas, totalling from 30,000 to 35,000 people. 94% of the people are Indians; the town contains one-fourth of the Tzutuil linguistic group, the largest concentrated Indian population in Guatemala and one of the poorest.

The people living in the town are squeezed between the mountain and the Lake. In 1940 the population density was 71 per square km. That figure had increased to 112.04 in 1973, and to 201 in 1985. Solola's ten towns along the lakeshore, while demographically

defined as urban (over 2,000 population) have lifestyles that are essentially agricultural. They are nuclear towns with a fairly large concentrated population surrounded by farmlands to which the farmers must commute daily.

Almost all heads of households dedicate themselves in some degree to farming. Most must supplement the family income by working as farm laborers on the fincas, selling firewood, or working as small traders who sell surplus foods from Atitlan on the coast and return with coastal products to sell in Atitlan. Sixty-two percent of the families report earnings less than fifty quetzales per month (US \$17.00). The women usually cook over an open fire in unventilated rooms. The firewood is provided by the husband, carried in on his back in 80-100 pound loads from the mountainside, usually a four-hour round trip. The basic diet consists of the staple, corn, in the form of tortillas, supplemented occasionally by a few beans, eggs or fish as well as chili, herbs or a few vegetables. Poorer families subsist on tortillas and salt, coffee and sugar.

## 2. Local Health Problems

The Tzutuil Indians in Santiago Atitlan today live much the same lifestyle as their ancestors 500 years ago. The majority of the women still go down to the lakeshore each day to bring up their water supply. The lake is also used for washing and bathing. A majority of the people have no means of safe disposal of human wastes, but rather use a small corner of their property, which because of the population density, is now under the window of the next house over or in the front of their own home.

In recent years the causes of morbidity and mortality in Santiago Atitlan have remained unchanged. Half the deaths reported by PCI and the MOH are children under age five. Gastrointestinal diseases (e.g., parasitic infections, amebiasis, gastritis) are the number one cause of morbidity. Second are respiratory diseases, including colds, flu and pneumonia. Tuberculosis, infectious diseases, and skin diseases such as impetigo and scabies are also common. An estimated 30 percent of the population under five is malnourished. The principal causes of death in children under five, reasons for consultations, and other common medical problems are shown in Appendix 3.

Environmental factors leading to disease are described in Appendix 4. People live in family units, called sitios. With each generation, the sitio is further divided to accommodate one more small house for the children. The houses, sometimes as many as six in a sitio, are traditionally made with stone and bamboo walls and a thatched straw or laminated tin roof. The typical house has a dirt floor. A little less than half of the families (44%) can afford a cement floor.

Santiago Atitlan has no drainage system, no public garbage collection, and a limited potable water system. A municipal water system pipes water directly from the lake. A chlorination system serving part of the town often breaks down and is poorly maintained by the municipality. It partly improves the quality of drinking water, but does not affect giardia or amebas, two major sources of gastrointestinal infections. It has no effect

on the health of over 3,000 people who draw drinking water directly from the lake. Only about 5% have piped water in their homes.

In 1970, 115 homes out of 3,957 had a latrine or toilet. By 1984, 1,340 families had constructed latrines. Very few families have space to construct a latrine the required distance from their home. Added to the problem of surface space is the problem of depth: rock lies only a few feet below the ground. Crowded houses slope up from each other along the sides of the volcano. The rains wash whatever contamination on the ground directly into the lake.

Many Atitecos still go first to traditional healers in the belief that most illnesses are caused by the ill will of their neighbors. Ninety-five percent of all deliveries take place in the home, attended by traditional midwives. The women typically marry between the ages of 14 and 16 years old. Many claim to use traditional techniques for birth spacing, but the practices are ineffective. The average family has five children.

Added to all these environmental, economic, and social barriers to health in this area is a tragic history of political conflict. The Department of Solola, in which Santiago Atitlan is located, has been one of three or four departments most adversely affected by the violence of recent years. In some areas whole villages were destroyed, leaving behind homeless families. Different types of village leaders, even CHWs, have been killed. One invisible effect has been the justifiable fear of people to get involved in leading community activities lest they be seen as

trouble-makers by the government or government supporters by the guerillas. Also, laws have restricted large gatherings of people.

### 3. Program Development

The eventful history of PCI in Guatemala has been thoroughly and candidly documented by the current Project Coordinator, Betsy Alexander (see Appendix 5). From its beginnings in the mid-1970's, the need for PCI in Santiago Atitlan was evident because the town "falls through the crack" in the government's development programs: it needs rural services like potable water and latrines but is too densely populated to qualify for government assistance. On the other hand it is too poor to raise taxes to pay for municipal water and sewer systems. When PCI originally came to take over from the Catholic Church the operations of the Santiaguito Clinic, a small hospital on the outskirts of Santiago Atitlan, it offered the only professional health services in town. Since that time, its programs have expanded in the areas of health education and development; PCI set up two nutrition centers to strengthen outreach from the hospital to outlying areas (see description of nutrition centers, Appendix 6). However, the hospital is still an important backup for the field activities.

Alexander summed up the project's history in a 1984 report:

"Project Concern International has been in Santiago Atitlan for nearly 10 years through earthquakes, political violence, good administrators and bad. It has had as many as fifty eight employees and as few as

sixteen. It has offered medical services to the surrounding finca populations and surgery in the hospital. It began as a hospital program and evolved into a primary health care program. In the three years between 1980-82 it concentrated on survival." (Betsy Alexander, Report to PCI trustees, Santiago Atitlan, Nov. 1984).

The project had nearly been cancelled in 1982 because the former project director was fired "for negligence and mismanagement of project funds" and because of Guatemala's political instability. Politically-motivated violence was widespread. The town's Catholic priest, an American, was assassinated. Project activities slowed way down because "community members (both local and national) are literally afraid to join any type of organization, especially one that is working for and with rural Indians." (PCI MG Semi-Annual Report, April, 1982). Numbers of people using services dropped in 1981 and 1982.

A special PCI study of the situation in June 1982 found that PCI headquarters had neglected to support the project adequately, but concluded that "there was total consensus among U.S. and GOG officials and all those contacted who are familiar with the project... that there is a fundamental need for the project and its continuance." (M.R. Rohla, Ph.D., Guatemala Trip Report, June, 1982). A new, Project Coordinator was appointed, and a new MG was approved by AID in January 1983. In 1983, despite continuing political strife, PCI reported serving "approximately 19,000 individuals during the year, representing an increase of 50% over the annual average for the previous four years."

In response to instability and physical and economic insecurity, the project staff shifted project activities and priorities. A new approach was to train low-profile community health volunteers -- parents of formerly malnourished children treated in the PCI system -- to be members of MCH and nutrition groups known as mothers' and fathers' committees, and as anti-tuberculosis volunteers. These men and women, most of them illiterate, work with other families under the guidance of clinic staff to detect and refer at-risk children, pregnant women, and TB patients. Growing emphasis is placed on self-financing appropriate technology, primarily composting latrines and smokeless stoves.

Specific activities of the Second MG (1983-86) are analyzed in the next section.

### III. PROJECT OBJECTIVES AND ACHIEVEMENTS

In this section, the project's statement of intended 1983-1986 Goal/Purpose and Activities/Targets, as shown in the latest available PCI (1983) Annual report, are compared to actual performance during the grant period. It is a factual description of what happened; specific quantitative achievements are detailed where objective supportive data are available. (The next section, on the other hand, is more subjective; it analyses project management and seeks to explain why the project's objectives were or were not achieved.)

#### A. Improve Health Status

The first objective of this project was set out in the 1983 MG Annual Report: "Improve health status of residents in and around Santiago Atitlan by continuing existing services and through the extension and strengthening of preventive, promotive and curative primary care and by expanding the CHW program to serve entire target population of 33,000." PCI activities have expanded and have undoubtedly improved the health status of the local population. A survey done in 1977 and repeated in 1985 does show some improvements in health attitudes and behaviors. The purpose of the survey was to gather data on nutrition and health, factors influencing them, and respondents' attitudes and felt needs. PCI sought to make the second survey comparable to the first (e.g., by using many of the same questions and similar interviewers) in order to try to detect changes during the eight year period which might be related to PCI activities.

However, certain problems of survey methods (e.g., changes in the wording of questions and carrying out the surveys in two very different seasons) further compounded the always difficult problems of measurement of change and attribution of effect.

PCI's report comparing the findings of the health survey in 1977 and 1985 is shown in Appendix 7. Two paragraphs from that report give insight into the overall situation in Santiago Atitlan, and explain why it is so difficult to attribute changes in health indicators to particular health programs:

"Many factors influence the state of health of a community. It is not only education that improves health, but also access to nutritional good in adequate quantities, opportunities for work to sustain the family, and the desire to overcome problems. Recent years in Santiago have been very difficult ones with regard to all the secondary factors which affect health.

Nevertheless, there are changes, and we hope that at the least the Santiaguito Clinic has contributed to the improvement of health and in diminishing the negative effects of the last few years, such as the high cost of living, the lack of jobs, and political instability." (PCI/Guatemala, "Health Survey, Santiago Atitlan, December 1977/June 1985").

The primary focus of the second survey was to detect change after the eight years of PCI activity in the incidence of malnutrition and in knowledge of good health practices. The data (see summary of key comparative data in Appendix 7) indicate that there may have been an improvement in nutritional status between

1977 and 1985. For example, only 3% of children fell into the "very malnourished" category in 1985 in comparison with 9% in 1977. A decrease in infant and child mortality may also have occurred, with one infant or child (not defined by age) in four reported to have died in the 1977 survey and one in five in the 1985 survey, a 25% drop in mortality rates. Unfortunately, despite ten years of PCI activity in the community, infant and child deaths rates still appear very high in Santiago Atitlan: compared to the 1986 estimated national infant mortality rate (71.1), the women in this survey report combined infant and child death rates of 300 (1977) and 225 (1985).

One explanation for the drop in the infant/child death rate may be that women in the survey appear to be having fewer children and spacing them: the average number of reported births per woman dropped from 5.1 in 1977 to 4.3 in 1985, and the proportion of living children under age five dropped by half from 25% in 1977 to 12% in 1985. There may also have been a decrease in fecal parasite rates, perhaps related to parallel increases in the reported construction and use of latrines (a PCI project) and availability of clean water.

In short, it is difficult to measure how much or why the PCI project has improved infant and child health standards; PCI did not monitor data on infant and child deaths by cause, without which it is difficult to attribute changes in mortality to PCI's work. There is no data to compare the project area to neighboring

areas in Guatemala, where infant mortality might also have decreased, and no consistent drop in mortality lasting several years has been documented.

Moreover, it is impossible to separate the effectiveness or impact of PHC services supported by PCI from the effects of the other health programs in the area. When PCI first opened the Santiaguito Clinic, there were few other sources of modern health care other than a nurse at a small health post. But today Santiago Atitlan has five private pharmacies, a small government pharmacy, one private physician, a small Catholic-run dispensary, and a recently opened evangelical clinic. The Government health post has been upgraded to a health center with a full-time professional staff. Because of the economic crisis facing the country, the government health center operates under severe budgetary constraints, but it has nonetheless intensified its focus on MCH in recent years. The government center offers well-child and prenatal clinics that include nutritional foods, as well as vaccinations. A comparison of coverage in the two centers for the target populations indicates that PCI's Clinic coverage is quite low compared to the government's coverage:

<u>Data for 1985</u>	<u>Target Population</u>	<u>Government Health Center</u>	<u>PCI's Santiaguito Clinic</u>
Children Under Five	6,114	858 (14.03%)	321 (5.2%)
Women Between 15-45 Years	7,962	(Not Available)	
Pregnant Women	1,165	336 (28%)	68 (5.8%)

Therefore it is not possible to attribute any changes in health status to PCI alone. However, it is clear that specific health services have been expanded with PCI's assistance, as follows.

B. Expand and Continue Programs

PCI's project sought to continue, extend and strengthen preventive, promotive, and curative primary care (see chart of various PCI programs in Appendix 8). Despite serious obstacles, PCI came close to reaching several targets.

1. Expand Community Health Worker Programs

Sixty CHWs were to be trained by 1985. In fact 24 CHWs were trained by PCI and the MOH office in Solola, all in 1984. Fifteen are actively providing services in five communities in the project area; six of these are working through the MOH in San Pedro La Laguna

The job description for the CHWs, also called Rural Health Workers, is shown in Appendix 9. Each CHW attempts to reach 50 families each month, focusing on preventive care. Several have also been trained in construction to improve community health, i.e., building composting latrines and improved "smokeless" stoves. Because of the unavailability of curative care in Cerro de Oro, a town of 500 people near Santiago, the three active CHWs there have had curative in-service training and supervision from a physician.

2. Continue Existing Services

PCI continued to provide a variety of MCH and TB services from 1983 to the present. A rough estimate of the number of people directly benefitting from these services is as follows (see details in Appendix 10):

Estimated Direct Beneficiaries

<u>Service</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Well-Child Care	93	117	156
Pre-Natal	37	57	64
2 Nutrition Centers	85	123	101
<u>TB Patients</u>	<u>58</u>	<u>49</u>	<u>75</u>
Subtotal	273	346	396
Total: 1,015			

a. Maternal-Child Clinic

PCI's programs focus on MCH because of high morbidity and mortality rates of under fives. PCI's Children's Clinic (Clinica de Niños) provides prenatal and well baby care and pediatric consulting five days per week, with PCI Medical Director, Dr. Angelica Bixcul, or a medical student intern, attending one morning per week. Another well-child program operates out of the clinic for other children. The mothers are asked to take care of their children's weight chart, which also contains a record of their illnesses. Mothers attend informal weekly health talks which cover such topics as hygiene, good nutrition, how to avoid and how to treat common illnesses and the importance of vaccines. Recently (1985-1986), well-child programs have been extended to the neighboring towns of Cerro de Oro and Chacaya. Because of parent involvement in the child's recovery, few (5%) are readmitted.

Well-baby care (primarily growth monitoring) contacts increased from 1410 in 1984 to 1874 in 1985. Prenatal care contacts increased from 57 in 1984 to 64 in 1985. CHW's made 60 home visits in 1984 (statistics were maintained only from April) and 68 in 1985. Appendix 10 summarizes the numbers of children and women served in all PCI outreach programs from 1983 to 1985.

b. TB Program

The total number of patient contacts through the TB program increased from 100 in 1980 to 896 in 1985, with a drop to 591 in 1984. Three TB volunteers work 10 hours per week, each providing outreach services to approximately 77 distinct patients in 1984 and 100 in 1985. They work with church groups and others to identify new patients and they maintain contacts with current patients. (Appendix 11 lists the tasks of the TB volunteers.)

c. Nutrition Centers

Three of four children under five in Santiago Atitlan suffer from some degree of malnutrition. PCI operates two nutrition centers, one at the Santiaguito Clinic and one at Casa Bonita in town (see Appendix 6). Both centers receive food supplies from CARE; both focus on outpatient treatment of children admitted with third degree malnutrition, treating them for other identified illnesses, providing three meals a day five days per week and training the mothers in proper nutritional practices, including prenatal nutrition as appropriate. Both parents must agree to in health classes for their children to be admitted. The average

stay was four to six months. At the two centers, an average of 121 third degree children were treated annually from 1983-85, with an average of 103 (85%) recuperating to first degree malnutrition (see detailed breakdown in Appendix 12).

d. Santiaguito Clinic

The clinic serves mainly for outpatient consultation and as a referral center for community outreach and provides outpatient, inpatient, prenatal, emergency and dental services. Patients present primarily for gastrointestinal and respiratory disorders and for injuries. The average number of monthly outpatient contacts has decreased from 462 in 1983 to 400 in 1984 and 408 in 1985.

There are 11 inpatient beds. The total number of inpatient admissions, primarily for high risk deliveries usually referred by PCI-trained midwives, decreased from 227 in 1983 to 147 in 1984 and 150 in 1985. This means that only two or three of the 11 beds are normally filled at any time. Only short term emergency patients are admitted; others are referred to the government's National Hospital in Solola.

In its MG Annual Report for 1983, PCI announced "the closing of PCI's inpatient hospital facility", making possible "greater utilization of staff in more direct primary health care activities." However, in 1986 the inpatient services were still functioning (although no patients were admitted during our week long visit).

C. Train and Upgrade Skills of Health Workers

A detailed list of training activities accomplished 1983-85 is shown in Appendix 13. Specific objectives were accomplished as follows:

### 1. Trainers

PCI's objective was to train two trainers during the grant period. No full time trainers were trained, but PCI did help to organize a one week training program for trainers for 20 staff members and other local staff in November 1983. In 1985, three PCI/MOH rural health promoters participated in five one-week upgrading training sessions at ASECSA; these included some training of trainers.

### 2. Community Health Workers (CHWs)

Sixty CHWs were to be trained by 1985. In 1984, PCI, in conjunction with the MOH, trained only 24 CHWs, 40% of the target. To do so, PCI used the MOH guidelines and selection criteria. No CHWs were trained in 1983 nor in 1985 although mothers' and fathers' health committees were started in order to increase community level health awareness and activity (see below). The 1984 CHW training program was of five weeks duration. No training materials were available for us to review, but the content is reflected in the 16 tasks presented in Appendix 9.

### 3. Traditional Birth Attendants (TBAs)

The objective of training 30 TBAs by 1985 was almost reached: 26 TBAs were trained in the grant period, 19 in 1984 and seven in 1985. Of these, 25 (one died) provide service in the community and make referrals to the clinic for difficult deliveries, averaging a total of about two such referrals per month. Supervision of the TBAs and monitoring of their birth reporting are carried out through local MOH systems.

#### 4. Support/Supervisory Personnel

In mid-1985, a trained nurse was hired to strengthen support and supervision of staff and training activities. The Medical Director, Dr. Bixcul, the Nutrition Center Director, and the Children's Clinic Director have each added or increased their supervisory skills and duties. Further, PCI has trained two community members as auxiliary health workers: a dentist who was trained by a dental intern and a laboratory technician who was trained at Roosevelt Hospital on a PCI scholarship. In addition, three nurses have received training from Dr. Bixcul. All staff members receive ongoing training from Dr. Bixcul.

Brief job descriptions for all staff of the PCI project are shown in Appendix 14.

#### D. Develop Health and Administrative Subsystems

##### 1. Community Participation

PCI's objective was to "establish mechanisms for community activation and participation in all aspects of a CHW primary health care program." Mothers' and fathers' committee members are the most active community participants in PCI's project. Prior to 1983, 20 local women had received training and were active as committee members. In 1984 and 1985, an additional 25 women were trained and continue to be active. Although they are not formally designated as CHWs, we found many of them to be knowledgeable and motivated; they are in some respects the equivalent of CHWs and in some respects may even be more effective.

These women receive ongoing training in community health (formal classes once a week), make independent home visits, and receive informal training from more experienced members. The tasks of these committee members who meet at the Nutrition Centers and the Children's Clinic are described in Appendix 15. Their focus is on preventive services, primarily nutrition, family planning, and hygiene.

In 1984, PCI instituted a fathers' committee, training 21 men in that year and five the next. All remain active and, as with the mothers' committee members, receive continuous training. Their focus is primarily on environmental health (e.g., sanitation, water purification, etc.) and appropriate technology (e.g., stoves). Like the members of the mothers committees, the fathers help to make up for the lack of formally trained CHWs.

## 2. Training Subsystem

PCI's objectives included "training of trainers and CHWs; materials; pre-and post-testing and evaluation." These objectives were partially achieved. PCI uses the required MOH materials to train CHWs, adding information appropriate to local needs. The MOH Rural Health Technician (TSR) developed a post-training evaluation for use in 1984.

## 3. Field Supervision and Support of CHWs

MOH TSRs are responsible for supervising and handling performance evaluation of CHWs, as well as collecting data from them for quarterly summary reports. No formal systems have been developed by PCI for supervising CHWs, but their clinical activi-

ties and training in PCI outreach centers are supervised by PCI clinical personnel, and associated medical and dental interns from the national university.

#### 4. Treatment and Referral Protocols

CHWs and TBAs use MOH protocols and reporting systems and refer patients to PCI, MOH and other facilities depending upon needs and accessibility. The MCH promoters (mothers' and fathers' committee members), nutrition promoters and volunteer TB workers work closely with, and under strict guidance of, the PCI facilities and personnel to whom they refer cases, but as yet have no formal written protocols (most are illiterate).

#### 5. Drug and Supply Subsystem

The Santiaguillo Clinic drugs and supplies systems (established in 1969) continue to support inpatient, outpatient and community activities. Several studies of drug lists have been done and an essential drugs list approach is being established.

#### 6. Health Information Monitoring and Evaluation Subsystems

PCI has occasionally attempted to improve its format for monthly reporting of the many services it provides. In 1981, for example, it redefined definitions of services provided to try to give local staff and PCI headquarters a clearer picture of services, and devised a quarterly "cumulative evaluation of program data on specific intermediate indicators of health status and services." (PCI Semi-Annual Report, April 12, 1982).

CHWs are part of the established MOH information system, which is functioning in Solola and which the MOH and PCI jointly propose to revise using more graphic presentations. Within the project, five individual program statistical data sheets were established in 1984, modifying PCI/San Diego models, to permit international comparisons among PCI projects. However, the data collected does not permit analysis of impact on key indicators such as infant mortality rates and mothers' knowledge of ORT preparation. Further, the data are incomplete; for example, it was difficult to distinguish the number of patients served from the number of patient visits.

7. Subsystem for Information Sharing and Collaboration

In addition to MOH collaboration and information sharing PCI is an active member of the PVO association ASECSA, through which private organizations in community health care in Guatemala share and exchange ideas, materials, experiences and information.

#### IV. PROJECT MANAGEMENT ANALYSIS AND RECOMMENDATIONS

##### A. Planning

The original plan for Guatemala was written during a difficult period in 1982 when the project was near closing down because of political violence. An evaluation in 1982 by an independent consultant found that in spite of perceived "PCI neglect towards the project, at this time the project is not only viable, but could, with some time and effort prove to be a useful model for the MOH in other areas of Guatemala." (Rohla, op.cit.) Nonetheless he found that PCI had not clearly thought through its program in negotiating an agreement with the GOG, and recommended that the program be redesigned.

In retrospect, some of the planned objectives, particularly training of 60 CHWs, were not realistic, partly because in 1982 social and program instability and physical danger made it difficult for PCI to obtain data needed for accurate planning. PCI headquarters had no Latin America Regional Director; PCI headquarters staff had difficulty even visiting the project sites. Thus the plan was vague and its objectives were often unrealistic. New solutions to local health problems had to be developed in the field after 1982, especially by the new project director, Betsy Alexander, who arrived in mid-1984.

The major reason PCI did not accomplish some objectives and had to substitute other, often "lower profile", activities was the climate of violence and fear which has continued, although somewhat abated after 1984, to the present. Examples of adaptive

changes during that period include emphasis on finding and referring high risk cases, health education, and one-to-one contacts in the community by members of mothers' and fathers' committees. Such strategies became necessary when meetings of more than three people were forbidden, and when "promotores" (CHWs) feared for their lives. Potentially self-financing appropriate technology projects for small groups of men were emphasized when larger community organization activities were essentially forbidden and when population density and disruption of farming cut family income.

Though improved since 1982, PCI's planning process is still inadequate. The general goals and specific, measurable objective of the PCI/Guatemala project need clarification. In part because of the problems it has faced in the field, PCI has not had short or long term planning and reporting systems. This problem has persisted since 1984 when the project director herself found that a major weakness in PCI's program was "a lack of administrative direction" and no long-range plans. PCI's training, for example, was designed "without studying the needs of the community, without involving the community." (Betsy Alexander, Report to the Board of Directors, November, 1984).

That deficiency may be partly remedied by the promotion of Dr. Angelica Bixcul, planned for 1987, to replace Alexander as Program Coordinator. This may free Bixcul somewhat from daily medical work to devote more time to overall project planning and coordination, and will also allow Alexander to oversee planning, provide training and technical assistance to various project

staff, support to Bixcul in planning and coordination, and improve the documentation of project effectiveness and impact.

A positive aspect of PCI planning has been PCI's effort to recruit, prepare, and promote Bixcul to take over the project, and thus to move toward a locally managed, locally financed project. Only one other PCI project (Mexico) is led by a host country national. Yet despite PCI's concern for planning for indigenous management of the project, planning in general is one of the project's weaknesses.

Recommendations:

- Recent planning has clarified some project objectives, but measurable outputs, a long term (five year?) plan, and a short-term work schedule are needed for the overall project and for each staff member and project component.
- The PCI Program Coordinator needs to put these plans on paper and discuss them with all involved individuals, PVOs, and MOH personnel to come to a clear understanding and agreement about tasks, deadlines, costs, staff, and other commitments. Integrated planning is needed, involving community participation, the MOH, and other church and PVO representatives.
- Short-term plans are needed for the transition to the new Guatemalan Project Coordinator, Dr. Angelica Bixcul. Before she becomes Coordinator, she needs a clear schedule for the transition; an additional MD must be hired; and

a shift in tasks and job descriptions among some of the 23 people paid by PCI in Guatemala will be needed.

B. Staffing

An organization chart showing relationships of the 23 project staff was prepared by PCI for the evaluators but was unclear and is being revised. Job descriptions for staff have been prepared and appear to be well understood by all. There are several outstanding features of the PCI staff in Guatemala. First, all staff but one are Guatemalans, and the one American staff member is taking planned steps to phase over all project administration to her Guatemalan counterpart. Both the American coordinator, Betsy Alexander, and her counterpart, Dr. Bixoul, are competent and diligent in both substantive health work and program administration. Alexander, a Nurse and MPH who previously headed the PCI project in Navajoland, inherited serious administrative, political, and financial difficulties when she took over the project in 1984, but since then has organized and managed the project with skill and energy. She is respected by local leaders and adored by Santiago Atitlan's children, who surround her whenever she walks through town. Bixoul, one of the few doctors (and perhaps the only woman doctor) in Guatemala who speaks Tzutuil, is also very respected, and has proven management skills which will be further strengthened by a six month study leave in the U.S. planned for late 1986.

Most of the other 23 Guatemalan staff members paid by PCI are experienced at their work and appear to be effective. Some

are highly motivated and proud of the PCI project they work for. MD and dentist interns who are rotated through the Clinic supplement the skills of the PCI staff and learn much in the process.

There is some confusion about the balance between preventive and curative care in the PCI project in terms of both costs and income. Because of the importance of increasing self-financing activities and lowering costs in building project reliability and sustainability, we looked at the actual staff time and costs involved, according to PCI's own reports, in preventive and curative care. We found that three quarters of staff time in this project is spent on curative care, not prevention. Curative care, although providing 25% of the project's income, now costs PCI twice as much as preventive care in non-hospital services and four times more in hospital services.

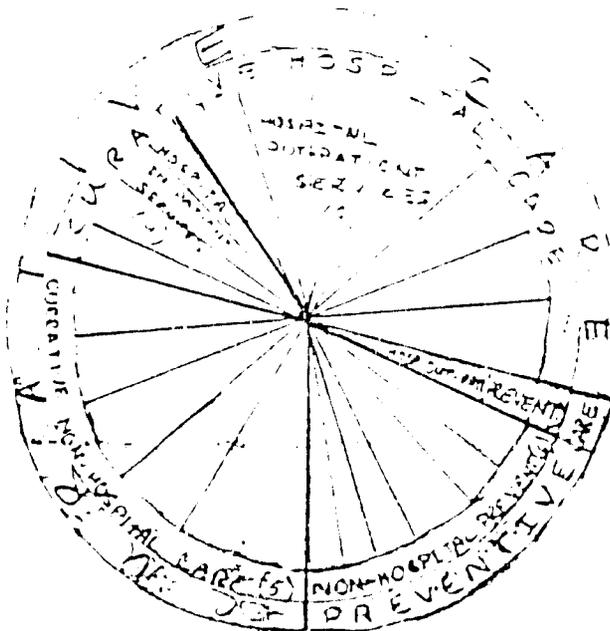
We reached that conclusion by analyzing what the PCI Project Coordinator reported to be the overall patterns of activity of the project's 24 full time equivalents (FTEs) of paid staff time (excluding her own time). Results of that analysis, presented diagrammatically in Figure 1 below, indicate the following key points:

- 75% of staff time is spent on curative, not preventive care;
- 18 FTEs are dedicated to curative care, as compared to only seven (one hospital and six non-hospital) dedicated to preventive care;

- over half (13) of the 24 total FTEs are absorbed by overwhelmingly curative hospital work, nine for outpatient services and four for inpatients;
- even many of the non-hospital FTEs (five of 11, almost half) are absorbed by curative activities.

Figure 1  
Project Staff Utilization

24 Full Time equivalents of PCI Project Staff, April, 1986



Estimated allocations of personnel costs in accordance with the above pattern are shown in Appendix 16. Appendix 17, which analyses income and costs by activity, and Appendix 18, which shows the same information graphically, illustrate which staff activities are income-generating and which are subsidized.

We believe that these activity patterns reported by the Coordinator, as well as the CHWs' interests and activities we observed firsthand, indicate a focus on hospital services and

curative care which is not in keeping with traditional PCI priorities. Such priorities would emphasize health education and preventive services in the communities, using community health workers and local committees, only one fifth of the PCI staff are currently doing so. We support PCI policy that preventive activities are a more productive and exemplary use of staff time and project monies than hospital and curative services, which are already a felt need in the community and are not a high priority in PCI's health strategy.

We also support PCI's idea that hospital and curative services be gradually turned over to the MOH, enabling PCI to concentrate on committees' and CHWs' training and supervision. This could involve turning the Santiaguillo Clinic into a CHW training center with clinical services primarily for demonstration and training purposes. The MOH could upgrade its health center in town to a "Type A" clinic with a few inpatient beds, mostly for high risk deliveries. Alternatively PCI might work out an agreement with the local MOH physician, Dr. Guevara, who is anxious to start a private practice, in which he could use the Santiaguillo Clinic for a certain number of paying patients on condition that he treat a number of indigent patients for free (a system of public/private practice used in many countries). This would free Dr. Bixcul from medical practices, enabling her to concentrate on management and training.

Recommendations:

- Decrease clinical and curative work of PCI staff where possible, without limiting outreach activities;
- Increase staff emphasis on community outreach and on development of more self-financing activities, planning eventual phase-over of clinic activities to the MOH;
- Work out an arrangement with MOH to allow MD to have private paying patients at PCI clinic in return for treating indigent patients for gratis;
- Hire a TSR to help the Project Coordinator with district (local) and departmental (regional) level coordination and planning.

C. Training

PCI's focus worldwide is on assisting governments in training and managing CHWs. In Guatemala, PCI has concentrated on CHW training in a small area because of severe political and economic constraints, and has done a good job under difficult circumstances. But much more training of CHWs and supervisors, and development of CHW support and financing systems, remains to be done in a wider area.

Recommendations:

- PCI should plan to play a much more substantial role in both district and departmental health planning and training systems development (e.g., PCI should assist in revising MOH training curriculum for CHWs in mid-1986);

- PCI can help MOH develop clearer job descriptions appropriate to the Atitlan area, with CHWs primarily in rural areas and small villages and with Mothers' and Fathers' committees working as health promoters in the towns.
- PCI must continue to develop valid, reliable pre- and post-tests for use in assessing trainee's competence to carry out tasks required of them, as well as carrying out periodic follow-up evaluations of CHWs during regular supervisory visits; and
- PCI can help design local Indian language (or pictorial) CHW training curriculum and materials for use with Indian trainees; the experiences and materials should be shared with MOH officials in Santiago Atitlan and Solola, and with other NGOs (through ASECSA, for example)

#### D. Supervision

To date supervision has not been a major problem in this project because all staff (with the exception of the two outlying areas) are together in one town and are in frequent contact. In fact, the Project Coordinator has been concerned that some health workers, like members of Mothers' and Fathers' Committees, have been too closely tied to (and dependent on) PCI supervision, and should be made more independent. In any case, as the CHWs grow in number and other health worker systems expand, supervision will be more difficult.

### Recommendations:

- PCI should test new CHW supervision approaches using the TSR to be hired by PCI in Santiago Atitlan;
- PCI should help the MOH develop planning and supervision committees at the district and departmental level.

### E. Monitoring and Reporting

PCI's monitoring and reporting system in Guatemala is not adequately organized and does not serve the needs of field project staff. Monthly reports to headquarters contain confused items of information and do not help either field or headquarters staff to know how far the project has progressed or where it should go in the future. These reporting problems are partly a result of faulty project planning in the early 1980s when the future in Guatemala was unclear. At least since 1983, and probably earlier, project objectives and outputs have not been clear, nor have targets or milestones been well defined. No Annual Report for Guatemala has been submitted to AID since 1983. That 1983 report exemplifies a confused planning and reporting process, some of which still persists today.

The 1983 Annual Report blurs the goal, purpose and output levels of the logical framework. Our interpretation is that the PCI 1983 report's first paragraph, under the heading "Goal Statement/Purpose," represents a telescoped combination of a goal ("Improve health status"), two purposes ("continuing existing services" and "the extension and strengthening of preventive, promotive, and curative primary care"), and an output ("expanding of CHW program to serve entire target population of 33,000"). The

rest of the items listed under the headings "Goal Statement/Purpose" and "Activities/Targets" are at the "output" level.

Recommendations:

A thorough revision of the PCI/Guatemala project planning and reporting system will serve to strengthen project implementation by helping the staff prioritize and schedule work during the next grant period. Specifically:

- PCI should do a periodic administrative review, improve monitoring of project by Project Coordinator;
- PCI should clarify the types of information contained in monthly statistical reports to headquarters, and headquarters should feed information back to Guatemala in a useful form (e.g., how does this project compare to others?);
- PCI headquarters should provide a manual on health reporting systems to Guatemala (and other field projects);
- Collect/record/review health status data for PCI target populations;
- Periodically collect government reports on health services and status in Solola Department and compare to results of PCI activities.

F. Evaluation Systems

PCI's 1983-85 MG proposal outlined a thorough evaluation plan. Although the plan has not been carried out, PCI/Guatemala is to be commended for repeating, in 1985, a household survey on health and nutrition which had been implemented initially in 1977. In spite of clear problems of comparability and of attribu-

tion of effects (changes) to a specific and sometimes faltering program, PCI has begun the process of establishing a continuous monitoring and evaluation system which can be of use in project management. PCI's system should be developed to be compatible with the MOH information system (which we found to be well designed and potentially useful in planning.)

Recommendations:

- PCI should document statistically significant changes in health attitudes and behaviors, and consider the implications of such data in planning; data on health attitudes and felt needs, if valid, would indicate changes of importance to community and family health;
- PCI monitoring systems should be designed to discourage respondents from answering questions so as to please the interviewers (health workers) and from avoiding undesirable answers;
- PCI needs a comparison group survey or national data to indicate whether the changes detected in the PCI project area also took place elsewhere. PCI needs evidence that its programs are at least as effective as the government's in improving health in the Solola Department;
- PCI needs to track project costs and cost-benefit ratios by activity, and test methods of increasing the numbers of beneficiaries while controlling costs (see next section);

- A PCI/Guatemala staff member is needed to monitor and evaluate new activities to promote appropriate technologies like stove and latrine building, to ensure that these projects are based more on sound economic (not solely health or aesthetic) principles; these activities require careful monitoring to survive, yet no specific staff is assigned to that activity;
- PCI and MOH information system should be closely coordinated, and information should be shared.

G. PCI Headquarters Support

Difficulties faced by PCI headquarters in San Diego in providing technical assistance to its field projects have been discussed elsewhere.\* Aside from occasional administrative visits by the former PCI Latin America Regional Director, no technical assistance has been provided to PCI/Guatemala since 1984. None of the PCI/Guatemala staff we interviewed had any expectation that PCI headquarters could help them solve their problems (except by sending money each month and some donated drugs on occasion.) One Guatemalan staff member lamented to us that she knew no one at PCI headquarters who spoke Spanish. Other staff members complained that headquarters' reporting requirements were unclear and unhelpful.

We suggest that PCI/San Diego can use new AID funding to take an active role in assisting PCI/Guatemala by providing short term specialized help with such tasks as:

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\*See Management Sciences for Health/PRITECH, "Management Review of Project Concern International", Arlington, VA, May 1986

- long term policy and planning review, including a study to update management, manpower, and budgetary practices;
- reorganization of the information system to be more useful in project management and satisfy PCI/San Diego and AID child survival reporting requirements;
- redesign and pre-/post-test evaluation of health worker training; and
- drug management.

## V. INSTITUTIONAL DEVELOPMENT

To reach its goal of developing self-reliance in its programs, PCI works to build independent local institutions managed by host country nationals. PCI projects are intended to be models of PHC which can sustain themselves and be replicated by adaptation to new areas. Although the 1982 study found that in time "the project ... could be a useful model for the MOH in other areas of Guatemala", PCI has never had a clear plan to move the project toward institutional or financial independence. In this section we analyze the progress made toward institutional development in terms of PCI/Guatemala's legal status, its relationships with the government and other organizations, and its chances for sustainability and replicability.

### A. Organizational Status of PCI/Guatemala

For nine of its ten years in Guatemala, Project Concern has operated without establishing itself, or a subsidiary or affiliate, as a legally recognized Guatemalan organization or corporation. In 1985, to facilitate its work, PCI requested recognition from the Government. Recognition was granted, on March 22, 1985, in the form of an authorization to carry out non-profit activities in Guatemala, permission which is required for all foreign PVOs operating in Guatemala. According to PCI's lawyer and audits, that recognition constitutes incorporation ("personeria juridica") in Guatemala and the GCG has accepted PCI's incorporation papers from California as legal and binding for a corporation in Guatemala. The National Reconstruction Committee has accepted PCI as a PVO

member in good standing. Thus PCI has established legal standing in Guatemala which authorizes its Guatemalan personnel to function regardless of overseas support, helping ensure the sustainability of PCI operations.

PCI is moving toward a more local image; eventually it may become more readily identified as an established, indigenous institution, even receive local contributions. If PCI/Guatemala can specify the next steps it will take to develop itself as a Guatemalan institution, financed, staffed and managed largely or entirely by Guatemalans (as recommended at least as far back as 1982), it will demonstrate a real commitment to its own and to AID's institutional development goals, and it will put PCI out in front of other PVOs who only profess to develop independent local institutions.

B. Cooperation with Other Private Organizations

A detailed description of relations between PCI/Guatemala and cooperating agencies is shown in Appendix 19 and summarized here.

1. Catholic Church

Project Concern took over the Santiaguito Clinic from the local Catholic mission, under Diocese of Oklahoma, in the mid-1970's. Since then the mission has been generally helpful to PCI, renting a house in which the Project Coordinator and medical and dental interns have been living. PCI has been granted use of the house as long as it continues to work on the PHC project.

## 2. ASECSA

The PCI project at Santiago Atitlan is an active member of ASECSA, the association of private organizations in community health in Guatemala. The organization provides a forum for the exchange training evaluation materials and develop information systems that can be useful to all member organizations in identifying health sector needs and appropriate programs. Importantly, PCI could work with ASECSA to adopt existing training materials for Tzutuil speaking CHWs and trainees and for those who work primarily in rural areas (more isolated than towns such as Santiago Atitlan).

## 3. CARE

The project has actively collaborated in the CARE Food Assistance programs as a distributor of food and as a provider of health and nutrition education to malnourished infants and children and their families. Key elements in the project's activities in these areas include the nutrition centers and the mothers' committees.

### C. Cooperation with MOH

Previous observers have pointed out to PCI that its relations with the GOG, particularly its desire to integrate health services and develop replicable PHC models, have not been well defined or planned. Our discussions with PCI and collaborating MOH personnel, both in Santiago where PCI is located and in the regional capital, (Solola) across the lake, and review of available MOH data indicate an immediate need for stronger MOH/PCI collaboration in training and supervising CHWs. New CHWs could work under MOH supervision,

supported by PCI, in other towns and villages north of Santiago on the Western shore of Lake Atitlan. Community education activities of mothers' and fathers' committees could expand. But objectives, timetables, staffing plans, budgets, and agreements must be settled between PCI and the MOH in Solola before such expansion can be considered sustainable.

Such increased cooperation with the MOH will certainly not happen overnight; in the past PCI has not had the government's fullest support. The MOH will not allow PCI to provide immunizations (other than tetanus toxoid), even though the MOH itself often runs out of vaccines during its campaigns. The MOH does little about malnutrition other than handing out CARE-donated foods indiscriminately without education or demonstration programs. And MOH officials in Solola rarely seek to involve PCI in its planning. We believe PCI can change that pattern.

In the past PCI has collaborated with the MOH primarily in the training and supervision of CHWs. The evaluation team visited the departmental health headquarters in Solola; the director, Dr. Daniel Cardona, indicated his interest in more extensive collaboration. This included further work in training, and supervision, possible collaboration (with potential WHO support) in development and introduction of an essential drug list approach to the procurement and management of pharmaceuticals in both government and private health facilities, and sharing of health information.

PCI could, for example, work with the departmental health headquarters to develop materials useful for CHW training and follow-up. Such materials could be used to redesign CHW training and retraining and to enhance supervision of CHWs. PCI could also work with the MOH Department of Solola health headquarters to enhance its data collection systems by:

- identifying critical data points useful in program planning;
- assisting in improving the design of reporting forms so that they can more easily be used by CHWs and their supervisors and will be more informative;
- training CHWs (and others as appropriate) in data collection methods;
- developing approaches to dissemination of resultant information to relevant community leaders and health system workers; and
- developing standardized diagnosis and treatment protocols that can be used by the CHWs; these can be adopted from existing relevant materials and would preferably be available in both Spanish and Tzutuil.

PCI has already begun to review its drug list but needs to develop an essential drug list. This can be refined in collaboration with Dr. Cardona and his staff in Solola. One objective of an effort to economize on drug costs would be to lessen the current excessive emphasis on injections, many of which are costly and medically unnecessary.

At the district level, the project has begun to collaborate with Dr. Carlos Alberto Guevara, Chief of the MOH Health Center in Santiago Atitlan, who is interested in further PCI collaboration in training CHWs and in sharing inpatient care. The evaluation team encouraged the project staff to further develop MOH collaboration at both Solola and Santiago Atitlan levels, and to work to develop the capabilities of the MOH Health Center staff. In time PCI should aim to turn over its inpatient activities to an upgraded MOH facility in Santiago Atitlan, with which PCI will continue close collaboration, or allow Dr. Guevara to use some of the underutilized hospital beds and equipment at its clinic.

D. Replicability

The evaluation team agreed with the Project Coordinator that expansion of the project activities to new towns should not take precedence over consolidation of the present activities and strengthening collaboration with the MOH. Before expanding to new areas PCI must work with local MOH authorities to, in Alexander's words, "consolidate and systematize what we are doing here to make it replicable in other areas." (letter to evaluators, May 1986). In time PCI can develop many PHC subsystems which hold the promise of being adaptable to new areas. Three of the most promising activities for replication, for example, are the CHWs, the committees, and self-financing production of latrines and stoves.

1. Training and Supervision of CHWs

The training and supervision of CHWs within the project has been carried out in the context of a national program, using

national materials, and with MOH collaboration. The program was designed (under a previous MOH program with AID support) for replicability and a number of PVOs in Guatemala participate in it. The national character of the program provides a ready means of dissemination of materials, all in Spanish. Literacy is a requirement for all CHWs. If given the opportunity by the MOH, PCI (and other groups) could develop and test these materials and programs for training CHWs in different areas of Guatemala who spoke little or no Spanish, or had weak reading and writing skills.

## 2. Mothers' and Fathers' Committees

The Mothers' and Fathers' Committees established within the project have a high potential for replicability, even if the level of violence should someday rise again. The committees provide a low-cost means of detecting targeted health and nutrition problems, arranging care and follow-up, and promoting community involvement and responsibility for health care.

## 3. Latrine and Stove Building

The promotion and production of special latrines and stoves within the project has been designed to encourage continuation and replication of these activities. Small businesses are being set up with a revolving loan to build low cost composting latrines, which pay for themselves by saving on fertilizer costs, and reduce the likelihood of contamination, and "smokeless", high efficiency ceramic stoves which pay for themselves by savings on firewood, and reduce lung problems caused by smoke.

#### E. Sustainability

Sustainability, self-reliance, and self-sufficiency have never been defined operationally in this project. The 1982 study stated that because Guatemala's MOH is, in effect, bankrupt, and because the project area is so poor, some international funding is necessary for this program to continue. We agree, four years later, that the people of Santiago Atitlan need outside support. However, the PCI project has demonstrated that people in Santiago Atitlan (and presumably in other low income areas) are able and willing to pay the major share of the costs of curative care. Now a challenge for PCI is to demonstrate and document for the MOH through policy dialogue some community financing techniques which will lessen the need for foreign aid, and will convince the MOH to introduce similar cost-recovery measures.

Successful long term continuation of this program will require strong Guatemalan leadership and true collaboration between MOH personnel and project staff in Solola and Santiago. It will also require further development and assured maintenance of a social and especially political climate which will permit community development work and allow community health promoters and other health workers to carry out PHC development tasks in safety and without intimidation. In case the assumptions mentioned above do not hold (a real risk in Guatemala), contingency arrangements should permit rapid withdrawal from the program, if necessary, hopefully leaving behind some improvements in the area's health services and the people's health and well-being after over a decade of PCI work.

If the MOH and PCI (and perhaps others) are able to develop a successful collaborative program in Santiago, drawing throughout on other experiences and suggestions of MOH and NGO personnel, similar collaboration might be promoted elsewhere in Guatemala through the MOH and through the national PVO health collaborative (ASECSA). A successful PCI/Guatemala effort will depend on the availability of specialized technical support from PCI headquarters in San Diego to strengthen such subsystems as training, community financing, drug logistics, and information systems, none of which has been provided by PCI/San Diego in the past. Other steps we recommend to ensure continued project improvement are the following.

1. Project Administration

The administration of the project has reached a stage of development at which it should be possible and appropriate to turn project leadership over to Guatemalan members of the project team, preferably to Dr. Angelica Bixcul, whom the evaluation team agrees should become administrator of the project after she completes short term training in California during 1986-1987.

2. MOH/PCI Relations

The government clinic in town currently has minimal inpatient facilities which function primarily for obstetrical services. The MOH should upgrade the clinic located in the town of Santiago Atitlan to a Type A (inpatient) clinic and/or share in clinical services at the Santiaguillo Clinic, so that PCI can concentrate on preventive care, training and outpatient services. In order for such changes to be tested, PCI would have to work in closer collaboration with the MOH.

### 3. Proposed Regional PHC Training Center

In discussions involving PCI, MOH officials, and the evaluation team, it was agreed that PCI should consider cutting back gradually on hospital-based curative services (especially in-patient services) provided by PCI, and turning the present clinic building into a training center for PHC. The main emphasis of such a center would be on training CHWs, including initial and ongoing training, from the Solola Department. Other types of health workers such as mothers' and fathers' committee members and supervisors, could also be trained there. Limited curative services could be continued at the clinic for demonstration purposes to strengthen practical training experiences of trainees, and both stove and latrine building classes now held there should continue as well. Large rooms now filled with largely empty hospital beds could be used to house and feed trainees.

### F. Project Costs and Cost-Benefit Analysis

It is harder to measure the benefits of PHC than to measure its costs. If measured by the number of direct beneficiaries, the PCI project in Guatemala is not very cost effective yet because services were so disrupted by political events. Increasing the effectiveness of PCI-sponsored activities - while simultaneously controlling project costs - seems essential if this project is going to become sustainable in Santiago Atitlan and replicable in new areas. While we were unable to analyze project costs in great detail, a few conclusions about improving project cost-benefit ratio are apparent.

In-country project expenses for 1983, 1984, and 1985, not including the salary and benefits of the Project Coordinator, totalled about \$97,000, \$97,000 and \$46,000 respectively. Detailed annual expense reports and PCI's notes are shown in Appendix 20. (The sharp decrease in 1985 resulted from devaluation of the Quetzal from Q1 to Q 2.50 per U.S. Dollar.) Assuming approximately 1,000 direct beneficiaries over the three year grant period from 1983-1985, the average cost was a very high \$30 per beneficiary per year, nearly five months of income for the average family. This cost is too high to be sustained even in the present limited population, much less be expanded.

Many indirect benefits also have to be included in any cost-benefit analysis; thousands of residents listen to PCI-supported radio broadcasts, for example. But PCI's program is no longer the most utilized in the area; several other health services are now available (listed in Appendix 21). Not all residents of Santiago Atitlan can be considered even indirect beneficiaries of PCI's assistance. Yet for purposes of discussion, even if every one of the area's inhabitants were counted as beneficiaries, which they are not, costs would be nearly \$3 per year per person, still excessive for a poor rural population. PCI's costs are particularly high if the Project Coordinator's salary and all PCI headquarters costs are added to in-country expenses. In short, if the PCI approach is to become a viable PHC model for other parts of Guatemala, benefits must be increased, costs must be cut, or both.

PCI has worked to recover most of the costs of running the Santiaguito Clinic by selling drugs and charging fees much like other public and private health care providers in the area (see Appendix 21). Besides providing income, curative services lend credibility to preventive services. PCI's explanation for its current budget is shown in Appendix 22 (a memo to the evaluators from Betsy Alexander.) PCI believes that high levels of curative care activities are necessary to improve project sustainability and self-sufficiency as well. PCI reports that in 1985 the hospital program provided 32% of the total project income and accounted for 40% of total project costs, leaving only 20% of hospital costs (about \$3,200 per year) to be subsidized by PCI/AID grant funds. Thus PCI believes that its net expenses would not be reduced significantly even if the hospital program were eliminated. While PCI recognizes that the hospital is a liability, it is more inclined to see the hospital as an asset:

"It is a training center filled with learning opportunities for students; how to suture, how to clean a wound, how to take temperatures, how to weigh a baby, how to inject a patient. CHWs could be given internships in the hospital to increase their practical experience before beginning work in their communities. They could teach classes to the mothers' groups to test their teaching skills. As an integrated health system, the possibilities are endless.

- Betsy Alexander, November 1984

The evaluators applaud PCI efforts to recover most hospital costs through drug sales and user fees and to design other project activities which should soon be entirely self-sufficient (e.g., latrine and stove building enterprises.) We understand that the problems of cost-recovery in this and any PHC project are complex; we were unable during our field visit to analyze project finances in detail. We also appreciate the pervasiveness of poverty affecting many of the families with children most at risk of malnutrition, and we agree with PCI that some project components (e.g., the two nutrition centers) will not become self-financing for many years.

On the other hand, we are concerned that PCI may be exaggerating the benefits of PCI control over the hospital's curative activities. We believe PCI should concentrate more on training health workers, and on testing and documenting PHC innovations, and less on maintaining proven clinical systems already popular with local residents which can support themselves under MOH or other auspices. There are several reasons for our concern. First, as previously explained (see "Staffing" in Section IV), we conclude from PCI's own figures (see Appendices 16, 17, and 18) that although hospital activities per se account for only 40% of total project costs, overall too much project staff time (75%) is spent in curative care, and should be reduced.

The purpose of PCI and AID assistance is to strengthen community-based, not hospital-based, PHC. PCI and AID (and increasingly the GOG) believe that curative services should not be the major

focus of a health system, but should be seen as a means to increase the use and effectiveness of preventive services. We therefore encourage PCI to plan the gradual phaseover, described above, out of established, popular clinical services allowing PCI to concentrate on training, supervising, and monitoring preventive health workers (CHWs, the committees, TSRs, latrine/stove builders, etc.) Clinical training in a hospital could still be available to CHWs whether under the MOH or PCI. We also encourage PCI to examine in a controlled study the effects of user charges on access to and use of services by the poor.

In general we believe that PCI should pay closer attention to the cost-benefit and cost-effectiveness issues touched on in this report and which neither we evaluators nor PCI staff nor PCI consultants have analyzed in-depth. Health care financing is too important, and PCI's project is too revealing a case study, to miss this opportunity to learn what is self-sustaining and what is not.

G. Benefit Distribution

We found this project quite effective in reaching a range of the neediest people often neglected by other programs in the area, particularly the Indians. PCI has designed its activities to be equally accessible to all, including the poor; its staff concentrate on finding those most at risk such as third degree malnourished children and high risk pregnancies. Three segments of the population benefit uniquely from the PCI project:

- the Mayans, who predominate in the Santiago Atitlan area and are the main focus of PCI/Guatemala, are traditionally neglected by GOG services, including the MOH, in favor of the "Ladinos";
- Tzutuil speakers are often left out of the government's CHW program because Spanish literacy is required for all CHWs, who tend to serve primarily the Spanish-speaking population;
- urban (and aldea) populations in towns who are usually not helped as much by CHWs oriented toward rural populations.

## VI. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

During and immediately following our evaluation visit, PCI prepared a new plan for an AID-assisted child survival project in Solola Department which incorporates several of the recommendations we discussed with the Program Director during our stay. Principally, PCI has decided to put new emphasis on close cooperation with the MOH in Solola in training and supervising CHWs and in designing improved PHC subsystems for information and drug supply. Such collaboration with local health departments has been the central focus of PCI's activity worldwide for nearly a decade.

We believe the time has come for PCI to strengthen cooperation with the Department of MOH in Solola for at least two important reasons: first, the political violence of the early 1980's seems to have subsided somewhat since a new government was elected in late 1985, and the chances for improving MOH-sponsored health services - the most common source of health care in the Department of Solola and in the nation - have increased in 1986. PCI, perhaps more than any other AID-assisted PVO in Guatemala, has the opportunity and, we believe, the responsibility to demonstrate how a PVO can improve, not compete with, government PHC services. Second, the current leadership in the MOH, in both Santiago Atitlan District and in the Department of Solola, is anxious to enlist the support of PCI in its drive to strengthen PHC. Both District and Department officials clearly expressed to us their desire to communicate and cooperate much more fully with PCI staff than they have in the past. The time is ripe for PCI to fulfill its own organizational

purpose, which we strongly support, to avoid creating a separate health system by helping to test and improve existing, replicable, self-sustaining governmental PHC systems.

We recommend that AID continue to fund Project Concern's work in Solola Department provided that the MOH agrees to increase collaboration with PCI at both district (Santiago Atitlan) and departmental (Solola) levels, with continuing and growing emphasis on collaborative health worker training and supervision. The next steps planned in that direction are (a) PCI involvement in revisions of CHW training and (b) a study to be carried out in 1986 and 1987 in conjunction with the MCH/Solola. Currently projected to AID in PCI's Child Survival proposal, the study will examine the health needs and health services in Santiago and the areas on the Western shore of Lake Atitlan where Project Concern has proposed to expand CHW training.

Special attention will be required for PCI to assist the MOH in establishing a more effective supervision and support system, in monitoring CHW effectiveness, and in documenting impact on the health of the communities, especially children and women. After a decade of PCI work in Santiago, health impact has not yet been well documented. Low cost sample surveys tested by PCI in 1977 and 1985 need to be improved. Further exploration of self-financing aspects of project activities is also recommended.

The most perceptive analysis of the lessons learned from this project comes not from us but from the Project Coordinator herself: "our biggest weakness," she says, "is in not having a

coherent plan by which we can judge ourselves." PCI/Guatemala has "grown organically. Whenever we saw an opening, another way to teach or an opportunity to train health workers, we took it, but not always with the best laid plans beforehand." That ad hoc approach has often left PCI without the important information necessary to maintain and expand its system for training and supervising health workers, such as "where do they come from, what do they do, how do you know they're doing it, what do they learn, how do you know they learned it?" Unless such information is monitored and utilized in future project planning, the PCI effort is unlikely to be either sustainable or replicable.

Yet under the circumstances PCI's "organic" approach in Guatemala has also been its strength. "Whenever we saw an opening, another way to teach or an opportunity to train health workers," says Alexander, "we took it." PCI's small but significant Mothers' and Fathers' Committees, its support of CHWs, its self-financing programs for building latrines and stoves, and its growing cooperation with local government officials increasingly willing to collaborate, are all examples of PCI/Guatemala's constructive opportunism. That quality of flexibility will be even more important in the future as PCI works through the difficult but inevitable compromises necessary to change the nature of its role in Guatemala by working directly with the public sector.

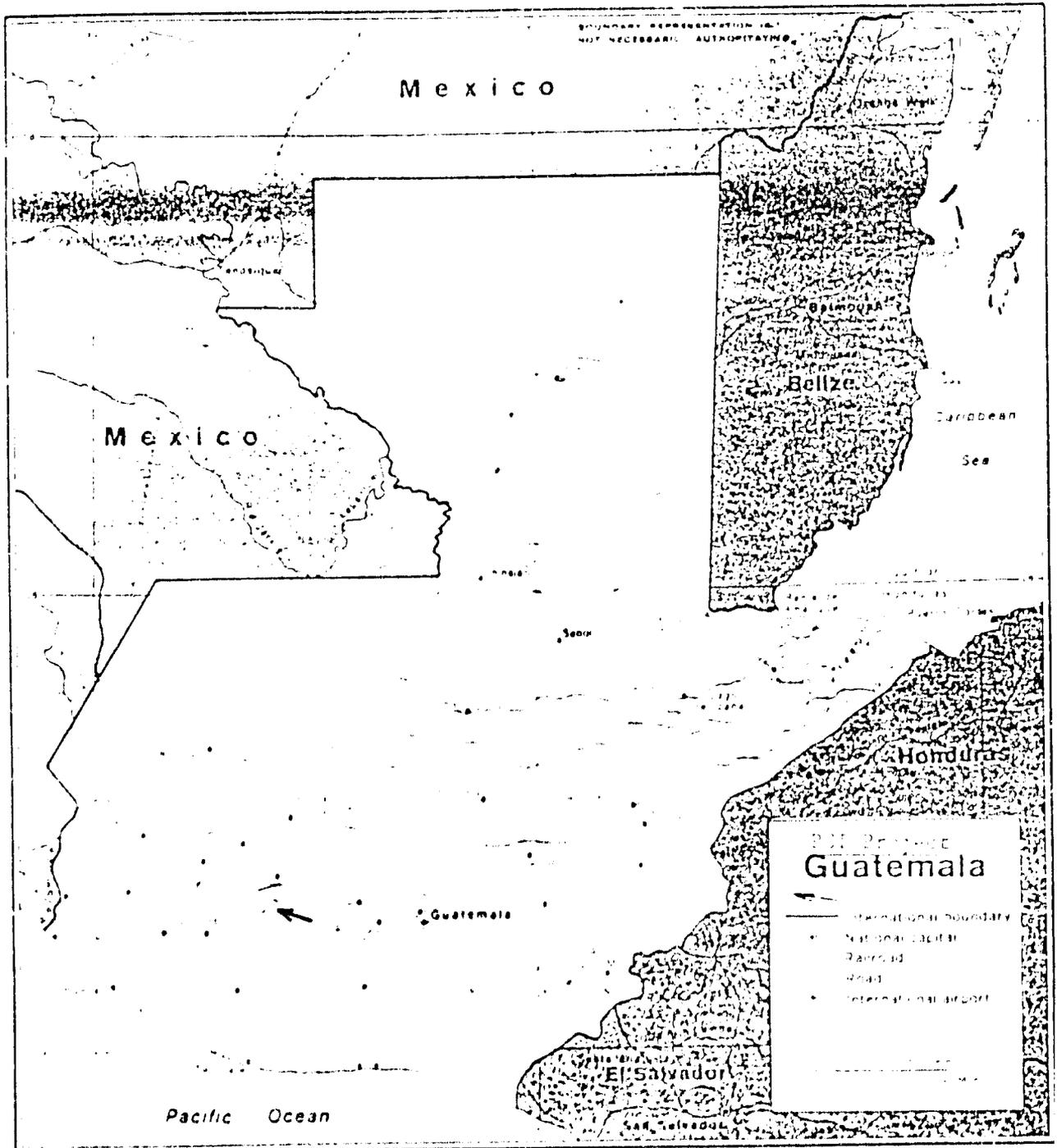
APPENDICES

	<u>PAGE</u>
1. About This Evaluation	58
2. Maps of PCI/Guatemala Project Site	59
3. Principal Causes of Death in Children Under Five in 1985	61
4. "State of Health Report", Betsy Alexander, Santiago Atitlan, October, 1975	62
5. History of Clinica Santiaguito, by Betsy Alexander, Santiago, Atitlan, October 1985	67
6. Working Plan for Two Nutrition Centers in Santiago Atitlan, by Susan Emrick, PCI/Guatemala Nutritionist, ca. 1981, (?) undated	70
7. Health Survey, Santiago Atitlan, December 1977 and June 1985	74
8. "Organization of Programs" Chart	82
9. Tasks of Rural (Community) Health Workers, 1986	83
10. Summary of Outreach Program Statistics, 1983-85	84
11. Tasks of TB Volunteers, 1986	85
12. Numbers of Malnourished Children Treated and Recuperated at PCI Nutrition Centers, 1983-85	86
13. Summary of Training Activities, 1983-1985	87
14. Job Descriptions of PCI Project Staff, 1986	89
15. Tasks of Members of the Mothers' Committees	95
16. Analysis of Personnel Costs, 1985	96
17. Analysis of Income and Personal Costs by Activity, 1985	97
18. Chart Comparing Income-Generating and Subsidized Activities	98
19. Relations with Cooperating Agencies	99
20. PCI/Guatemala Expenses for 1983, 1984, and 1985 with Notes	102
21. Comparison of PCI Medical Services and Fees with Other Services	109
22. "Budget, Guatemalan Program", Memo to Evaluators by B. Alexander, March 1986	110

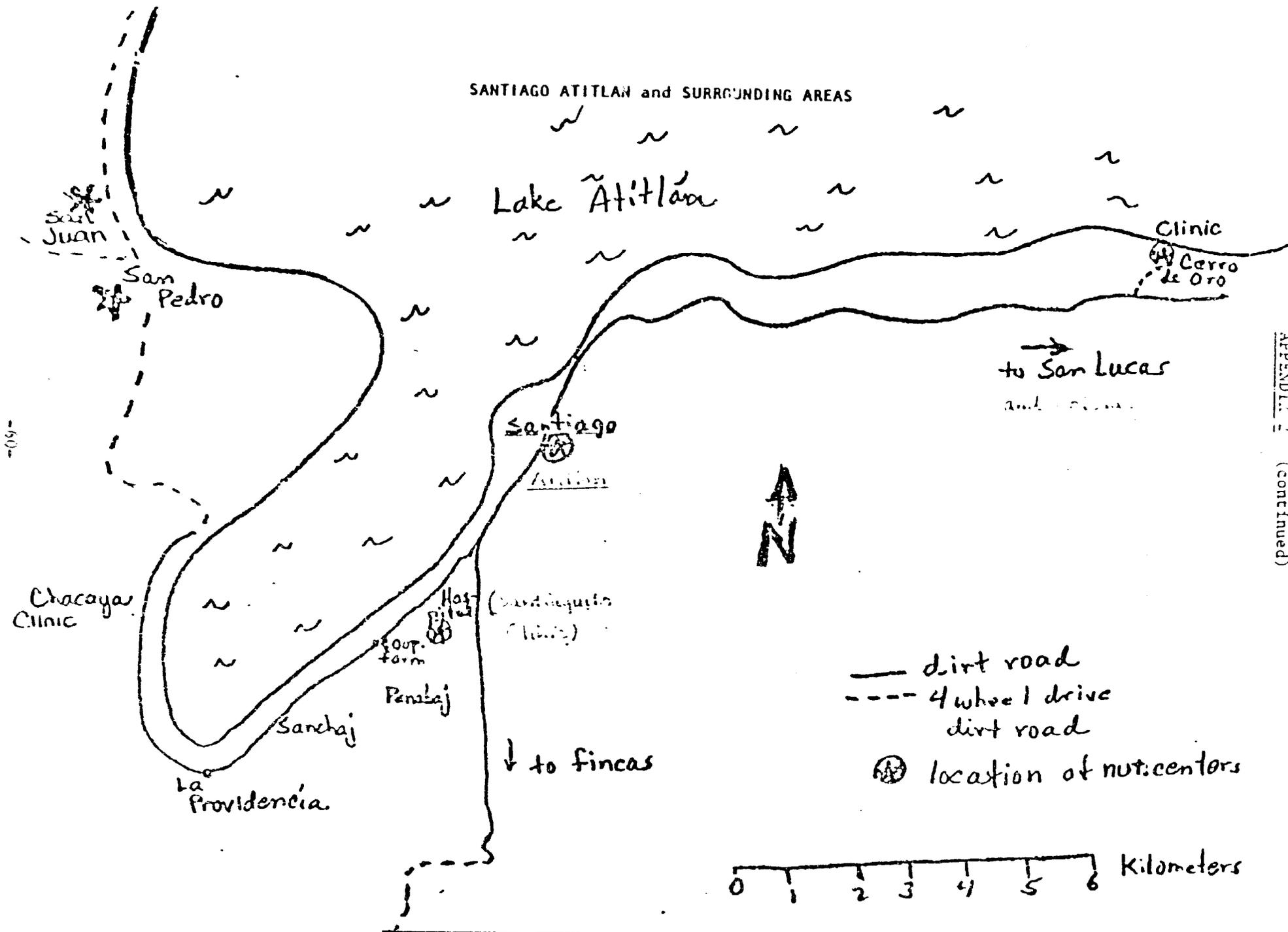


APPENDIX 2

MAPS OF PCI/GUATEMALA PROJECT SITE



SANTIAGO ATITLAN and SURROUNDING AREAS



APPENDIX 3

The Principal Causes of Death in Children Under Five in 1985\*

Cause

1. Dehydration, Acute Diarrhea, Malnutrition
2. Fever
3. Pneumonia
4. Cardiac
5. Bronchitis
6. Perinatal Anoxia
7. Neonatal Tetanus
8. Pertussis

Total

\*Data from Municipal Records

The Principal Reasons for First Consult in Children Under Five in 1985\*

Cause

1. Parasitic Infections
2. Acute diarrhea
3. Anemia
4. Upper Respiratory Infections
5. Gastritis
6. Pneumonia
7. Tonsillitis
8. Scabies
9. Otitis Media
10. Tuberculosis

Total

\*Data from Records of Clinica Santiaguito

Santiago Atitlán, Sololá  
State of Health Report

October, 1985

Betsy Alexander  
Program Coordinator

Introduction:

Since 1975 Project Concern International has been offering health and development services to the people of Santiago Atitlán. During that time PCI's objectives as well as PC-Guatemala's have gone through major changes. For the last five years AID has funded part of the program through a matching grant. The following is an attempt to synthesize available data on Santiago Atitlan, to give a background on the health problems of the area and offer suggestions for future directions of the program.

Santiago Atitlan

Santiago Atitlan is the cultural, commercial and population center of the Tzutuil Indians, one of the 24 extant Mayan groups in Guatemala today. With a Tzutuil speaking population of approximately 100,000, the stitecos represent over one fourth of the total. The town was moved to its present site over 400 years ago after the conquest of the Tzutuils by Pedro Alvarado. It was the practice at this time to unite small, dispersed villages into a single center to make religious instruction and administrative control easier to handle. Santiago Atitlan, the largest village on the shore of Lake Atitlan, is the result of this practice. The Catholic Church which reigns over the center of town dates from this period.

Santiago Atitlan is located on the southwestern shore of Lake Atitlan which extends for 70 square miles at an altitude of 5,100 ft above sea level. Lake Atitlan fills the irregular basin formed by four volcanoes; Atitlan (11,500ft), Toliman (10,350 ft), San Pedro (9,925ft) and Santa Clara 6,975. Santiago Atitlan lies hidden from the view of the rest of the lake by the bay formed between the Atitlan and Toliman volcanoes. It faces the San Pedro volcano across the bay.

The geographic isolation of the guatemalan highlands discouraged interaction among the various Mayan groups and the ladino ( non-Indian) population. For this reason, language and lifestyle, remained much the same as always during the first three hundred years after the Conquest. Many Mayans still live much as their forefathers did. Their economy is based on subsistence farming primarily corn. Women still weave the family's clothes, although in the last few years Western dress has

begun to take over, especially among the men. The traditional Mayan belief still exist and in some cases are practiced along side of Catholic rites or incorporated into the rites. Recently Protestantism in Guatemala has gained new converts. The population of Guatemala is over 50 percent Indian.

During the thirties and forties a combination of the growing demand for cheap labor on the coastal plantations and the increasing indebtedness of the Highland Maya began to breakdown the isolation between the Indian and ladino worlds. However in its place came a virtual feudal system in which the Mayan Indian became further and further indebted to the plantation owners and was forced to leave behind his family and his lands for longer and longer periods each year. Part of the Mayan's indebtedness resulted from unequal land distribution. In Guatemala two percent of the population owns ninety percent of all arable land. Besides the obvious breakdown in family and social structures, these sojourns to the coast exposed the Highland Maya to diseases he had never known in his own lands. Overcrowded housing and poor sanitary conditions made gastro-intestinal and respiratory diseases common. Malaria, hookworm and filariasis are just a few examples of the diseases father brought home from the fincas. In a study done in 1965 it was calculated that approximately fifty percent of the adult male (over 14) population worked in the coast at least once a year for periods of one month or more. Because the finca areas that pertain to Santiago are considered to be high-conflict zones that percentage has likely decreased in recent years.

The same study found that of fifty families studied, 64% had to buy additional corn for the family; 36% had land adequate for the needs of the family; 4% had no lands and 10% were able to sell their surplus corn. No more recent data is available but one can assume that the percentage buying corn and the percentage with no lands have increased.

A family of five needs approximately 2,735 pounds of corn per year. A cuerda (4,810 sq yds.) using chemical fertilizers, pesticides and close attention can produce as much as 300 pounds of corn a year. A cuerda without the chemical aids produces 100 pounds or 10 bushels per acre. A family of five under these circumstances would need 27 cuerdas of land, an amount which few people have. Many farmers, faced with more mouths to feed and less land to do it with, are dependant on very intensive, chemically assisted farming techniques. The devaluation of the quetzal in 1985 resulted in increased costs for imported fertilizers. Very soon even this will be beyond the reach of most Atitecos.

Corn is an essential part of the Atiteco's diet. In too many cases it is his entire diet. The traditional diet, when land was plentiful and life was cheap, consisted of corn in the form of tortillas, beans

and locally raised vegetables. For many people their diet now consists of tortillas, salt, coffee and sugar. Traditionally the largest share of the meal goes to the father, the children receive the next largest share and the mother eats what is left.

Along with land and food, firewood is another commodity that is becoming increasingly scarce. The majority of Atitecos bring in their own firewood, a round trip of four to six hours two to three times per week, returning with one hundred and fifty pounds of wood on their backs, others who buy the wood pay twelve to fifteen quetzales per month.

Thirty four percent of Atiteco women still go down to the lake each day to bring up water in two-gallon plastic jugs which they carry on their heads. Forty-five percent have discovered the more expedient method of buying water from a neighbor who has piped water. Only 18 percent have their own water supply. In some cantones ( a geographic division of the town) This percentage goes down to zero.

The vast majority of Atitecos (87%) still cook over an open-fire built in one corner of their house. They use approximately one and a half tareas ( or 1,500 pounds) of wood per month. The rooms are built without ventilation and while the smoke and pitch reduce the number of insects in the home, they increase susceptibility to eye and lung infections due to the constant presence of irritants.

Less than half of the population use latrines, approximately twenty five percent. Latrines are expensive to build, require extra space, smelly if not kept up well and difficult to dig in the rocky slopes of Atitlan. Most people use a corner of their land, a nearby wooded area, cornfield or coffee trees.

Santiago has no publicwaste disposal system. Very little non-organic wastes exist in Atitlan except for myriads of little plastic bags, which are used to package everything. Though many people still throw their garbage in the street or in abandoned areas outside of town, 44% collect household wastes to use as organic fertilizers on their lands.

Santiago Atitlan is a compact town. People live in family units, called sitios. With each generation the sitio is further divided to accomodate one more small house for the children. Sitios may be square or rectangular. They have at least one house, sometimes as many as six traditionally made with stone and bamboo walls and a thatched straw roof. More recently the thatched roof has been replaced by laminated tin roofs. The typical house has a dirt floor. A little less than half of the families (44%) can afford a cement floor. The sitio also includes a temascal, a small stone hut about four feet in height which is used for steam baths. Volcanic rocks placed in the floor are heated red hot by firewood and then water is poured over the rocks. The temascal has ritual as well as hygienic purposes. Besides being the traditional bathing place, the temascal is also

believed to have healing properties. After her delivery, for example, a new mother goes into the steam bath with her mother or the midwife and is forced to endure the heat for as long as she can. This it is said, helps to bring down the milk.

Sitios are divided from each other by high piled-rock walls and connected by narrow, curving paths. Very few roads outside of the center of town are wide enough to accommodate vehicles. Cultivated land is located in small plots along the lake edges or in open fields outside of town, sometimes as much as two hours' walk away. The amount of lakeshore land available for cultivation varies with the level of the lake, which varies drastically in repeating 30 year cycles. Because the lake level is currently very low, it has made available many lands that were underwater twenty years ago.

Santiago Atitlan suffers under the burden of accommodating more and more people into the same land space. In 1950 the population density was 69 inhabitants per km<sup>2</sup>. By 1964 that number increased to 94.9. According to the most reliable population estimates available the number of inhabitants per km<sup>2</sup> in 1985 would be 193, an incredibly dense population. An average of five people sleep together in the same room that also serves as kitchen, workspace and storeroom for corn. The town has no public drainage system, no public waste disposal system. Approximately 18 percent of the homes have piped water. Approximately 27% have electricity.

#### Water

The current water system was built in 1956. Using a large electric motor, water is pumped directly from the lake to a holding tank on a ridge above the town. The holding tank is a house-like cement block structure with an open window and cracks in the roof. It is cleaned twice a month. Water reaches only about fifty percent of 625 homes full time. The others have to wait until early morning hours (2-4 AM) to fill their recipients for the day's use.

Various attempts have been made to improve the water supply. Twenty years ago a new pumping station and a well were built next to the lake edge to use the natural filtering of the soil to provide purer water. The system was never connected, although the pumping station still exists. In years ago pipes were laid to a pure water source in the mountains. The number of gallons per minute produced by the spring were inadequate to supply the town and the problem was further aggravated by vandalism that destroyed much of the PVC pipe. Eventually the system was disconnected.

More recently PCI has contributed to provide the town with a chlorination system. Chlorination meets with much resistance at the consumer level because of objection to taste, but a more serious problem is at the technical level. The system is poorly supervised and inadequately maintained. The holding tank is badly designed and

allows a lot of organic and inorganic contamination to enter. A study of the lake water several years ago showed that deep lake water was practically pure, water in the holding tank moderately contaminated and water at the system's end more contaminated than the water brought from the lake edge in jugs.

### Economy

An occupation of almost all atitecos is agriculture. Seventy nine percent of the Indian population is dedicated to agriculture. Usually this is combined with working at least parttime for wages as a mozo or farmhand. For those that are lucky enough to have work, the average monthly wage is between 25 and fifty quetzales. Going wages are Q. 1.50 ( us 50 cents) per day. Approximately twenty percent of Atitecos are involved at least parttime in trading. This percentage greatly increased during the fifties after the opening of the road that connects Santiago with the coastal highway. The profits from trading depend on the availability of cheap transportation by either bus or transport trucks. Current fuel shortages and increased fuel costs will impact directly on its profitability.

Traders normally carry goods produced in Atitlan (beans, chili, coffee, vegetables and fruit) to the coastal areas or the capital and return with goods (sugar, fruit, rice) from those areas to sell in Atitlan. Friday is market day and producers come from miles around to sell their goods.

Fishing was formerly a fairly important source of income to the Atiteco, as well as an important dietary supplement. In 1950, 100 to 125 families depended on fishing for their income. Fishermen fished for small (1-2 in) fish abundantly available at the lake edge. These fish were the bases for one of the typical dishes of the area and offered a cheap source of protein and calcium. However the introduction of wide-mouth bass for the tourist trade at the other end of the lake virtually eliminated the small fish by the mid-sixties. Now very few families dedicate themselves to fishing since the bass prefer deep water and require special equipment to be caught.

The ladinos who represent less than five percent of the population, tend to be the shopowners, pharmacists civil employees, teachers and other professionals in town. Santiago has very few professionals: three physicians, one registered nurse, twenty-seven teachers. There are three pharmacies in town, but the pharmacists are all self-taught. No dentists. No lawyers. The police have a permanent force of six and the military have a permanent base with approximately 200 soldiers.

## APPENDIX 5

### History of Clinica Santiaguito

Clinica Santiaguito is the heart of PCI's program in Guatemala.

It comprises a clinic, a 15-bed inpatient facility, two ambulatory nutritional recuperation centers tuberculosis treatment program, a well-child clinic, two satellite clinics in the rural areas and various educational services.

Clinica Santiaguito was founded twenty years ago by Catholic missionaries from Oklahoma. When the American priests first arrived in the early sixties, no professional medical care was available in Santiago. People used home herbal remedies, traditional healers or went to one of the three pharmacies in town for advice. By offering medicine for free or at very low cost, the demand for services soon outstripped the small facilities of the mission. A campaign was started in Oklahoma to raise funds for a modern hospital in Santiago Atitlan. An added impetus was given to the campaign in 1967 when an outbreak of measles in Santiago killed approximately 400 children in six weeks.

The hospital is located 1.5 km from the center of town on a large piece of land donated by a citizen of Santiago. It has a dental clinic, two outpatient consulting rooms, an emergency room, operating room, three-bed maternity ward, twelve bed general ward, administrative offices and an electric generator. The hospital was opened for services in July, 1969.

Within a few months, the hospital was full. Nine locally-trained nurses worked along side the American nurses. Surgery was carried out on a regular basis by a surgeon from the capital who volunteered his time. However it was not long before some problems became obvious. The number of patients coming for out-patient services was no greater than the number that came to the parish clinic. The percentage of Atitecos was actually fewer. At this time direct transportation ( a two hour trip) was available to the finca areas and many plantation workers utilized the clinic. Other patients came from the San Pedro, San Lucas and Aguas Buenas areas. Eventhough patients were required to pay for part of the services the hospital proved to be inordinately expensive to maintain. By 1973 the Oklahoma diocese was looking for another program to take over the hospital and outreach services.

In 1975, Project Concern International took over Clinica Santiaguito, the Casa Bonita Nutrition Center, the satellite clinic at Cerro de Oro and the finca program. From its beginning with the Catholic Mission the program had always placed a high value on preventive care. Under the Catholic sisters, health promoters were trained in the finca areas and Cerro de Oro, a small village 8 km from Santiago. The Casa Bonita Nutrition Center placed equal emphasis on nutritional recuperation as on education. Under Project Concern's direction that emphasis continued and was furthered. A tuberculosis detection and treatment program was begun, a second nutrition center opened and training of traditional birth attendants instituted. The hospital was still a central part of the program but health education and preventive programs were an equally important part.

In 1978 the finca program which PCI had continued was taken over by INCAP ( The Nutrition Institute of Central America and Panama) for a pilot project. At the end of two years, INCAP withdrew its support. However by this time there was no longer a direct road in passable conditions to the finca are. The two-hour trip became five hours by the coast road. The program clinics in the coast town, was not reinstated. Finca workers began using.

From 1979 until 1982 other events beyond the control of PCI conspired against further expansion of PCI's programs. Santiago Atitlan became one of the targets of the political violence that rocked the country during those years. By 1981 the American doctor, who had been the director for the previous four years, was forced to leave. In July of that year, the American priest, Stanley Rother, was assassinated. Disappearances and assassinations were a daily occurrence. One rural area close to Atitlan with a population of 780 has over one hundred widows. While the hospital was never directly affected, armed conflicts occurred within a short distance of the hospital. Inspection visits by the military also became routine. Meetings by more than three people were prohibited in town. All educational and training activities came to a halt. All of the programs funded by PCI continued but in a very subdued way. No attempt was made to expand programs or initiate training activities.

For the same reasons, PCI-Guatemala suffered from a lack of administrative direction during this period. Very few people were willing to risk living in Atitlan and those who came stayed only a few months. Even had a good administrator been found during this period, there is not much that he could have done. The situation remained basically unstable until mid-1983.

In 1984, PCI-Guatemala once again began to focus on Primary Health care programs. In coordination with Sistemas Comunitarias Integrados ( a primary health care government program funded by US AID), PCI Guatemala trained twenty-four community health workers and nineteen traditional birth attendants. Supervision of same became the responsibility of the government health center. At the same time other health education activities were increased. Health talks on the prevention and treatment of tuberculosis were given throughout the town and surrounding villages. Classes for mothers who brought their children to the well-child clinic were begun. New groups of health volunteers began training.

In 1985, the TBA training program continued, but the promotor training was suspended pending further evaluation of the program. The system of specialized health volunteers has expanded from nineteen people and two groups in 1983 to sixty-six people and six groups in 1985. These groups work closely with the centers they are associated with, with the two nutrition programs, the well child clinic and the tuberculosis program. They receive weekly instruction in the area of their specialty ( malnutrition, maternal-child health and tuberculosis) and are then responsible for going out into their communities to teach and detect problems. They are taught the basics of good nutrition, how to make the oral rehydration solution.

to make the oral rehydration drink in the home, the principals of family planning, good hygiene, and the basics of the illness-wellness process. Their function is education and prevention. Illnesses that cannot be treated oral rehydration good and adequate nutrition are referred to nearby clinics.

WORKING PLAN FOR TWO NUTRITION CENTERS IN SANTIAGO ATITLÁN

Susan Erick, Nutricionista

**Objectives:**

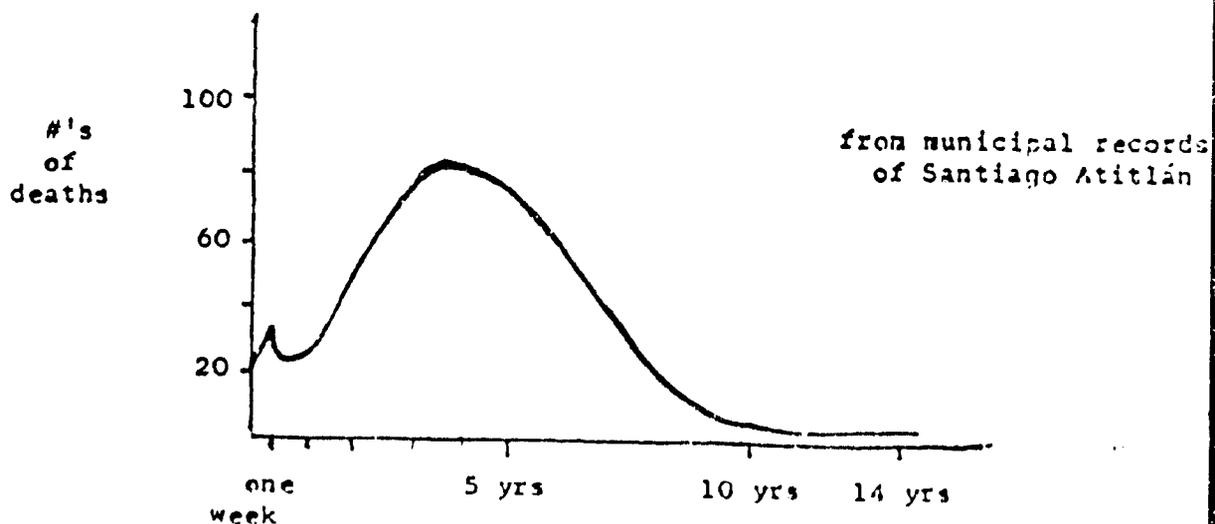
To establish two new nutrition centers to augment and extend the work of the Casa Bonita. The two new centers will be near the cooperative farm on the west side of town and in Cerro de Oro on the east side, at a distance of about 5 and 10 kilometers from town, respectively. The distances are great enough that a review of the records of the Casa Bonita shows that since 1971 only 2 children have come from Cerro de Oro and very few from Panabaj, Providencia and Chacaya. Experience and the records also show that these children arrive at the Casa Bonita in bad condition. There are relatively more deaths and more admissions of extremely malnourished children from these areas. The parents of the children as well as the nutrition workers attribute this situation to distance from the Casa Bonita.

The expressed need for a new center in Panabaj and one in Cerro de Oro is not new. The nutrition workers have considered it for several years and the supervisor of nutrition services from Salud Publica de Guatemala has urged us to begin. The aldea of Cerro de Oro built their nutrition house with volunteer labor and donated money.

The responsibility for policies and costs, except those pertaining to personnel, will be assumed by Salud Publica de Guatemala with a few months of beginning work.

**Background:**

In Guatemala 75% of children under 10 years old show measureable effects of malnutrition (González scale - Modern Nutrition, Goodhart & Shils). In Santiago 80% of deaths in 1974 were in children under 14 years. The age breakdown was as follows:



The low peak at less than one week is attributed to birth trauma due to lack of obstetric care and to still births and low birth weight term babies. The latter causes are related to prenatal and maternal malnutrition.

The peak at 4-6 years is attributed to protein-calorie malnutrition, usually with the complications of infectious diseases and parasites. Surveys of individual diets of rural Guatemalan children show drastic deficiencies of calories and protein.

	1 yr.	2-3 yrs.	4-5 yrs.
calories	63%	66 %	48 %
protein	79 %	74 %	67 %

from: Flores y Menchú,  
Arch. Latino Americano de  
Nutrición, (20) p. 41, 1970

Numbers are % of recommended daily allowance

The gross deficiency of diets of small children is due to the relatively high food needs of children for growth and childhood diseases and to the nature of the diet of the rural poor, which relies heavily on corn and beans. These two foods, eaten together, provide a complete protein and sufficient calories, but only if they are eaten in large quantities. Since families eat only twice a day and small children are usually unable to consume large quantities that they require their diets are often very poor compared to the diets of the rest of the family. For this reason efforts at nutritional recuperation and education need to be directed to small children and their mothers. Efforts should be directed toward: 1) showing the mother that her child gets well eating an adequate diet 2) teaching her to maximize the value of what her child eats by giving protein-rich foods to the children, in preference to adults if need be 3) encouraging mothers to introduce iron and protein rich foods early in the diets of babies and 4) showing mothers how to use supplemental foods like Incaparina.

Although the problem of malnutrition is most common in children it can and does occur at any age. It is very often a contributing or direct cause of disease and death at any age in rural Guatemala. Any medical project that fails to take nutrition into account is futile under these conditions. By the same token nutrition projects can't hope to solve the problem by only recuperating malnourished children. All of us, medical and nutrition workers alike realize that we are ridiculously outnumbered by the sick and malnourished and that our long range goal must be education of the people in basic concepts of nutrition and sanitation so that in the future their actual needs for medical and nutritional services will be reduced.

#### Tactics:

For purposes of education proximity, both physical and cultural, to the community is essential. Our approach is to use small decentralized nutrition centers, local foods and local stoves. The centers are staffed by people who know the community and have the best chance of presenting new ideas effectively.

The mothers will be expected to attend one class and one work turn per week. This schedule complies with the requirements of Salud Pública (see Budget). The nutrition workers in Atitlan agree that small classes are best

and that frequent home visits provide the best opportunity to reinforce what is taught in classes. An additional benefit of keeping centers small is that each mother has more opportunities to help with the work of the center and to learn with direct supervision of the nutrition worker and cook.

Small classes provide the nutrition workers an opportunity to learn what the specific needs of an area are, as well as to teach basic concepts of nutrition. The classes usually consist of a cooking demonstration, a short talk on some pre-prepared topic and then an informal discussion. These discussions often bring to light problems that may be missed in a hurried clinic, and the nutrition workers are often asked to explain doctor's instructions that were not completely understood.

The nutrition worker is in an excellent position to learn how sanitation is handled by families and how latrine and potable water projects need to be adapted to local customs. This sort of exchange is of mutual benefit to the people we serve and the health project as a whole.

A largely unforeseen benefit of working closely with the mothers in our existing nutrition centers has been the opportunity to do family planning. Both in the fincas and in town most of our family planning work is done through the nutrition workers, at least initially. The reasons given for this is that the nutrition workers are women and are well known to the mothers and their female relatives.

Since the children will eventually be spending the whole day at the center we would like to improve the quality of the time they spend with us between meals. There is considerable evidence that an enriched environment is as important as food in overcoming the mental retardation that is associated with severe early childhood malnutrition (see bibliography "Starved Bodies, Starved Brains" Psych. Today, Oct. 1975). We are working on toys and games that aid cognitive development of young children and trying to provide surroundings that are as varied and stimulating as possible.

#### Evaluation:

Evaluating the progress of individual children is easily accomplished by weighing and measuring the child every week and recording the disappearance of overt signs of malnutrition. We have requested a set of Salud Publica charts so that our system of record keeping will conform to theirs from the start. The progress of a family can be evaluated by the rate of readmission of previously recuperated children and by admissions at a later date of younger brothers and sisters of a recuperated child. The records of the Casa Bonita show a rate of less than 5% readmissions and a similar rate of admissions of younger brothers and sisters. In the future we will record the number of younger siblings in each family and try to follow their progress with home visits. This will allow us to see if the experience gained by the mother with one child affects her ability to raise subsequent children without nutritional crises.

Salud Publica requires one follow-up visit to the family of a recuperated child a year after he leaves the center. The nutrition workers make more visits if time allows. The success of classes is tested by designing problems for the mothers to see if they have understood a talk on a specific topic.

The classes are very popular, with many mothers continuing to attend long after their child leaves the center. The facet of our work that is most difficult to evaluate, and probably most important, is the indirect effect of the recuperation of a child on his family and community. We know that in some cases the recuperation of a single child may have a dramatic effect on a whole extended family or neighborhood, but this is a difficult thing to measure.

Budget:

These expenses are calculated on the base of 20 children, eating breakfast and lunch, at one center, with two paid employees.

<u>first month</u>		<u>second month</u>	
childrens dishes, 20 (1.25)	= 25.00	food (children)	= 112.00
pots and pans	= 34.00	food (adults)	= 11.20
incidentals	= 5.00	salaries	= 50.00
food, 20 children, 5 days/week	= 112.00	incidentals	= 5.00
food, 2 adults 5 days/week	= 11.20		<u>175.00</u>
salaries (2)	= 50.00		
	<u>252.00</u>		

Additional expenses will be: gas stove = \$100.00 or less = 10.00 /month, scales, medicines. = less than 25.00

We will continue to receive supplemental foods through CARE for use in the centers, and distribution to families.

Salud Publica will assume financial and policy responsibility in all areas except salaries and personnel within a few months of beginning operation of the centers. The Salud Publica supervisor agreed to start as early as Feb. 76, but it would be realistic to expect a delay of 2-3 months.

## APPENDIX 7

### HEALTH SURVEY

SANTIAGO ATITLAN, DECEMBER 1977/JUNE, 1985

#### INTRODUCTION

Any program which intends to serve the people requires prior knowledge of the basic conditions and necessities of the people. In 1977, Dr. John Emrick, executive director of the Santiaguito Clinic, carried out the Santiaguito Clinic's first survey, on the health situation in Santiago Atitlan. His work dealt primarily with nutrition, the occurrence of malnutrition, and maternal-child health among the people.

In 1985, Project Concern International, the organization financing the Santiaguito Clinic, completed ten years of service in Santiago Atitlan. Eight years after the first survey, it seemed appropriate to us to repeat the 1977 study in order to determine the impact of the project on the community. It also gave us the opportunity to re-evaluate prior programs and consider the development of new programs.

Many factors affect the health situation of a community. Education alone does not improve health. Rather, access to nutritional food in adequate quantities, employment possibilities to sustain the family, and a desire to overcome problems also contribute to the improvement of the health situation. Recent years in Santiago Atitlan have been very difficult in regard to all secondary factors affecting health.

Nevertheless, there are changes and we hope that, at the least, the Santiaguito Clinic has contributed to the improvement of the health situation and to decrease the negative effects of recent years, such as the high cost of living, the lack of jobs, and political instability.

#### JUSTIFICATION

As mentioned above, the second survey was carried out to determine what effect, if any, the Santiaguito Clinic has had in its ten years of work with the town of Atitlan in the health field. In Santiago Atitlan the treatment of malnutrition and disease prevention education have always been the focus. Therefore, an improvement in the incidence of malnutrition and greater knowledge of good health habits could have been expected.

#### OBJECTIVES

1. Determine changes in infant mortality rates.
2. Compare the level of malnutrition in children under the age of five.
3. Between the two years, compare the level of parasites.
4. Compare compliance with pre-natal checkups by the mothers.
5. Compare the people's perceptions of health and of how to avoid diseases.
6. Gain new information to assist in the development of other programs.

#### METHODOLOGY

As far as possible with the information available after 8 years, conformity with the same methodology of the original study was attempted. The same survey forms were not used, but similar ones were, removing some questions and adding others that would be more useful for the present program.

1) Ten persons worked taking the survey in six teams of two with one substitute: five employees of the Santiaguillo Clinic and eight volunteers in the health area (4 rural health promoters, three tuberculosis workers, and one worker in infant-maternity health). All were fluent in the local dialect, Tzutuil, and had experience working with people and making home visits. The 1977 study utilized 15 persons; 10 employees of the clinic and five from the town.

2) The persons taking the survey attended classes for two days. These included practice role-plays and field practice in the town doing sample surveys. In 1977 three days of classes were held.

3) The group split up into pairs to visit houses in each district and the two small hamlets of Santiago Atitlan.

4) The objective was to reach 5% to 10% of the population less than five years of age. To achieve this objective 388 children, or 388 families, were chosen at random, based on 1977 data, when 312 families were chosen, and allowing for an annual population growth rate of 3.2%.

5) Each district was divided into sectors and instructions were given to the persons taking the survey to choose any house at random to start with, and then to continue selecting every tenth house following the first, so as not to concentrate in the same sector.

6) The number of houses in each district was divided according to population in the following manner:

<u>District</u>	<u>Number of Families Visited</u>	
	<u>1977</u>	<u>1985</u>
Kechivoy	30	100
Panaj	80	100
Panul	40	50
Tzanjuyu	40	50
Pachichaj	40	50
Panabaj	20	25
Tzanchaj	12	14

7) Each group carried a portable balance to weigh the child, a tape to measure the size of the child, a tape to measure the brachial perimeter, and the survey form.

8) Eight days of full-time labor were needed (June 3 to June 11, 1985) to complete the survey. Each interview took an average of forty-five minutes.

CONCLUSIONS

Some basic problems with the design of the survey form were encountered.

The problems with the survey form resulted from a desire to in large part repeat the survey of 1977. Several of the original questions might have been better constructed, open questions instead of questions with options to select, for example, but the questions were repeated in the same form. Another problem in comparing the data arose from subtle changes made in the questions so that they would no longer be directly comparable. For example, an original 1977 question read: Where do you prefer to give birth: in 1) your house with a midwife; 2) your house with the doctor; 3) in the Santiaguito Clinic. In 1985 the question was changed to read: Where did you have your last childbirth? 1) in your house with a midwife or 2) in a clinic.

With the intention of gaining the most information possible many new questions were added. For this reason the interview time grew too long. The majority were performed in an average of forty-five minutes.

However, in spite of these difficulties many changes in the results were noted between the two years.

Infant Mortality

Because of the form of the question, we do not know the age of death of the children, nor how many were aborted or stillborn. Nevertheless in 1977 one out of every four children died, while in 1985, one out of every five died.

Level of Malnutrition

In 1977 most children appeared in malnutrition Levels I and II (according to the Gunez scale). In 1985, the vast majority are still in malnutrition Levels I and II, but a slightly larger percentage (42% versus 35%) in Level II. It should also be noted that the data from the extremes is reversed: 9% of the children are normal instead of 5%, and 3% of the children are at Level III instead of 9%. Although the difference is small it indicates a positive change.

Water Usage

Between 1977 and 1985 an increase in the quantity of water used daily can be seen. This may indicate a greater awareness by the people of the importance of cleanliness. As in 1977, many people (46%) who do not have their own plumbing buy their water from a neighbor instead of going down to the lake. For this reason a chlorination or water purification system could affect up to 62% of the population or more if this is done in conjunction with a public water distribution system or official sites for water purchase.

The percentage of people boiling their water has not changed significantly. This probably reflects the difficulty and the high cost of wood used to boil the water over flame, an even greater reason to have a public water purification system.

Sewage Disposal

The terrain around Atitlan is very rocky and the sites are very few, two factors that do not favor the construction of dry well type latrines. Thus the increase in the use of latrines is even more impressive: twice the

percentage of people are using latrines in 1985 over the 1977 level (44% versus 22%).

#### Medical Services

In 1985 the prices of many medicines doubled or tripled over their 1984 levels. Thus, 71% of those interviewed, instead of 53%, spend up to Q5.00 monthly on medicine. Another significant fact is the increase (10% versus 0%) in those who pay more than Q10.00 monthly.

A small increase in the number of persons who use the Health Center can be seen (in 1977 the Health Center was still under the direction of the Santiaguito Clinic), but the Santiaguito Clinic is the most-used medical service in the town. In 1977 only the Santiaguito Clinic, the Health Center, individual pharmacies, and traditional witch-doctors existed. Not until years later was there a private doctor in the town, but according to the data, very few people (3%) avail themselves of private services. Another significant fact is the small use of home-made remedies (3% instead of 13% in 1977). At a time when the cost of medicine is high, home-made remedies (that is, medicinal plants) may be a good resource for the people. It will again be necessary to arouse interest and confidence in medicinal plants.

#### Pre-natal Checkups

A rather large increase in the number of mothers who go to their pre-natal checkups has been noted (31% versus 19% in 1977), which may have had an impact on the number of infant deaths. However, far fewer than 50% of the mothers go to their checkups.

#### Vaccinations

The percentage of children vaccinated remains more or less stable while the number of parents who believe that the vaccination of children is important has fallen significantly (88% versus 99%). This may reflect a lack of confidence in vaccinations.

#### Parasites

Of 111 examinations done in 1977, only one was negative for parasites. In 1985, of 242 examinations, 37 were negative. The increase in negative examinations may reflect the increase in the use of latrines.

#### Perceptions of the People

Not only the objective data, but people's perceptions (what they perceive as their principal problems) are also important as indicators of the health situation. With the question: "What do you need to avoid sickness?" there was a significant change. In 1977 12 persons answered that they needed more food. No one mentioned hygiene. In 1985 266 persons answered (hygiene and environmental health responses) that cleanliness is important and only 32 mentioned food, although adequate nutrition is important as well.

In 1977 the most urgent worries or necessities were money, food and land. In 1985 these became hygiene, latrines and then money. Another important point is that 14 persons mentioned the necessity of having a stove when no one mentioned this in 1977. In addition, few people mentioned the need for latrines.

The town's most urgent need in 1977 was education. In 1985 people had greater interest in water and latrines.

APPENDIX 7 (Continued)  
COMPARISON OF HEALTH-RELATED DATA IN SANTIAGO ATITLAN  
FROM PCI SURVEYS IN 1977 AND 1985

<u>Results</u>	<u>1977</u>		<u>1985</u>	
1) Number of Mothers	317		388	
Number of Children	1620		1849	
Alive	1246		1509	
Dead	374		340	
1977-One child in four died				
1985-One child in five died				
2) Weight for age (Gomez Categories) of children under five				
	<u>1977-312 Children</u>		<u>1985-175 Children</u>	
Normal	16	5%	15	9%
Low Weight	112	35%	73	42%
Malnourished	153	49%	81	46%
Very Malnourished	31	9%	6	3%
	<u>312</u>	<u>100%</u>	<u>175</u>	<u>100%</u>
3) Amount of water used daily (1 "tinaja" = 2 gallons)				
	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
less than 3 tinajas	35	11%	36	9%
less than 3-5 tinajas	202	65%	135	49%
more than 5 tinajas	75	24%	160	42%
	<u>312</u>		<u>381</u>	
4) Water source				
	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
lake	127	39%	139	36%
own pipe	50	15%	61	16%
neighbor	139	42%	177	46%
well	13	4%	10	2%
	<u>329</u>		<u>388</u>	
5) Does the family boil the water?				
	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Yes	169	56%	216	57%
No	135	44%	164	43%
	<u>304</u>		<u>380</u>	
6) Where do you take care of your needs (defecate)? Do you use latrines?				
	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Latrines	69	22%	169	44%
compound	189	60%	129	34%
field/surrounding areas	47	15%	20	5%
other	8	3%	64	17%
	<u>131</u>		<u>382</u>	

## APPENDIX 7 (continued)

## 7) Monthly expenditures for medicines and medical care

	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
nothing	15	5%	3	0%
1-5 Quetzales	160	53	267	71%
5-10 Quetzales	127	42%	72	19%
more than 10 Quetzales	0	0%	36	10%
	<u>302</u>		<u>378</u>	

## 8) Where do you go for care?

	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Health Center	66	18%	106	23%
Clinica Santiaguito	129	36%	173	37%
Pharmacy	110	30%	136	29%
Traditional Healer	2	5%	12	2%
Parish	--	-	13	3%
Private Physician	--	-	13	3%
Home Remedies	48	13%	16	3%
Other	5	1.5%	0	0
	<u>360</u>		<u>469</u>	

## 9) Did the mother go for her prenatal visit?

	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Yes	60	19%	118	31%
No	253	81%	258	69%
	<u>313</u>		<u>376</u>	

## 10) Did you have your children immunized?

	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Yes	215	73%	268	74%
No	79	27%	94	26%
	<u>294</u>		<u>362</u>	

## 11) Do you believe that it is important to immunize children?

	<u>1977</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Yes	289	95%	317	88%
No	17	5%	45	12%
	<u>306</u>		<u>362</u>	

## 12) Stool Examinations

	<u>1977</u>	<u>1985</u>
Whipworm	99	142
Amebas	6	0
Giardia	-	9
Ascaris	97	174
Other	5	7
None	1	37
	<u>288</u>	<u>369</u>

results of 111  
examinations

results of 242  
examinations

APPENDIX 7 (continued)

13) What do you need in order to avoid diseases?

	<u>1977</u>	<u>1985</u>
More food	121	32
Better food	-	-
More money	51	-
More education	25	-
More doctors	36	6
More water	1	-
Better Water	1	-
Cleanliness	-	141
Enviromental hygiene	-	125
Immunizations	-	18
Other	70	21
No response	-	76
Don't know	82	10
	<u>366</u>	<u>429</u>

14) What are your most urgent needs?

	<u>1977</u>	<u>1985</u>
Money	137	72
Food	87	-
Land	37	-
Work	31	-
Hygiene/Cleanliness	16	144
Housing	14	-
Water	10	64
Latrines	9	109
Education	9	-
Health	8	-
Clothing	7	-
Medicines	4	-
Family Planning	3	-
Fuelwood	3	-
Laundry Sink	-	14
Electric power/light	-	22
Other	23	17
Have none	14	-
Don't know	89	-
	<u>498</u>	<u>442</u>

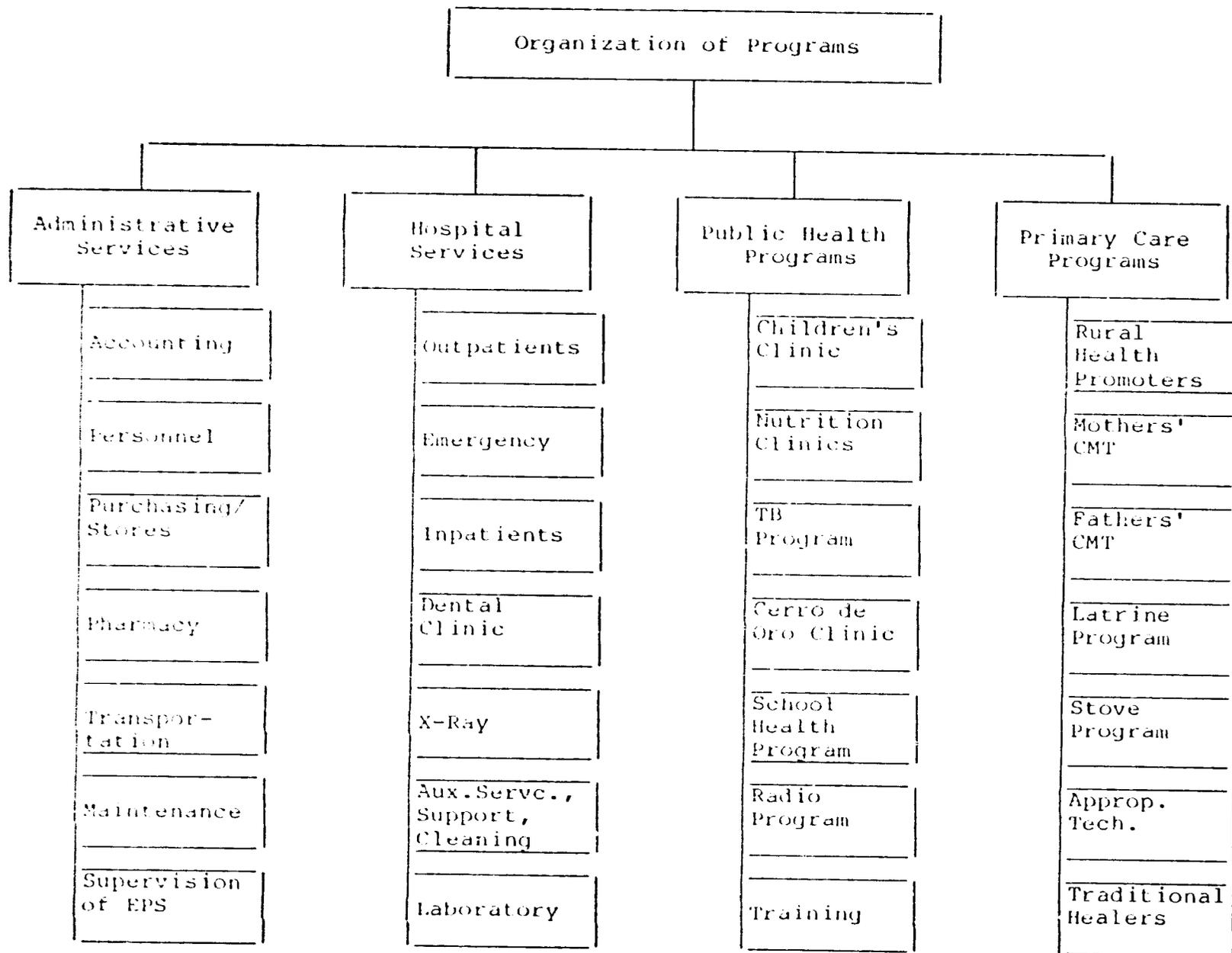
15) What are the most urgent needs of the townspeople?

	<u>1977</u>	<u>1985</u>
Education	111	-
Water	73	172
Doctors/Medicines	65	-
Light (electricity)	20	28
Latrines	13	107
Roads	12	-
Cleanliness	10	59
Nutrition service	6	-
Road repairs	5	-

APPENDIX 7 (continued)

15), Cont.

	<u>1977</u>	<u>1985</u>
Land	4	-
Food	4	1
Jobs	-	6
Laundry sinks	-	13
Money	-	5
Others	36	12
Don't know	<u>129</u>	<u>-</u>
	359	406



ORGANIZATION OF PROGRAMS

APPENDIX 8

## APPENDIX 9

### Tasks of the Rural Health Workers

- 1) Inform community leaders about the work they will perform
- 2) Do a sketch or outline of the community
- 3) Take a census of the community
- 4) Identify malnourished children and bring food to them
- 5) Work with vaccination programs
- 6) Teach mothers how to prevent and treat diarrhea
- 7) Deliver oral serum to families with children under five years of age with diarrhea
- 8) Inform families about contraceptive methods
- 9) Distribute oral contraceptives to users identified by the Health Center or the Santiaguillo Clinic
- 10) Promote potable water projects, latrines, and home improvements
- 11) Assist in the construction of these projects
- 12) Inform mothers of the benefits of breastfeeding
- 13) Explain to families the methods of preventing and treating measles, whooping cough, cough, colds, tuberculosis, skin diseases (pimples and abscesses), and accidents
- 14) Give first aid to accident victims
- 15) Refer complicated cases to the doctor
- 16) Attend follow-up meetings

SUMMARY OF STATISTICAL DATA  
STAFF SERVICES OUTREACH PROGRAMS

Month	CLINICA DE NI-COS						CASA MONTE			PANABAJ			March 12, 1985 TB TREATMENT PROGRAM		
	Well-Child Care			Prenatal Care			No. Children in Prog.			No. Chil. in Prog.			No. of Patients		
	1983	1984	1985	1983	1984	1985	1983	1984	1985	1983	1984	1985	1983	1984	1985
Jan	65	91	89	6	2	3	5	0	0	10	0	0	64	45	72
Feb	62	110	119	4	2	4	16	12	14	13	12	14	69	42	45
Mar	81	95	142	2	3	3	22	21	16	14	21	14	67	36	70
April	70	86	120	2	3	3	23	24	20	16	24	29	66	36	66
May	91	132	197	3	5	4	20	26	25	16	26	20	70	36	71
June	95	115	190	2	5	4	25	29	23	16	29	23	71	45	69
July	112	92	180	3	5	3	26	29	27	17	29	27	71	47	64
Aug	126	119	173	4	6	2	27		27	17	26	27	65	50	62
Sept	132	152	167	4	10	13	28	28	27	16	28	27	61	50	71
Oct	121	154	245	5	7	11	25	27	29	17	27	29	49	57	87
Nov	120	162	125	0	5	12	27	26	32	20	26	32	45	70	100
Dec	48	102	124	2	4	2	19	18	22	20	18	22	*	77	99
<b>Total</b>	<b>1,121</b>	<b>1,410</b>	<b>1,874</b>	<b>37</b>	<b>57</b>	<b>64</b>	<b>263</b>	<b>266</b>	<b>257</b>	<b>192</b>	<b>266</b>	<b>257</b>	<b>700</b>	<b>591</b>	<b>896</b>
<b>Average</b>	<b>93</b>	<b>117</b>	<b>156</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>22</b>	<b>24</b>	<b>21</b>	<b>16</b>	<b>24</b>	<b>21</b>	<b>58</b>	<b>49</b>	<b>75</b>

\* Data not available

APPENDIX 11

Tasks of the TB Workers

- 1) Inform community leaders about the work they are performing
- 2) Identify tuberculosis cases
- 3) Refer respiratory symptoms
- 4) Do home-visits in order to supervise ambulatory treatment and consulting appointments
- 5) Teach families how to prevent tuberculosis
- 6) Report on the Tuberculosis Program
- 7) Attend training meetings

APPENDIX 12

NUMBERS OF MALNOURISHED CHILDREN TREATED AND RECUPERATED  
AT TWO PCI NUTRITION CENTERS, 1983 - 1985:\*

<u>FACILITY/LOCATION</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Santiaguito Clinic/outside town	55/60	57/84	55/62
Casa Bonita/in town	30/36	46/66	46/56
No. Recuperating Per Year of Total No. Treated	85/96	123/150	101/48
‡ Recuperated to first degree malnutrition	89%	32%	86%

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\*Reported by Betsy Alexander, April 1986

APPENDIX 13

Summary of Training Activities

1983

1. Three-day class in hypodermic injections and first aid. Participants: 2 TB Technicians, 2 Health Promoters, 3 Staff Members, 4 Military Personnel, Total: 11.
2. Class in program planning offered by APROFAM (Guatemalan Planned Parenthood Association). Participants: 2 Staff Nurses
3. One week course in training trainers offered to staff and promoters involved in Primary Health Care. Participants: 20.

1984

- |                |  |
|----------------|--|
| June-August    | 1. Five-week training of CHW's from Santiago and San Pedro La Laguna held in conjunction with the Ministry of Health's Sistemas Comunitarios Integrados. Participants: 14 Santiago, 10 San Pedro La Laguna, Total: 24. |
| Aug, Sept, Oct | 2. Three-week training course over a three-month period for TBA's. In coordination with the government health clinic. Participants: 19 TBA's.  |
| November       | 3. One-week course in Family Planning offered to the three Mothers Committees at Casa Bonita, Panabaj and Well-Child Clinic. Participants: 44 MCH Promoters.   |
| June-Dec.      | 4. Weekly training sessions with three volunteers in the Tuberculosis Program. Objective to increase community outreach. All participants former patients or family members of TB patients. Participants: 3.           |
| March-Sept.    | 5. School Health Program. Weekly classes in hygiene and dental care to the students at the area schools. Number of Students Reached: approx. 1,500 students.   |
| Yearround      | 6. Radio Health Program: broadcast in Tzutuil with socio-dramas and various themes. Estimated audience: 30,000.  |
| Yearround      | 7. Weekly training and recruiting of new committee members. Begin making home visits and health talks from the beginning of their training accompanied by staff or older committee members. Participants: 46.          |

1985

- |            |  |
|------------|--|
| March      | 1. Training in lorena stove technique for promoters of Cerro de Oro. Two weeks. Participants: 6.   |
| Mar-May    | 2. Training for seven new TBA's, including one from the finca area. In collaboration with government health clinic. Three week course spread over three months. Participants: 7. |
| May-June   | 3. Preparation for and training of interviewers who took part in Health Survey, June, 1985. Participants: 13.  |
| July       | 4. First workshop on ceramic stoves. Improved smokeless stove made with ceramic inserts. Followed by 2-month study on firewood usage. Participants: 10.                          |
| December   | 5. First workshop on composting latrine. Dry latrine that produces safe usable compost. Participants to later construct their own latrines. Participants: 29.                    |
| Year Round | 6. School Health Program, this year limited to urban school. Focus on hygiene and dental health. Number  |

- Year Round
- Year Round
- Year Round
- Year Round
- Aug.-Dec.
- of students reached: approx. 1,000.
7. Continued training of Tuberculosis Program volunteers. Participants: 3.
  8. Radio Health Program: continued. Est. audience: 30,000
  9. Development and training of new Fathers Committees at Casa Bonita and Panapa Nutrition Centers. Participants:
  10. Continued training of Mothers Committee members. Participants: 40.
  11. Development of Stone-Makers Committee from participants in first training. Weekly health classes. Participants:

APPENDIX 1-

BRIEF JOB DESCRIPTIONS

1. MÉDICO DIRECTORA/MEDICAL DIRECTOR

In charge of all hospital programs, out-patient, in-patient, lab, x-ray, supervisor of student interns, supervisor of medical aspects of Children's Clinic and Nutrition Centers, advanced training of CHW's, initial training and refresher courses for IBA's, development school health programs in coordination with JEFE DE ENFERMERAS, Direct supervisor of hospital personnel and dental clinic personnel.

2. JEFE DE SERVICIOS ADMINISTRATIVOS/CHIEF OF ADMINISTRATIVE SERVICES

In charge of all accounts and inventory in the project: hospital, Children's Clinic, Nutrition Centers, Satellite Clinics, Tuberculosis Program, and pharmacies. Carries accounting system for PCI and Ministry of Finances of Guatemala. In charge of all personnel matters relating to salaries, taxes, social security, etc. Responsible for maintenance, security and transportation in the project. Direct supervisor of accounting personnel, receptionist, pharmacist, driver, watchman and maintenance personnel.

3. JEFE DE ENFERMERAS/HEAD NURSE

Supervisor of three empirical nurses and lab tec. In charge of prenatal clinic, administration of CARE Program, selection and training of IBA's, alternate supervisor with MEDICO DIRECTORA of Satellite Clinics. In charge of nutrition programs at satellite clinics and school health programs in rural schools.

4. TÉCNICO DE SALUD RURAL/RURAL HEALTH TECHNICIAN

VACANT POST. In charge of selection, training and supervision of CHW's in coordination with IBA's of government health clinic. Also coordinates Appropriate Technology Programs (composting latrines, improved stoves), formation of village improvement committees, water improvement projects, and expansion of CHW training. Direct supervisor of the Director of Appropriate Technology Program.

5. LABORATORISTA/BIOLÓGICA / LAB. TEC./NURSE

In charge of laboratory capacity for ovum and parasite studies, complete hematology, partial blood chemistries, micro and macro urinalysis, gram stain, smears, etc. No bacterial cultures. In charge of training other auxiliary personnel in basic lab techniques. Alternate nurse when need arises.

6. FARMACÉUTICO/FARMACIA / PHARMACIST/XRAY TECHNICIAN

In charge of central Pharmacy, ordering medicines, distribution to outlying pharmacies, inventory, pricing of medicines. Also reports monthly on income from each program. In charge of radiology department (approximately one-fourth of work hours dedicated to x-ray). Direct supervisor of pharmacist at Community Pharmacy.

## APPENDIX 14 (continued)

## 7. INFERMERAS PRACTIGANTES/PRACTICAL NURSES

Three empirical nurses, trained by the clinic. In charge of in-patient care, injections and treatments, normal deliveries, classes for pre-natal clinic and school health classes. Also participate in Radio Programs.

## 8. PROMOTOR DENTAL/DENTAL PROMOTOR

Trained by dental interns. Serves as translator and dental assistant for dental interns. Also works independently for extraction, teeth cleaning, fillings, root canals. Participates in training of other dental promoters as well as oral hygiene education.

## 9. ENCARGADA DE CLINICA DE NIÑOS/DIRECTOR OF CHILDREN'S CLINIC

Trained by Clínica Santiaguito. In charge of all programs at the Children's Clinic: well child care, pediatric consults, prenatal care, family planning services, injections and treatments. Supervises and trains group of 15 MCH volunteers, weekly home visits, special classes for mothers of children in Well Child Clinic, pregnant mothers and family planning services recipients.

## 10. ENCARGADO DE PROGRAMAS DE TECNOLOGIA APROPIADA/DIR. OF APPROPRIATE TECHNOLOGY PROGRAMS

VACANT POST. Trained in techniques of lozena stoves, ceramic stoves, composting latrines. In charge of training and supervision of participants in improved stove and composting latrine projects and development of new techniques adapted to the community. Responsible for Health Education Programs of the Radio in Tzutuil.

## 11. DIRECTOR DE PROGRAMAS NUTRICIONALES/DIRECTOR OF NUTRITION PROGRAMS

Trained by Catholic Mission and PCI. Responsible for the supervision of the nutrition centers and development of new programs, direct care of up to 35 malnourished children at Casa Bonita Center. Supervises and trains groups of 23 MCH volunteers (Mother's Committee), 8 MCH volunteers in the Father's Committee, supervision of training activities, home visits, follow-up on children who have been discharged from nutrition center, training of new personnel.

## 12. DIRECTOR DE PROGRAMA NUTRICIONAL PANABAJ/DIRECTOR OF NUTRITION PROGRAM AT PANABAJ

Directly in charge of Nutrition Center at Panabaj. Care of up to 35 malnourished children, health and nutrition education classes of mothers and fathers of children in center. Supervises and trains 11 members of Mother's Committee and 5 members of Father's Committee, home visits, supervision and follow-up of children discharged from center.

## 13. ASISTENTES DE CENTROS NUTRICIONALES/ASSISTANTS AT NUTRITION CENTERS

One assistant in each nutrition center who helps with cooking, childcare and training activities.

## 14. TÉCNICO DE PROGRAMA DE TUBERCULOSIS/TECHNICIAN OF TUBERCULOSIS PROGRAM

VACANT POST. In charge of supervising treatment of tuberculosis patients in the treatment center, making follow-up visits in the home to educate patient and family, to seek out contacts of patients and convince them to come in for treatment, to detect new patients. Makes monthly reports to the Ministry of Health. Assisted by three volunteers who are trained and supervised by technician.

## 15. LIMPIEZA/MAINTENANCE//JANITOR/MAINTENANCE

HALF - TIME. Responsible for cleaning of main hospital building as well as maintenance of plumbing and electrical systems of all facilities. Cares for flowers and plants at hospital.

## 16. LIMPIEZA/LAVADURA / CLEANING/LAUNDRESS

HALF-TIME. Responsible for cleaning of auxiliary hospital building (in-patient bldg.) and washing and upkeep of linens.

## 17. CHOFER/MECANICO / DRIVER/MECHANIC

Responsible for transportation of personnel and patients to and from the clinic, transportation of children in Panabaj Nutrition Center, trips to satellite clinics, and ambulance service after-hours. Also responsible for upkeep of all project vehicles and hospital equipment.

## 18. GUARDIAN/LIMPIEZA / WATCHMAN/GROUNDS KEEPER

Responsible for protecting hospital grounds on nights and weekends. Reports all visitors and emergencies. Serves as assistant to nurses on night duty. Also takes care of grounds and various odd maintenance jobs on weekends.

## 19. ENCARGADA DE FARMACIA DEL PUEBLO/DIRECTOR OF COMMUNITY PHARMACY

In charge of sale, inventory and control of medicine at Community Pharmacy. Also assists when necessary with activities in the Children's Clinic.

## 20. ASISTENTE DE CONTABILIDAD/ACCOUNTING ASSISTANT

In charge of preparing medicine inventories, reviewing all accounts receivable, preparing payroll and other responsibilities under the supervision of the Chief of Administrative Services.

## 21. CONTADOR DE PROYECTO ESPECIAL/SPECIAL PROJECT ACCOUNTANT

TEMPORARY POSITION. Carrying out study of administrative and accounting systems to determine which programs are self-financing or can be made self-financing. Will help to set up new accounting systems.

**22. RECEPTIONISTA/ENCARGADA DE BODEGA / RECEPTIONIST/CENTRAL SUPPLY CLERK**

In charge of receiving patients, charging for ambulance services and patient consult, retrieving medical files and making new records, translating for doctors and patients when necessary. Also in charge of maintaining central supply, maintaining supply and distributing supplies.

## APPENDIX 15

### TASKS OF MEMBERS OF THE MOTHER'S COMMITTEE NUTRITION CENTER

- 1) Inform the community about the work they are performing
- 2) Visit houses to identify malnourished children
- 3) Inform families about the services of the Kechivoy (Casa Bonita) and Panabaj (Casa de Ninos) nutritional centers
- 4) Refer malnourished children to the centers
- 5) Teach mothers how to prevent malnutrition
- 6) Report on the importance and benefits of breastfeeding
- 7) Attend malnourished children at home and refer serious cases
- 8) Make hygiene and home demonstration presentations
- 9) Attend training meetings

### Tasks of Members of the Mother's Committee: Children's Clinic

- 1) Inform mothers about the importance of weight control for children under six years of age
- 2) Promote immunization
- 3) Teach mothers how to prevent malnutrition, malaria, measles, whooping cough, tuberculosis, polio myelitis, diphtheria, and tetanus
- 4) Attend cases of diarrhea with or without dehydration, and common skin diseases in children
- 5) Refer complicated cases to the Children's Clinic
- 6) Provide information on the importance of breastfeeding
- 7) Refer pregnant women to their pre-natal checkups
- 8) Promote Family Planning, educate about Family Planning, and distribute oral contraceptives to users
- 9) Provide hygiene and home-improvement demonstrations
- 10) Attend training meetings

APPENDIX 16

ANALYSIS OF PERSONNEL COSTS (\$ US)<sup>1</sup> 1985

Program Personnel Paid by PCI			Community Programs				Hospital Programs			
Position	Total FTEs	Average Salary	Preventive		Curative		Preventive		Curative	
			FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost
Nutrition Center	4	\$ 580	2.0	\$1,760	2.0	\$1,760				
Children Clinic	1	\$ 580	.8	464	.2	116				
TB Educator	1	\$ 580	.5	290	.5	290				
Nurses	1	\$ 580	.5	290	.5	290				
Hospital Staff	13	\$ 580	--		--		1.0	\$ 580	12.0	\$6,960
Medical Director	1	\$7,300	.5	\$1,825	.5	\$1,825	.5	\$1,825	5	\$1,825
<b>Total:</b>	<b>24</b>		<b>4.3</b>	<b>\$4,629</b>	<b>3.7</b>	<b>\$4,281</b>	<b>1.5</b>	<b>\$2,405</b>	<b>12.5</b>	<b>\$8,785</b>

Personnel Costs	Preventive	Curative	TOTAL
Community	\$ 4,629	\$ 4,281	\$ 8,910
Hospital	2,405	8,785	11,190
<b>TOTAL</b>	<b>7,034</b>	<b>13,066</b>	<b>20,100</b>

<sup>1</sup> Paid PCI program personnel showing full time equivalent position and approximate salary cost.

APPENDIX 17

ANALYSIS OF INCOME AND PERSONNEL COSTS BY ACTIVITY, 1985 (Quetzales)<sup>1</sup>

<u>Activity</u>	<u>Personnel Costs</u>	<u>Income</u>	<u>Difference</u>	<u>No. of Patient Visits</u> <sup>2</sup>	<u>Net Income or Cost Per Patient Visit</u> <sup>3</sup>
<b>HOSPITAL BASED</b>					
Outpatient Consult	Q 21,400	Q 1,300	- Q20,100	4,900	- Q 4.10
Pharmacy	9,700	28,400	18,700	4,900	3.82
X-ray	700	800	100	241	.41
Lab	3,000	1,800	- 1,200	2,156	- .56
Emergency	1,900	200	- 1,700	240	- 7.08
In-Patient	5,800	3,600	- 2,200	150	- 14.67
Dentist	3,900	900	- 3,000	1,742	- 1.72
			- 9,400		
<b>CLINICAL OUTREACH</b>					
Children's Clinic	3,300	3,700	400	160	2.50
TB Program	6,800	0	- 6,800	90	75.55
Nutrition Centers (Two)	9,100	0	- 9,100	47	- 194.00
Clinic(Cerro de Oro)	4,000	4,600	600	90	6.66
CHW (Chacaya)	200	0	- 200	33	- 6.06
			- 15,000		
<b>COMMUNITY HEALTH EDUCATION AND TRAINING</b>					
Training CHWs	4,800	0	- 4,800		
Training TBAs	3,200	0	- 3,200		
Training Latrines/ Stoves	3,400	0	- 3,400		
Mother/Father Committee	2,800	0	- 2,800		
Radio Broadcasts	1,800	0	- 1,800		
			- 16,000		

Total Net Costs 40,000  
 Plus Local Administrative Costs 28,700  
 Equals Total Cost of Program Activities 69,100  
 Minus Total Income from Program Activities -19,800  
 Equals Subsidy from PCI Q 49,300  
 (\$13,300)

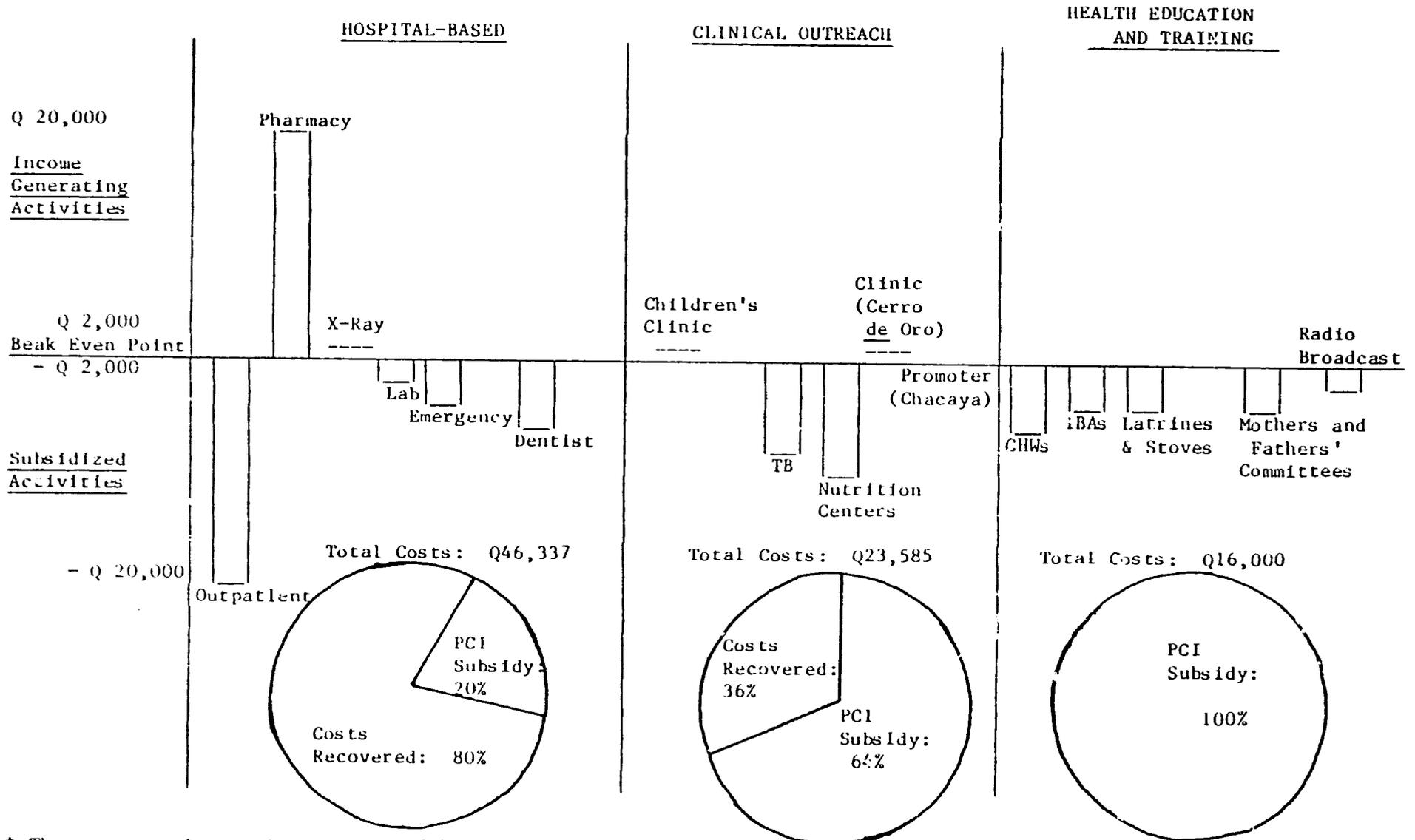
<sup>1</sup> Figures supplied by PCI/Guatemala for 1985, rounded to nearest 100 Quetzales

<sup>2</sup> Number of patient visits or contacts (not individuals) reported in 1985

<sup>3</sup> Excluding administrative costs

APPENDIX 18

CHART COMPARING INCOME GENERATING AND SUBSIDIZED ACTIVITIES \*



\* These are estimates in Quetzales (Q) of approximate costs and income for 1985 within Guatemala, excluding the salary of the PCI Program Administrator, and excluding costs of administration by PCI/Guatemala and PCI/San Diego.

RELATIONS WITH COOPERATING AGENCIES

1. CATHOLIC MISSION OF OKLAHOMA (MICATOKLA)

The earliest and most fundamental association for Project Concern in Guatemala is MICATOKLA. PCI arrived initially at the invitation of MICATOKLA. The hospital and surrounding land, Casa Bonita Nutrition Center, student and guest house, and clinic in Cerro de Oro, all belong to MICATOKLA, or more specifically, to the Sololá diocese which is the legal branch through which all Church property is owned. The agreement with MICATOKLA states that PCI shall have free use of all properties while in Guatemala and that in the event PCI leaves, all property will revert to MICATOKLA.

The Catholic Church through CARITAS and the Catholic Relief Service also gave legitimacy to the project in its early years. Since PCI was not a recognized legal entity in the early years, medical donations, vehicles, transportation of goods, etc. were all handled through CARITAS, passed on to Father Stan Rother and then to PCI. Father Stan also served as chief mechanic and handy man for the Clinic, fixing generators, washing machines, whatever equipment that needed fixing or maintenance.

This close relationship ended with Father Stan's assassination in July, 1981. Because of the close relationship, little thought was given to the possibility of legal entanglements in the future. After his death it was discovered that no documents covered the informal association with PCI. Two of the project cars were in the mission's name. The clinic no longer had access to duty-free imports through CARITAS.

The relationship remained basically in limbo until the arrival of Father Tom McSherry in 1984. Father Tom is interested in re-initiating the finca program and would like PCI to be the agent for carrying it out. Every effort will be made to coordinate activities with him.

2. Asociación de Servicios Comunitarios en Salud-ASECSA

ASECSA was founded in 1979 by a group of people from various programs in Guatemala, many of them North Americans, one of the North Americans from PCI. Because of the low-funding given to health care by the government and the extensive service offered by non-governmental programs, the original founders saw great potential in establishing an alternate system of health services that would fill the gap left by the government system. ASECSA would offer medicines at low cost to member organizations, educational materials, technical assistance and opportunities for exchange of ideas.

ASECSA has lived up to some of its ideals. In other areas, the same political instability that slowed the rest of Guatemala to a crawl, slowed ASECSA down as well.

PCI-Guatemala has been a more or less active participant since its founding. Currently the medical director participates on the Committee for Drug Therapies and the Program Coordinator participates on the Planning & Evaluation Committee. ASECSA has the potential to be a strong voice for health care in Guatemala.

3. Ministry of Health--Government of Guatemala

Since one of PCI's principles is to enter a country only upon invitation of the government, there was an initial contact with the Ministry

of Health at the district and national levels. Shortly after PCI's arrival in Santiago, the need for a more ample medical service in the government clinic was made obvious. The sole clinic nurse reported seeing 200 patients per day while Clinica Santiaguista was seeing 400 per month. PCI offered to re-model and equip the government clinic as well as send one of the clinic doctors for out-patient consultancy four hours a day. Regular ambulance service carried patients and lab work between the two centers.

With the arrival of a permanent doctor to the post, much of this relationship was lost. However PCI continued to carry the Tuberculosis Treatment program in conjunction with the government clinic and offer occasional training programs together. In the last two years this relationship has greatly improved. The last two training classes for TEA's were carried out in coordination between the two centers and planning for the CHW class is done together.

At the departmental level PCI has always had good relations albeit informal ones, with the area director.

There's been little reason for close contact at the national level since none of PCI's programs were coordinated at this level. However while it existed, Sistemas Comunitarias Integrados, a counterpart system set up with AID funds to oversee Primary Health Care programs, did make occasional site visits and PCI coordinated its first two training programs through Sistemas. Sistemas was dismantled when AID funding ended.

Currently the new government has set up a new agency to be knowledgeable of and to coordinate where possible the work of private agencies in Guatemala. PCI-Guatemala has made one initial contact with the Coordinating Agency for Non-Government Entities.

#### 4. Legal Recognition-Government of Guatemala

For all of its first ten years, the Guatemalan program was hampered by a lack of formal legal recognition with the government. This made it impossible to buy and sell vehicles, accept medical donations, process visas.

In April, 1985 after years of starts and stops, delays and misrepresentations, PCI finally received its personeria juridica, recognition as an official legal entity, entitled to operate in Guatemala.

#### 5. Comité de Reconstrucción Nacional

The National Reconstruction Committee was established to coordinate the food of development organizations that came in after the 1976 earthquake. It is the only official coordinating agency. All non-government programs are required to register with the Committee.

For years PCI was unable to associate itself with the Committee because of its lack of personeria juridica, which is the first requirement for registering. When this hurdle was finally overcome, PCI became officially associated with the Committee in August, 1985.

The Committee makes annual site visits and requires brief financial and program reports. PCI gains access to duty free import of medical supplies and equipment, automatic processing of visas for expatriot personnel, and temporary vehicle permits for vehicles used by expatriots. The agreement has certain limitations (for example the vehicle permit does not allow for Guatemalan registration and the vehicle is impounded at Customs whenever the

expatriot leaves the country) nowever, it is the only alternative available.

6. AID

PCI's funding for the matching grant comes out of AID-Washington and is funneled through PCI-San Diego, therefore PCI-Guatemala does not have an official relationship with the Mission at least in the sense of submitting formal written reports. Another limitation is that Santiago is off-limits to travel for AID personnel. Despite these limitations however, PCI-Guatemala has always enjoyed a close informal relationship with AID and reports regularly to the Mission. The Medical Director has been offered a six-month scholarship to the United States by AID and is awaiting notification of placement.

APPENDIX 20

CLINICA SANTIAGUITO  
EXPENSES FOR 1983

Exchange Rate 1:

<u>ITEM</u>	<u>TOTAL SPENT</u>	<u>BUDGET SAN DIEGO</u>	<u>OVER BUDGET</u>	<u>UNDER BUDGET</u>
410 DRUG & MEDICINE	9,690.52	19,200.00		9,509.
412 FOOD	4,566.23	4,800.00		233.
428 LAB	273.77	1,200.00		926.
429 SUPPLIES	4,125.23	5,280.00		1,154.
452 SUBS, PUBS, DUES	812.95	1,440.00		627.
482 EQUIPMENT UNDER \$ 100	-	300.00		300.
534 REPAIR/MAINTENANCE VEHICLES <sup>1</sup>	3,402.02	2,400.00	1,002.02	
570 TRAVEL <sup>2</sup>	2,781.16	1,800.00	981.16	
574 LODGING AND MEALS <sup>2</sup>	3,733.24	1,200.00	2,533.24	
736 REPAIR/MAINTENANCE EQUIP.	195.65	600.00		404.
737 REPAIR/MAINTENANCE BLDG	314.14	1,200.00		885.
740 RENT	2,100.00	2,400.00		300.
742 TEL/TELEPH	207.96	600.00		392.
744 UTILITIES	1,665.09	3,600.00		1,934.
801 SALARIES/WAGES	31,823.37	36,000.00		4,176.
803 PAYROLL TAXES	5,627.52	6,000.00		372.
805 EMPLOYEE BENEFITS <sup>3</sup>	3,438.15	1,200.00	2,238.15	
862 OUTSIDE SERVICES <sup>4</sup>	20,260.41	3,000.00	17,260.41	
922 EDUCATION	11.20	1,200.00		1,188.
948 TAXES AND LICENSES	2.00	1,020.00		1,018.
950 POSTAGE	50.34	300.00		249.
975 PUBLIC RELATIONS <sup>5</sup>	1,268.49	600.00	668.49	
976 SHIPPING <sup>6</sup>	61.37		61.37	
984 MISC.	514.38		514.38	
<b>TOTAL</b>	<b>96,925.24</b>	<b>95,340.00</b>	<b>25,259.22</b>	<b>23,673.</b>

INCOME FOR 1983

BALANCE FROM 1982	6,890.19
PAYMENTS FROM SAN DIEGO	57,117.76
LOCAL INCOME (Fee-for-Service)	27,053.98
INCOME OTHER SOURCES	<u>6,800.94</u>
<b>TOTAL</b>	<b>97,872.87</b>
BALANCE FOR 1983	947.63

APPENDIX 20 (continued)NOTES on 1983 Budget

- 1534 Repair/Maintenance of vehicles - In March 1983, a down payment of 1,870 was made on a used car for the project. The sale was cancelled and the money re-deposited in April. Correct placement is #995.
- 2570 Travel - The program went over budget by a total of Q3,514.40 for 574 Ldg & M-- trips made by the administrator.
- 3805 Employee Benefits - In 1983, the practice was to pay nurses overtime for weekend & night hours, over and above their salary. This was discontinued when a study of their work hours showed that they seldom worked 40 hrs/wk.
- 4862 Outside Services - The salary for the Guatemalan administrator was not budgeted to be taken out of the Guatemalan budget or the San Diego budget. The decision to pay it out of outside services (Q1050/mo.) caused the large amt. over-budget. Another unplanned item was the payment of a bi-lingual secretary (Q250/mo.).
- 5975 Public Relations - Entertainment of visitors, parties for staff
- 6976 Shipping - Payment of freight to ship CARE products
- 7984 MISC. - See 5 above.

GENERAL:

A review of expenses and income shows an apparent balance of Q947.63, but this is deceptive. The actual total spent is Q94,510.70 (instead of 96,925.24), because of total of 2,414.54 was re-deposited into the account either because the sale was cancelled, as in the case of the project vehicle, or the checks bounced and had to be re-submitted the following month.

The local actual income for the clinic is Q23,940.30, not Q33,864.92 as it appears. Guatemala received a total of Q53,720.76 from PCI-Canada in block payments. This was the last year that Canada funded the program. The last payment of the year came directly from San Diego. In fees-for-service, the clinic took in Q27,063.98 (or 23% of all operating costs). A total of Q1,876.40 came in the form of private donations for the nutrition center-Casa Bonita and Q900 for the sale of two project vehicles.

In December, the clinic had to borrow Q1,520 for payment of Christmas bonus (required by law) and leave unpaid one-half of the Christmas bonus (Q325) for the medical director.

Moreover, a debt for medicines and educational material of over Q5,000 was carried over into the new year.

Rather than a balance of Q947.63, the clinic began the new year with debts of over Q6,200.

CLINICA SANTIAGUITO  
EXPENSES FOR 1984

Exchange Rate 1:1

ITEM	TOTAL SPENT	BUDGET SAN DIEGO	OVER BUDGET	UNDER BUDGET
410 DRUG & MEDICINE	13,921.96	11,000.00	2,921.96	
412 FOOD <sup>1</sup>	2,108.66	4,200.00		2,691
428 LAB	475.49	600.00		124
429 SUPPLIES	5,798.96	4,600.00	1,198.96	
452 SUB, FEES, DUES	534.27	600.00		65
482 EQUIP. UNDER \$100.00	106.59	400.00		293
534 REPAIR/MAINTENANCE OF VEHICLES <sup>2</sup>	1,664.48	600.00	1,064.48	
570 TRAVEL	2,404.67	2,400.00	4.67	
574 LODGING & MEALS <sup>3</sup>	3,542.89	2,400.00	1,142.89	
685 PHOTOCOPIES	108.91	120.00		11
736 REPAIR/MAINTENANCE EQUIP <sup>4</sup>	879.25	240.00	639.25	
737 REPAIR/MAINTENANCE BLDG <sup>5</sup>	561.13	480.00	81.13	
740 RENT <sup>6</sup>	1,700.00	2,880.00		1,180
742 TEL/TELEGM	179.33	300.00		120
744 UTILITIES	1,826.35	2,267.00		440
801 SALARIES & WAGES	36,379.82	38,363.00		1,983
803 PAYROLL TAXES	5,275.33	6,000.00		724
805 EMPLOYER BENEFITS <sup>7</sup>	9,093.42	900.00	8,193.42	
862 OUTSIDE SERVICES <sup>8</sup>	7,532.98	25,380.00		17,847
922 EDUCATION	336.85	360.00		23
948 TAXES, LICENSES, PERMITS <sup>9</sup>	957.78	-	957.78	
950 POSTAGE	46.18	80.00		33
975 PUBLIC RELATIONS <sup>10</sup>	754.79	600.00	154.79	
976 SHIPPING	318.18	120.00	198.18	
984 MISC. <sup>11</sup>	1,763.20	600.00	1,163.20	
<b>TOTAL</b>	<b>96,972.67</b>	<b>106,090.00</b>	<b>17,720.72</b>	<b>26,838</b>

## INCOME FOR 1984

BALANCE FROM 1983	947.63
102 PAYMENTS FROM SAN DIEGO	70,534.58
301 DONATIONS	81.80
305 FOUNDATION GRANTS <sup>12</sup>	2,384.00
310 PATIENT FEES	3,168.16
311 LAB & X-RAY	2,227.05
317 PHARMACY	20,806.39
319 MISC. <sup>12</sup>	646.70
<b>TOTAL</b>	<b>100,796.31</b>

BALANCE FOR 1984	3,823.64
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NOTES ON 1984 BUDGET

- 1412 FOOD-In 1984 donations received by the Casa Bonita Nutrition Center was processed directly through the center and used to buy food and incidentals.
- 2534 REPAIR/MAINTENANCE VEHICLES-After sitting six months with the mechanic the 1974 Land Rover was finally repaired. Shortly thereafter, 1974 Ford Van, which <sup>arrived</sup> in Jan., burned out the motor and had to be repaired in April.
- 3574 LOGGING AND MEALS-From this category stipends were paid to 15 student CHW's (Q3/day x 5 days for 5 weeks) and 19 student TBA's (Q3/day, 5 days for 3 weeks). These trainings were unbudgeted.
- 4736 REPAIR/MAINTENANCE EQUIP-Much of hospital equipment had fallen into disrepair. Two large unplanned expenses were for repairing 2 clinic refrigerators, used to store vaccines and lab supplies.
- 5737 REPAIR/MAINTENANCE BLDG-An attempt (which failed) was made to provide the hospital with a dependable gravity-flow water system as well as repairs and remodeling of the Children's Clinic (which succeeded).
- 6740 RENT-Rent came in under budget because of change of administrators. The new administrator moved into a house provided rent-free to the clinic.
- 7805 EMPLOYEE BENEFITS-Three staff members left the employ of PCI in 1984. Guatemalan law requires the payment of one month's salary for every year worked when an employee is discharged or laid-off.
- 8862 OUTSIDE SERVICES-In 1984, the salary of the Guatemalan administrator was budgeted to come out of the PCI-Guatemala budget. When he left in March, the vast majority remained unspent since the new administrator's salary came out of PCI-San Diego.
- 9948 TAXES, LICENSES, PERMITS-Unbudgeted for 1984 were the payments of import taxes (Q735.92) on the Ford van, licenses for project vehicles and driver's licenses for four staff members.
- 10975 PUBLIC RELATIONS-This category was used for payment to radio station.
- 11984 MISC.-In Jan. the loan to pay Christmas bonuses in December, 1983 was repaid from this category.
- 12305 FOUNDATION GRANTS-PCI-Guatemala did not receive a foundation grant of Q2,384.00 in 1984, but December, 1984 was the first time that the Bank of Guatemala changed dollars to quetzales at the parallel market rate. Since the Guatemalan program had never seen such a thing before (the previous ten years had always been at 1:1), it didn't know what to do with the money. This lack of accounting orientation was corrected by Jan. 1985.
- 13319 MISC.-This category was used for bounced checks that were re-submitted the following month.

GENERAL

A cursory review of the budget gives the impression that PCI-Guatemala came in Q9,117.33 under budget. However there were many hidden expenses, which when calculated in, caused the program to go over budget. The salary for the new administrator (paid in dollars by San Diego) was not budgeted in San Diego and was applied to the Guatemalan program budget. Another hidden expense were long-distance phone calls to San Diego (approximately \$120/mo.). Total spent over-budget is approximately Q7,600, which is approximately Q1,000 more than the debt carried over from 1983, but the money was spent in 1984 to improve services, make needed repairs and train 15 CHW's plus 19 TBA's for the first time in many years.

Income from patient fees totaled Q26,291.60, or 27% of all operating

Notes on 1984 Budget, Cont.

costs. This is even more impressive given the number of unplanned expenses that the clinic covered in 1984 (Debts from 1983=Q6,200. Severance pay, Clinic Administrator=Q4,615. Severance pay, others=Q946.22. Training of CHW's and TBA's, estimated costs=Q3,255. Total, unbudgeted local expenses= Q15,016.).

CLINICA SANTIAGUITO  
EXPENSES FOR 1985 IN DOLLARS    Avg. Exchange Rate 2.5:1

ITEM	TOTAL SPENT	BUDGET SAN DIEGO	OVER BUDGET	UNDER BUDGET
410 DRUGS & MEDICINE	6,476.00	14,000.00		7,524.00
412 FOOD <sup>1</sup>	1,175.20	4,200.00		3,125.00
428 LIE	312.74	900.00		647.00
429 SUPPLIES	3,144.97	5,045.00		1,900.00
452 SUBS., PUBS, DUES	113.58	100.00	13.58	
482 EQUIP UNDER \$300.00 <sup>2</sup>	807.80	300.00	508.00	
534 VEHICLE REPAIR/MAINTENANCE	1,322.35	2,000.00		678.00
570 TRAVEL	700.18	2,500.00		1,800.00
574 LODGING & MEALS <sup>3</sup>	1,609.73	3,605.00		1,995.00
659 VISUAL MATERIALS	-	300.00		300.00
685 PRINTING/XEROXING	140.44	120.00	21.00	
736 EQUIP REPAIR/MAINTENANCE	213.31	720.00		507.00
737 BLDG REPAIR/MAINTENANCE <sup>4</sup>	1,059.35	500.00	559.00	
740 RENT	1,004.44	2,160.00		1,156.00
742 TELEPH/TELEGR	438.15	1,000.00		562.00
744 UTILITIES	619.93	2,100.00		1,480.00
801 SALARIES & WAGES	17,612.80	43,433.00		25,820.00
803 PAYROLL TAXES	2,261.22	5,000.00		2,739.00
805 EMPLOYEE BENEFITS	2,485.07	3,624.00		1,139.00
862 OUTSIDE SERVICES	3,131.53	6,353.00		3,221.00
922 EDUCATION	75.75	300.00		224.00
948 TAXES, LICENSES, PERMITS <sup>5</sup>	1,057.02	400.00	657.03	
956 POSTAGE	19.24	80.00		61.00
975 PUBLIC RELATIONS <sup>6</sup>	246.08	200.00	46.00	
976 SHIPPING	175.32	400.00		225.00
984 MISC.	149.65	600.00		450.00
<b>TOTAL</b>	<b>46,352.03</b>	<b>100,000.00</b>	<b>1,804.61</b>	<b>55,453.00</b>

INCOME FOR 1985

BALANCE FROM 1984	2,610.00
102 TRANSFERS FROM SAN DIEGO	35,458.00
310 PATIENT SERVICE FEES	1,788.28
311 LABORATORY & X-RAY FEES	1,944.68
317 PHARMACY FEES	8,020.26
TOTAL	49,821.22
BALANCE FOR 1985	3,469.19

(Paper loss of \$1,213.64 for exchange rate in 1985)

NOTES ON 1985 BUDGET

- 1412 FOOD-Expenses for food and incidentals continued to be paid directly from donations at the Casa Bonita-Nutrition Center.
- 2482 EQUIP UNDER \$300.-In 1985, taking advantage of the favorable exchange rate, we decided to equip a new office for four persons needed by personnel working in Primary Health Care Programs. Maternity was reduced from 3 to 2 beds and transferred to the In-Patient Blog. Expense was un-budgeted.
- 3574 LODGING AND MEALS-One of the reasons, besides the favorable exchange rate that this item is so far under budget is that we did not train the 15 health promoters planned for 1985.
- 4737 BLDG REPAIR & MAINTENANCE-Two unplanned, but badly needed repairs were replacing the thatched roofs on the Clinic's two ranchitos and remodeling the Children's Clinic to provide separate spaces for Children's Clinic, Community Pharmacy, TB Program and classes.
- 5948 TAXES, LICENSES AND PERMITS-After being in the country illegally and exhausting all over avenues for exemption from taxes, the Toyota was finally legally imported in 1985 and all import taxes paid.
- 6975 PUBLIC RELATIONS-This item went \$46.00 over-budget for a program-wide Christmas party held to honor the 90 health volunteers and their families who collaborate with the various health programs of Clinica Santiaguito. Approximate attendance, 300 people.

GENERAL

While the majority of the savings in 1985 were the direct result of the favorable exchange rate, the devaluation of the quetzal also reduced the value of local income from fees-for-service. However the Clinic was still able to cover 25% of costs even by calculating the dollar value of local input.

The Guatemalan budget of \$100,000 per year in 1985 was calculated on the basis of the 1:1 exchange rate which was still in effect when the budget was planned. Even with an average exchange rate of 2.50, cost-of-living increase for salaries, increased expenses for medicines and a high rate of inflation, the Clinic still only spent Q14,586.30 over the budget planned for a 1:1 exchange rate. (Total quetzales spent-Q114,586.30. Total income in quetzales=Q26,296.00).

The only program not realized was the training of 15 health promoters and this was supplanted by many other new programs, such as the health survey, promotion of improved stoves and promotion of composting latrines.

APPENDIX 21

COMPARISON OF PCI MEDICAL SERVICES AND FEES  
WITH OTHER SERVICES IN SANTIAGO ATITLAN

CLINIC	CONSULTS	EMERGENCIES	SUTURING	MD HOME VISITS
PCI Clinica Santiaguito	Q.25	Q.50	Q5-Q5- Q10-Q10	Q-25
Children's Clinic	Q.25	Q.50		0
Private Physician (Dr. Perez)	Q 3.00			con medicamento Q 5.00
Evangelical Mission (Atfa y Omega) Dispensary -MD, Pharm, AN -One bed -Nutrition center/food -Outpatient services	Orphans & Malnourished Children general 1.00	Q 1.00		Q 4.00
MOH Health Center (Centro de Salud) -MD, & Nurses -Intern, H. Insp -Food for 800/mo.	Q .25	0	0	NO
Catholic Mission Dispensary (Parrequia) -Nurse -CHW	0	0	0	0

APPENDIX 22

BUDGET  
Guatemalan Program

Since its inception, with donations from Oklahoma diocese in 1969, the Guatemalan program has always used a high percentage of its budget for salaries, usually between 30-50%. That is the nature of hospital programs. They are staff heavy for the number of people served. That is part of the appeal of Primary Health Care programs. For a relatively small outlay (one health trainer plus training center) you can serve a large population by training volunteer health workers. The American priests working in Santiago at the time were aware of this and tried to change the focus of the aid from the Oklahoma diocese. However it was easier to work up a fervor to raise funds for a hospital than to raise funds for health promoters, so they were overruled.

By the early 1970's, the fathers at the Santiago mission found themselves with a large, well-equipped hospital that was under-utilized and over-staffed. Meanwhile the fund-raising fervor in Oklahoma did not carry over to the day-to-day and year-to-year operating costs of a hospital. The fathers began looking around for other help.

Project Concern International stepped in in 1973, more interested perhaps in the finca program than the hospital, but accepting it as part of the deal. PCI had 10 health promoters on the fincas at one time as well as a higher percentage of patient consults from the fincas.

A lot has changed over the last ten years. The finca program is gone. Surgery is no longer a service offered by the hospital. The number of hospital nurses has been drastically reduced (from a high of nine to the current three). Through all this the level of patient consults (300-400 pts per month) and of in-patients (10-20 per month) have remained relatively stable. However the number of services offered beyond the hospital have changed drastically, from a vigorous community health program under the administration of Dr. John Erick to a closed, survival-oriented program during the peak of the political violence to a slow renaissance of community-based activities in the last two years.

The political instability in the area has had a devastating affect of the project as well as the community. PCI lost an excellent administrator, Dr. John Erick, due to the violence and gained some bad ones. Few people were willing to risk their lives to live in the area from 1980-1983.

However beyond all these problems there are some important points to remember when analyzing the Guatemalan program budget. PCI-San Diego has never had sole responsibility for financing the hospital program. An average of 25% of the total operating costs come from patient service charges. Since the only programs that charge for their services are hospital programs, that means that an even higher percentage of the hospital operating costs are covered. Several programs are, or nearly are, completely self-financing, including salaries. The pharmacy program, laboratory, x-ray and dental programs pay for themselves. That means that the bulk of San Diego's funds are applied to community health programs.

Rather than try to beef up our income from the hospital program (by increasing patient fees) we have welcomed this level of utilization because it gives the professional staff more time to dedicate to community health programs. The medical director now gives fifty percent of her time to program planning and execution for example.

Even with an out-patient load of only 400 patients per month (an average of 20 patients per day), the clinic still sees more patients than any other single service in town. It offers a needed and necessary service, which brings us to another point.

Health care is not a priority for the Guatemalan government. Over the past three years, when the prices of many medicines and medical supplies have tripled, the Public Health Budget was cut by 47. In 1985, the worst year economically, another reduction of 83 was made over the course of the year. The positive effects of a good CHW-training program are limited if the health workers have no back-up for referrals. Clinica Santiaguillo has had to be both the training and the referral center. Most of the perinatal admissions that have arrived at the clinic over the last two years have been referred by the trained TBA's. Without the clinic, the nearest assistance would be Soledad, a two-to three-hour drive away.

Another important point to remember is that while the PCI-Guatemala program has a large staff it has very few professionals (4 out of 25). The majority of the staff is locally trained and competently fill very responsible positions. Were the same positions to be filled by Guatemalan professionals (pharmacists, registered nurses, nutritionists, etc.) the staff costs would be four times as high and the staff effectiveness less. Our staff is from the community and understand the problems of the community.

For purposes of future planning, the program has been divided into four main groups. The Hospital Program, which includes out-patients, in-patients, emergency, dental clinic, pharmacy, lab, and x-rays, is or has the capacity to be self-financing. The community-based services, such as the Nutrition Centers, the Children's Clinic, the TB Program, can never be self-sustaining. Primary Health Care programs, such as training of CHW's and TBA's, cannot be self-financing either, but the need for funding is finite, i.e. the duration of the training period. Other Primary Health Care programs are being set up from the start to be self-financing as well as self-reliant in the sense that PCI's technical assistance is also of short duration. The improved stove project has been set up as a small business. The latrine program is set up to offer credit assistance for building materials only. Over and above these three programs is the administrative branch which oversees all operations.

Betsy Alexander  
March 1986