

PCI



**PROJECT CONCERN INTERNATIONAL**

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**Child Survival VII:  
Para Los Niños  
Child Survival in the Highlands of Bolivia  
September 1, 1991 - August 31, 1994**

**COOPERATIVE AGREEMENT NO. PDC-0500-A-00-1042-00**

**MID-TERM EVALUATION  
SUBMITTED TO  
THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
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OFFICE OF PRIVATE AND VOLUNTARY COOPERATION**

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## LIST OF TERMS

<b>Altiplano</b>	Barren, windswept and cold high plateau region
<b>ARI</b>	Acute Respiratory Illness
<b>CDD</b>	Control of Diarrheal Disease
<b>CHW</b>	Community Health Workers
<b>EEC</b>	European Economic Community
<b>EPI</b>	Expanded Program of Immunizations
<b>FIS</b>	Social Investment Fund
<b>KAP</b>	Knowledge, Attitudes, and Practices
<b>NGO</b>	Non-Governmental Organization
<b>ORT</b>	Oral Rehydration Therapy
<b>Palliris</b>	Women who work in the mines
<b>PVO</b>	Private Voluntary Organization
<b>RAN</b>	Rural Auxiliary Nurse
<b>RHO</b>	Regional Health Offices
<b>SNIS</b>	National Health Information System
<b>Valles</b>	Area of deep valleys and high mountains

## **INTRODUCTION**

Bolivia is a landlocked republic of close to 7 million people in central South America. Project Concern International (PCI) has carried out Child Survival and primary health care projects in the Highlands of Bolivia since 1976. In the Fall of 1991, PCI began the CSVII Project in two departments of Bolivia, Cochabamba and Potosi. Within the department of Cochabamba, two rural areas, Independencia and Morochata, of District V, the poorest district of the region; and within the department of Potosi, two rural areas, Uyuni and **Puna**, and three peri-urban areas of the city of Potosi, San Benito, San Cristobal, and San Gerardo, were chosen for CSVII activities. In both departments, PCI works at the request of the regional health offices (**RHOs**) of the MOH.

As part of routine project implementation, PCI undertakes a mid-term evaluation. Unlike a final evaluation, this evaluation is not intended to measure impact. Rather, it is to be used to look at the process of project implementation, to review the strengths and weaknesses **of on-going** activities, and to reassess the programmatic strategies for sustainability and the future. The purpose of this report is to summarize the mid-term evaluation findings, and it is intended that the strengths, weaknesses and recommendations noted by the evaluation team will be used to enhance future project activities.

Project Concern International's mid-term evaluation for its CSVII Project in Bolivia was undertaken from September 2 - September 18, 1993. A schedule of mid-term evaluation activities is included in Appendix 1. The evaluation team consisted of three members, Dr. **Ana** Maria Aguilar, evaluation team leader, an external evaluator from **PRITECH**, Dr. Ignacio Caballero, Technical Director from **PCI/Bolivia's** La Paz Office and Dr. Kathleen Merchant, Technical Officer from PCI Headquarters Office. Representatives from the Regional Offices of the Ministry of Health participated at both of the regional locations of Cochabamba and Potosi.

### **1. ASSESSMENT OF ACCOMPLISHMENTS**

The Child Survival VII project began operating in two rural areas of Cochabamba's Health District V, and in two rural and three peri-urban areas of Potosi in November, 1991.

The major objectives are to increase the capacity of local service providers and the MOH to deliver Child Survival services, to increase the acceptance and use of these services by the community, and to increase the ability of the community to support them.

Child Survival funds were requested to 1) strengthen the two current rural projects and 2) expand Child Survival activities to three peri-urban communities in the city of Potosi. In the rural projects, funds were requested to 1) refine and strengthen the training program; 2) strengthen the supervision and referral protocol; 3) develop an effective health information system that includes surveillance; and 4) address the sustainability of project activities through collaboration with local **NGOs**.

Funding has allowed PCI to expand coverage to three peri-urban settlements by 1) enabling the RHO to train urban **CHWs** to provide and/or promote the full range of CS interventions; 2) improving the capacity of the local health teams to mobilize community participation (including the private commercial sector) in project activities; 3) developing a culturally appropriate health promotion and social marketing campaign; and 4) establishing a useful health information system that includes surveillance for polio, measles and neonatal tetanus. Additional PCI project activities in the peri-

urban projects include establishing cooperative day care centers, small enterprise activities for women, and programs for street children (funded out of PCI's match or through local support).

Measurable inputs, outputs and outcomes through July 1993 are summarized below. Inputs are activities such as number of training courses, refresher courses, and workshops to update health knowledge and practices, conducted; outputs are number of persons trained; and outcomes are for example immunization coverage rates. The two regions are reported separately.

### **ACCOMPLISHMENTS INCOCHABAMBA**

Total population for the two health areas of Cochabamba is 26,983 inhabitants. The potential beneficiary population is 3,778 children from 0 to five years and 5,801 women of child bearing age (15 - 45).

#### **Training courses for Community Health Workers**

Training courses were conducted during 1991-1992 for new Community Health Workers (CHWs) resulting in 16 newly trained CHWs for communities of the Morochata area and 26 newly trained CHWs for the area of Independencia, a total of 42 newly trained CHWs.

Review courses for CHWs are conducted at regular intervals (generally every 2-3 months) following the initial training. Fourteen refresher courses have been conducted, 7 in each area of Morochata and Independencia.

In the Cochabamba program, there is a system of rotating responsibilities of supervision among each group of approximately 5-6 CHWs. Participatory Supervision courses are conducted to prepare individuals to play this role within their group. Six Participatory Supervision courses were conducted during this period, 3 in each of the areas of Morochata and Independencia.

#### **Training courses for Ministry of Health Personnel**

Planning workshops were conducted and operational plans developed at each health area level.

<u>Area</u>	<u>Number Conducted</u>	<u>Participants</u>
Independencia	6	1 Doctor, 4 Rural Auxiliary Nurses
Morochata	6	1 Doctor, 3 Rural Auxiliary Nurses

In-service workshops on ARI, CDD, EPI and Maternal Health

<u>Level</u>	<u>Number Conducted</u>	<u>Particnants</u>
District Level	1	12 Doctors, 6 Resident Nurses, 26 Rural Auxiliary Nurses, 6 Administrators
Health Area Level		
Independencia	4	1 Doctor, 4 Rural Auxiliary Nurses
Morochata	4	1 Doctor, 3 Rural Auxiliary Nurses

**Mothers** were educated about **diarrhea1 disease and respiratory infections: recognition of signs and symptoms, home case management and circumstances requiring medical intervention.**

<u>Area</u>	<u>Mothers Educated</u>	<u>Total No. Mothers</u>
Independencia	555	1174
Morochata	746	1146

**Community Child Suwival and Maternal Health Indicators of Level of Achievement as of July 1993**  
**Expanded Program** of Immunization Coverage in children 0 to 12 months of age.

<u>Area</u>	<u>DPT3 (%)</u>	<u>Polio3 I%</u>	<u>Measles (%)</u>	<u>BCG (%)</u>
Independencia	76	73	70	28
Morochata	76	66	54	14

Coverage of TT3 in women 15 to 45

<u>Area</u>	<u>women w/ TT3</u>	<u>Total # of women</u>	<u>Coverage (%)</u>
Independencia	1059	2933	36
Morochata	2239	<b>2868</b>	78

Referred cases of CDD in children under 5 to health posts or area hospitals.

<u>Area</u>	<u>Total 1992</u>	<u>Jan - Jul 1993</u>
Independencia	179	114
Morochata	381	279

Referred cases of AR1 in children under 5 to health posts or area hospitals.

<u>Area</u>	<u>Total 1992</u>	<u>Jan - Jul 1993</u>
Independencia	191	145
Morochata	280	115

## **ACCOMPLISHMENTS IN POTOSI**

### **Child Survival Intervention and Community Coordination Activities**

PC1 conducts an active, year- round, house-to-house vaccinations to reach children and women in two rural and three peri-urban areas of Potosi. Outcome is monitored by surveillance twice a year.

Nineteen community-based oral rehydration centers have been organized and are functioning.

PC1 held a total 191 meetings with three People's Health Area Committees, twelve mother's centers and five teenagers clubs in order to secure community participation and coordinate health and child survival.

All six planned child care centers are operating. They are functioning with full coordination and cooperation of local community organizations. This has resulted in 186 children under 5 years and 113 over 5 years receiving benefits from programs in food supplementation, nutritional rehabilitation, and psychomotor stimulation.

### **Health Education and Social Marketing Activities**

Forty-one training sessions have been conducted: 10 on EPI, 7 on pneumonia control, 5 CDD and ORT, 5 on nutrition, 8 on child development and psychomotor stimulation and 2 in reproductive health.

The design of the **information-education-communication** (IEC) strategy was revised. The original approach emphasized interpersonal communication, but PC1 increased the emphasis on mass media strategies based on the popularity of and increased urban coverage through the radio health education strategies.

42 radio shows (1 hr.) and 42 short spots were designed and produced. The shows and spots were coordinated to deliver **specific** health messages and modify specific health behaviors. To measure audience ratings, three surveys were conducted with the participation of university students.

### **Child Survival Health Training Activities**

92 **CHWs** trained in Child Survival interventions.

42 child caretakers trained in psychomotor stimulation.

3 urban health teams trained in Information, Education and Communication methods.

710 families received education through radio programs on Child Survival interventions and available services.

931 mothers trained in use of ORT at home and the management of **ARIs** without pneumonia.

### **Child Survival and Maternal Health Indicators, July 1993**

Complete immunization coverage for children from 12 to 23 months is currently 38%. It is 40% for children from 24 to 59 months. Full immunization coverage for children under one year is currently 30%. These rates represent a substantial improvement over the baseline rates of < 10% full immunization coverage for **infants** under 12 months, for urban areas of Potosi, which had the lowest urban coverage in all of Bolivia. Rates are based on the WHO standard of mothers able to show full immunization records with child health vaccination cards.

19% of women of fertile age received three doses of **TT**.

30% of expected diarrhoeal episodes received ORT from health team members or **CHWs** in Oral Rehydration Centers.

281 episodes of acute respiratory infection were treated according to MOH norms, representing 13% of all episodes for the period. Two percent were diagnosed as pneumonia.

455 women received prenatal care. Of these, 13% were assisted during delivery by a trained health worker either at home or in a health institution. One percent of pregnancies were **identified** as high risk. Pregnant women averaged 1.8 prenatal care visits per woman.

These numbers represent an increase in the use of the health centers by the community and indicate improvement in the quality of care given by the health centers since PCI's involvement. Interviews with health center staff supported the data. The mid-term evaluation team concluded that PCI's programs have led to improved use rates for child survival and maternal health services.

## **2. RELEVANCE TO CHILD SURVIVAL PROBLEMS**

**UNICEF's** 1992 health statistics-- the most reliable national level data--reveal the most frequent causes of death in children under five years of age: dehydration from diarrhea, 36%; acute lower respiratory infections, 28%; accidents 7%; delivery complications 4%; tetanus 3%; and measles 1%. 19% of deaths are **from** other causes. Major causes of child morbidity and mortality in the project areas are: dehydration, pneumonia and other respiratory infections, septicemia and household accidents.

UNICEF projects the infant mortality rate at 126 per 1000 live births, and the national **child** death rate at 89 per 1000 live births. The National Population and Housing Census of 1992 puts the child mortality rate at 75 per 1000 live births. Differentiated child mortality rates for the urban and rural areas reveal 58 and 98 for each of these zones.

The National Census establishes child mortality rates according to the country's three geographic regions as ████████

	child mortality (#/1000 live births)
Altiplano ( High Mountain region)	86
Valleys	78
Low Lands	63

The department of Cochabamba, with a total population of 935,171 is located in the valles, an area of deep valleys and high mountain spurs, where transportation and communication systems are minimally developed or non-existent. PCI's ongoing rural project there is integrated into the regional health office's (RHO) Child Survival and primary health care programs in the department's fifth health district. This district encompasses the populations of Morochata and Independencia in the large and remote province of Ayopaya.

The department of Potosi, with a total population of 878,000 is situated in the altiplano, or high plateau, between two major **Andean** mountain ranges. At an altitude of 11,000 to **14,000** feet, the altiplano is windswept, bleak, cold and barren. PCI's ongoing rural project in Potosi is integrated into the Child Survival and PHC activities of the RHO in the **Puna** and Uyuni health districts, in communities which are among the country's poorest and least developed. Each of these regions is inhabited mainly by Quechua-speaking peasants who rely on subsistence agriculture for their living.

The RHO asked PC1 to establish an urban Child Survival program in the city of Potosi (total population of **121,560**), in the peri-urban settlements of San Benito, San Cristobal and San Gerardo. These communities house **Potosi's** poorest urban population--the miners of the "Cerro Rico" mountain. Once the largest and richest silver mining complex in the world, the Cerro Rico now yields only meager subsistence for laborers in the cooperative mines.

The CSVII program was designed following a two-way diagnosis of health problems--one by the health team and the other by the community, and uses a risk factor approach to initiate education and service delivery. The **PCI** program emphasizes the practical aspects of ORT, ARI case management, and growth monitoring. Training and education is carried out in participatory training sessions and through radio programs and messages in the urban programs of Potosi.

Ethnographic investigation (including surveys) is conducted to learn how members of the community function during health and illness. This is an ongoing investigation; PC1 uses these methods to develop, validate and produce manuals and other educational materials.

A new approach utilized by PC1 for this project is social marketing for improving health knowledge, social communication and utilization of available services.

In Morochata and Independencia, located in the valley region of Cochabamba, the most frequent causes of illness and death among children under five years of age are dehydration from diarrhea and pneumonia. In surveys PC1 conducted, half of the children had suffered either an episode of severe diarrhea or respiratory infection within the previous two weeks. There is an observed seasonal variation of about **10%**, with differing patterns for diarrheal disease and ARI. Diarrhea] disease peaks during the summer and early spring whereas as ARI tends to occur during winter. On average, 25% of children are ill with either diarrheal or respiratory illness at any given time.

The national rate of malnutrition for children under five is 12% using the weight for age ratio, chronic undernutrition using the height per age index reveals a 51% prevalence rate, indicating widespread chronically low calorie intake. The national calorie deficit level is estimated to be 16%, this situation worsens in the rural area. In the Ayopaya region in Cochabamba in the two specific project areas of Independencia and Morochata, child growth monitoring charts reveal that 31% of children under one year of age reveal low weight for age and that 34% of children from one to four years of age show the same deficit. These high malnutrition rates reflect the poor socio-economic status of the dwellers of the communities in this isolated rural area. Although education is the main intervention, increased food intake due to improved economic circumstances, behavioral changes in intra-family food distribution and better use of available nutrients must be produced over a longer time frame, with the introduction of strategies such as family and community green houses and more trading of food products between different ecological regions during the periodic markets held in each area.

ORS use rates have increased, accompanied by an increased awareness of the efficacy of ORT. Depending on their location **CHWs** are given between 20 and 60 ORT packages. This supply is replenished at monthly health area meetings and when supervision teams visit the communities. The project has effectively promoted the use of ORT to treat cholera, an intervention that has reached even the most isolated communities in Morochata and Independencia.

**CHWs** are trained to use the new ARI protocol based on respiration rates to determine stages of risk. The mid-term evaluation team observed that **CHWs** still cite the classical risk factors for assessment, plus the new signs based on the respiration rates of infants and children. As in other parts of the country, timing respirations is still difficult without a standard instrument. PCI expects the MOH to establish a standard timer for use by **CHWs** in the near future. Hospital and service records reveal increased referrals and case management for **ARI** cases both with and without pneumonia as compared with records of previous years. During this year **PCI's** regional offices of Cochabamba and Potosi have benefitted from the technical assistance from REACH regarding the new ARI protocol and its implementation in the community and at the health posts. REACH also gave technical support for a four day seminar on the development of appropriate educational messages at the community level.

Vaccinations in infants under 12 months are increasing, signifying an important change in attitude and practice which have kept mothers from seeking vaccinations for this age group. Coverage rates of children 1 to four years of age also show improvements although further analysis is needed to explain why differences in coverage of the DPT and Polio vaccines occur within the same region. The project has been able to establish not only the number of children who should be vaccinated but also to implement a monitoring system that identifies the number and location of children who need the vaccines, and the number of children who represent lost opportunities. This system uses information gathered by the **CHWs** and the **RANs** at the health sector and community levels.

Data collection on the nutritional status of children has improved, however, overall nutritional health status has not improved due to the enduring poverty in the region. Children between 18 and 36 months of age are at highest risk for malnutrition. There is a high degree of correlation between weaning, diarrheal disease, ARI, and malnutrition. Prevention, education and timely referrals are the main project interventions. PCI has instituted a system of color coding the child growth cards with a piece of yarn that signifies the condition and the appropriate response. If the child's growth is in the yellow zone the CHW makes special home visits and increases the person-to-person counseling

regarding nutrition and feeding behavior, if the child growth is in the red zone, the CHW refers the family with the recognition that the condition requires more serious intervention than can be handled by the CHW and the family alone.

Sixty-nine percent of rural women do not receive prenatal care; 23% of these deliver attended by trained personnel; 71% deliver assisted by some close relative. The national maternal mortality rate is 48 per 10,000 live births-- the highest in South America. Seventy-nine percent of deaths occur during pregnancy; 16% occur during delivery and 5% during the postnatal period. The most frequent causes of maternal death are abortion 55%; hemorrhage 26%; eclampsia 10% and other causes 9%. However, the most frequent cause of death reported in these rural areas is hemorrhage. Health service delivery records reveal an increase in the number of women who seek prenatal care and a slight increase in the percentage of women with deliveries attended by trained health workers.

PCI's program responds to priority health problems within the region. Through CSVII and supplementary funding sources PCI is addressing the problems with well-selected interventions, with regard to the human resources currently available. PCI's teams are skilled and experienced in social marketing, education, community participation, ethnographic field research methods, and IEC materials development. Activities are tailored to budgetary limits and PCI has sought funds from other sources in order to initiate complementary activities like radio programs. PCI has sufficient material requirements to meet the objectives and goals.

PCI is using new IEC methods appropriate for the interventions chosen. These methods are just partly developed and PCI hopes to make full use of them in the next period.

### **3. EFFECTIVENESS**

Implementation has followed the original project design and the DIP. PCI has achieved most of its objectives for the period in community education, CHW training, and strengthening the Community Health Committees (in **Potosí**). In Potosi, achievement of objectives in some specific interventions such as EPI, referral and case management of expected episodes of **ARI** and severe diarrhea have not been as successful to date. Changes at MOH in its approach to community participation and a continual redefinition of regional boundaries have constrained progress. (For example, in 1993 in Potosi urban and peri-urban boundaries were redefined four times. However, gains in all interventions have been made from baseline status.

The mid-term evaluation team found the selection of high risk groups (children under one year, children with severe and moderate undernutrition, pregnant women) to be appropriate in these program areas. All interventions applied are mainly directed to these groups. The monitoring information suggest that under one year and undernourished children benefitted the most from ORT and ARI interventions. With regards to pregnant women, the project is putting special emphasis on prenatal care. With the coverage achieved up to this period, it is expected that overall goals will be achieved without much difficulty. The main problems that limit outreach to high risk groups are: **cultural** barriers, long working hours of potential participants that impede the health team's ability to contact them and also high rates of migration. (Potosi has the highest rates of migration in Bolivia at this time.)

In Cochabamba, as in Potosi, results in terms of coverage rates are not parallel to the achievements of other project components such as health promotion and health education. Nevertheless, a steady increase of health service utilization rates in project areas supports the evaluation team's conclusion that the tendency has been to improve the services available, making them more efficient and better linked to the community needs. This is being accomplished in a number of ways. The project has been able to overcome cultural barriers regarding less acceptable aspects of child survival interventions, showing a promising change in community attitude regarding the health and well-being of infants. For example, interventions are reaching an increasing number of children under one year of age. This means that communities have started to break through an especially difficult cultural barrier, the viewpoint that children start to live as human beings after successfully completing their first year of life. In general this increased use of available health services is reflected in the most important CS intervention statistics. For example in Cochabamba's project areas, EPI coverage rates for children under one are improving. Some limitations are outside the direct control of the project, for example is a nationwide lack of some of the biological products such as BCG and DPT due to problems in the **MOH's** logistics system. On the other hand, interventions for CDD shows what at the present time is a much better example of logistics. Oral rehydration salt packets are in steady supply and are replenished upon demand and in sufficient quantities at both the health service and at the community level. Regarding ARI, the referral of complicated cases has also increased even though during the last year the MOH has instituted a cost recovery mechanism for the basic drugs. The community is paying for the essential drugs that previously were free of charge, another sign of increasing recognition and acceptance of health services..

Constraints for reaching high risk groups occur at the health provider or institutional level as well as at the community level. This again is a nationwide problem that requires careful anthropological study in order to tailor services so that they are more acceptable to these communities. PC1 staff recognized this need and jointly designed a project and successfully obtained funding from PROCOSI. This research project is currently being implemented to provide this much needed anthropological/sociological information.

Some of the institutional constraints have already been identified. MOH health facilities are under staffed and have very low economic support to carry out community oriented projects. Area hospitals are run by first year graduate physicians who serve their year of social service and at the most three **RANs**. Most of their time is spent in hospital service activities such as out patient clinic and hospitalization cases which are few. Their activities concentrate in the small villages where hospitals are located (population avg. 3000). The only vehicles available to for health services on a permanent basis are Toyota "ambulances" that are over ten years old and are badly in need of overhaul and constant repair, and whose operation demand amounts that are far larger than the available budget. Under these circumstances, reaching distant communities and establishing prompt and practical referral and counter referral channels becomes extremely difficult. Thus the strategy of fortifying the local health teams, integrating **CHWs**, field **RANs** and the hospital-based human resources is, for the time being, the only alternative for improving program and service coverage rates. Decentralization is a process which has been proposed as the basic strategy to improve the administrative conditions of the health system at the health district level, but its implementation has been delayed by the MOH due to both political and financial problems that still have to be solved at the macro institutional level.

#### 4. RELEVANCE TO DEVELOPMENT

On the community side of the project equation, two major problems hinder success of primary health care strategies. First of all there is a cultural gap separating the Western oriented health system and most of the community members. They regard this system as something alien to their life styles, to be used generally as a last resort under extreme circumstances, when there is a life threatening situation, and when all more culturally acceptable measures have failed. The other limiting factor is the prevailing low socio economic status of the population. This has been exacerbated by the structural and economic difficulties in Bolivia in recent years. For example, currently Potosi is in a major crisis because of tin's low market value and continued drop in price. This obviously affects household economies of all groups and particularly those at high risk. Average income in the Cochabamba area fluctuates between \$20 US and \$30 US per month and is currently much less among some groups in Potosi. Although the cost of services and the cost of essential medicines are relatively low, income limitations plus the above mentioned cultural factors, limit the use of the available services.

In general, women of these communities are affected by the cultural gap to a greater degree. Only 20 % of them complete primary school education, 40% have up to three years of schooling, while 80% have attended primary school for two years. 30% state that they are bilingual, in Quechua and Spanish, the language most commonly used is Quechua. Culturally, oral tradition is much more important than literary tradition, reading is generally in Spanish, which for most of this population is a second language and generally used only on occasions that require contact with people from outside the activities of every day life in the community.

As mentioned before, in order to overcome the cultural barriers, during 1992 PCI-Bolivia designed a project to complement its CS project, that was presented to PROCOSI, and approved in early 1993. This project has as its main objective the establishment of methodologies for successful interaction between the native Quechua communities in each area and region and the health system. In order to reach the objective, anthropological research will provide PCI and the district health personnel with specific practical information regarding cultural beliefs on health and illness and other aspects of life which influence human development. This will provide accurate descriptions of both systems of beliefs and practices. With this basic information the project will develop specific plans of action to improve the acceptance of each intervention. The community perspective regarding health problems will be used as the main basis to this approach. This implies that the health service providers will have to modify present procedures and make their services more responsive to community concerns. This project requires a gradual process of integration between the community and the health services so that future health plans will be designed and carried out in partnership.

Although the MOH is still working on a Health Human Resources and Health Facility model for the rural area, PCI has been able to reach an agreement with the RHO of Cochabamba and the Health District Director of **Quillacollo**, so that health area doctors wishing to prolong their stay over the required year, may do so. This will allow communities to gain more confidence in the available health services which are still based on a predominantly medical perspective. Additionally, it will allow doctors to receive more training in community health programs and fully participate in activities facilitating mutual understanding, such as the PCI-PROCOSI project.

The perspective for the establishment of a more rational and more efficient health care delivery model has become a national issue that the new government will have to resolve during this new

period. PCI has been requested by the RHO in Cochabamba to collaborate with the MOH and share the experience gained in the Ayopaya region with the child survival projects.

By far and away the main community barriers are cultural. Again, as described previously, for example, children are not considered as complete persons before one year of age. This is expressed in a number of ways, for example, usually campesino families do not name or christen children before one year of age. They are viewed as being in a “waiting or expectation” phase and so sometimes even basic needs are not attended to. This attitude contributes to the high mortality rate in this age group. Other examples include the important beliefs regarding complementary feeding which is initiated rather early. For example, certain teas and other foods are believed to be necessary and important to cleanse a newborn and insure their health. Generally this is more a practice of giving a taste than actually representing a feeding practice, but it does have implications for health.

In the effort to increase community self-reliance, PCI has been formally including the community organizations in the process of accounting for project expenses. As an example of this, refer to the appendix to see a copy of a formal communication between the regional director of **PCI/Cochabamba** and the leadership of “La Central Campesina de Independencia”, an influential regional organization. Here the expenses which PCI incurs in provision of primary health care support is carefully listed in order to help build a realistic understanding of what support they are receiving and how much they will need to provide these services themselves. They understand that PCI’s involvement in the health care of their communities will not be present forever. The communities can begin to design ways to meet their own needs as they understand how much the cost is for what they are currently receiving.

With all the above in mind, PCI’s team is using strategies to address these problems: bridging the cultural barriers between community and health teams, developing and delivering appropriate cultural messages to promote knowledge and use of health services, encouraging reduced cost for medical attention for those most in need, support and promotion of community leaders, enabling mothers to better care for their children through increased knowledge and providing training for skills in income generating activities for improved means of income generation. Incidentally, income generation activities have been born out of the crisis and may need more emphasis during the next period.

## **5. DESIGN AND IMPLEMENTATION**

### **5.1 Design**

The CS VII project in Bolivia is being implemented following the original project design, the DIP, and the annual operational plans. Indicators for objectives that can be quantified are monitored and necessary adjustments are considered for the annual operational plans. Examples of summary statistical reports developed from monitoring activities are included in an appendix. Two summary reports, one for Independencia and one for Morochata, and a summary report of activities from **PCI/Cochabamba** Regional Director to the Director of District V are included in Appendices 2,3 and 4, respectively.

Based on regional expenditures, the cost per beneficiary index taking into account the total population has been 0.83 US\$ per year since the beginning of the project. The same index per direct beneficiaries (Children under 5 and fertile age women) is 2.35 US\$. These two indexes reveal a

relatively low operational budget which limits the implementation of activities expected to be carried out by the project under the general agreement with the MOH and the project implementation agreement with the RHO. On the other hand, the MOH and the RHO are not able to fulfill the complete scope of their own terms and much of their available financial resources support the ongoing operational costs required to keep the delivery of the relatively weak health services system functioning. In order to obtain the full impact of PCI's interventions it is essential that the MOH and the RHO fulfill to a greater degree their own commitments under the MOH-PCI agreement, such as the establishment of clear health policy statements, health program contents, activities and procedures, staffing and human resources, improvement of basic infrastructure, supplies and communications. All these fields of activity show different degrees of weaknesses within the health system. However, service records at all levels in project areas show a steady tendency of growth in terms of service utilization rates and population coverage rates. Since 1990, PCI has established verifiable indicators. Initially, population statistical projections and referential indexes were used. At present, true population data derived by CHWs' census and data produced by the 1992, National Census are being employed to establish yearly targets and monitor project accomplishments.

Project management appears to have a well developed ability to make appropriate changes in directions and strategies of the project as needed. This has been demonstrated in PCI's pilot urban project in Potosi. For example, despite receiving numerous requests from different sectors of Potosi, the project has expanded its services to two additional groups. PCI has initiated a program to respond to the specific health needs of a high risk community of women ("palliris" - women who work sorting rocks cast aside in the mining process in order to recover some minerals of minor value) and their children, and at the request of the ROH, PCI provides additional training to nursing students.

The project management was able to change some activities and even strategies when it was found more appropriate to address certain problems. Main changes of the design were the use of the social marketing strategy for mass communication as an effective way to achieve change in attitudes towards child survival interventions in an urban setting. For example, there was a need to improve the use of ORS, and early demand for health services in cases of ARI and particularly cases of pneumonia. With the positive response to this strategy, the need to make more use of mass media like the radio was recognized. Other components like community participation and other educational approaches were examined and revised using social marketing strategies. For example, it was concluded that the education curricula were out of date and efforts were made to revise them according to the new interests aroused through the use of mass media and social marketing.

## **5.2 Management and Use of Data**

Supporting the National Health Information System (SNIS), which is now operating throughout the country, PCI's project collects basic population and health service data within the communities through the CHWs. This information together with the information produced by the service records of both area hospitals and health posts are the basic inputs for the elaboration of health district and health area reports. Twenty seven basic indicators are used by the national HIS. This information allows PCI to monitor accomplishment of its own objectives. Additionally, since 1990, KAP surveys have been systematically implemented for evaluation purposes. The results of these surveys are used to design annual operational plans with the modifications indicated by the surveys. The HIS is structured from the community level all the way up to the national level at the MOH. Information for the district level is generated at the RHO, HIS facility. These reports are used in the monthly

district health information analysis committee meetings. PCI is in the process of computerizing its own system, making it compatible with the **MOH's** system in terms of software and data collection forms. Regional PCI staff are being trained in computer operation and all the required hardware has been installed.

At the health area level, analysis of the information is carried out with the area health team and the **CHWs** at quarterly meetings.

Regional institutions such as the Farmers' Labor Union, Women's Union and other community based institutions such as Mother's Clubs Federation collaborate in the design of the annual operational plan giving their input in both administrative and operational aspects.

PCI's national office in La Paz monitors information through monthly and quarterly reports, this allows PCI to establish the needs for technical assistance to the project. This has been particularly helpful during the cholera outbreaks for which technical assistance in case management and supplies was urgent. This use of information has also been important in increasing vaccination coverage rates through a more detailed planning of regular EPI rural vaccination campaigns tailored to local needs. At the national level the MOH may establish 3 or 4 campaigns per year, for the rural areas of the project. Campaigns are coordinated with activities of the local agricultural calendar and based on results obtained in previous campaigns. Furthermore, activities are adjusted for each health area and different groups of communities, giving priority to those with low coverage rates.

Information regarding progress of project activities and achievement of objectives is also shared with **PCI/San** Diego. The project would benefit from greater exchange with San Diego. More frequent visits to the project field sites from headquarters would facilitate this exchange.

Although the project's health information system is not yet fully functional, PCI's team works with the area health team, who are the primary users of the data. During the past months they have acquired some skills to maintain the system, however, they still need support to use it adequately. It is important to mention that because a national system is in place, health staff are obliged to maintain this system. The system is structured in a way that information collected has to be converted to relevant indicators and then it can be shared with other parties such as **NGO's**, community organizations, etc at every level (district, area and sector). In addition to participating in national health information system, PCI has conducted a number of additional investigations and surveys addressing topics where PCI has required health information more specific to their needs.

Baseline data were used to change some aspects of the project's original design and are now being used to monitor progress. Ongoing monitoring and evaluation of the project is done through focus groups. The use of qualitative methods of data collection has been particularly useful in the community education and social promotion components of the project. Decisions have been made as a result of data collected, for example when survey data and focus groups showed that mothers knew about ORS packets but did not use them, it was found the main reason was fear that using the packet would lead to a worse case of diarrhea. The project's response to this was to develop appropriate messages to address the problem. Opinion surveys done after the intervention showed more use of ORS.

PCI gathers information that is directly relevant to programmatic improvement. For example, PCI has been systematically identifying commonly used, but comparable health terms to improve

communication, and they have been able to demonstrate the usefulness of social marketing in health communication. Also other institutions like the MOH and local **NGOs** are using some of PCI's findings. **PCI's** team has been requested to make talks and seminars to other institutions like Foster Parents Plan in Sucre, Freedom from Hunger in Potosi, World Vision in Oruro, Lutheran Church, **Tomas** Frias University and Medicos Mundi in Potosi.

### **5.3 Community Education and Social Promotion**

Initial CS VII interventions under this project were focused on health education for community health volunteers, who in turn educate various community groups, primarily mothers. Having established a network of **CHWs** who have been integrated to the area health teams, project focus has now shifted to social promotion and community participation. Establishing sound community participation mechanisms is an answer to the more difficult issues of project sustainability. As mentioned previously, an important step in this direction is the education of community groups regarding the actual cost of primary health care activities in their region, (refer to Appendix 5).

The RHO acknowledges that PCI's CS project have been the most important factor in the establishment of a Primary Health Care System in the Ayopaya region. This system includes all physical and human resources provided by the MOH and the community health volunteers trained within the framework of the CS project funded by AID. The PROCOSI funded project addressing interaction between communities and the national health care system will establish structural community participation mechanisms that will address in a culturally acceptable way, the ways in which the community will assume responsibility for the priority public health issues in the region.

PC1 has designed a model for qualitative social research that employs rapid assessment techniques that will provide information regarding beliefs, knowledge, expectations and practices of the native communities regarding health, especially in the basic aspects of CS and maternal health. This information will serve both the educational component of the project and also the social promotion and participation component, allowing PC1 to tailor to local needs, program contents and procedures.

At present, most of the educational material used by PC1 is prepared by the technical departments of the MOH and the **RHOs**.

Community education and social promotion is the strongest component of the CS VII project, in Potosi, and particularly within the urban areas. Baseline data indicated that available health services outnumbered the demand in rural and urban areas and that much communication, promotion was needed in the community to improve the demand. At the moment an appropriate balance is being reached between services and demand. PCI's effort to link education with the available services supports this effort to achieve a balance. The project carried out several focus groups, interviews, and meetings in order to find out why the people in the community did not seek health care at health facilities. Radio and other messages were produced using available data, messages were tested within community groups and refined for widespread use. **PCI** ensures the quality of messages by surveys conducted through phone calls, personal interviews, and visiting existing groups in the community. Messages undergo continuous validation before an attempt is made to measure their impact.

With regard to printed materials, PC1 does not use them regularly with this beneficiary population because in general they are barely literate and not used to reading. Graphics have been used

moderately, most recently efforts are being made to produce material in coordination with the community. Before printing materials are tested for participant comprehension and validate their usefulness. An example of a teaching tool that supports compliance with recommended child survival health practices is given in Appendix 6. Included in this appendix is a photocopy of a calendar wheel. This wheel is attached to a larger piece of paper and will rotate to coordinate with the local annual calendar of community and religious festivals. It is designed to support the mother in remembering what developmental stage her child should have reached (as signified by the inner circle), what feeding methods are appropriate, and when the vaccinations should be received over the course of the first year of life of the child. Each mother is given one of these development wheels and shown how to use it. It is anchored to the date of the child's birth. These calendars have been very popular and appear to be quite useful in support of educating families regarding child survival health care practices.

In the rural project areas, one of the innovations which has proven particularly useful is the combination of video films regarding CS and maternal health interventions with entertaining films. Since the great majority of the communities in the region lack electricity, television is a bit of a novelty and therefore it captures the interest and attention of the whole community. Usually a program begins in the afternoon when children are gathered to watch cartoons. Short health-related pictures and cartoons are shown between the short cartoons. After this show, the whole community is invited to see a film regarding a health related problem. This is followed by a short discussion. The same health issue is then discussed at a later date at a community meeting. This is particularly helpful for discussion of larger community health issues such as water and sanitation. After this, another entertaining film is shown. Bolivian productions with high social content are very popular. Unfortunately, logistics for this type of activity are difficult due to the short time car batteries last and the high cost of video equipment. At present, PC1 is working with just one video and television set in each region so that reaching the majority of the communities is difficult. PC1 has an overwhelming request by all communities to visit them with the "Tine" (movies).

#### **5.4 Human Resources for Child Survival**

PC1 personnel assigned to and paid by the CS project in Cochabamba:

Dr. Evaristo **Maida**, Physician, Regional Director  
Mrs. Delina Herrera, RN, Health Educator  
Mrs. Elena **Siles**, Accountant  
Mr. Armando Vargas, Warehouse keeper  
Mr. Amadeo Rojas, Driver messenger  
Mr. **Iván Castellón** is the sociologist who supports the PROCOSI-PC1 project and is paid with funds provided by that project. Also to be supported by this project is the information system operator who will be hired in the near future.

Community counterpart relations include representatives of the Farmers Unions, the Federation of Farmer Unions and representatives of women's organizations such as Mothers Clubs.

**CHWs** have organized themselves into a CHW Association that has elected leadership and is beginning to establish itself. This association has gained recognition from the other long standing

community organizations. This relationship will be strongly supported by PC1 in the future as another strategy for sustainability.

The project's counterpart personnel at the RHO are presently in the process of being changed due to the change of government. PC1 has been in the process of establishing good working relationships with the new personnel. This has not been difficult because of the long and positive working relationship PC1 has maintained with the RHO. In Appendix 7, an organization chart for the Regional Health Office (RHO) of the Cochabamba Department is provided. By examining the structure represented there, evidence of PCI's close working relationship with the RHO and MOH can be seen. PCI's Regional Director is given supervision responsibilities for the RHO health personnel of three health areas. Two of these are current areas of CSVII activities and one is an area which received **USAID** support for child survival activities previously. Additionally branches are shown representing direct PC1 staff in the administrative and technical branches of **PCI/Cochabamba**. This close working relationship of PC1 with the RHO staff was highly praised during interviews conducted by the mid-term evaluation team.

Dr. Juan Carlos Guillen is the new Director of the Planning Office at the RHO in Cochabamba, he is supported by the RHO Program directors which include Epidemiology, Child and Maternal Health, Nutrition, Hospitals and Medical Services. When necessary, PC1 coordinates activities through the Office of Planning with these authorities.

At the field operational level the MOH-RHO counterpart is represented by the District V Director, Dr. Johnny Nava who has been in this position for the past four years and who will probably be replaced by the new authorities. The District Health team is made up of the Director, the District Head Nurse, an administrator and a statistician. For the Morochata and Independencia areas the RHO personnel assigned locally are divided into two teams (two medical doctors, one dentist and seven rural auxiliary nurses).

The community health human resource trained by the project include **CHWs** and **TBAs**.

#### Community Health Workers

	Active	Regular	Inactive
Morochata	22	13	12
Independencia	32	9	6

#### Traditional Birth Attendants

	Active	Regular	Inactive
Morochata	3	2	1
Independencia	6	2	1

Due to the health situation, lack of resources and geographical characteristics of the region, **CHWs** receive a basic 180 hour comprehensive training course in primary health with emphasis in Child Survival and Maternal Health. The training course is divided in three periods lasting a week each. Update and refresher courses occur for three days every quarter. During 1992, refresher courses were more frequent (every two months).

Consistently in all regions of the project, during evaluation interviews, **CHWs** asked for more training with more in depth and longer courses. This request arises from two issues. First, the slow development of the MOH-RHO health system and the lack of health human resources and basic facilities in small rural communities and second, there are few human and social development opportunities for the community members in the rural area, making this training activity both useful and attractive to those involved. In order to answer this need, **PC1** is considering the possibility of designing an advanced **CHW** training course. Those **CHWs** who demonstrate higher degrees of knowledge and practice would become eligible to receive more in-depth training. The first category of **CHWs** could then become candidates for further training as **RANs**, qualifying for the **RHO-PC1 RANs'** at distance training course. This training course is run by **PCI's** health educator for individuals who show promise and ability but are unable to attend the course in Cochabamba. It is another example of the high level of cooperation and trust that exists between **PC1** and the **RHO**.

**PC1** personnel assigned to and paid by the **CS** project in Potosi:

Dr. Oscar Velasco, Regional Director, Physician/Anthropologist  
Lit. **Rolando** Castillo, Psychologist/Education and Communication Specialist  
Lit. **Susana** de Mercado, Social Worker, Community participation expert  
Dr. Cirilo Fuerte, Physician, Health Education and traditional medicine expert  
**Srta. Nieves** Garabito, Auxiliary nurse, EPI expert  
Srta. Evelyn Nava, Secretary/accountant  
Sra. **Elsa Cordero**, Secretary/accountant

As described above the team is multidisciplinary and comprises a wide range of appropriate expertise. The counterpart team belongs to the regional health unit and is composed of three physicians heading up the three health districts, eight area physicians, six nurses, six auxiliary nurser, five social workers. The project work with 92 **CHWs** and 42 child caretakers. **CHWs** play many roles in their work. As circumstances demand, they act as leaders, educators, coordinators and service providers. Their workload is tailored according to other responsibilities in their families and community. It was estimated that on average they devote 48 hours per month to health activities. At this moment, almost half of urban or rural **CHWs** are new, the others were trained three years ago and receive a refresher course every three months. Each refresher course lasts approximately 4 days and each year the aim is to have 80 hours of training. As in the Cochabamba region, during the mid-term evaluation interviews, both **CHWs** and **MOH** health staff mentioned that they would like more training time, and therefore **PC1** will respond to this request and revise the time table. The initial training lasts about 6 days and gives the **CHWs** introduction to the subject and an overview of the responsibilities and kind of work.

## **5.5 Supplies and Materials for Local Staff**

After completion and approval of their basic coursework, **CHWs** receive educational materials containing flip charts, posters, guide books, manuals and booklets covering the issues for which the **CHWs** have been trained. Most of these materials are derived from WHO, UNICEF and Bolivian MOH materials. They are simplified and adapted as appropriate for **CHWs** by PC1 health educators. Increasingly, **PCI's** educators have been developing their own materials.

The types of materials distributed or loaned consist of the following items:

Flip charts: CDD, ARI, Nutrition, Child growth, Tuberculosis, Pregnancy, Water and Sanitation.

Posters: Cholera, Vaccinations, Clean delivery, Post natal care, Vitamin A, Health Calendar.

Manuals and Guide books for Community Health, CS and Maternal Health.

Booklets related to Primary Health Care.

The evaluation team reviewed some of these materials and found the **PCI-developed** materials and **PCI-revised** versions to be very appropriate and appear to be quite useful. During their refresher and update courses, **CHWs** can acquire at low cost David Werner's books "Donde no hay Doctor" and "Aprendiendo a Promover la Salud". These books provide the **CHWs** with additional information on the topics for which they would like to have more knowledge. They also are given forms for data collection and for referral. Sometimes PC1 lends them selected materials like flipcharts, slides, videos.

Upon graduation, **CHWs** also receive some basic equipment and basic drugs. These materials are highly valued by the **CHWs** and their communities. Even though **CHWs** receive the materials, by agreement the community becomes the true owner and is responsible for its **correct** use. (A copy of the list of equipment and medicines are in the Appendices 8 and 9, respectively.)

The essential medications system functions as a rotating fund. Both basic equipment and medications are considered to be adequate for the **CHWs** to carry out their health related activities within their communities. It becomes their responsibility to renew all supplies. Rotating funds have functioned according to design and are the project's main example of cost recovery mechanisms. They have allowed the **CHWs** and the communities to learn the cost of supplies and medicines and to assume their share of responsibility in economic and functional terms. This again is viewed as a necessary step to building sustainability.

Supervision and health activity community visits are made by the Area and PC1 health team. During these visits **CHWs** receive technical assistance and the community receives medical services and health education activities. These visits also support the perception of the **CHWs** as important and valid sources of health information within the community and as competent members of the region's health providers. (Unfortunately, at times there is also the perception by the community that these volunteer **CHWs** are financially compensated for their work.)

**CHWs** were supplied with a number of educational materials coming from the MOH and those developed by PCI. A follow up on the use of these material is planned by PC1 staff during training sessions. During the evaluation, the team observed material used as a reference. In the day care

centers, child caretakers were using the materials to evaluate child psychomotor development. **CHWs** had high praise for the educational material given to them. During the evaluation they mentioned that in their remote communities, the material is their only source of health information, most of the **CHWs** are literate and make very good use of the materials. The PCI project has identified the need to produce more materials to be used in informal education and in systematic education. The subjects for the materials will be varied and will touch in detail some selected items. PCI will test and evaluate the materials thoroughly during its development. PCI is also producing social marketing materials like stickers, posters, hats and button or pins to be worn.

## **5.6    Quality**

Basic education and training for the medical and paramedical staff are adequate for the implementation of CS, Maternal and Community Health activities. The problem that must still be solved by the MOH and the RHO is the human resource policy regarding the permanence and career possibilities of the staff assigned to the rural area. This is one of the main issues that delays the functioning of the local health systems as was planned in the original project proposal and DIP. As a temporary solution, if doctors wish to stay for more than a year, PCI has been able to secure approval from the RHO, but this is an exception based on PCI's request rather than a nationwide change in policy. Continuity in rural health personnel is a major need to support sustainability of PCI's child survival activities, and although PCI is attempting to influence policy, it is not within their control.

It was clear to the evaluation team that with few exceptions, local staff including the local counterparts have a close relationship with mothers in the community. PCI encourages staff to use language skills, appropriate attitudes and key concepts of understanding. During evaluation meetings, women of the Mothers Clubs expressed the desire that more women be trained as **CHWs**. At this time most are men, possibly because the CHW is a position elected by the community. It seems that increasing the number of female **CHWs** would facilitate communication for some community members. Counseling and support is available at the community and health post level by **CHWs** and **RANs**.

PCI's local staff form a multidisciplinary team with long experience in health and CS interventions. Responsibilities assigned in this project are carried out with a high degree of expertise. Discussions among the team members are the rule for the solution of problems. Difficulties arise when problems require referral. As was explained elsewhere, transportation and communications make referral difficult especially for the isolated communities (particularly for those that are more than six hours by foot).

## **5.7    Supervision and Monitoring**

Prior to 1992, supervision was the responsibility of the RHO. This implied that PCI technically and logistically supported the RHO to carry out supervision visits which generally reached the Health area level.

Since 1992, supervision and monitoring activities in the Cochabamba region have become more systematic, and definitions for supervision activities have been established by levels of activities. The RHO supervises the district level, who in turn supervises the area level, and this level supervises the

community level through the community **RANs** and the **CHWs**. One of the innovations introduced by the project has been the training of **CHWs** to carry out supervision visits to groups of communities. Each **CHWs** supervisor is responsible for a group of five to six communities which he visits on a regular basis to supervise the local CHW. A special protocol has been developed for this activity. It helps the Supervisor CHW to follow a standard procedure and to rapidly identify the problems that the local CHW may be encountering in his job. The reports of the Supervisor **CHWs** become part of the material discussed during the Area Health Information Analysis Committees.

The basic inputs for monitoring at the community level are the CHW activities reports. Accomplishment is measured in relation to the yearly target, the percentage reached during the period, and the accumulated percent to date.

Through a process of decentralization that will fortify the local health systems in the near future, it is hoped that a better ratio between available health human resources and the population served will be obtained. This will allow supervision at all levels to improve and will also help the project to better orient educational and counseling activities.

In the Potosi region, supervision and monitoring responsibilities are conducted by PCI. Supervision and monitoring combines direct observation of practices and interviews to test acquisition of knowledge and skills. The supervision is always done at field sites and reaches all levels of staff. Its character is mainly educational and feedback is always provided. Supervision has not reached the level to ensure quality service. PCI is trying to improve the supervision process so that it will better support assurance of quality service. **As** mentioned in section 5.6 on Quality, the process of referral is still a major problem. Patient follow-up is still very poorly done, the MOH has a tendency to leave PCI with the tasks of supervision and follow-up.

From the point of view of a health worker, supervision consists of counseling, support and on the job education. They would like it to be done more frequently and written feedback would also be appreciated. **As** an example, they mentioned the idea of scoring system for their performance and knowledge. Areas for improvement in supervision and monitoring requirements for the rest of the project are: a need to make more use of the data collected, particularly the quantitative data, and a need for continuous review of the supervision forms.

## **5.8 Use of Central Funding**

Technical administrative and financial support received by the PCI regional office in Cochabamba from the national PCI office in La Paz is within the frame of the planned activities and budget. These funds are the central funding source for all of **PCI's** activities in Cochabamba. Project managers consider that the ratio between financial funds and the total number of beneficiaries is low.

The PCI regional team of Potosi feels than a more frequent administrative monitoring by the national PCI office would be welcome. They recognize their weakness in this area and feel that feedback from **PCI/Bolivia** is not adequate for administrative issues.

Technical monitoring and support has been done directly and indirectly from **PCI/Bolivia** regularly, recognizing the high quality of the support, the regional team would welcome closer contact. **PCI's** regional team does not have direct contact with the central office at San Diego, its relationship is

through the La Paz PC1 office and they request more assistance with obtaining reference material. The mid-term evaluation process has helped the San Diego and La Paz offices to recognize this need. Changes will be made to improve the administrative support available.

### **5.9 PVO's Use of Technical Support**

In order to improve the quality of the CS project, PC1 has actively sought both internal and external technical support. Support from **PCI/HQ** office has allowed **PCI/Bolivia** to establish sound local goals and objectives compatible to AID's technical requirements. Also HQ administrative support helped PCI-Bolivia to establish a sound financial system modeled specifically for this project's needs.

PCI's national office supports financial and technical activities in the regional offices. Central administrative support from La Paz monitors cash flow according to the annual budget plan. The technical support officer in La Paz coordinates all technical support activities for the field offices.

PCI Bolivia has received technical assistance from the Johns Hopkins Child Survival Support Program in baseline and survey implementation regarding **KAPs**. During 1992 and 1993, PC1 received technical support from REACH in order to improve the CS AR1 component. PROCOSI supports PC1 in all **CS** updating activities with seminars, workshops and other program related activities.

Within the Potosi region, technical assistance needed during this phase was for: materials development and monitoring their use, data collection decision making, and social marketing. Of those, the project obtained technical assistance on **ARI's** materials development from REACH through PROCOSI; this is a two-year assistance. Technical assistance on data decision making was given by **PCI/** Bolivia. PC1 also received from PROCOSI other types of technical assistance like management of CDD and EPI and an overall view of culturally appropriate material development. PCI's team feels that all technical assistance received was useful, of high quality and the products were ready to be used. As an example, they mention that REACH consultant Dr. Salgado brought a fair amount of material and was able to share experience from other countries and provided useful advice on how to use local resources. After the technical assistance, they were able to review goals and objectives of ARI. During mid-term evaluation interviews with PC1 staff, the mid-term evaluation team became aware of the need for exchange within PCI's own technical staff. In discussions with the regional directors, the national technical director and the technical officer from headquarters, each expressed the need for additional opportunities and methods for technical communication and exchange. PC1 will examine ways to facilitate this important exchange.

### **5.10 Assessment of Counterpart Relationships**

As with all international cooperation institutions, PC1 works in Bolivia by agreement with the National Government. Thus PC1 has signed a general agreement with the Ministry of Foreign Relations and has signed a contract with the Ministry of Health which is the sectorial head for all activities related to this field. **PCI's** direct operational counterpart is the **MOH's** Regional Health Office or "Unidad Sanitaria" with whom agreements for each CS project component are bilaterally negotiated. In Cochabamba, at the field level, PC1 works with the Health District V Office with seat in the city of Quillacollo, about **28** km. from Cochabamba. In order to increase community

participation, PCI has signed agreements with community organizations such as the Central Campesina de Ayopaya which is the largest organization gathering all the farmers in that province.

The basic agreements with the MOH and the RHO in Cochabamba establish that PCI is working for institutional strengthening of the RHO at the V Health District level, by training their personnel in the implementation of all CS project components in the Areas of Morochata and Independencia.

No financial flow exists between PCI the MOH or the RHO. The project is implemented by using both human and financial resources coming from the two institutions.

At the official level human resources are in general well trained and qualified to implement project components. Problems exist due to financial restrictions that limit human resources and other essential project inputs. The MOH-RHO will not be able to assume full project responsibility until these financial limitations are eased.

PCI's support in terms of technical and financial assistance becomes a major development factor within this isolated and socially and economically depressed region. All activities are carried out under agreement of the intervening parts, that is to say PCI, the RHO and the community organizations. The importance of PCI's presence is highly valued by health authorities and by community leaders and representatives. This was confirmed vigorously in the interview with the recent Director of the RHO of Cochabamba. She reported that recent internal evaluation seminar of the RHO, PCI was named as the most important influence in strengthening the RHO activities within the department.

Within the Potosi region, the Regional Health Office of the MOH is also the chief counterpart organization. PCI also has a good relationship with several other **PVOs**, other institutions and university colleges. The relationship with RHO is a two way system. They provide supplies for EPI, ORS packet, **ARI's** drugs, growth charts, weighing scales, clinical reports for pregnancy and delivery, vitamin A, iron, iodine capsules and educational materials. They invite PCI's team to seminars, round tables and other events held for their staff. Between both institution's staff there is a close relationship and sometimes they treat PCI's staff as their own personnel. During PCI's mid-term evaluation, a RHO jeep and driver were used with no problem. RHO also provided technical assistance in areas PCI lacks. On the other hand, PCI provides human resources for organizing workshops, seminars especially on educational matters. Sometimes they support with food and transportation for those events. Technical assistance on education, community participation, communication and computer management are regularly provided by PCI. PCI's team is part of the technical consultants of the urban district. Counterpart staff is gradually acquiring managerial skills to operate CS programs effectively, some areas are ahead others. The **Puna** district is already trained to take over the responsibilities. Dialogue between **PVO's** and counterparts is ongoing, flexible and direct.

### **5.11 Referral Relationships**

It is worth noting that PCI's Child Survival programs in rural areas are characterized by their extreme remoteness and **difficult** conditions of accessibility, affecting the ability of the ministry of health to provided consistent support to their health personnel posted in these regions as well as for the population to access health services. Descriptive information is provided below to demonstrate this

point. The total population of the two regions live within 131 communities, 77 of which are in the area of Independencia and 54 of which are in the area of Morochata. Each community is categorized by the walking distance in time to the city proper of Independencia or Morochata.

### **Population by communities and accessibility**

<u>Township</u>	Walking Distance of Community to Township (hrs.)			
	<u>Total</u>	<u>&lt; 2 hrs.</u>	<u>&gt; 2 hrs.</u>	<u>&gt; 6 hrs.</u>
		<u>Number of Communities</u>		
Independencia	77	15	32	30
Morochata	54	11	25	18
		<u>Total Population</u>		
	26,983	5,330	11,685	9,968

Each health area in the project has a second level referral hospital which in theory should have four basic medical specialties: Medicine, Surgery, Pediatrics and Gynecology/Obstetrics. This is just a theoretical intention that remains dormant in goodwill documents. In fact these hospitals are staffed with a first year graduate physician and not more that three **RANs**. They are poorly equipped and there is a marked under utilization of their in-house services such as pediatrics and maternity hospitalization.

The project has identified referral sites in all working districts- All of them are found to be difficult to access, sometimes because they are far, expensive and are culturally different from the people who demand services. Also all of them are poorly equipped, do not have high resolution capacity and do not provide drugs or laboratory services. Counterreferral is not common.

Although coverage and utilization rates have increased, in order to improve efficiency, both service quality and infrastructure will have to be improved. Within Cochabamba, PC1 has agreed to become a counterpart agency for the Social Investment Fund (FIS). This institution will finance the improvement of all health basic infrastructure within Ayopaya. Under agreement with the FIS and the RHO, PC1 will be responsible for the submittal of a health system development plan and the supervision of the construction and renewal of existing basic health facilities. With these improvements plus CS and the community interaction project activities, higher coverage rates and improved utility rates will be achieved before the end of this CS project.

**PCI's** strategy has been to try to improve the coordination between the health facilities by encouraging dialogue, follow-up and seminars to change hospitals' staff behavior. A referral form was made by PCI, that is now used by the system. In some special occasions, PC1 channeled support in order to improve equipment. The best example of this, is the acquisition of oxygen tubes, and humidifiers for the treatment of ARI. Socia! workers have been very helpful in supporting the referral system through follow-up of patients and their compliance with treatment protocol.

As previously described, an important activity increasing the success of referrals, has been the promotion done for hospital services through radio programs.

### **5.12 PVO/NGO Networking**

As a member of PROCOSI, PCI Bolivia belongs to the largest PVO CS network in the country.

In Ayopaya, **PCI** also coordinates activities with the Catholic Church, and the PAAC which is a PVO sponsored by the EEC working in rural development. Joint activities for specific programs have taken place with CANSAVE and Rural **Andean** Health. Through PROCOSI, experiences of each individual NGO are shared by the member organizations. PCI has participated in several evaluation activities with Save the Children, **Andean** Rural Health and CANSAVE. Likewise extensive networking has occurred in the program of **PCI/Potosí**. **PCI's** team has been requested to make talks and seminars for other institutions like Foster Parents Plan in Sucre, Freedom from Hunger in Potosi, World Vision in Oruro, Lutheran Church, **Tomas Frias** University and Medicos Mundi in Potosi.

As a result of membership in PROCOSI, the office in Potosi was eligible for funding, technical assistance, assistance to seminars, exchange of materials and staff. Positive effects of the network have been the opportunities to share expertise and experiences and to avoid effort duplications. For example, PCI was invited to Sucre to give an international seminar to Foster Parents Plan. During the visit **PCI** learned useful ways of monitoring children's growth and how effectively the feedback was used. During a visit to a PVO in Oruro, **Potosí's** staff learned a methodology for doing community diagnosis which was later used and improved by the social worker in PCI.

### **5.13 Budget Management**

Budget control is located at **PCI/headquarters**, which disburses funds for this project in response to monthly requests for cash from the field **office**. The field office reports expenditures monthly by cost center, with the requisite documentation, to headquarters. **PCI/San** Diego then issues monthly income and expense statements which are shared with the field office. PCI conducts an annual audit. In 1992, Coopers and Lybrand, Inc., found PCI in full compliance with **USAID's** A-13 requirements and issued an unqualified opinion.

A review of pipeline expenditures to date (September 1, 1991 through August 31, 1993) reveals that the project has spent \$687,946, of a total agreement budget of **\$1,004,410**. Of the total spent to date, **A.I.D.'s** portion is \$364,284. This represents an expenditure of 59% of the **A.I.D.** portion of the funding after 47% of the duration of project funding. Although the spending rate for the **A.I.D.** portion of the budget is a bit below the agreement budget at this point in time, **PCI** anticipates expending the remaining funds by the end of the project. Likewise PCI anticipates achieving its objectives with the remaining funding.

## **6. SUSTAINABILITY**

Within each region PCI has followed a three-prong strategy for assuring sustainability of child survival activities:

- Strengthening technical and administrative skills of district and area teams in order to enable them to solve health problems with emphasis in child survival programs.

Gradually improve capacity of **CHWs** and child care takers to coordinate with area health teams and promote a growing participation during planning and programming stages.

Strengthening community organizations' capacity to support and coordinate with health team towards a joint effort to solve health problems.

PCI's operating rule has been to avoid if possible any kind of rewards or incentives. Rather than becoming dependent on external sources of financing, PCI hopes to encourage community action to locate resources within or demand deserved support from governmental sources. Support has always been given for community organization and **PCI** is always looking for additional community counterparts. PCI also tries to support **CHWs** with minimal equipment required for their work. The equipment given is of low cost and in the range of funding possibilities for the RHO, so **PCI** believes that once **CS USAID** funding ends, most of the activities will continue.

The community gradually becomes involved in all activities. Over and over PCI has observed that the natural hesitation or cautiousness expressed at the beginning of PCI's project implementation turns into full participation as the community gains confidence in PCI and their own capabilities in health activities. PCI intends to include the community in planning, follow-up and evaluation activities.

In both Cochabamba and in Potosi, the evaluation team met with very active local community organization leaders, who enthusiastically endorse and participate in the process of prioritizing and planning the implementation of health activities in their locality. They repeatedly credit PCI with encouraging and insuring their participation in this process. They view the commitment of the RHO and MOH to this community participation model with varying degrees of skepticism and hopefulness.

**PCI** is actively promoting the organization of CHW associations. These community level organizations will become the counterpart for basic and continued educational activities of CHW training. They will also gradually assume many of the administrative and logistical roles that **PCI** presently carries out between the RHO and other health and development institutions.

The implementation of the PROCOSI interaction project seeks to establish a better reciprocal understanding of the cultural and anthropological beliefs regarding health in the rural and urban marginal sector. As a result of this project, a systematic model of interpretation will allow health services to implement activities in a joint effort with the community.

Regarding the influence of PCI's health activities and methodologies on other **NGOs**, different components of PCI are seen as viable and effective for some organizations according to their own interests. For example, KAP surveys were adopted by World Vision and by the university for teaching. The traditional medicine component was adopted by Foster Parents Plan and is part of their training programs. Methodology for community diagnostics are used by the Lutheran church.

MOH at regional level was very involved in every stage of the project. On several occasions MOH staff at regional, district and area levels mentioned the effectiveness of PCI's input. During interviews with area directors, PCI's support was praised as important. Perhaps one of the most crucial inputs

is the continuity given in rural areas where MOH staff are allocated only for a limited amount of time. At the MOH-RHO level, PCI is negotiating for the possibility of establishing health area technical teams that will remain in the rural area for more than the established period of one year. In this context, PCI's staff are able to update the newcomer and support his/her activities during the first phase. It was obvious to the evaluation team that this support was felt and appreciated by the doctors assigned to the area health posts in both neglected urban areas and remote and relatively forgotten rural posts. There are many activities that the RHO is doing to follow-up on PCI's intervention. Most importantly they have discussed their interest in hiring some of **PCI's** personnel after the project ends. **PCI** has been invited to participate in the RHO technical task force that will design both the decentralization strategy and the district development model. At the health area level, **PCI** promotes the participation of MOH dependent health personnel in technical events covering the whole range of CS interventions to improve technical and practical capacity of the services in both preventive and promotional and also curative activities.

## **7. RECURRENT COSTS AND COST RECOVERY MECHANISMS**

During interviews with the project managers, they all demonstrated knowledge of financial and volunteer resources required to operate their projects. They have even begun the process of educating community members about the costs related to the health education activities PCI undertakes. Though the community has not formally agreed to financially support the projects, they are gradually becoming accustomed to providing fees for curative services and medicines. PCI has specifically worked to develop rotating pharmaceutical funds to improve access to medicines. This evaluation did not measure the rate of cost recovery in the various funds.

Ministry of Health representatives signed agreements with PCI that would have the MOH covering a portion of the project's costs when PCI finished its activities. It is unrealistic to believe that these written agreements will lead to a complete coverage of all the projects' recurrent costs, given the very low resources currently available from the MOH at the regional level. PCI believes that the costs of in-service training, supervision, and training for new **CHWs** (these costs are estimated at \$45-55,000 a year for each project site) will not be fully covered by the MOH. PCI is working to reduce administrative costs in order to minimize the financial burden upon the community and MOH. Although no assured alternative funding sources have been identified, possibilities are being sought. For example, the costs of promotion activities conducted through radio programs could be recovered by selling to sponsors because at the moment the program's audience is growing. Additionally, the radio programs are helping to raise consciousness about health needs of the area. This is resulting in the generation of the interest of other institutions and persons in minor donations to cover small expenses, for example support of some child care center costs, costs of medicines, etc.

Using 44,394 as the projects' beneficiary population and the total agreement budget of 648,180 from AID, the cost per beneficiary is estimated to be \$14.60 for the life of the project, or \$4.87 per year. These estimates are appropriate given the geographic and programmatic challenges of working in isolated communities.

## **8. RECOMMENDATIONS**

### **General Comments**

PCI's regional technical team has a significant presence in several aspects of public health in Potosi, specially in the fields of health education, health service improvement, community participation and alternative medicine.

This professionally sound team, gathers specialists with years of experience in community organization, health education, public health and the anthropological aspects of medicine. This CS VII project has supported the consolidation and the follow up of activities initiated in the rural area that have led to the new project sites in the urban area. The project's innovations and new strategies immediately capture one's interest. On the other hand, some of the activities will still have to be implemented to demonstrate their full potential in benefit of the communities health status.

Several impact indicators such as EPI coverage rates in children under one, 'IT2 among women in fertile age, % of cases of CDD and AR1 receiving treatment and % of pregnant women assisting to prenatal care services, show different degrees of coverage, that are in general below the projects expected levels. This information should be carefully analyzed given the socio cultural and economic characteristics of the beneficiary population, which is in general in the high risk category. Adequate coverage levels should be estimated in order to reflect the true level of achievement of the project.

No doubt exists regarding the **efficiency** of the inter institutional coordination components and the community education and participation activities of PCI. The benefit of these activities is limited by problems beyond the control of PCI such as the mining crisis, absence or unfulfillment of counterpart agreements, changes in the regionalization of health areas in the city of Potosi and frequent change of health authorities. If problems arising from the community level such as cultural beliefs, language barriers and others are taken into account, it becomes easy to understand why numerical fulfillment of objectives becomes difficult.

The mid-term evaluation team believes that a great step forward has been achieved especially in the qualitative aspects of this project. This degree of advancement might not be able to be translated immediately into quantitative terms. But it also appears that in a greater time span, the efforts will demonstrate larger positive changes in the indicators.

PCI's team in Cochabamba is assisting areas of high risk with difficult geographical and cultural access. During these last years, local health teams of the MOH have been constantly supported by PCI. This effort gave a sustained continuity even when health staff changed. Peasant organizations in Cochabamba are famous in the country and it is clear that the importance given to them by PCI is an important approach towards sustainability.

During this mid-term evaluation process, the mid-term evaluation team observed, a very strong relationship between **PCI** and the MOH at various levels, coverage of health needs is increasing in a sustained way, and **CHWs** are gaining wider recognition and influence within their communities.

Some of the new PCI plans for the next term will help to better understand the conceptions of health and illness in the Quechua world, and this understanding should lead to an improved demand for services. Unfortunately, as in other parts of the country, limitations are considerable: bad roads,

insufficient infrastructure, understaffed hospitals, lack of medicines. These conditions make it difficult to achieve sound statistical impacts, but the qualitative improvement in **PCI's** project areas is unquestionable.

### Specific Recommendations

Concentrate activities in project components implemented to date.

Support social marketing techniques with local or international technical assistance.

Manage the daily Radio program to refocus audience objectives so they are directly related to the program theme.'

Develop a system to indirectly monitor the activities carried out by the **CHWs**. It appears that the national information system and the **PCI** information system have overgeneralized indicators with regard to the remote portion of the project in the Colcha K **area**.<sup>2</sup>

The publication and interagency sharing of the experiences gained by **PCI** in the fields of community participatory diagnosis, health social marketing and above all cultural health /illness difference would be very important to enrich public health knowledge in the region and in the country.

To continue pursuing the effort to allow extension of the year of rural **service** to a longer period of time for those dedicated doctors who want to remain in the area.

- To work with the **MOH** and the **ROH** in those areas which remain problematic like: establishment of norms, supervision, etc.

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<sup>1</sup> At present, the radio program presents a health-related problem that is explained by a panel or guests who are specialists on the issue. The audience is then expected to participate by phone or by letter. What should be better managed is the public interest regarding a specific health issue in the general social context. Although health promotion messages are consistent and persistent during the programs, the main line is at times lost when the audience focuses interest on other issues. This was noticed in the two programs listened to while the team was visiting Potosi.

<sup>2</sup> Due to the extremely isolated characteristics of the region, **CHWs** working in communities in the Colcha K health area, are cut-off from the center of activities for prolonged periods of time (5-6 months). (This community lies across the **Salar** de Uyuni, the largest salt flat in the world. During these periods, **PCI** should develop a **CHW** follow-up system that will allow them to feel supported and encouraged to continue their work. To do this **PCI** should attempt to persuade the **RHO** to hire a **RAN** and if this is not possible, **PCI** should, if possible. This person should be trained in **CHW** supervision and stationed in Colcha K. His/her main activity would be to periodically visit groups of communities within the area. Additionally, he/she could work on the development of the local Health Information Analysis Committees, the improvement of **CHW** reporting forms. Two other recommendations to support this effort are: 1) the training of Supervisor **CHWs** following the Cochabamba model and 2) establishment of a short wave radio network within the area.

Continue incorporating new methods of education and social communication.

Consider ways to support additional health training activities for the **CHWs**.  
Consider ways to incorporate more women into the CHW structure.

Specific requests were made for more access to information and services for child spacing/family planning, during focus groups with Mothers Club members and health promoters. Find acceptable and appropriate methods (particularly given current levels of minimal medical service support available) for responding to this request.

Create a National Technical Support Team, using all the human resources of PCI's Regional Offices. This team should meet on a regular basis, possibly rotating meeting locations among the regional program locations, to discuss issues common to all of PCI's projects and should be able to assist each Regional Office on any specific problems arising during project implementation.

Cochabamba has a specific request for purchase of a new vehicle for the Cochabamba regional office. The one they have is over three years old and maintenance costs are increasing.

## 9. SUMMARY

Project Concern International's mid-term evaluation for its CSVII Project in Bolivia was undertaken from September 2 - September 18, **1993**. The evaluation team consisted of three members, Dr. **Ana** Maria Aguilar, evaluation team leader, an external evaluator from PRITECH, Dr. Ignacio Caballero, Technical Director from **PCI/Bolivia's** La Paz Office and Dr. Kathleen Merchant, Technical Officer from **PCI** Headquarters Office. Representatives from the Regional Offices of the Ministry of Health participated at both of the regional locations of Cochabamba and Potosi. Six days were spent visiting the CSVII project activities at field sites in the Cochabamba region and six days were spent visiting the CSVII project activities at field sites in the Potosi region, four days were spent in La Paz at the **PCI/Bolivia** country office planning the mid-term evaluation and writing the mid-term evaluation report. The regional directors, Dr. Evaristo **Maida** of Cochabamba and Dr. Oscar **Velasco** of Potosi, participated in the mid-term evaluation during the organizational and writing meetings in La Paz and during the field visits to each of their respective regions. A mid-term evaluation schedule is attached in Appendix 1.

Although PCI's rural programs are characterized by work in areas with very difficult accessibility, a concerted effort was made to enable the evaluation team to visit these areas and meet with a diverse cross-section of community members and program beneficiaries. This strategy resulted in often difficult and long travel, but it provided the evaluators with excellent opportunities to hear the diverse perspectives of project participants in their own words and learn about the program's strengths and weaknesses first-hand. Approximately 20 group and individual interviews were conducted with persons representing a broad range of interests in this project. From an urban club of teenagers who have been trained as health promoters in Potosi, to the leadership of a Farmer's organization in the Ayopaya region of Cochabamba, in addition to Regional Health Office directors, Health Post doctors serving their first year of practice as medical doctors in remote and needy areas, auxiliary nurses, **CHWs**, Mothers Club members and PCI staff, all were willing to share their concerns, ideas, advice,

appreciation and needs with the mid-term evaluation team. This process stimulated a great deal of brainstorming and problem-solving that has already served to improve PCI's CSVII projects in Bolivia.

One of the outstanding features of PCI's program is the quality of their country staff. In particular, the evaluation team was impressed with the depth of their experience and knowledge. This richness shows in their unwavering commitment to work in complete coordination and cooperation with the Ministry of Health at all levels, as well as a commitment of equal strength and dedication to work in complete coordination and cooperation with the communities they are serving. This bridging function of PCI is the cornerstone of their achievements. This is also the focus of their efforts to bring sustainability to the system they have created. Although **PCI** has been able to bridge the cultural gap between governmental health service delivery and community health perceptions and needs, the means to maintain such a bridge in PCI's absence remains elusive. The PCI staff have recognized this and taken on the challenge of finding the means to connect these groups in a direct and sustainable manner. This involves continuing to build from both sides of the gap. The process is gradual, but it is clearly and visibly evolving.

The long-term involvement of PCI in the Child Survival programs of Bolivia has led to a depth of understanding that is resulting in tremendous innovation and creativity at this time in their programming, both in terms of methodology and overall direction. The evolution and maturation of the community organizations with interests in health as well as the changing needs of the underprivileged in Bolivia have also fueled this innovation and creativity. PCI is responding to the shifting needs of the high-risk, beneficiary population as pressures toward urban migration grow dramatically. The pilot urban project of Potosi has been able to use the experience of the rural programs and test and redesign basic child survival education strategies to meet the needs of the urban environment. With the recognition that health knowledge regarding appropriate child survival practices has increased in the population, but the change in child survival health behaviors has lagged behind, PCI has taken on the challenge of examining what is preventing or discouraging behavior change, and identifying what forces are operating in opposition to support of healthy behavior or access to services. The result has been strategies to counter these forces through methods of social marketing and communication, advertising the services available, increasing the demand for services available. These activities are in addition to supporting the improvement of the quality of services, through training in health and communication.

A need within the programs at this time is to find methods to facilitate communication and technical exchange between PCI regional programs. The technical strength of the staff is underutilized because this exchange does not occur. Likewise, the regional staff need better access to information on how the innovative strategies they are experimenting with are used elsewhere. Although much of their work has been documented, better avenues for sharing information with others need to be found. Much of the information gathered and documented does not get out beyond the organizations of the region.

PCI will follow-up on the specific and general recommendations suggested throughout the mid-term evaluation process and particularly those documented in this report. This report will be shared with the **USAID/Bolivia** mission; with the national, regional and area health officials; and with its other field projects. The authors of this report include Dr. **Ana** Maria Aguilar, Dr. Ignacio Caballero, Dr. Evaristo **Maida**, and Dr. Oscar Velasco. It was compiled and edited by Dr. Kathleen Merchant, who made every attempt to preserve the spirit and intent, and whenever possible, the actual text, of each contributor.