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**EVALUATION OF**  
**THE FOSTER PARENTS PLAN**  
**CHILD SURVIVAL II PROJECT IN**  
**ALTIPLANO, BOLIVIA**  
**PREPARED FOR:**  
**FOSTER PARENTS PLAN INC.**



**October, 1989**

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## ACRONYMS

AF	Año fiscal (FY: fiscal year)
AID	Agency for International Development
ARI	Acute respiratory infection (sp. IRA)
CC/N	Control de crecimiento/nutrición
CDD	Control of diarrheal disease (sp. CED)
CHW	Community Health Worker
CS	Child survival (sp. SI)
CSI	Carnet de Salud Infantil (child growth card)
DIP	Detailed Implementation Plan
EPI	Expanded Program on Immunization (sp. PAI)
FOES	Field Office Evaluation System
GMP	Growth monitoring and promotion (sp. VPC)
INE	Instituto Nacional de Estadística
MOH	Ministry of Public Health (sp. MPSSP)
ONG	Organización No Gubernamental (en. NGO)
OPS	Organización Panamericana de Salud (en. PAHO)
ORS	Oral rehydration salts (sp. SRO)
ORT	Oral rehydration therapy (sp. TRO)
PHC	Primary health care
PLAN	Foster Parents Plan International
PVO	Private Voluntary Organization
PVO/REC	PVO/Revolving Executive Committee
RPS	Responsable Popular de Salud (en. CHW)
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
US/LP	Unidad Sanitaria de La Paz
URO-P	Unidad de Rehidratación Oral - Popular

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## EXECUTIVE SUMMARY

There is definite evidence that PLAN/Altiplano has made a worthwhile contribution in improving the chances of child survival in its project area during the three year USAID funding period. A previously curative, clinic-based program, has been transformed into a preventive, community-oriented program. PLAN has supported the activities of the Ministry of Health, where previously it competed with it in providing curative services. This support has resulted in an increase in the sustainability of MOH programs, especially in EPI and diarrheal disease control. PLAN has also cooperated with other NGOs in the project area, especially in the area of growth monitoring, nutrition, and health education. PLAN has developed and maintained very good working relations with both the Ministry of Health and other private organizations in the project area. Coordination and mutual support are a highlight of the program.

PLAN has complied with the general terms and commitments established in its Cooperative Agreement with the Agency for International Development, regarding program interventions as well as the reported use of grant funds. A total of \$194,745 was spent by AID, and \$397,767 by PLAN during the three years ending June 1989 to develop a program which addresses the problems of immunizable diseases, diarrhea and dehydration, and childhood malnutrition in a target population estimated at 17,925 women, 15-44 years of age, and 11,370 children under five years in 152 communities.

The impact of the project is difficult to quantify because (i) various organizations have been working to improve health conditions in the area for many years and it is difficult to isolate PLAN's particular impact, and (ii) the project's objectives were not very well defined and the existing information system lacks specificity with regard to the requirements of evaluation. Improvements can and should be made; the problems and recommendations cited in the following report are presented in the spirit of assisting a dedicated and capable health staff to have greater returns for their efforts.

The child survival interventions have been implemented about six to twelve months behind the anticipated schedule due to delays in organization and staffing, and the time needed to develop a collaborative relationship with the MOH. PLAN has made progress in preventing malnutrition through regular growth monitoring in the communities. Eighty-one percent of the registered children who entered the program after PLAN began maintained their weight within the normal range on the growth card. Vaccination coverage has also improved: the proportion of children having received all four vaccines before their second birthday has increased from 21% to 52% among enrolled children.

For both GMP and EPI, PLAN has been able to detect and enroll 87% of the estimated children, 12-23 months, but only 49% of the children under one year. Coverage of women has also been low (30%). Over 200 voluntary community health workers (RSAs) are also part of the CS program. The project has had a definite impact on the knowledge of mothers about ORT, with 44% of surveyed mothers report using ORS packets in the home. Approximately one half of the communities now have community oral rehydration posts (URO-Ps) for the treatment of diarrhea and dehydration. However, the utilization of these posts has been low (@ 1% of estimated episodes).

PLAN is already developing a systematic approach to community organization, and these efforts should continue. Criteria, objectives, and deliberate strategies need to be identified more clearly to guarantee the sustainability of benefits. Approved, written protocols should be developed for all technical interventions, administrative systems, and educational/training modules.

Project staff need to concentrate their energies on detecting and reaching high risk individuals, namely children under one year and pregnant and lactating women. The reasons behind the low utilization of URO-Ps and high RPS turnover should be determined and addressed. The system of annual community censuses and registration of births and deaths which is just beginning should be given priority. This is needed for both planning and evaluation purposes. In some cases, program objectives and data needs should be reexamined and revised.

PLAN/Altiplano should seriously consider assigning one additional auxiliary nurse to each of the six zones. Current field staff do not have sufficient time to train and supervise community volunteers, provide adequate follow-up for high risk cases and drop outs, and undertake systematic community organization in 25-30 communities each. The program also needs specialist staff in the areas of information systems and adult education.

The Altiplano health team is dedicated and capable. The program is already developing greater community involvement in the CS program, building on earlier activities. Considering the achievements, and problems, encountered during the three year funding period, it is clear that the program has the potential to achieve a significant and sustained impact on the health of children, particularly in the more remote areas.

## I. PROJECT SETTING

### LOCATION

The PLAN/Altiplano project area borders the southern shore of Lake Titicaca, from Huarina to Desaguadero, and extends east toward Viacha and El Alto (see map, figure I.1). It covers most of Los Andes Province and the northern part of Ingavi Province. In 1988, the project administrative offices were moved from the rural center of Tambillo to the rapidly growing city of El Alto, adjacent to La Paz. The field staff were reorganized into six zones, each of which had a PLAN office: Palcoco-Karhuiza, Pucarani-Kenakahua, Tambillo-Laja, Curva-Yanamuyo, Lacaya-Taraco, and Tihuanaco-Guaqui. At that time the name of this PLAN project area was changed from Tambillo to Altiplano.

The project area covers part of three rural health districts of the Ministry of Health. Most of the project communities fall within the jurisdiction of the Tihuanaco District, approximately one-third of the communities are served by the Copacabana District (through its sub-district center in Pucarani), and a few of the southern communities belong to the Viacha District.

### POPULATION

As of mid-1989, child survival programs were operating in 152 of the 180 rural communities served by PLAN in the Altiplano project area. In June 1989, PLAN estimated the total population in those communities to be 75,000, based on the registration of children 12-23 months old. This total is tentative, pending the completion of a community census.

The following table shows the estimated target population in 1989.

Target Group	Est-1989
Infants, 0-11 months	2,625
Children, 12-23 months	8,745
Women, 15-44 years	17,925

Table I.1 presents various demographic data related to child survival by zone within the project area, as estimated in June 1989. More than half of the project population lives in the two northern zones close to Lake Titicaca.

MAPA DEL AREA DEL PROYECTO: PLAN/ALTIPLANO

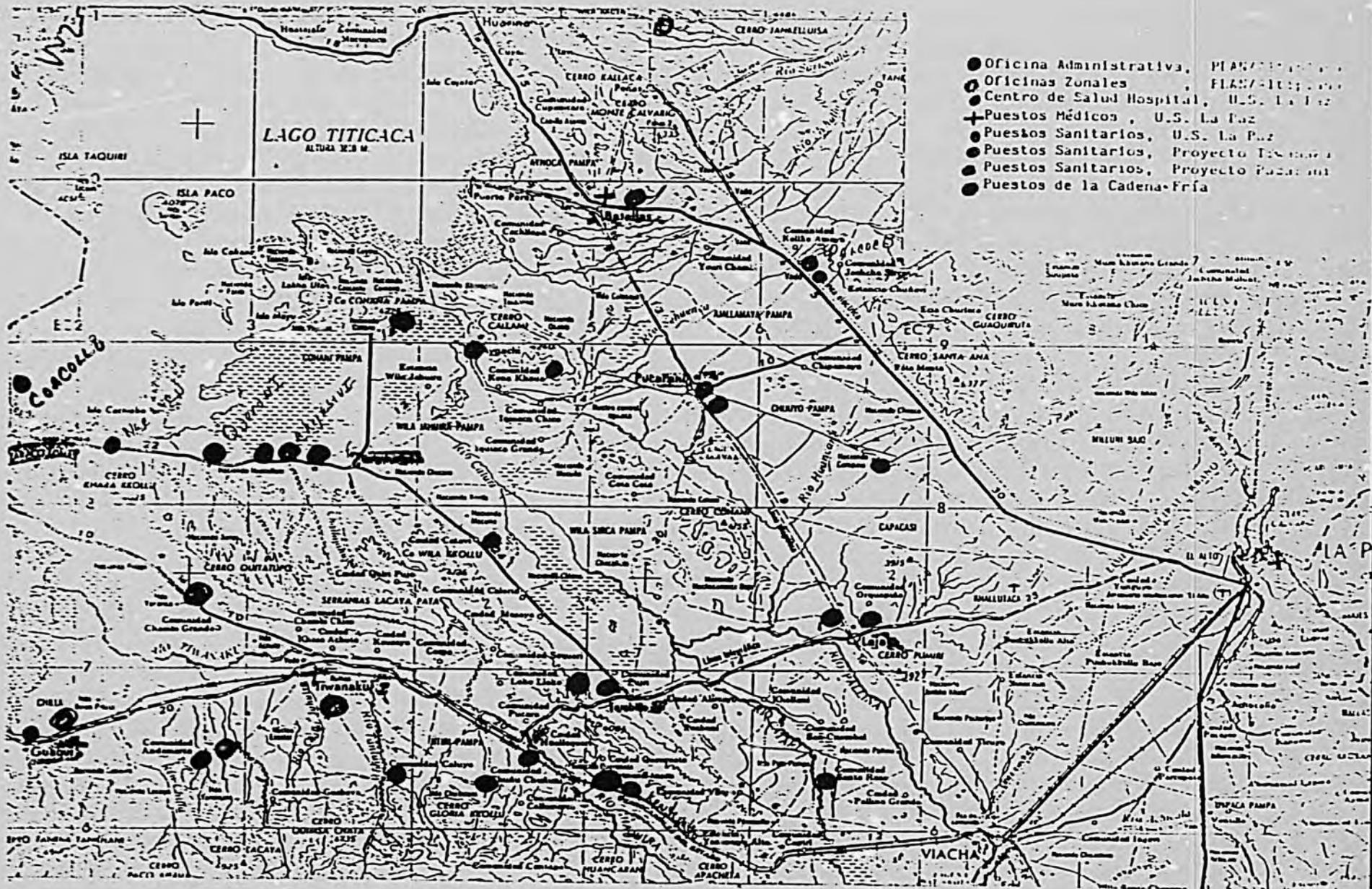


TABLA No. I.1

Estimado de población total y grupos objetivo del programa de supervivencia infantil por zona, PLAN/Altiplano, junio 1989

Categoría	Palcoco Karhuiza	Pucarani Kenakahua	Tambillo Laja	Curva Yanamuyo	Lacaya Taraco	Tihuanaco Guaqui	Total
Total población (a)	14,720	24,380	9,360	9,540	8,270	8,730	75,000
Niños, 0 - 11 meses (3.5%)	515	855	325	335	290	305	2,625
Niños, 12 - 23 meses (2.81%)	415	685	265	270	230	245	2,110
Niños, 0 - 4 meses (15.16%)	2,230	3,695	1,420	1,445	1,255	1,325	11,370
Mujeres, 15 - 49 año (23.9%)	3,520	5,830	2,235	2,280	1,975	2,085	17,925
Recien nacidos (est) (44/1.000)	650	1,070	410	420	365	385	3,300
Número comunidades Atendidos PAI/VPC	26	29 (b)	24	25	22	26	152 (b)
Promedio Población por comunidad	565	840	390	380	375	335	493
Muertes en < 1 año (200/1000 R.N.)	130	214	82	84	73	77	660

(a) Basado en el número de niños de 12 a 23 meses registrados, un factor de niños no registrados (por zona), y el porcentaje que corresponda a este grupo etáreo (INE, 1976).

(b) En 3 comunidades no se realiza la VPC.

Migration patterns, both seasonal movements between agricultural areas and longer term movements from rural to urban areas, make it difficult to conduct population censuses, or to estimate the total population. The project faced an initial difficulty because it did not have suitable base data for planning; the DIP, drawn up in March 1987, estimated that the project would be working in 165 communities with an approximate population of 100,000. However, the June 1989 estimates, based on child registration, indicated that the population in the 152 communities in which PLAN was providing CS services was about 75,000. Annex A provides an analysis of the population dynamics of the area, and indicates how PLAN arrived at the estimation of 75,000 inhabitants for the 152 communities in which they provide child survival services.

### CULTURAL AND ECONOMIC CONDITIONS

The child survival project provides services to all families in the communities it reaches, not only to families in which PLAN provides for "foster children". Community size varies widely with an average of about 500 persons per community. While some communities could be considered to be small towns, many are little more than a collection of dispersed dwellings, perhaps containing a strategically-located school building. Some of the northern and eastern areas are accessible from the paved road which runs from El Alto to Huarina, but all other communities are reached by dirt roads (see the map). The roads are not well maintained and transport is a problem during the rainy season.

The Lake Titicaca area is one of the most densely populated regions of Bolivia, with more than 30 people per Km<sup>2</sup>. Subsistence agriculture provides a major source of livelihood for the majority of the population. The people are poor as most farms are not big enough to employ and feed a family. Soil productivity is declining and farmlands are fragmented under the minifundio - microfundio system of inheritance.

The people of the Altiplano around Lake Titicaca are Aymara Indians and steeped in traditions which pre-date the Incan empire. Their culture is based on the ecological and spiritual harmony of land, environment and the family. The Aymara are organized into tightly-knit communities and have a strong ethnic identity. The average household size is 6.7 individuals (PLAN baseline study, 1988); a figure which includes extended family members but often excludes adolescents and young adults who have migrated in search of a better life. Families are monogamous and patrilineal. Women play a key role in agricultural production and economic affairs. They are responsible for planting, weeding, harvesting, and marketing, in addition to other household duties.

UNICEF reports that only 30% of rural Bolivian women are literate. There is a high prevalence of bilingualism in Spanish and Aymara (60%) but a significant proportion of people who only speak Aymara (33%). Almost all families in the project area either possess a radio or have access to one. Radio programs are broadcast in Aymara and Spanish.

#### HEALTH STATUS AND SERVICES

Various studies report infant mortality rates on the Altiplano at 200-250/1000 live births. The PLAN DIP reports that diarrhea and infectious diseases are the major cause of death (42%) in children under two years. A survey conducted by PLAN as part of the mid-term evaluation in January 1989 revealed that 45% of children 12-23 months had diarrhea in the previous two weeks and 37% reported respiratory infections. The survey also disclosed that 97% of births took place in the home, under unsanitary conditions, and were attended in 78% of the cases only by family or friends. In addition, 92% of the women reported receiving no pre-natal care during pregnancy. Thirty-eight percent of the children were born less than 24 months after their next oldest sibling.

Four government hospital/health centers are located within the project area. These small hospitals provide acute general outpatient and inpatient medical care. Secondary and tertiary care needs are referred to La Paz. The Ministry of Health also operates five health posts staffed by one auxiliary nurse each. The Pucarani and Tihuanaco (Suma Manka ani) Projects, managed by non-governmental organizations under agreement with the Ministry of Health, each operate one medical post and respectively five and nine health posts. The medical and health posts provide emergency and general outpatient services and periodic maternal and child health clinics. These are also shown on the map. The only outreach activities relate to periodic vaccination campaigns.

## II. METHODOLOGY OF FINAL EVALUATION AND REPORT

The consultant, James Becht, MPH, prepared the protocol for the final evaluation in April 1989, and carried out the evaluation in Bolivia in August 1989. The methodology for this evaluation is described in Annex B. The evaluation consisted of a review of documents (Annex C), key informant interviews, community focus group discussions, structured review of child health cards (see Annex D), and community visits. The Bolivian part of the evaluation was concluded on 24 August with a one-day workshop bringing together PLAN staff, staff from other NGOs and the Ministry of Health. The participants discussed project objectives, target populations, and results in small group sessions and in a final plenary session (see Annex E).

The final preparation of the report was done at PLAN International headquarters by Dr. Susan Watts, in collaboration with Dr. Victor Lara, child survival program director at PLAN International.

### III. PROJECT DEVELOPMENT

#### PROJECT DESIGN

##### 1. Overall Objectives and Strategies.

The objective of the child survival project was to "curb the cycle of malnutrition, improve upon living conditions, and decrease infant mortality" in the 165 communities in which PLAN intended to provide child survival programs. PLAN's statement of the health problems affecting children was based on impressionistic evidence over the years in which they had worked in the project area. PLAN recognized that most of the child deaths occurred during the first year of life, that the majority of these could be prevented through effective ORT and vaccination interventions, and that the malnutrition was an underlying factor which predisposed children to diarrhea and infection. The strategy called for interventions in nutrition, growth monitoring, vaccinations, medical assistance, education, oral rehydration, and pre-natal care. The three major strategies, nutrition education and growth monitoring, diarrheal disease control, and immunization, are the subject of separate chapters in this report. Other strategies, especially training and community education, which have been a successful aspect of PLAN work, are treated in this chapter and as they are relevant to the above three programs.

PLAN recognized two important essentials for a successful child survival project, both of which have been achieved. Firstly, PLAN traditionally was oriented toward medical assistance and the curative needs of its affiliated families. It was now presented with an opportunity to finance a shift to a more preventive, community-based health program. Secondly, PLAN recognized the need to improve its cooperation with the Ministry of Health and other PVOs working in the project area. These two elements were linked, for if PLAN could focus on preventive health, it could complement, rather than compete with the MOH, and hence have a better chance of working with that organization, and with other PVOs.

##### 2. Project Start-Up.

Funding for the child survival project was available to PLAN in July 1986. At the beginning of the grant period, PLAN/Altiplano had assigned its existing medical director as coordinator of the child survival project, but his orientation was curative and clinic-based. This factor, combined with the turnover in field directors and initial problems with the MOH, delayed the effective beginning of the project.

A new project health coordinator was hired in late January 1987, and became a lynch-pin for PLAN activities over the long term. The first technical visit to the project from PLAN/IH (headquarters) occurred in January 1987, when the newly-hired health advisor (a public health physician) visited PLAN/Altiplano. In February (month eight), five institutional promoters (auxiliary nurses) were reassigned as technical assistants in health to the child survival effort. A part-time medical advisor (with public health training) was added to the local staff in April (month ten) to round out the team. The first training of staff began during the same month.

A calendar of major project events is found in Annex F.

### **3. Detailed Implementation Plan.**

The Detailed Implementation Plan was prepared in Bolivia in February 1987. It was written in a two-week period as the first assignment of the recently hired health coordinator, who was new to Bolivia. As noted earlier, this report had to be based on impressionistic data on child health, in the absence of reliable information on the health status of the population.

The AID external review judged the document "technically inadequate" and recommended immediate technical assistance. The funding agency recommended in particular that PLAN address the following key issues: interface with existing NGO and government services; recurrent costs, MOH collaboration and sustainability; ORT strategy and ORS supply; indicators for monitoring ORT and GMP; cold chain maintenance, immunization coverage and drop-outs of high risk groups; measurability of objectives and lack of process objectives; incentives, turnover, and retraining of community health promoters; and more details on training and supervision.

The DIP recognized training as important, and viewed it as an intervention parallel to GMP, CDD/ORT, and EPI. However, the objectives of training were expressed in terms of process rather than behavioral change. Because of the lack of base data, it was difficult for the DIP to express project goals in a measurable form. Although the plan was not formally revised in immediate response to AID comments, project goals were reassessed at the time the annual reports were being prepared.

### **4. Mid-Term Evaluation.**

Local staff planned the PLAN/Altiplano mid-term evaluation, which they undertook in January 1989. Data was obtained from the project information system and from a cluster sample interview

survey involving 210 mothers of children between the ages of 12 to 23 months. The results were discussed with officials of the Ministry of Health.

This evaluation revealed that PLAN/Altiplano had made substantial progress in changing its approach from curative medicine to disease prevention targeting children and mothers. The relationship with the Ministry of Health had also evolved from one of competition to active cooperation.

Problems identified by the PLAN staff in the mid-term evaluation were related to the difficulties the MOH had in performing its mandate to provide health services to the project population. These included the instability of MOH personnel, the lack of adequate supervision and control by the MOH. Financial problems resulted in the MOH being dependent on PLAN for EPI and ORS supplies.

The mid-term evaluation was carried out five months before project funding was to end. Because of the initial delay in project start-up, the timing of this mid-term evaluation was about six months behind schedule in terms of overall program development, and about one year later than stipulated in the AID guidelines. In order to obtain effective baseline data, the mid-term evaluation had been delayed until the PLAN baseline study, a FOES (Field Office Evaluation System) could be implemented. This study was not conducted until June 1988 (month 24). It was designed to cover PLAN families and to supply data for all of the work undertaken by PLAN, not only health and child survival. Thus, the data collected in this survey was not specifically designed to be used in the mid-term evaluation. Therefore, a major constraint for the mid-term evaluation was the absence of appropriate base data, which made it difficult analyze the impact of the project with the required precision.

## ORGANIZATION DEVELOPMENT

### **1. Organizational Structure and Staffing.**

PLAN/Altiplano provides financial, material and technical support to 6,500 families of "foster children" in 180 communities within the project area. This support centers mainly on health and education needs, agriculture and income generation projects, and direct cash subsidies. Larger projects in infrastructure -- schools, health posts, roads, water, rural electrification, and child survival, for example-- may benefit whole communities, i.e. PLAN and non-PLAN families. In contrast to earlier PLAN programs, the child survival project was designed specifically to reach all families in the PLAN communities.

The PLAN program is managed by a director and one assistant director. At the support level, in the office in El Alto, an administrator is responsible for such areas as accounting, foster parent communications and translations, personnel, general services, and computer services. A group of technical coordinators provide backstopping and guidance in infrastructure, agriculture, health, and social services. The program division also has an evaluator, an illustrator, and 60% of the time of the national child survival coordinator. Only the program director and the national child survival coordinator are not Bolivian citizens.

Field operations are managed by six supervisors, each responsible for one of the geographic zones. Each zone office is staffed with an average of seven social (institutional) promoters, one health assistant (auxiliary nurse), one agriculture assistant, and one driver (with vehicle) to attend an average of 30 communities. (See table III.1 for staffing levels from FY 1986 to FY 1990). The "health team" consists of the coordinator (a physician) and the six health assistants. The health assistants are administratively responsible to the zone supervisors and technically to the health coordinator based in El Alto. The national child survival coordinator serves as liaison with the PLAN regional and international health advisors, USAID/Bolivia, and national and foreign-based NGOs. In addition, she channels technical information and assistance to the project.

During the three-year child survival grant, PLAN/Altiplano had three different directors and four health coordinators. The current director took over in June 1987 and instituted several changes to improve overall management: moving the administrative offices to El Alto and reorganizing the field staff into six zones.

The general strategy in health has shifted, for the most part, from curative medical assistance for PLAN families to one favoring preventive interventions which benefit whole communities. However, PLAN staff are overstretched. Institutional promoters, the primary outreach staff, are able to devote only about 15% of their time to child survival tasks. Each health assistant has responsibility for 22-29 communities, and the health coordinator has no staff support, particularly in the critical areas of training and information systems.

## **2. Planning Process.**

Since 1987, there has been more stable leadership at PLAN/Altiplano, coordination with the Ministry of Health and other NGOs has improved considerably, and technical assistance from PLAN/IH has been provided on a regular basis. This is in contrast to the situation at the beginning of the project period,

TABLA No. III.1

Personal de salud, promotores institucionales y voluntarios  
 en salud de la comunidad PLAN/ Altiplano, AF 1986 - AF 1990

Personal	AF 86	AF 87	AF 88	AF 89	AF 90
Salud / Zonas	12 (a)	6	6	6	6
Salud / Central	3 (a)	1	2	1	1
Sub-Total	15	7	8	7	7
Promotores Institucionales	34	58	60	43	42
Responsables Pop. de salud	0	0	90		277 (b)

(a) Enfoque de medicina curativa/asistencial.

(b) Hasta junio 1.990 está programada capacitar un mínimo de 3 RPS  
 por comunidad en aproximadamente la mitad de las comunidades  
 atendidas.

when the planning and development of the child survival grant project was done essentially by the PLAN/Altiplano director, in accord with the organizational and programmatic structure of PLAN as it existed in 1985-86. At that time, there was little if any input from the communities to be served, the Ministry of Health, or PLAN/IH.

Operational planning for the child survival project began in March and April of 1987, after the submission and translation of the DIP and the reassignment of PLAN staff. Staff training followed soon thereafter. In September 1988, in conjunction with the preparation of the second annual report, the staff reformulated the goals and objectives of the project for the FY 1988-89. Following the nutrition survey (12/88) and the mid-term evaluation (1/89) staff again reviewed progress and adjusted program operations. The health staff, together with the technical coordinators and zone supervisors, began another process of analysis and planning in August 1989 based on the findings of the CS evaluation, which, while "final" in terms of the AID funding, was an intermediate evaluation in terms of program development.

PLAN health staff review and adjust project field activities each week and attend the monthly meetings of the Regional Health Office (US/LP, Tihuanaco District) to coordinate with the Ministry of Health and other NGOs which operate in the project area. Planning is based on the CS grant obligations, and current MOH policies (for example, the change in vaccination strategy in January 1989) and priorities. It also takes into account immediate or unforeseen needs, e.g. the detection and control of fascioliasis.

The first part of the Field Office Evaluation System (FOES), the baseline study, was field-tested in Bolivia in June 1988. This system will provide multi-sectoral information for agency planning and feedback to communities, and eventually will lead to the development of a long-range (three year) plan of action. At the time of the final evaluation, PLAN/Altiplano staff were preparing for feedback and analysis sessions with each community. While the basic strategy is commendable, one drawback is that the FOES data is based on a sample of 300 PLAN-affiliated families, representative of the project area as a whole, and does not, therefore, lend itself to analysis and action for individual communities.

### **3. Use of Technical Assistance.**

PLAN/Altiplano has relied on technical assistance primarily from local sources. A pediatric physician, trained in public health, was retained on a part-time basis from April to October of 1987 and was instrumental in orienting the CS activities and

staff training. Continual assistance was sought from the various specialists within the Ministry of Health, particularly in maternal child health and epidemiology. Additional technical assistance was obtained from the local PVO CS coordinating group (PVO/REC) and PRITECH in the area of diarrheal disease control.

The international headquarters of PLAN (PLAN/IH) hired a health specialist (MD/MPH) in early 1987 to coordinate and advise all health programs world-wide and in particular PLAN's child survival grants. The health specialist, Dr. Victor Lara, visited the Altiplano project in January 1987 and July and November of 1988. In 1989, PLAN secured the services of a regional health advisor to cover its programs in South America. Dr. José Riumallo made his first visit to PLAN/Altiplano in July and returned to participate in the evaluation in August.

Various members of the health staff participated fully in the three child survival national workshops sponsored by USAID/Bolivia and the Ministry of Health, with technical assistance provided by the PVO Support Project of Johns Hopkins University School of Public Health. The workshops covered the areas of monitoring and evaluation of child survival projects (9/87), nutrition and growth monitoring (1/88), and ARI and EPI (8/88). Indirectly, PLAN/Altiplano obtained assistance from the LTS International Nutrition Unit both through the above workshop as well as training (in Sucre) in child weighing and measuring techniques in conjunction with the nutrition survey in late 1988.

#### **4. Staff Training.**

PLAN/Altiplano follows a sequential model for training staff in the areas of nutrition/GMP, vaccinations, and control of diarrhea/rehydration (DIP, 2/87). The medical/health coordinator, together with local specialists as needed, train the health technical assistants and zone supervisors; these in turn train the institutional promoters in their respective geographic zones; and the promoters would then be responsible for community education and training activities. The training series should be carried out three times per year, once for each topic area. The mid-term evaluation made brief reference to the training of Ministry of Health employees in supervision techniques, but also indicated that turnover was high among MOH personnel.

Four training series were conducted between April and December of 1987 and the participants included the zone supervisors, technical assistants, and institutional promoters: in April (month 10), five days on preventive health, nutrition, and growth monitoring; in May (month 11), three days on control of diarrheal disease and oral rehydration; in November (month 17) three days on child survival; and in December (month 18), three days on immunization.

The first and only formal training of community health volunteers or RPS (responsables populares de salud), took place in July 1987 on the topic of diarrheal disease control and ORT. The RPS is authorized by the MOH to diagnose and treat, under a prescribed protocol, cases of diarrhea and dehydration and is supplied with packets of oral rehydration salts. This training was conducted in groups by zone. No further formal training sessions were held, although PLAN technical assistants did some informal on-the-spot training during periodic supervision visits.

PLAN/Altiplano has spent considerable time and effort providing community education on child survival topics. These take the form of (1) day-long sessions with mothers clubs and community leaders, and (2) brief talks preceding a particular growth monitoring or vaccination session. Staff also provide individual consultations during follow-up home visits.

From December 1987 through June 1989, 199 day sessions were recorded for the 152 project communities (see table III.2). The most frequent topics were nutrition/ GMP (39%) and CDD/ORT (35%). Many more sessions have taken place in the field but were not recorded in the PLAN/Altiplano office. A check of zone office records and interviews with staff revealed that four sessions are planned for each community each year and that these have, with few exceptions, been carried out. From October 1987 through June 1989, a total of 6,214 concurrent talks were given by PLAN staff to the mothers of young children --immunization, 36%; nutrition, 34%; and CDD/ORT, 30%-- for an average of almost two talks per community per month (table III.3).

## **5. Information System.**

The project information system was not described in much detail in the DIP. Several tier 1 indicators were given for the outputs of each intervention, mostly referring to the expected numbers of individuals trained or services delivered. The DIP proposed three levels of information collection/consolidation -- community (monthly), zone (quarterly), program (annual) but did not specify what data, indicators and analysis would be used at each level. .

A baseline study was planned for the first semester of 1987, but this was postponed because PLAN/IH was developing an agency-wide baseline survey for multi-sector planning purposes. This cluster sample survey (FOES) was field-tested in Bolivia, on PLAN affiliated families only, in June 1988 (24 months into the CS grant). While not particularly useful for evaluating the impact of the child survival grant project, this data should be relevant to PLAN/Altiplano for longer-range planning and evaluation.

TABLA No. III.2

Frecuencia de la capacitación a nivel de la comunidad,  
por tema y mes, Plan/Altiplano, julio 1.986 - junio 1.989

Mes/Año	Nut/VPC	CED/URO	PAI	IRA	Total
Dic/87	1	1	0	0	2
Ene/88	1	1	0	0	2
Feb	7	6	1	0	14
Mar	3	3	1	0	7
Abr	4	2	0	0	6
May	8	11	5	0	24
Jun	19	14	10	0	43
Jul	21	16	13	0	50
Ago	3	4	4	0	11
Sep	2	1	3	0	6
Oct	1	1	1	0	3
Nov	1	0	0	0	1
Dic	2	4	0	0	6
Ene/89	0	0	0	0	0
Feb	0	0	0	0	0
Mar	4	5	8	2	19
Abr	0	0	0	0	0
May	0	0	0	0	0
Jun	1	1	3	0	5
Total	78	70	49	2	199
Porcentaje	39,2	35,2	24,6	1,0	100,0

Fuente: Archivos de PLAN/Altiplano.

PLAN INTERNACIONAL  
BOLIVIA  
SECTOR SALUD

TABLA III.3  
INFORME MENSUAL DE ACTIVIDADES

COORDINACION DE SALUD

Oct. 87- Jun. 89

SUCURSAL: \_\_\_\_\_  
REGIONAL: \_\_\_\_\_

PROMOTOR: \_\_\_\_\_  
ASISTENTE: \_\_\_\_\_

MES \_\_\_\_\_

AÑO \_\_\_\_\_

Dra. Ma. Eugenia Villica López

COMUNIDADES ZONAL Y CODIGO DEL PROMOTOR SUCURSAL-REGIONAL	P A I						C C / N						U R O								
	ENTRENAMIENTO				CHARLAS		ENTRENAMIENTO				CUANTOS NIÑOS MENORES DE 5 A ESTAN ENROLADOS	CUANTOS NIÑOS MENORES DE 5 A SON CONTROLADOS	CHARLAS Y DEMOSTRACIONES		ENTRENAMIENTO				URO-P		
	M A D R E S	PROFESORES	LIDERES NATURALES	OTROS	NUMERO DE CHARLAS	NUMERO DE PARTICIPANTES	M A D R E S	PROFESORES	LIDERES NATURALES	OTROS			NUMERO DE CHARLAS	NUMERO DE PARTICIPANTES	M A D R E S	PROFESORES	LIDERES NATURALES	OTROS	CUANTOS A FORMADO	NUMERO DE CONSULTAS	
De octubre de 1987-junio de 1988	1823	7	143	369	1030	2701	3996	18	40	771		11150	55	25767	3533	98	62	119/301	716	416	
(Promedio mensual 87-88)	209		16	63	114	3078	355	2	4	86		1244	105	2863	392	11	7	13/33	60	458	
De julio de 1988-junio de 1989	1757		57	236	1201	3512	1475	5	4	485		23062	1153	31559	1019	2	101	129/311	77	1177	4312
(Promedio mensual 88-89)	146		5	21	100	323	125		7	41		1917	55	2651	135		8	1	0	53	359/40
T O T A L E S	3643	7	203	625	2231	31613	5471	23	124	1256		34197	2288	57336	5152	101	163	243/313	77	1895	3438

octubre 87-junio 89

OBSERVACIONES: ESPECIFIQUE TEMA NUMERO Y TIPO DE TRABAJADORES EN SALUD ENTRENADOS \_\_\_\_\_

PLAN/Altiplano has not undertaken community censuses nor has it established a reliable alternative to determine and update the actual population or record births and deaths within the project area. An additional information gap is the lack of precise data on population movements. The large volume of seasonal migration and longer term rural-urban migration complicates the identification of health problems and service provision needs. Such population movement is selective, and it therefore results in an irregular age/sex distribution within the population, which should be taken into account in planning.

PLAN, and other PVOs working in Bolivia, are expected to follow MOH protocols for data collection. The child survival project has incorporated several of the MOH's standard forms for collecting data, specifically the child health (growth monitoring) card, vaccination reporting (PAI-7), and nutrition surveillance reporting (SVEN). Other forms have been designed by PLAN to record and report training activities and data on diarrhea morbidity and treatment. The PLAN/staff maintains duplicates of the child growth cards in each zone office to facilitate reporting and follow-up. None of the forms, MOH or PLAN, are accompanied by written instructions.

PLAN has developed appropriate materials for use in communities. These combine data collection and educational purposes. PLAN zone offices exhibit some graphics (wall charts) which track training and other activities according to annual plans. Most communities display pictographs, developed by PLAN, to track and celebrate children who have completed all of the required vaccinations.

While various methods are being used to record and report data in the program, PLAN/Altiplano has not developed a unified information system in the sense of explicitly linking program objectives and other identified information needs with specific data needs and sources, methods of collection and processing, and a specific plan of analysis and use, including feedback to communities. As a result, data management is somewhat inefficient and information is often incomplete or not readily available.

Significantly, PLAN/Altiplano does not have a trained data manager or biostatistics technician on staff. One consequence of this is that the health coordinator spends a good deal of her time compiling rather than analyzing charts. With capable assistance, she could be more effective in providing timely feedback to staff, communities, and collaborating agencies and planning with reliable and valid information.

## PVO AND GOVERNMENT RELATIONS

### 1. Ministry of Public Health.

PLAN/Altiplano acknowledges and supports the Ministry of Health's pre-eminent role in setting public health policies and norms and in providing and supervising health services in the project area. Both PLAN and Ministry officials also recognize the Ministry's perpetual lack of sufficient resources to effectively carry out its mandate. The policy of the MOH is to encourage non-government organizations to supplement the activities of the government by either collaborating with and/or providing resources to the regional health offices (the Unidad Sanitaria de La Paz, in this case) or establishing and operating service programs, under MOH norms and supervision, in isolated and underserved areas. PLAN's relationship with the US/LP follows the first option, but also has elements of the second.

A major PLAN achievement in Altiplano has been the development of an effective working relationship with the MOH, based on collaboration and cooperation, rather than competition. By the end of FY 1987 PLAN had an agreement with the MOH in which the MOH was to provide curative care, and PLAN preventive services. This was effective in removing the main source of friction between the two organizations, which had both previously been providing curative services.

The MOH had little or no part in planning or designing the child survival project. However, ministry experts are now consulted periodically on technical matters, and PLAN staff regularly participate in the monthly meetings of the Tihuanaco District health team to coordinate activities. Ministry officials participated in both the mid-term and final CS evaluations.

The US/LP has provided vaccines, some EPI materials and ORS packets (all UNICEF donations) and has promised several refrigerators from an Italian donation in the near-future. PLAN, in turn, has provided cold chain equipment to government operated facilities in the area and, on occasion, transportation and supplies to MOH field workers and supervisors. This operational support is necessary because the MOH does not have the cash to meet all of its own operational needs. Staff are not seconded to or by either agency, but are assigned to designated communities or service areas by agreement. The MOH directly operates three health center/ hospitals and five health posts in the project area.

Ministry of Health policy requires that PLAN, like other NGOs working in Bolivia, uses MOH manuals which provide guidelines for policy, strategies and technical norms in health delivery. The original PLAN objectives and strategies did not

fully incorporate these guidelines, and PLAN did not adapt MOH manuals for use in the project area. However, PLAN and the MOH are beginning to collaborate in this area.

## **2. Non-Government Organizations.**

In addition to PLAN, four other NGOs are providing health services within the project area. Project Pucarani operates a health center/hospital, a medical post, and five health posts in Los Andes province; Project Tihuanaco (or Suma Manka ani), affiliated with Radio San Gabriel, operates a medical post and nine health posts in central Ingavi province; a catholic church affiliated program operates a medical program in the far western region of Ingavi (based in Corpa); and CARITAS supports various mothers clubs throughout the project area with education, training, and food distribution.

A major achievement in the CS project has been PLAN's collaboration with the NGOs working in the project area. Relations between PLAN and these NGOs began in a negative atmosphere and improved steadily during the course of the project, following a similar trajectory as PLAN's relations with the Ministry of Health. By the end of FY 1987, PLAN had an agreement with CARITAS in the area of growth monitoring. CARITAS was to continue its supplementary feeding program, while PLAN would focus on the educational component, building on existing experience in community based health education. Both organizations would refer children with serious growth faltering.

There now appears to be a free exchange of information and mutual support, particularly concerning EPI and training materials. PLAN, together with the other NGOs, usually takes part in the district health meetings. Two of the NGOs participated in the final PLAN CS evaluation workshop. Each NGO, with the exception of CARITAS, has a defined area of operation and there is no seconding of staff between agencies.

## **3. PVO/Revolving Executive Committee.**

The PVO/REC was established by USAID/Bolivia to facilitate the exchange of information, channel technical and financial resources, and coordinate training and data collection in support of AID-funded child survival projects. PLAN has participated actively in the group's meetings, technical sub-committees, and training workshops.

PLAN/Altiplano has benefitted from this association in a variety of ways. In addition to the national workshops described previously, PLAN took advantage of a PVO/REC-sponsored short course on developing educational materials for ARI and a session

with consultants on supervision and coordination of field activities. PVO/REC advisors provided technical assistance to PLAN in the area of CDD/ORT and project management. PLAN also received special funding for technical assistance concerning the control of fascioliasis. More important, however, is that the PVO/REC provided an opportunity for the NGOs to communicate, coordinate, and work together.

## CONCLUSIONS

1. PLAN/Altiplano has made substantial progress in reorienting its approach from clinic-based, curative medicine to a community-based, preventive health program which focuses on the problems of infants, young children, and, to a lesser extent, women of childbearing age.
2. Working relations with the Ministry of Health and non-governmental organizations operating in the project area have improved considerably, changing from an atmosphere of competition to one of cooperation and coordination. PLAN's national child survival coordinator has played a key role in developing and strengthening technical and operational ties among the collaborating agencies.
3. The child survival field staff (six technical assistants in health for 152+ communities) are very capable and committed to their work. Unfortunately, they are greatly over-extended and do not have enough time to devote themselves to the CS tasks that were envisioned in the DIP, nor have they received sufficient support from the institutional promoters. Technical and management support for field staff is limited to one full-time specialist, the health coordinator (a physician). Her time is often inappropriately used for tasks better suited to lesser-paid personnel while such functions as data analysis, community negotiations, and the development of technical protocols go unattended.
4. Field staff have carried out an effective community education program consisting of day-long "courses" in each of four topics and an average of 24 short talks per community during the past 12 to 18 months. This is probably as much as can be expected given the number of staff involved. However, while information is being imparted, the extent that attitudes and practices are being changed is not known. An overall education strategy, employing multiple media messages, has not yet been developed.
5. Technical assistance to the project has, for the most part, been capable, useful, and appropriate. PLAN has made very good use of local consultants, both private and from the Ministry of Health. Technical oversight and direction from

PLAN/IH was sparse during the first 18 months but regular thereafter and since 1989 there has been a regular regional health advisor. The project would have benefitted greatly from early technical assistance in information systems design and the reformulation of project objectives.

6. Both AID and PLAN recognized that the detailed implementation plan, arguably the most important project document, was inadequate. It was informally revised by project staff at the time the annual reports were being prepared. The absence of a formal implementation document meant that project objectives were ill-defined and often not measurable. However, strategies were discussed in the light of MOH norms, and designed to conform to them.
7. The child survival got off to a shaky start and for the first six months there was considerable staff turnover, no technical assistance, and little planning and development. Once PLAN staffing problems had been solved, local and IH staff made concerted efforts to develop appropriate programs, and to collaborate with the MOH and with PVOs working in the area.
8. The selection, collection and processing of project-related data has faced problems. PLAN has complied with MOH reporting requirements and has also duplicated the growth cards which facilitates individual child monitoring and follow-up. Although these materials do provide some data which could be used for monitoring and evaluation, guidelines for processing and using this information for planning purposes are inadequate. The project has not undertaken community censuses nor does it have registries of target groups, births or deaths. As a result, population data is unreliable and coverage estimates are very tentative.
9. Planning and monitoring CS interventions has been difficult in the PLAN/Altiplano project area, in large part because of data collection problems. The DIP was prepared without adequate base data. The baseline study and mid-term evaluation fell significantly behind schedule, and thus they could contribute little to grant project development. In addition, it has not been easy to make PLAN aims, organization and protocol congruent with those of the MOH. However, with increasing collaboration between PLAN and the MOH, with staff stability at PLAN/Altiplano, PLAN is now better able to plan and monitor CS interventions.

#### IV. NUTRITION EDUCATION - GROWTH MONITORING

##### PROBLEM STATEMENT

PLAN/Altiplano recognized at the onset that malnutrition in children was widespread in Bolivia and that it was an endemic contributing factor to infant and childhood mortality on the altiplano. Unfortunately, no base data was available at the time the DIP was drawn up.

In December 1987 --six months after the PLAN nutrition/GMP component was initiated in the project area-- PLAN reported to the Ministry of Health the following rates of malnutrition in children under five years. Weights for age were plotted on the standard MOH epidemiologic surveillance forms (SVEN).

Months	N	Normal	Mild	Moderate	Severe
0 - 11	415	70%	19%	9%	2%
12 - 23	415	41%	34%	20%	5%
0 - 59	2137	54%	32%	12%	2%

The most serious problem of malnutrition was clearly in children 12-23 months. The data strongly suggest a pattern of chronic malnutrition beginning during the weaning period, probably as early as six months.

##### PROGRAM OBJECTIVES

The objective of the nutrition/GMP component was to reduce the number of malnourished children under five years by 25% in the project area by the end of the grant period (DIP, 2/87). With an estimated population of 11,370 children under five (table I.2) and a rate of malnutrition of 46% (above), this would mean that the project intended to reduce the number of malnourished children from roughly 5,230 in 1987 to 3,920 in 1989.

In September 1988, the health coordinator reformulated the nutrition/GMP objectives for the 1988-1989 program year for the communities covered by the PLAN project. Four measures of process supplemented the morbidity indicator: (i) conduct bi-monthly GMP in 80% of the communities; (ii) determine nutritional status in 100% of the communities each six months; (iii) follow up and provide direct support to 60% of the severely malnourished children under two years through home visitation; and, (iv) conduct training courses in 100% of the communities. These objectives were meant to stress an increase in coverage.

The intention to reduce the number of malnourished children by 25%, remained as stated in the DIP. It would have been useful to reformulate this objective for the following reasons: (i) it does not focus on the age group most at risk; (ii) the result should probably be expressed as a rate (%) of malnutrition, rather than a number, so as to not be overly influenced by migration patterns; and, (iii) it should be limited to the communities in which PLAN is directly working.

### STRATEGIES USED

The nutrition/GMP component was the first child survival activity to be implemented, in May-June 1987 (month 11). The intervention is coordinated with the rural nurses of the MOH and with CARITAS. CARITAS has been quite active in the project area, training community health volunteers to weigh and chart children and distributing supplemental food (PL480) to women's groups. PLAN found that CARITAS was providing little follow-up and almost no education for the mothers in understanding the growth curve and resolving problems of early growth retardation. It therefore reached an agreement with CARITAS to undertake health education and follow-up activities, while CARITAS continued providing supplemental food.

GMP sessions are scheduled every other month in each community. The technical health assistants and institutional promoters give short educational talks, supervise the weighing and charting, and provide individual counseling as time permits. Follow-up visits are made by the institutional promoters and it is the evaluator's impression that priority is given to PLAN-affiliated families. Staff training followed the pattern discussed in Chapter III.

PLAN recognized that giving talks to women attending growth monitoring sessions was of limited value; there was a need to involve the community more actively in growth monitoring programs. To this end, since April 1989, PLAN has been encouraging the formation of community health committees which would help to formulate and implement GM and nutrition programs in their own communities. This represents a fundamental change in orientation for this activity, which should reveal results in future.

### COVERAGE

In December 1988 (month 30), a cluster sample of 314 children, 0-65 months, was conducted as part of the PLAN baseline study (FOES). The survey included PLAN-affiliated families only. The results indicated that 44% of the children under two years and 20% of the children two to five year had weights below 80% of

the median for their age. The overall prevalence of malnutrition was 26%. While the standard used differed from that of the MOH survey a year earlier, it also showed the higher risk to children under two years old.

Another cluster sample survey, of 210 mothers of children 12-23 months from both PLAN and non-Plan families, was conducted as part of the mid-term evaluation in January 1989. This survey revealed that 75% of the children had a growth card, but only 53.3% of the mothers could correctly interpret the plotting of weights. Four-fifths of the subject children were still lactating and two-thirds had begun to eat solid foods at four to six months of age.

A review of the nutrition surveillance data (weight for age) reported by PLAN/Altiplano to the MOH reveals a slight improvement in nutritional status between December 1987 and June 1989.

Date	N	Normal	Mild	Moderate	Severe
=====					
<u>Children 0-11 months</u>					
Dec 87	415	70%	19%	9%	2%
Dec 88	897	71%	19%	8%	2%
Jun 89	815	71%	22%	5%	2%
<u>Children 12-23 months</u>					
Dec 87	415	41%	34%	20%	5%
Dec 88	1097	44%	37%	15%	4%
Jun 89	1061	47%	34%	16%	3%
<u>Children 0-59 months</u>					
Dec 87	2137	54%	32%	12%	2%
Dec 88	5323	58%	30%	10%	2%
Jun 89	5049	57%	32%	9%	2%
=====					

There has been a shift from moderate to mild malnutrition in infants under one year, with the proportion severely malnourished remaining constant. The prevalence of moderate and severe malnutrition in children 12-23 months decreased by 24% with a corresponding increase in the proportion of "normals." In the absence of adequate control data, however, it is not possible to determine the degree to which these changes are a result of PLAN interventions.

One of the most significant measures of the success of the growth monitoring program has been the doubling in the number of children under five being monitored in the project communities over a period of only two years. Based on the estimated 1989 population, PLAN has succeeded in registering and weighing 87% of

the children 12-23 months and half (49%) of the infants under one year (table IV.1).

As of June 1989, PLAN had established growth monitoring sessions in 149 of the 152 child survival communities; that is, 83% of the 180 communities in which PLAN/Altiplano was operating at the time. During the first half of 1989, more than 96% of the 421 planned GMP sessions were in fact carried out by the project staff (table IV.2).

As part of the final evaluation, the health staff reviewed the growth cards of all children 12-23 months of age registered in the program. Cards were available for 1,499 children, approximately 71% of the estimated population. The staff compiled growth patterns and immunization data. The study instrument and the consolidated results are found in Annex D; a summary of results by zone is presented in table IV.3. The age group 12-23 months was chosen because they were in the high risk weaning period but had completed their first year of life. The children in this age group at the time of the study (August 1989) were born after the nutrition/GMP component had been initiated by PLAN. Eighty-eight percent of the children had been weighed at least twice.

Overall, 80.8% of the children had maintained growth within the normal range on the chart. The chance of normal growth was greatest for those children who were first weighed before six months of age (90.7%) and least for those whose first control was after 12 months of age (68.8%). Of those children who had fallen below the normal range and were malnourished at some point, 58.3% eventually recuperated normal status. Recuperation was more successful with children over 12 months (69.4%) than with those who began GM prior to six months of age (41.7%). However, these results vary widely from zone to zone, and unless or until some reasons can be found for these variations, the results are difficult to interpret. In sum, 80.8% of the children maintained normal growth, 11.2% recuperated from malnutrition to normal status, and 8.0% remained malnourished at the time of the study.

Over 1/3 (37%) of the subject children had attended their first GM session prior to age six months (the norm); 32% were first weighed between the ages of six and eleven months; and 31% were not weighed until after 12 months of age (Annex E). The two northern zones --Palcoco-Karhuiza and Pucarani-Kenakahua-- had the lowest rates of early weighing (17% and 31%) and also the lowest rates of preventing malnutrition (both 70%).

Focus groups were conducted in five project communities as part of the evaluation process. The discussions involved mothers of children under five years. The women readily associated the weighing of their children with growth and development: weight gained was seen as a good sign and desirable, while weight loss

TABLA No. IV.1

Estimado de la captación de niños menores  
de dos años por zona, junio 1989

Z o n a	Niños de Total Estimado	0 - 11 Número Registr.	meses Cober- tura	Niños de 12 - 23 Total Estimado	meses Número Registr.	Cober- tura
Palcoco-Karhuiza	515	260	50.5	415	352	84.8
Pucarani-Kenakahua	855	362	42.3	685	583	85.1
Tambillo-Laja	325	167	51.4	265	237	89.4
Curva-Yanamuyo	335	238	71.0	270	255	94.4
Lacaya-Taraco	290	148	51.0	230	186	80.9
Tihuanaco-Guaqui	305	123	40.3	245	221	90.2
Total	2,625	1,298	49.4	2,110	1,834	86.9

(a) El total de niños estimado en las zonas de trabajo se basa en la mejor información disponible. Sin embargo, hasta que se cuenten con censos de la población por medio de las visitas a domicilio para establecer la cobertura y el tamaño real de la población, se deben considerar los cálculos de la cobertura muy tentativos.

(b) El número de niños registrados corresponde a datos de PAI de junio 1989 (Tabla No. 6.2)

TABLA No. IV.2

Cumplimiento en las sesiones programadas de control de crecimiento a nivel de comunidad por zona, PLAN/Altiplano, enero - junio 1989

	Palcoco Karhuiza	Pucarani Kenakahua	Tambillo Laja	Curva Yanamuyo	Lacaya Taraco	Tihuanaco Guaqui	Total
Número de comunidades	26	26	24	25	22	26	149
Número controles por semestre	2	3	3	3	3	3	
Total controles programados	52	78	72	75	66	78	421
Total controles realizados	48	70	72	72	78	78	418
Porcentaje de cumplimiento	92.3	89.7	100.0	96.0	118.2	100.0	99.3

\* Durante este semestre el personal empezó a realizar controles no programados en cuatro comunidades nuevas.

TABLA No. IV.3

Indice de la prevención y recuperación de la desnutrición en niños de 12 a 23 meses de edad, por zona, PLAN/Altiplano, agosto 1989

Zonas	Total Niños Registr.	% Niños 2 ó mas Controles	Indice (%) de Prevención (a)			Indice (%) de Recuperación (b)			Indice (%) Captación Temprana(c)		
			Total	0 - 5 meses	6 - 11 meses	12 - 23 meses	Total	0 - 5 meses		6 - 11 meses	12 - 23 meses
Palcoco-Karhuiza	387	91.7	70.1	77.3	69.8	67.5	53.8	53.3	48.7	57.7	17.3
Pucarani-Kenakahua	310	77.1	70.3	94.6	74.6	49.0	84.5	75.0	70.6	90.0	31.3
Tambillo-Laja	207	90.3	89.8	91.0	88.6	87.5	42.1	40.0	60.0	25.0	54.6
Curva-Yanamuyo	257	93.4	87.1	94.2	80.2	66.7	38.7	37.5	43.8	28.6	58.0
Lacaya-Taraco	151	57.8	91.0	90.7	95.7	87.5	54.5	20.0	50.0	100.0	37.7
Tihuanaco-Guaquí	187	89.8	90.5	91.8	88.0	91.1	31.3	16.7	33.3	50.0	39.6
Total	1,499	88.1	80.8	90.7	79.6	68.8	58.3	41.7	51.8	69.4	37.2

FUENTE: Revisión de 1.499 carnets de salud infantil, que corresponden a aproximadamente el 71% de la población, 12 - 23 meses de edad en 150 comunidades.

(a) Porcentaje de los niños controlados que se mantuvieron dentro del "camino de la salud".

(b) Porcentaje de los niños desnutridos controlados que recuperaron su "estado normal".

(c) Porcentaje de los niños controlados que tuvieron su primer control de peso antes de cumplir 6 meses de edad.

was not good. The women also seemed to associate the various colors of yarn (green, yellow, and red) with adequate to inadequate growth. However, discussions with staff in the field revealed that mothers often had trouble interpreting the growth chart (plotted weights). There was also some uncertainty among staff in assigning colors to various growth patterns, and then assigning a specific follow-up procedure to each color.

## CONCLUSIONS

1. PLAN/Altiplano is making progress in reducing the levels of malnutrition within the project communities. SVEN rates are improving and the rates of prevention are high in the critical age group.
2. PLAN staff have been successful in attracting children over one year of age to growth monitoring sessions. However, there have been significantly fewer infants under one year old attending these sessions. It is crucial to reach children under six months old, as this is the critical age to prevent malnutrition during weaning, the period of highest risk of growth retardation.
3. The project is beginning to develop truly community based activities in the growth monitoring area. However, as these only started towards the end of the project period, their impact is not yet visible. This new orientation was a response to concern about the inadequacy of follow-up action for children with growth retardation and those suffering from malnutrition. The existing program of health education, carried out by PLAN staff, did not represent the optimal use of staff time. PLAN staff would be far more effectively employed in training community volunteers and keeping in regular contact with them.
4. Effective follow-up and intervention is complicated by the fact that there are no standard MOH protocols which clearly classify the various patterns of growth and indicate appropriate action for each. At present, criteria are imprecise. The results are confusing in that the MOH uses two standards to record and analyze growth data. According to SVEN reports, more than one-half of the children 12-23 months are malnourished; meanwhile, 92% of these same children fell within the normal range on the growth card. The second problem is the lack of human resources available to do counselling and follow-up.
4. The project has not addressed the problem of nutritional deficiencies in pregnant and lactating women, except as an educational topic. Pregnant women are not actively sought and encouraged to participate in pre-natal care. There is

evidence that low birth weight and neonatal tetanus may be problems in the project area. Part of the problem of beginning such a program has been the lack of base data.

5. There is no system yet in place to identify and register newborns or child and maternal deaths. However, a population register is to be established as part of the local community activities - each community.

## V. CONTROL OF DIARRHEAL DISEASE

### PROBLEM STATEMENT

PLAN/Altiplano reported that in Bolivia, diarrhea and infectious diseases are the cause of 42% of the deaths of children under two years old (DIP, 2/87). PLAN estimated that 25% of the infant deaths in the Tarbillo area were attributed to diarrhea and malnutrition. With an estimated 660 infant deaths in the 152 project communities (table I.1), up to 165 deaths could be attributed to diarrhea.

A survey of 300 families, conducted as PLAN's baseline study in June 1988, revealed that 31% of the children under five years of age had at least one episode of diarrhea during the previous two weeks. With an estimated 11,370 children in this age group (table I.1) and assuming a constant rate of incidence throughout the year, there would be 91,642 cases of diarrhea, or 8.1 episodes per child per year. The incidence of diarrhea varies, of course, by season and the rainy season ends in April or May.

### PROGRAM OBJECTIVES

The initial objective of the diarrheal disease control component was to reduce the number of cases of serious dehydration in children under five years by 25% in the project area by the end of the grant period (DIP, 2/87). According to PLAN's summary report of CDD activities for the year 1988, 1.06% of the reported cases of diarrhea, i.e. those seeking treatment at the URO-P, were classified as "serious diarrhea and dehydration." Thus, of the 91,642 estimated cases of diarrhea, there would be 971 episodes of severe diarrhea/dehydration in children under five in the project communities in 1988. This figure should be considered a minimum since the calculation does not take into account cases of severe diarrhea/dehydration that may have been attended directly in area hospitals. Also, there is no way of knowing, from existing data, the incidence of cases in 1987, before the component was initiated.

In September 1988, the health coordinator reformulated the component objectives for the program year 1988-1989. Three process objectives were set to complement and facilitate the reduction in morbidity: (i) carry out training courses in 100% of the project communities; (ii) establish oral rehydration units (URO-P) in 80% of the communities; and (iii) provide continuing training to the community health volunteers (RPS) in 80% of the communities.

## STRATEGIES USED

As with the other CS components, PLAN's strategy centered on first training the technical health assistants, then the zone supervisors and institutional promoters, and finally the community volunteers and mothers of children under five years. The focus of the training was on the causes and prevention of diarrhea, the diagnosis and danger of dehydration, and the principles and practice of oral rehydration therapy and referral as indicated. PLAN emphasizes the use of home solutions and continued feeding as well as ORS packets. Community training would be done through new and established women's groups and during regular GMP sessions.

The CDD/ORT component began with the training of PLAN staff in May 1987 (month 11). Technical health assistants, zone supervisors, and institutional promoters were trained together over a period of three days. Interventions at the community level began the following October (month 16) with the training of community volunteers (RPS), equipping of the URO-Ps, and delivery of the initial supplies of oral rehydration salts.

PLAN supports current MOH policy by training specialized community ORT volunteers, known as Responsable Popular de Salud (RPS), and establishing community oral rehydration posts, Unidad de Rehidratacion Oral-Popular (URO/Ps). Each technical health assistant provides support to approximately 20 RPSs and to the URO/Ps in their part of the project area. The MOH regional health office (US/LP) provides packets of oral rehydration salts (ORS), donated by UNICEF, through the district health officers to the URO-Ps. Often PLAN has to solicit, pick up and deliver the packets to assure a regular supply to the project communities. PLAN/ Altiplano also provides funds to pay for referrals and treatment of children with severe dehydration. PLAN also supervises the collection of monthly reports, by community and zone, on morbidity and outcomes of cases seeking assistance at URO-Ps and sends them to the regional health office.

PLAN has coordinated with both CARITAS and the Ministry of Health in training as well as programming in the CDD component. Training is a recurrent need, both to impart information and provide support for RPSs, and to attempt to decrease the high dropout rate of RPSs, estimated at 25%-40% during the first 21 months of project implementation. The major reasons for the high dropout rate were migration, when these voluntary workers left to earn money elsewhere. After the initial one day course at the regional centers, no subsequent training courses took place during the grant period; however, informal training took place when the PLAN staff made their periodic supervisory visits to the RPSs.

## RESULTS AND COVERAGE

There is encouraging evidence of behavioral change concerning home treatment of diarrhea and dehydration. The reported use of home solutions for children visiting the URO-Ps increased from 3.5% in 1988 to 18.5% in 1989. Also, a comparison of the findings from the baseline study (6/88) and the mid-term

Treatment of diarrhea	Jun 1988	Jan 1989
Mothers who suspend breast-feeding	3.8%	0.5%
Mothers who don't give extra liquid	11.3%	1.0%
Mothers who use home OR solutions	34.8%	40.0%
Mothers who use ORS packets	44.3%	44.0%

evaluation (1/89) showed a decrease in incorrect actions and an increase in the use of home solutions for oral rehydration. Preliminary findings from the focus groups conducted during the final evaluation corroborated this increase in mothers' knowledge of, and positive attitudes to the preparation and use of oral rehydration therapy.

According to project reports, 77 community oral rehydration posts have been established in the project area (table III.3). At one URO per community, PLAN has reached just over half of the target communities, compared to the target of 80% in DIP. This is a satisfactory level, given the delayed start for this program component.

Utilization of these services is summarized in the following tables. Based on the estimated 91,642 episodes of diarrhea each year, approximately one percent are being treated in the URO-Ps. As shown by the age-specific treatment rates, the URO-Ps

Year	<u>Cases children under five</u>			<u>Cases/1000 children *</u>		Cases <3yrs
	Expected	Observed	Percent	0-23 mons	24-59 mons	
1987	15274	45	0.3	13.9	30.7	57.8%
1988	91642	1231	1.3	95.2	117.6	62.6%
1989	45821	508	1.1	87.0	91.0	67.3%

\* adjusted to annual rates; based on 1989 population estimates

attracted more children over two years of age during the first years of service while the rates are about even for the first half of 1989. Also, in 1989 two-thirds of the cases attended at the URO-Ps were in children under three years, the priority age group.

The rate of referrals more than doubled from 1988 to 1989, while the incidence of severe diarrhea has remained constant at

1.1% of all cases in 1988 and 1.0% in 1989. Six of the cases reported in 1988 terminated in death; during the first six months of 1989, no deaths have been reported. During the first six months of 1989, an average of 6.6 episodes were treated at each URO-P, that is slightly more than one case per month per center.

Year	Months	Children Rx in URO	Ave./ month	Packets/ episode	Rx home solution	Referrals/ 1000 cases
1987	2	45	23	1.8	0%	-
1988	12	1231	102	1.8	3.5%	10.6
1989	6	508	85	2.0	18.5%	23.6

The project DIP called for a reduction in the number of cases of severe dehydration as the objective and measure of success of this component. Unfortunately, the absence of base data makes it impossible to measure the success of the DDC component in these terms. The later data available from the baseline FOES survey and the mid-term evaluation are not strictly comparable and provide somewhat different estimates of the number of diarrhea cases expected in the population. The mid-term evaluation (1/89) established an incidence of diarrhea of 45% in the previous two weeks for children 12-23 months, while the baseline study (FOES, 6/88) found a 31% incidence among children in surveyed PLAN families in the previous two weeks for all children under five years. The annual summary reports presented by PLAN are based on the approximately one percent of diarrhea cases which were treated at the oral rehydration posts.

## CONCLUSIONS

1. The strategy selected by PLAN to decrease severe dehydration through the promotion of oral rehydration therapy was both appropriate and in accord with Ministry of Health norms. Community RPSs are capable of diagnosis and primary treatment as long as they are not overburdened with multiple tasks. Dropout and turnover rates for RPSs are high, and they require more continuous training, supervision, and community organization than project staff have been able to provide.
2. There are definite indications that women are increasingly knowledgeable about oral rehydration therapy and practice it in their homes when their children have diarrhea. Given intensive national campaigns and the efforts of other organizations in the project area, it is difficult to know how much of this progress can be attributed to PLAN.
3. Coordination with the MOH and other NGOs has been good, particularly in training, education and logistics. Educational materials are appropriate.

4. One half of the communities have access to a community oral rehydration posts (URO-P). This is a good beginning, but the URO-Ps are extremely underutilized, averaging about one case per month in 1988 and 1989. In part, this may be attributed to the inactivity of the RPSs. There is a positive trend toward attracting more of the younger children to the URO-Ps.
5. PLAN recognized that the major problem associated with the DDC was the lack of community involvement in ORT, a strategy which has been designed specifically to be implemented at the local level. PLAN initiated a policy to establish community health committees in April 1989. These committees have the potential to improve the performance of the RPSs, and the level of utilization of the URO-Ps.
6. Much of the data collected and made available by the project staff is not available in a form which is relevant to the objectives of the project. Population and morbidity estimates are tenuous and at times based on questionable assumptions.
7. Teaching programs, diagnosis and follow-up suffered because the initial diagnosis of diarrheal disease and dehydration was poorly defined, and its severity and extent was not identified.

## VI. IMMUNIZATION

### PROBLEM STATEMENT

In the absence of data from Altiplano, the DIP (2/87) presented the results of a 1983 study of a PLAN community in Bolivia, in which about 20% of child deaths were attributable to vaccine-preventable infections. Measles were reported to cause 8.8% of infant deaths, polio 7.7%, and tuberculosis 5.3%. The DIP also stated that few women in the project area receive pre or post-natal care and that childbirth for most women takes place in the home and is attended by family, friends, or traditional midwives. No mention, however, was made of neonatal tetanus as a problem.

The baseline study of June 1988 found that 69% of the children in the PLAN families surveyed had a vaccination card. One third of the PLAN children under five years of age were completely vaccinated with BCG, polio 3, DPT 3, and measles.

### PROGRAM OBJECTIVES

Three objectives were initially defined for the EPI component: (i) to protect 80% of the infants under one year in the project area with all four vaccines by 1989; (ii) completely vaccinate 50% of the children 1-3 years; and (iii) vaccinate 30% of women 15-44 years of age with TT2 by the end of the grant period. These objectives were based on calculations of the number of children vaccinated and doses applied, which were in turn derived from very unreliable population data. The objectives were revised by the health coordinator in September 1988, when overall coverage goals for infants and children were changed.

The project's emphasis on attaining coverage with all four vaccines, rather than specifying targets for individual vaccines, raises some important questions. Firstly, it is more feasible to achieve higher rates of coverage with individual vaccines than with a combination of two or more. Secondly, the epidemiological concept of "herd immunity" applies to individual diseases.

### STRATEGIES USED

The immunization component began in November 1987 when the project staff assisted the Ministry of Health with a mass campaign. PLAN provided transportation and materials as well as institutional promoters to help with documentation. Subsequently, the campaign was reviewed with the MOH in a district health meeting in order to determine strategies to improve vaccination

coverage. The focus of the immunization component continues to be on supporting the district health offices in their implementation of the Ministry's EPI program.

Staff training in immunization was conducted in December 1987 (month 18). Planning and promotion for vaccination campaigns in 1988 were done jointly at the monthly district health meetings. Community education courses were financed by PLAN and implemented with Ministry of Health and collaborating NGO participation. PLAN continues to provide transportation for MOH nurses and area doctors to the vaccination sites. Whenever possible, the institutional promoters help with registration and, when necessary, PLAN staff nurses assist in the vaccination of children.

PLAN has been instrumental in strengthening the cold chain in the project area. PLAN purchased five refrigerators from UNICEF and donated them to MOH facilities. At the time of the final evaluation, the cold chain had broken down in two of the project's zones. PLAN also purchased needles, syringes, portable cold boxes, and thermometers to supplement the MOH supplies.

In late 1988, the decision was made to shift from a campaign strategy to a continuous vaccination program to be combined with the bi-monthly GMP sessions. During the last quarter of 1988, staff made duplicates of all the growth monitoring cards (CSI) which included updates from the child's vaccination records. PLAN is implementing a strategy to devise community lists which would facilitate timely individual follow-up by community leaders or volunteers.

#### RESULTS AND COVERAGE

In January 1989, a sample survey of 210 mothers of children 12-23 months of age, was conducted as part of the CS mid-term evaluation. This survey revealed that 81% of the children had vaccination cards, and 28.1% were fully vaccinated. Six months later, according to a summary report prepared by the health coordinator, 60% of children 12-23 months old had been fully immunized (table VI.1).

As part of the CS final evaluation in August 1989, the growth cards of 1,499 registered children 12-23 months were reviewed to determine vaccination status. A comparison between these data with those from January concerning coverage by antigen

Month	BCG	Measles	Polio3	DPT3
January 89	66%	47%	32%	30%
August 89	62%	48%	50%	46%

TABLA VI.1

ESTADISTICA DE NIÑOS PROTEGIDOS (BCG + POLIO 3 + DPT 3 + SARAMPION) JUNIO, 1969

No.	ZONAS DE TRABAJO	MENORES DE 1 AÑO						12 MESES A 23 MESES					
		TOTAL		PROTEGIDOS		NO PROTEGIDOS		TOTAL		PROTEGIDOS		NO PROTEGIDOS	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.	Palcoco-Karhuiza	260	100.0	27	10.4	233	89.6	352	100.0	195	55.4	157	44.6
2.	Pucarani-Kenakahua	362	100.0	66	18.2	296	81.8	563	100.0	331	58.8	232	41.2
3.	Tambillo-Laja	167	100.0	38	22.8	129	77.2	237	100.0	161	68.0	76	32.0
4.	Curva-Yanamuyo	238	100.0	30	12.6	208	87.4	255	100.0	172	67.5	83	32.5
5.	Lacaya-Taraco	148	100.0	23	15.5	125	84.5	166	100.0	70	42.2	96	57.8
6.	Tiwanaco-Guaqui	123	100.0	8	6.5	115	93.5	221	100.0	163	73.8	58	26.2
TOTAL		1.296	100.0	192	14.8	1.106	85.2	1.834	100.0	1.092	59.5	742	40.5

reveals that substantial progress has been made with the revised strategy in terms of polio and DPT with no significant change in coverage of BCG and measles. The January data were obtained from a random sample of 210 mothers, while the August data come from 1,499 child records and were adjusted to take into account an estimated 10% of unregistered children.

No data was provided in either study regarding the coverage of women with tetanus toxoid vaccine. The 1988-89 annual report indicates that approximately 3,990 women had received TT2. Based on an estimated 17,925 women of childbearing age in the project communities (table II.1), the coverage would be 22.3% in 1989. This figure, however, probably does not include residual coverage from the previous two years.

The results of the survey of GMP/immunization records are presented in table VI.2 and Annex D. Because data from two communities could not be obtained, these totals represent 71% of the estimated child population (table II.1). Of the registered children, the proportion of those completing vaccination before their first birthday are 60% for BCG, 26% for measles, 28% for polio3, and 21% for DPT3. The completion rates before two years of age increase substantially to 87% for BCG, 67% for measles, 71% for polio3, and 66% for DPT3. Considering the total population, i.e. including the unregistered children as well, real coverage estimates drop to 62% for BCG, 48% for measles, 50% for polio3, and for 46% DPT3.

The lowest coverage rates are found in the Lacaya-Taraco zone which has suffered from a breakdown in the cold chain. The overall dropout rates between first and third doses, are 29% for polio and 35% for DPT. Table VI.1 is a summary report generated by the project staff which presents the combined, four antigen coverage as of June 1989: 59.5% of the registered children 12-23 months are fully vaccinated, while only 14.8% of the registered children under 12 months are fully vaccinated. By applying these figures to the total estimated population groups (table II.1) the real coverage rates become 51.8% for one year olds and 7.3% of the under ones. PLAN/Altiplano has succeeded in registering 86.9% of the estimated population 12-23 months but only 49.4% of the estimated population under one year of age (table VI.1).

## CONCLUSIONS

1. PLAN/Altiplano has made good progress in the last 18 months of the grant period in increasing vaccination coverage of children 12-23 months. Fifty-two percent of the estimated population in this age group have been vaccinated with the four primary antigens, up from 21% in 1988. Coverage for individual antigens ranges from 46% to 62%. The project has

TABLA No. VI.2

Cobertura y abandono de inmunización en niños de 12 - 23 meses de edad,  
por antígeno y zona, PLAN/Altiplano, agosto 1989

Zonas	Total Niños Regist.	% Vacunados antes de cumplir 1 año (a)				% Vacunados antes de cumplir 2 año (a)				% Cobertura de Inmunización (b)				Tasa de Abandono(c)	
		BCG	Saramp	Polio3	DPT 3	BCG	Saramp	Polio3	DPT 3	BCG	Saramp	Polio3	DPT 3	Polio	DPT
Palcoco-Karhuiza	387	50.6	14.7	12.4	11.4	63.6	59.2	57.1	55.6	59.3	55.2	53.3	51.8	42.9	44.4
Pucarani-Kenakahua	310	54.5	11.6	52.6	24.8	95.2	65.2	91.6	77.4	43.1	29.5	41.5	35.0	8.4	22.6
Tambillo-Laja	207	76.3	39.1	33.8	29.5	84.5	69.1	70.5	68.1	66.0	54.0	55.1	53.2	29.5	31.9
Curva-Yanamuyo	257	61.9	49.8	30.4	26.1	83.7	80.5	77.8	72.8	79.6	76.7	74.1	69.3	22.2	27.2
Lacaya-Taraco	151	39.7	17.9	6.6	6.6	60.9	47.7	35.1	34.4	40.0	31.3	23.0	22.6	64.9	65.6
Tihuanaco-Guaqui	187	84.5	34.2	27.3	24.1	98.4	84.0	84.5	78.6	75.5	64.1	64.5	60.0	15.5	21.4
Total	1,499	60.0	26.2	28.0	20.6	87.2	67.4	70.8	65.5	61.9	47.9	50.3	46.4	29.2	34.5

Fuente: Revisión de 1.499 carnets de salud infantil, que corresponden a aproximadamente el 71% de la población 12 - 23 meses de edad en 150 comunidades.

(a) En base a los niños, 12 - 23 meses, registrados (Tabla No. ).

(b) En base a la población, 12 - 23 meses, estimada (Tabla No. 2.1)

(c) Dosis-1 menos dosis-3 entre dosis-1.

achieved high detection and registration of children 12-23 months (87%) but levels of detection and registration for infants under one year are lower (49%). Detection, registration, and vaccination of women in childbearing age is also quite low.

2. PLAN has effectively improved the extent and reliability of the MOH cold chain. However, supplies of antigens and materials have been hampered by the lack of MOH resources and deficiencies in the logistics system.
3. Coordination with the district and regional health offices has become very effective and mutually supportive. PLAN has worked effectively with the MOH and NGOs during the changeover from a mass campaign strategy to a continuous vaccination program.
4. The project has good access to service statistics from the duplicated child growth cards. However, consolidation and analysis of the data is difficult because PLAN does not have reliable population data from which to calculate reliable coverage rates. PLAN is developing a system of community registries of target, high risk groups to facilitate follow-up and analysis of trends and impact.
5. Immunization objectives are clear but sometimes inappropriate. Because the objectives have been changed, data requirements have changed but without corresponding changes in data collection.

## VII. FINANCIAL AND COST ANALYSIS

### CHILD SURVIVAL EXPENDITURES

PLAN/Altiplano spent \$592,612 on child survival activities in the three year grant period. USAID provided \$194,745 (33%), and PLAN \$397,767 (67%), as shown below.

FY	AID*	PLAN	
1987	50,450	131,325	
1988	89,957	95,127	
1989	54,338	153,315	
Total	194,745	397,767	592,512

\*Does not include 10% Indirect Costs charged to USAID.

PLAN spent 100% of the USAID CS funds available for the three year grant period, as shown in table VII.1 A. The project underspent its anticipated budget for year one by 68%, due to its delayed start, but more than compensated by overspending in year two. USAID expenditures, broken down by category, are shown in table VII.1 B. Personnel and consultant expenditures exceeded the proposed budgets by 21% and 23% respectively while training, equipment, and other expenses used fewer funds than anticipated.

During the three years in which external funding was received for child survival activities, PLAN/Altiplano used AID funds to pay for all health personnel and other operating expenses. This included consultants, UNICEF, office equipment, vehicle and other operating expenditures. PLAN funds were dedicated to the payment of medical bills, institutional promoters, water and sanitation projects, and in effect, freed up for other development activities.

### RECURRENT AND NONRECURRENT EXPENDITURES

In contrast to the above calculations, those made in this section reflect the expenditures of the child survival program as it actually operated in Altiplano during the three year grant period, and as they can be expected in future. These program calculations are important as they enable actual performance to be compared over time, and possibly between different CS projects: they also act as a guide for decision-making. For Altiplano, these figures reveal a lower overall expenditure on child survival than that reported through the accounting system; \$301,370, compared to \$592,512. The matching grant included

TABLA No. VII.1A

Ejecución del presupuesto de supervivencia infantil por año fiscal, PLAN/Altiplano, AF.1987 - AF.1989 (fondos AID, en dólares americanos)

Año Fiscal	Presupuesto	Ejecutado	Saldo	Porcentaje Ejecutado
1986 - 1987	74,500	50,450	24,050	67.7
1987 - 1988	58,000	89,957	(31,957)	155.1
1988 - 1989	62,245	54,248 *	7,997	87.2
Total	194,745	194,745	90	100.0

\* Los fondos de AID se acabaron en marzo 1989; PLAN financió con fondos propios los últimos tres meses del año fiscal con un monto de \$us. 20.820

TABLA No. VII.1B

Ejecución del presupuesto de supervivencia infantil por objeto de gasto PLAN/Altiplano, AF. 1987 - AF. 1989 (fondos AID, en dólares americanos)

Objeto de Gasto	Presupuesto	Ejecutado	Saldo	Porcentaje Ejecutado
Salarios	71,000	85,688	(14,688)	120.7
Consultas	13,500	16,553	(3,053)	122.6
Capacitación Suministros y Transporte	77,245	64,266	12,979	83.2
Equipo	28,000	24,343	3,657	86.9
Otros	5,000	3,895	1,105	77.9
Total	194,745	194,745 *	0	100.0

\* Los fondos de AID se acabaron en marzo 1989; PLAN financió con fondos propios los últimos tres meses del año fiscal con un monto de \$us. 20.820

potable water, and the salaries for PLAN social workers, who were involved in some CS activities. However, as the role of these workers in CS is being phased out, the real costs of CS would be reflected more accurately if they were not included. While potable water has a direct impact on improving child survival, it is difficult to assign a monetary value to its contribution to child survival; thus expenditure on potable water is not normally included in direct CS expenditures.

More than three-quarters of the child survival expenditures (77.1%) recorded by PLAN/Altiplano involved recurrent costs (table VII.2). These included salaries, community training and education, and other operating expenses. Consultancies, facility renovation, equipment, and staff training and travel were considered non-recurrent expenditures. The nutrition/GMP component required the highest level of recurrent expenditures (82%) and the immunization program had the lowest level of non-recurrent expenditures (30%). It is anticipated that later in the project the recurrent expenditures for the nutrition/GM component will decline as the community support for such activities increases.

#### COST ANALYSIS

The consultants carried out a cost analysis for the project based on the recurrent and nonrecurrent costs as calculated above. By amortizing the non-recurrent costs over a period of three years (i.e. one third of the expense in the year in which the expenditure took place and one third in each of the subsequent two years), the adjusted cost of the program comes to \$288,212. This latter is the base figure used in the following analysis of costs. Where applicable, we also consider a real time frame of 30 months of program operation since key staff were not hired/assigned until months 7 and 8 of the grant period.

##### 1. Costs per capita and per community.

Total program beneficiaries (est. 1989):	29,295
Children under five years:	11,370
Women, 15-44 years:	17,925
<b>Total cost per beneficiary:</b>	<b>\$ 9.84</b>
<b>Cost per beneficiary per year:</b>	<b>\$ 3.94</b>
Number of communities attended (1989):	152
<b>Total cost per community:</b>	<b>\$ 1,896</b>
<b>Cost per community per month:</b>	<b>\$ 63</b>

TABLA VII.2

Gastos recurrentes y no recurrentes de supervivencia infantil por año fiscal y sub-programa, PLAN/Altiplano, julio 1986 a junio 1989, en dólares americanos.

Sub - Programa	A.F. 1987 PLAN	AID	A.F. 1988 PLAN	AID	A.F. 1989 PLAN	AID	Total PLAN	Gastos AID	Gran Total	Porcentaje Parcial	Total
<b>Nutrición / VPC</b>											
Recurrente	6,042	15,212	15,600	33,541	20,962	20,083	42,604	68,836	111,440	81.9	
No Recurrente	7,892	8,044	0	3,584	1,536	3,600	9,428	15,228	24,656	18.1	
Sub - Total	13,934	23,256	15,600	37,125	22,498	23,683	52,032	84,064	136,096	100.0	45.2
<b>Inmunización (PAI)</b>											
Recurrente	2,776	7,461	9,748	23,811	13,925	15,381	27,449	46,653	74,102	70.5	
No Recurrente	7,892	12,331	0	5,705	1,379	3,653	9,271	21,689	30,960	29.5	
Sub - Total	11,668	19,792	9,748	29,516	15,304	19,034	36,720	68,342	105,062	100.0	34.9
<b>CSD / URO</b>											
Recurrente	1,510	3,953	3,900	16,692	6,924	13,941	12,334	34,586	46,920	77.9	
No Recurrente	4,716	1,699	0	3,904	823	2,150	5,539	7,753	13,292	22.1	
Sub - Total	6,226	5,652	3,900	20,596	7,747	16,091	17,873	42,339	60,212	100.0	20.0
<b>Total Gastos</b>	<b>31,828</b>	<b>48,700</b>	<b>29,248</b>	<b>87,237</b>	<b>45,549</b>	<b>59,608</b>	<b>106,625</b>	<b>194,745</b>	<b>301,370</b>		<b>100.0</b>

Nota.- Total gastos recurrentes = \$us. 232.462 = 77,1% del total.  
Total gastos no recurrentes = \$us. 68.908 = 22,9% del total.

Notas para la asignación de gastos por sub-programas

Salarios: Gasto recurrente, de acuerdo a la distribución del tiempo del personal: asistentes técnicos de salud-nutrición 40%, PAI 40%, URO 20%; promotores institucionales - nutrición 8%, PAI 5%, URO 2%; la coordinadora de salud 33% a cada sub-programa.  
Promoción: Gasto recurrente, según frecuencia de los cursos a nivel de la comunidad: nutrición 39%, CED/URO 36%, PAI 25%.  
Transporte Local: Gasto recurrente, según distribución del tiempo del personal.  
Consultas: Gastos no recurrentes, según distribución del tiempo del personal.  
Equipo y otros: Gasto no recurrente, según uso específico; muebles según distribución del tiempo del personal.

2. Nutrition/GMP program costs.

Total adjusted expenditures:	\$ 131,477	(45.6% of total)
Total expenditures in FY 1989:	\$ 49,254	
Number of GMP sessions conducted:	894	
Cost per community GMP session:	\$ 55	

3. CDD/ORT program costs.

Total adjusted expenditures:	\$ 56,929	(19.8% of total)
Number of community ORT units installed:	77	
Cost per ORT unit installed:	\$ 739	
Total expenditures in FY1989:	\$ 25,296	
Number of DD/ORT cases attended:	21,566	
In URO-P:	1,123	Home Rx: 20,443
Cost per DD/ORT case attended correctly:	\$ 1.17	

Immunization program costs could not be calculated, as the number of people vaccinated was not available. The total adjusted expenditures for this component were \$99,806 (34.6% of total).

The above figures should be considered tentative as they are in part based on a variety of unconfirmed estimates and assumptions. They may be useful to PLAN/Altiplano for planning and future internal comparisons. Caution should prevail in using these figures for comparisons with other programs.

## VIII. SUSTAINABILITY OF BENEFITS

### MOTIVATION OF DEMAND

By motivating community members to utilize health services, and hopefully gain satisfaction from those services at a reasonable cost, the benefits of those services stand a better chance of being sustained. PLAN/Altiplano has taken some positive steps to promote a continuing demand for the child survival services initiated with the support of the AID grant. Community consciousness about the importance of immunizations and growth monitoring has been raised by educational sessions held in all the communities served by PLAN. Vaccination rates and participation in CMP for children over one year of age have steadily increased.

Acceptance, and therefore perceived worth, of these services is less apparent for children under one year. Likewise, the use of the community ORT units is still very limited in terms of both monthly utilization per unit and the overall incidence of diarrheal diseases. The URO-Ps attend an average of one case per month and see approximately one percent of diarrhea episodes.

### STRENGTHENING SUPPLY

The quality of and accessibility to health services, perceived as well as real, is critical to increasing and sustaining utilization of those services. PLAN/Altiplano has invested badly needed resources to improve the cold chain in the project area. Additional resources have gone into the training of community volunteers (RPS) to function as the front line in preventing severe dehydration from diarrhea and to provide support for community vaccinations. One half of the communities are now served by RPs. However, drop out and turnover rates of these volunteer health workers are high.

Because of the financial problems of the MOH, PLAN/Altiplano has found it necessary to provide recurrent materials and supplies to assure the continued operation of services when the Ministry of Health has been unable to fulfill its obligations. MOH officials openly acknowledge and are grateful for the material and staff support that NGOs are able to provide. Most notably, this has included community and staff training, the purchase of some vaccines, syringes and growth monitoring cards. PLAN has provided transportation to MOH workers for vaccination campaigns and field supervision. PLAN/Altiplano has also directly maintained the supply of vaccines and ORS packets between the central and/or regional offices of the Ministry and the project communities.

Unlike the MOH, PLAN has operating funds to support the ongoing costs of transportation, supervision and maintenance. PLAN, like other NGOs, can also use its resources and influence to obtain supplies from the MOH, at times when the MOH does not have the resources to utilize these supplies itself. PLAN's intervention in this regard has been more spontaneous than planned, responding to immediate need. So long as the financial problems of the MOH continue, and, by implication, so long as the Bolivian government is unable to raise adequate revenue to pay for essential health services, PLAN and other NGOs will continue to play a vital role in the maintenance of essential preventive services in the country.

#### COST RECOVERY

Because of the continuing need for external support for health services, PLAN/Altiplano has made no commitment to the recovery of costs during the grant period or the "transfer" of obligations after the project ends. Indeed, PLAN has made a commitment to remain in the project area for an indefinite, or at least, undetermined period, and to continue working with communities and government agencies to improve health levels and services.

The DIP did not address the issue of cost recovery. The mid-term evaluation mentioned an agricultural project that may enable people to contribute to health services in the future. In so far as PLAN general developmental strategy is directed towards income generating projects in the project area, these would also provide local people with extra income which they may be able to spend on health. In the light of continuing needs, the FY 1990 budget for health is larger than the previous year and continues to support, but not expand, the child survival activities. Government policy guarantees universal access to primary health care, including ORS packets, vaccines, but these needs cannot be met effectively without the inputs of NGOs such as PLAN, and the support of the community.

In practice, community members do support a significant "opportunity cost" in terms of the time devoted to seeking health care, attending educational meetings and immunization and GMP sessions, and absorbing some transportation and food expenses. Volunteer health workers and members of mothers groups have donated their time to make the CS program more successful. The thrust of future PLAN CS policy in this area is to increase community activities, and hence sustainability, in the project area.

The major recurrent costs of the child survival program are for personnel, training and transportation, which will have to be sustained by PLAN. Unit program costs are not particularly high,

but can be substantially reduced, especially for CDD/ORT, by increasing coverage and outputs, i.e. the number of people served. Cost per person vaccinated will decline as dropout rates are lowered and more infants under one year are reached. The key to increasing utilization, and thus either lowering costs or increasing revenue, is the mothers' realization that their real needs are being satisfactorily met at reasonable costs.

## SYSTEMS DEVELOPMENT

Service programs require organization and management to transform available resources into desired results. Most public health programs are complex in that they respond to many demands and conditions and they call for many providers (agencies and individuals, often with varying agendas) to address the needs, demands, and constraints of many beneficiaries. With so many participants and activities, effective and efficient performance depends on communication and agreement on strategies, norms, operating procedures, and commitments of resources.

The existence and use of approved, written protocols for technical procedures or interventions, administrative systems, and training or educational modules is not only a concrete indication of good organization and management, but also provides the basis for sustaining what has been developed. Approved, written protocols:

- demonstrate agreement on procedures and terms;
- identify required tasks and responsibilities;
- focus compliance on stated objectives and target groups;
- provide the basis for job descriptions and training;
- establish a standard for quality control and supervision;
- define agency and community obligations;
- identify critical information and monitoring needs;
- indicate what needs to be sustained and by whom.

### **1. Technical protocols.**

PLAN/Altiplano bases its technical interventions on the official manuals produced by the Ministry of Health (see Annex C). These manuals state the policies, strategies and technical norms to be used by all agencies, public and private, working in the areas of immunization and control of diarrheal diseases. No

government norms or manuals have been published for nutrition/GMP interventions, but several drafts have been tested.

PLAN has worked closely with the MOH in the development of program components. A vaccination plan was developed in conjunction with the 1988-89 annual plan. The EPI plan evolved out of the regular meetings and discussions with the district health team but does not include specific procedures and responsibilities. Personnel tasks have been defined for the CDD/ORT component and some guidelines were presented in the annual plan for GMP, but these fall short of being approved protocols. However, PLAN/Altiplano has not yet developed a set of specific protocols which would adapt or operationalize the MOH norms to the conditions, needs, and resources of the project area.

## **2. Administrative systems.**

In the field, PLAN health staff are organized and operate in a manner parallel to the Ministry of Health and the collaborating NGOs. While in practice program interface and cooperation appears to function effectively, the relationships and obligations are not documented and may therefore lack consistency and accountability. This is because there are no administrative manuals to define and formalize staff duties, responsibilities, and general working conditions. However, on a regional level (i.e. South America), PLAN has recently begun to develop policies and guidelines for personnel management.

PLAN/Altiplano has developed adequate systems to manage the purchase, storage and distribution of materials and supplies, and for general services within the agency. The supplies and services required for the health programs follow these same procedures. Some forms have been designed, or adopted from the MOH, for the recording and reporting of information. However, they are not accompanied by written instructions and a description of flow and consolidation.

## **3. Educational modules.**

The child survival program calls for community education and staff training in the areas of immunizations, control of diarrheal diseases and oral rehydration therapy, nutrition during pregnancy and weaning, growth monitoring and promotion, and basic food and environmental sanitation. Fascioliasis was given an education priority once the severity of this disease was recognized in the project area. This flexibility and adaptability is a commendable aspect of PLAN operations.

Health education is one of the main thrusts of the Altiplano CS project, and one for which PLAN has special responsibility in a collaborative project with CARITAS. PLAN successfully uses

locally-developed flip charts for community and staff education in EPI, CDD/ORT, and nutrition; wall posters have been designed for EPI, ORT, and fascioliasis; a special child survival calendar was also prepared by the staff and financed by a local bank. While health education materials have been developed, systematic training plans have not been developed for either community education, staff training, the training of government counterpart workers, or community health workers in any of the thematic areas.

#### HUMAN RESOURCE DEVELOPMENT

Health programs, systems, and protocols require trained people to make them work. PLAN/Altiplano's cadre of child survival workers include its technical health staff, support personnel and institutional social promoters (part-time), MOH and NGO collaborating staff, and community volunteers --responsables populares de salud and women leaders.

By virtue of law and government policy, the Ministry of Health has primary responsibility to protect and promote the health of all residents in the country. In practice, the Ministry receives very inadequate resources to carry out its mandate. Personnel levels have been virtually frozen, real wages have declined drastically; non-personnel operating, supplies, maintenance, and training budgets --which people need to function effectively-- are almost non-existent; and rural areas are disproportionately underserved. Certain administrative reforms, e.g. regionalization and decentralization, are underway which may provide the MOH with more resources, flexibility, and accountability.

The foundation of long-term sustainability lies with the community, individually and collectively. PLAN/Altiplano has trained 207 community health volunteers (RPS) for the CDD/ORT and EPI interventions. Mothers have also received training in basic growth monitoring tasks. These are good beginnings which can be sustained with further PLAN support; at present the need is much greater than can be served by existing programs and volunteers. The major danger faced in the early stage of developing such community programs is the temptation to assign too many tasks to a few good people. Community volunteers, like most people, will perform only as long as they can see a reward proportional to the personal cost of their contribution. The current RPSs are probably near their limit dealing part-time with CDD/ORT, unless additional incentives can be developed.

PLAN/Altiplano is now addressing the issue of community organization in a systematic way. Analysis and planning activities are being initiated in each community using feedback from the baseline study (FOES). Earlier, the health

interventions were developed primarily on agency initiative and from the agency perspective. Communities were generally not involved in problem analysis and the identification and design of appropriate solutions. Nor were the communities involved in negotiating appropriate roles and obligations with PLAN and the MOH. PLAN recognizes these problems and is committed to making fundamental changes in the pattern of PLAN/community relations.

## CONCLUSIONS

1. The reality of working in Bolivia at the present time is that, rather than anticipating that the Ministry of Health will be able to absorb the operating costs and adopt the management systems of NGO initiatives, the Ministry's chronic budget deficiency, bureaucratic and staff limitations, call for strategies of interdependence and long-term, synergetic relationships with private agencies.
2. The Ministry of Health receives very inadequate resources to carry out its mandate. The Ministry, in fact, depends on non-governmental agencies to carry a significant part of its burden. Fortunately, PLAN's financial well-being does not appear to be a constraint in the foreseeable future. Nor has PLAN/Altiplano committed itself to phasing out of the project area and "turning over" to the MOH its recurrent burden in the near future.
3. The communities in this area of the altiplano are poor but are not without resources which they could devote to health. Money is available for things that are deemed important and/or necessary. PLAN is only just beginning to explore the possibilities of community fund raising events, activities, and locally-imposed "taxes" to support health services. This in turn requires local control not only over fund raising but also over the service program as well. Public and private agencies are sometimes reluctant to relinquish control. Communities are not always willing to let the government "off the hook" and use their own resources for "public" services. The issue requires study, planning, and a focused effort on community organization.
4. The foundation for long-term sustainability lies with the community, individually and collectively. Communities are only now being involved in problem analysis and the identification and design of appropriate solutions which they, then, will actively support and manage. In future, they will negotiate appropriate roles and obligations with PLAN, the Ministry of Health, and other agencies. As yet, there has been no training of staff on organizing and supporting communities for the purpose of achieving sustainability. In the light of these new developments, PLAN

will define criteria, objectives, and benchmarks by which to measure progress towards sustainability.

5. PLAN/Altiplano has not yet developed a set of specific protocols which would adapt or operationalize the technical norms of the MOH in EPI and CDD/ORT to the conditions, needs, and resources of the project area. The presence of unofficial and often conflicting directives regarding GMP is confusing for both health personnel and community members. Administrative manuals do not exist to define and formalize staff duties, responsibilities, and general working conditions. PLAN has not described a system for supervision and monitoring the child survival activities. Neither systematic training plans nor competency-based training materials have been developed for community education or staff training. PLAN/Altiplano currently does not have appropriately trained staff to develop and implement the necessary information systems and education/training interventions.

## IX. LESSONS LEARNED AND RECOMMENDATIONS

### LESSONS LEARNED

1. PLAN/Altiplano has begun to develop community participation in health activities. However, there have been a number of factors which have delayed and complicated these activities. Such delays should be allowed for in the planning of future CS programs in areas without a strong tradition of community self-help activities, where government resources are in short supply and not initially geared to such priorities.

Ministries of Health often lack the resources and empathy to design and manage community-based programs. Private organizations cannot make commitments of indefinite length and are often not privy to the inner workings of community life. Neither organization is of the community; both have organizational and cultural constraints which may not coincide with community priorities or patterns of informal organization. Both, however, have resources, intellectual as well as material, which can be of great service.

In short, outside organizations can effectively assume a supporting role for community initiatives and action, but they should not expect the community to assume such a role in the agency's own program. The funding cycles and other requirements of donor and service agencies are often counterproductive to good planning and development within communities. This tempts agencies to sacrifice community participation and sustainability for expediency.

New ways must be found to assist, not lead or impose on, communities to determine, execute, and be responsible for actions which will improve health conditions and services for the public good. Goals of sustainability and community organization require careful planning like all other desired outcomes of the child survival program. Staff need to analyze constraints, determine criteria, and define specific objectives and actions in order to achieve sustainability. Such activities take time.

Community participation is not merely an important contribution to increasing the utilization of health services or covering, in part, recurrent costs. It is not merely necessary as an expression of people's rights and dignity. While both of these statements are, or should be, indisputable, they don't go far enough. The community role and responsibility needs to be at the center of problem analysis, the selection and design of interventions, and the management, monitoring, and evaluation of their health

programs if accountability and long-term sustainability of benefits is to be achieved.

2. The planning of a CS project in a country such as Bolivia must take into account the fact that the Ministry of Health receives very inadequate resources to carry out its broad mandate. The Ministry, in fact, depends on non-governmental agencies to carry a significant part of its burden. Most NGOs state or imply, usually as a condition of external funding, that the MOH will eventually absorb some or all of the post-project recurrent costs. Under present circumstances in Bolivia, such assumptions are both unrealistic and irresponsible in the short to medium term. Solutions to the complex problems facing developing countries will require long-term planning, commitments, and relationships based on interdependence and synergistic action. In assessing the success of a three-year project, one must take the long view.
3. The crucial role of an information system, to provide data for evaluation and monitoring, was revealed in PLAN/Altiplano. In the absence of an information system designed at the beginning of the project to provide timely and relevant information for evaluation and monitoring, the usefulness of an evaluation, whether done internally or by an outside consultant, is limited. Although the DIP was not formally revised, staff did reassess goals and objectives, and ways of measuring achievements, on a continuous basis throughout the three year life of the project.

Ideally, staff should formulate evaluation plans prior to initiating program activities in order to guide program implementation and to assure the timely collection of relevant information. Objectives need to be presented in terms which can be adequately measured, and clearly stated in terms of the specific problems to be overcome. Data requirements should be explicitly linked to objectives; sources and methods of collection identified; and types of analysis related to levels and needs of decision-making.

The same process should be followed for formulating plans for monitoring activities and supervision of staff. The information system will integrate the various data needs, processing, and uses into one composite, uniform set of procedures and instruments. The purpose is to obtain necessary and relevant information and avoid the collection of extraneous information that ultimately goes unused. An effective information system for evaluation and monitoring program interventions requires careful and early planning.

4. Service programs require organization and management to transform available resources into desired results. Most

programs dealing with the public health are complex in that they respond to multiple demands and conditions and they call for many providers (agencies and individuals, often with varying agendas) to address the needs, demands, and constraints of many beneficiaries. With many participants and activities, effective and efficient performance depends on effective communication, and on agreement on strategies, norms, operating procedures, and commitments of resources.

## RECOMMENDATIONS

### Program and Organizational Development

1. This final report of the CS project should be translated into Spanish and reviewed by PLAN/Altiplano health staff and other interested parties. Staff and MOH collaborators should have the opportunity to review, analyze, and comment on the accuracy and relevance of the issues raised. Staff should prepare an Action Plan to address each of the recommendations made in the report. In this plan, staff would indicate what, if any, action will be taken regarding each recommendation. Such a plan would help to insure that the evaluation will in fact lead to program improvements. It will allow PLAN to monitor and follow up on staff intentions.
2. A detailed implementation plan should be developed to guide the current phase of health/child survival activities in the project area. Even though AID funding has terminated, a new DIP would be very helpful to field staff, PLAN/IH, and to future evaluators, particularly as it would incorporate revisions based on the analysis of recommendations offered in the present report. A revised DIP would provide the opportunity to reformulate program objectives and strategy.
3. PLAN/Altiplano should seriously consider assigning an additional auxiliary nurse to each field zone. Current staff do not have sufficient time to train and supervise community volunteers, provide adequate follow-up to high risk cases, and undertake systematic community organization in 25-30 communities. Specialist technicians in biostatistics and adult education should be added to the central staff to develop and support the information systems and training/education activities respectively. These are two critical functions which are not being adequately addressed at present. Two additional support staff would allow the health coordinator to devote more time to field supervision, the development of technical protocols, and data analysis.
4. PLAN should consider obtaining technical assistance in the areas of information systems and social communication. These consultants could provide guidance and insights to staff in

developing effective interventions. They would be most effective working with, and not in lieu of, the new technical staff recommended above.

5. PLAN/Altiplano should give priority to designing and implementing a system of community censuses, with annual updates and registries of births and deaths. These are already in the pipeline, and are essential for realistic planning and effective evaluation.
6. PLAN/Altiplano should design the community census, and any other demographic data collection, paying special regard to patterns of seasonal, and rural/urban population mobility. Migration is selective, and thus affects the age and sex structure of the resident population. Questions to be addressed could include the extent to which migrants return for health care and confinements, the health impact of moving between different disease environments, and the impact of mobility on vaccination schedules.

#### Nutrition Education / Growth Monitoring

6. Program objectives should be analyzed and reformulated toward prevention and high-risk groups. Coverage rates are more appropriate than absolute numbers; targeting all children under five years does not address the specific problems of the area.
7. Health staff should place highest priority on detecting and enrolling children under one year of age in GMP. The most important cause of chronic malnutrition is inadequate weaning foods and practices. The most effective point of entry for prevention is from four to six months of age.
8. Protocols need to be defined, approved, and followed in order to standardize the classification of growth patterns and follow-up actions with families. Lack of definition leads to uncertainty, and uncertainty does not produce quality performance.

#### Control of Diarrheal Disease

9. Program objectives should be analyzed and reformulated to address specific problems and permit measurement. The problem is poorly defined and objectives are not linked to interventions.
10. PLAN needs to determine and respond to the causes of low utilization of the URO-Ps and the reasons for high drop out of RPSS. Solutions to these problems must deal with specific constraints. These are good issues with which to promote and develop community leadership.

## Immunization

11. Program objectives should be reformulated to measure coverage for individual antigens and focus on priority age groups. Targets should be higher for younger children. "Herd" immunity corresponds to specific diseases, not the combination of risk.
12. Staff should give highest priority to detecting and vaccinating children under one year and women of childbearing age. These are the groups at highest risk.

## Financial and Cost Analysis

13. PLAN/IH should review and modify its system of classifying and reporting expenditures to address the need for analyzing program expenses and costs. Financial data was difficult to access and reports were sometimes incomplete or unclear.

## Sustainability of Benefits

14. PLAN/Altiplano should determine specific criteria, objectives, and strategies to guide actions to achieve the sustainability of benefits. Sustainability, as a highly desirable goal, requires systematic planning and monitoring in order to identify and overcome constraints.
15. Develop specific objectives, strategy, and actions to promote community organization and resources for health and develop staff capabilities to implement these actions. Community analysis and organization often do not get the systematic attention it requires and deserves.
16. Write out, and gain approval for, concise and clear protocols for all technical interventions, administrative systems, and educational and training modules required by the program. These are essential to assure compliance, accountability, quality, and, thus, effectiveness and sustainability of the systems involved.
17. Strive to develop long-term strategies with the Ministry of Health based on interdependence and synergistic actions. The MOH is in no position to assume recurrent expenditures or overcome organizational constraints in the near future. These strategies must include recognition and support of a central role for community involvement in planning and development of community services.

## ANNEX A

### DEFINICION DE LA POBLACION DEL AREA DE IMPACTO

Plan/Altiplano desconoce con exactitud la población de su área de impacto, no ha realizado censos en las comunidades donde trabaja para establecer el número total de familias y de personas y por ende le falta precisión en determinar el tamaño y la composición de los grupos prioritarios de más alto riesgo, o sea en cuanto se refiere al programa de supervivencia infantil los niños menores de cinco años y las mujeres en edad fértil.

Contar con datos fidedignos de población es uno de los pilares fundamentales de la práctica de la salud pública e indispensable para el análisis epidemiológico a nivel de la comunidad o área de trabajo. Para la tarea de una evaluación de los programas, y sin disminuir su importancia en la planificación y programación de las intervenciones, los datos demográficos nos permiten determinar la cobertura que alcancemos en la prestación de los servicios y, aún más importante, el nivel de riesgo que existe y el nivel de protección que logremos en cuanto a enfermedades o condiciones adversas a la salud -- mientras más precisos sean los datos, más acertados resultan los análisis.

La problemática actual en el Altiplano, y en particular en el área donde trabaja Plan, a la vez dificulta y hace más necesaria la definición precisa de la población. Primero, Bolivia realizó su último censo nacional en 1976 y en los últimos cinco años la continua tendencia de migración rural-urbana ha aumentado drásticamente, poniendo en duda las proyecciones demográficas oficiales. Segundo, desde los tiempos antiguos y con mayor importancia con la apertura de las zonas de colonización del Alto Beni en los años sesenta, existe una migración temporal entre las zonas ecológicas, igual fenómeno se registra entre el campo y la ciudad. No solo varía el tamaño de la población de un mes a otro, también pueda y probablemente varía su composición edad-sexo de las cifras oficiales. Tercero, las actividades de salud de Plan abarcan a menos comunidades que las otras actividades relacionadas a sus familias "patrocinadas." Además, el programa de salud, igual que las obras de infraestructura y otras, incluyen las familias Plan y no Plan indiscriminadamente.

Una revisión de los documentos de PLAN/Altiplano revela cuatro ejercicios recientes para determinar la población total o parcial de su área de trabajo. En abril de 1987, los promotores de PLAN realizaron reuniones con grupos de líderes y mujeres en 169 comunidades, obteniendo de manera no verificada un número de 6.368 niños menores de cinco años de edad. Dividiendo esta cifra entre 15,16%, que es el porcentaje que el INE establece para la población comprendida en este grupo etario para el Departamento de La Paz, y ajustándola por una tasa de incremento anual de 1,825%, también según INE, resultaría la población total en 1989

en 43.552 habitantes en estas 169 comunidades. Aparte del sesgo inherente en usar las cifras promedias de INE, es muy probable que los números ofrecidos por los grupos de mujeres reflejan un sub-reportaje de la situación real especialmente en cuanto se refiere a la inclusión de los recién nacidos.

En junio de 1.988, PLAN/Altiplano realizó un Estudio de Base en 134 comunidades. El informe de este estudio asigna una población total de 136.500 habitantes, la cual significaría 139.000 en 1.989. Esta cifra está basada en las proyecciones oficiales de INE para las dos provincias en que trabaja PLAN. Como indicamos arriba las proyecciones en línea probablemente estén infladas porque no toman en cuenta las migraciones fuertes rural-urbana. A principios de 1.989, el personal de PLAN pidió datos de los Secretarios Generales en 180 comunidades y de ellos obtuvo un total de 22.999 familias. Multiplicando esta cifra por 6,7 (el promedio de personas por familia según el Estudio de Base de 1.988) nos dá un total de 154.000 habitantes. Debido a motivos de tipo político-económico, creemos que estas estimaciones estén significativamente infladas.

Finalmente, en junio de 1.989 el equipo de salud de PLAN actualizó sus datos sobre las inmunizaciones en cada una de las comunidades donde trabajan, usando las listas del PAI-7 y los carnet de salud infantil. Vale decir que para las campañas de vacunación el personal arrastra sus comunidades en busca de los niños no vacunados. Sin embargo, la evaluación a medio término en enero descubrió que el 19% de los niños entre 12 y 23 meses de edad no tenían su carnet. Desde entonces, empero, el personal redobló esfuerzos para encontrar y registrar a los niños que faltaron. Hasta junio, fecha del citado informe, el equipo asegura que el porcentaje de los niños registrados llega a un promedio mínimo de 90% del total de los niños en esta grupo etareo. Dividiendo el número de niños de 12 a 23 meses registrados, 1.834, entre 2,81%, porcentaje establecida por INE para La Paz, y ajustando para el 10% correspondiente a los niños sin carnet, llegamos a una población total estimada de 72.500. De nuevo tuvimos que recurrir a una tasa estimada por INE debido a la falta de otra fuente más precisa disponible.

Entre las alternativas disponibles, y a pesar de las deficiencias notadas, esta cifra de 72.500 habitantes nos parece lo más útil que corresponda a la población total en las 152 comunidades que participaban en el programa de supervivencia infantil. Desde junio, siete comunidades nuevas entraron en el programa; cinco comunidades adicionales están siendo atendidas por otras instituciones, y 16 comunidades del área no están atendidas por ningún programa especial. La suma de estas comunidades llega a las 180 que figuran en las listas actuales de PLAN. Suponiendo que las 28 comunidades no atendidas por el programa de salud tienen el mismo promedio de población que las atendidas, la población total estimada del área de impacto de PLAN/Altiplano llegaría a entre 85.000 y 90.000 habitantes. La significativa diferencia entre esta estimación y las proyecciones oficiales

solo se puede aclarar por medio de un censo a domicilio en cada comunidad.

En conclusión, las cifras demográficas presentadas en el Plan Detallado de Implementación (DIP) del proyecto de supervivencia infantil aparentemente carecen de validez. Usando el método descrito anteriormente para llegar a una población total de 72,537 habitantes y las porcentajes de distribución demográficas del INE, la composición de la población "a riesgo" por zona en el área de impacto del program de salud sería como se presenta en la Tabla Número 2.1 (Capítulo II).

## ANNEX B

### EVALUATION METHODOLOGY

#### A. SCOPE OF WORK

The external consultant prepared a draft Terms of Reference for the proposed evaluation in April 1989. These were accepted almost verbatim by PLAN and subsequently incorporated into the Consulting Agreement of April 20, 1989. The Terms of Reference, attached, were based on the consultants evaluation experience as well as the "Core Questions and Issues to be Addressed by the PVO Child Survival II Project Final Evaluation Team" as part of the AID CSII Final Evaluation Guidelines of June 1989.

In June, the PLAN/Bolivia Child Survival Coordinator submitted a tentative evaluation design to PLAN/IH. This plan included, among other items, the active participation of the field staffs in planning the evaluation and the use of focus groups to obtain information from community women on issues of primary concern. The PLAN/Bolivia Coordinator was responsible for the organization, logistics and preparation of materials for the final evaluation.

#### B. METHODS

**Review of Documents, Reports, and Project Data.** Project documents included the grant proposal, detailed implementation plan, job descriptions, and Ministry of Health technical manuals. PLAN/Altiplano has not developed technical protocols, training or educational plans, or administrative manuals. Reports included those of the baseline study (FOES), the mid-term evaluation, the nutrition re-survey, annual financial summaries, statistical summaries to the Ministry of Health (EPI and nutrition) and internal to PLAN. Additional data was requested and compiled as needed regarding project finances, personnel, outputs, and the target areas and population.

**Key Informant Interviews.** Structured and unstructured interviews were conducted with the management, health and other technical and field staff of PLAN/Altiplano; national, regional and district officials of the Ministry of Health; and field staff of collaborating non-governmental organizations.

**Community Focus Groups.** Focus groups were organized and conducted in eight communities. PLAN health staff were trained by the child survival coordinator who was in turn advised by a specialist consultant. Participants were mothers with children under five years of age. Fourteen questions elicited attitudes and practices concerning growth monitoring, weaning, the use of community health volunteers (RPS), and vaccinations.

**Structured Review of Child Health Cards.** A data collection and analysis instrument was designed to review child growth patterns and vaccination histories of all registered children 12-23 months of age in the project area. The external consultant trained the health field staff who then recorded the data from 1,499 child health cards. (See Annex E)

**Community Visits.** Visits were made by the external consultant and the PLAN regional health advisor to six project communities and three zone offices. The purpose of the visits included observation of focus groups, vaccination activities and cold chain equipment, and growth monitoring. At the zone offices field records and plans were reviewed. Interviews were conducted with field staff and community members.

**Interagency Evaluation Workshop.** A one-day workshop brought together PLAN/Altiplano health staff with representatives of the Ministry of Health and collaborating non-government organizations and external advisors. Project objectives, target populations, and results were summarized and discussed by the participants in small groups sessions which addressed each of the program components. Each group presented its conclusions and recommendations. (See Annex F)

#### C. ITINERARY

June 20	Briefing with V. Lara in Washington, DC
August 6	Arrive in La Paz
August 8-16	Documents review and interviews
August 10	Field visit to Contorno Baja (focus group) and Tambillo (District health meeting)
August 11	Meeting with health team
August 16-21	[at PLAN/Sucre]
August 21-24	Data analysis
August 23	Field visit to Palcoco, Karhuiza, Coropata and Pucarani
August 24	Evaluation workshop (Annex F)
August 25	Debriefing with health team
Aug 25-Sep 2	[at PLAN/Sucre]
September 2	Depart Sucre

#### D. PERSONS CONTACTED

Dr. Victor Lara, Health Specialist Advisor, PLAN/IH  
Dr. José A. Riumallo, Regional Health Advisor, PLAN/SARO  
Diane Everaert, National Health Coordinator, PLAN/Bolivia

##### PLAN/Altiplano

Larry Wolfe, Director  
Palmiro Soria, Assistant Director  
Hernán , Chief Accountant  
Dra. María Eugenia Villca, Health Coordinator

Juan Fernandez, Evaluator  
Clotilde Ramos, Health Assistant  
Maria Espejo, Health Assistant  
Lourdes Aquize, Health Assistant  
Esther Ordoñez, Health Assistant  
Alicia Vasquez, Health Assistant  
Alicia Callisaya, Health Assistant  
Cristina Chavez, Social Promoter, Pucarani  
Porfidia Alcon, Social Promoter, Palcoco

Ministry of Public Health

Dr. Martha Mejía, Nat'l Director, Diarrheal Disease Control  
Dr. Juan Carlos Carazas, Chief, Human Resources, US/LP  
Dr. Carlos Espindola, Director, Epidemiology, US/LP  
Dr. Renato Lluca, Director, Maternal Child Health, US/LP  
Dr. Roberto Díaz, Tihuanaco District Medical Officer  
, Auxiliary Nurse, Coropata

Non-Government Organizations

Dr. Gualberto Guibara, Director, Proyecto Suma Mankañani  
Dr. Estanley Blanco, Director, Proyecto Pucarani  
Dr. Federico Alvarez, Médico, Proyecto Pucarani

## TERMS OF REFERENCE

TO: Victor Lara, MD, MPH  
Health Specialist Advisor  
PLAN, International

FROM: James N. Becht, MPH

DATE: April 19, 1989

SUBJECT: Proposed Terms of Reference for Bolivia CSII  
Final Evaluation

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1. A final evaluation of the PLAN, International child survival (CSII) project is scheduled to be conducted in Bolivia in August 1989. The purpose of the evaluation is to estimate the overall accomplishments of the child survival grant funding. The evaluation will cover project sites in the Departments of Chuquisaca and La Paz.
2. The questions and issues to be addressed by the evaluation team will conform to the end-of-project guidelines produced by the Agency for International Development in June 1989, and will include the following:
  - a. primary focus and use of funding;
  - b. organization development;
  - c. project design and implementation plans;
  - d. effectiveness/impact of services;
  - e. PVO/host government cooperation;
  - f. development of sustainability strategies;
  - g. project finances; and
  - h. lessons learned and recommendations.
3. The evaluation team will use the Detailed Implementation Plan (DIP), as revised, as their basic project design document and source of project objectives, target population, etc. In addition, the following documents and information are requested of the project and/or HQ staff:
  - a. project proposal, grant response letter and technical review recommendations;
  - b. annual and mid-term evaluation reports;
  - c. project budget (as revised) for field and HQ support;
  - d. annual expenditure reports through June 1989, including PVO and AID contributions;
  - e. itemized list of responsibilities, roles, and in-kind contributions by collaborating agency and year (please include seconded, assigned and volunteer personnel);
  - f. complete listing of all staff (direct hire, seconded, assigned, volunteer) with position, initial and termination dates, percent time allocated to child survival components, annual compensation (1989 in us\$);

- g. job descriptions of current staff, including government and community health workers related to project;
- h. special reports, e.g. technical assistance, baseline and repeat surveys, vital events, OR studies, etc.;
- i. maps of project areas with location of target communities, roads, health facilities, and major geographical features;
- j. population (total, target) and services provided (outputs) by community and year;
- k. chronology of major/significant events during the life of project which have affected progress, e.g. cooperative agreement, initiation of training and service delivery, political/social unrest, natural disasters, technical assistance, HQ & MOH visits, etc.;
- l. technical protocols developed (criteria, procedures, etc.) for service delivery (CDD/ORT, EPI, GMP, ARI, etc.), community education, and management systems (particularly supervision, planning and review, information, and logistics);
- m. training plans by type of worker, including objectives, content outline, methods, total hours, dates, trainers, number initiated and completed course, evaluations;
- n. list of key concerns and issues to be addressed by the evaluators (include perspective of collaborating agencies as well as PLAN staff).

4. Proposed itinerary, work schedule and days charged.

<u>Dates</u>	<u>Activity</u>	<u>Days</u>
April 13-18	Develop terms of reference	-
May 17-19	Review survey protocol	1
June 1-12	Review TOR with D. Everaert	-
June 16-21	Briefing with V. Lara	-
July 24-28	Documents review & analysis	3
Aug 4 - Sep 3	Site visits in Bolivia	23
Sept. 6-15	Report preparation	3

5. Evaluation team composition.

James N. Becht	Independent Consultant
Diane Everaert	PLAN/Bolivia Child Survival Coordinator
Jose A. Riumallo	PLAN/SARO Regional Health Advisor

6. Formal debriefings will be conducted with project staff and collaborating agency officials prior to departing from Bolivia. A written summary of findings and recommendations will be left with PLAN/Bolivia. Mr. Becht will submit a complete draft of the final report to Dr. Lara by September 15 for his review. A revised final report will be submitted within five days of receiving Dr. Lara's comments.

7. Estimated budget for consultant services.

8. Terms of payment.

ANNEX C

BIBLIOGRAFIA

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## HOJA DE CONSOLIDACION DE DATOS DE LOS CARNET DE SALUD INFANTIL

Organización: Plan Internacional / Bolivia Programa: Altiplano  
 Zona: N = 6 Comunidad: N = 150  
 Fecha: Agosto 1989 Responsable: J. Becht  
 Grupo: Niños de 12 a 23 meses de edad (fecha nacimiento de 8/87 a 7/88)

## A. RESULTADOS DE LA VACUNACION

Antígeno	Recibido entre 0 y 11 meses	Recibido entre 12 y 23 meses	Todavía no lo ha recibido	Total Niños
BCG	900	407	192	1.499
Sarampión	393	617	489	1.499
Polio-3	420	642	437	1.499
DPT-3	309	673	517	1.499

Total población de niños de 12 a 23 meses de edad = 2.110

Porcentaje de niños registrados:

$$\frac{\text{Número de niños de 12 a 23 meses registrados}}{\text{Total población de niños de 12 a 23 meses}} = \frac{1.499}{2.110} \times 100 = \underline{71,0\%}$$

B. ANALISIS DE DATOS: INMUNIZACION

1. Tasa de cumplimiento según la norma:

$$\frac{\text{Número de niños vacunados antes de cumplir un año}}{\text{Número de niños de 12 a 23 meses registrados}} \times 100$$

$$\text{BCG: } \frac{900}{1499} \times 100 = \underline{60,0} \%$$

$$\text{DPT-3: } \frac{309}{1499} \times 100 = \underline{20,6} \%$$

$$\text{Polio-3: } \frac{420}{1499} \times 100 = \underline{28,0} \%$$

$$\text{Sarapión: } \frac{393}{1499} \times 100 = \underline{26,2} \%$$

2. Tasa de protección actual:

$$\frac{\text{Número de niños vacunados entre 0 y 23 meses}}{\text{Número de niños de 12 a 23 meses registrados}} \times 100$$

$$\text{BCG: } \frac{1307}{1499} \times 100 = \underline{87,2} \%$$

$$\text{DPT-3: } \frac{982}{1499} \times 100 = \underline{65,5} \%$$

$$\text{Polio-3: } \frac{1062}{1499} \times 100 = \underline{70,8} \%$$

$$\text{Sarapión: } \frac{1010}{1499} \times 100 = \underline{67,4} \%$$

3. Cobertura de inmunización:

$$\frac{\text{Número de niños vacunados entre 0 y 23 meses}}{\text{Total población de niños de 12 a 23 meses}} \times 100$$

$$\text{BCG: } \frac{1307}{2110} \times 100 = \underline{61,9} \%$$

$$\text{DPT-3: } \frac{982}{2110} \times 100 = \underline{46,4} \%$$

$$\text{Polio-3: } \frac{1062}{2110} \times 100 = \underline{50,3} \%$$

$$\text{Sarapión: } \frac{1010}{2110} \times 100 = \underline{47,9} \%$$

C. PATRONES DE CRECIMIENTO

Edad al primer control de peso	Normal Normal	Normal Desnutrido	Normal Desnutrido Normal	Desnutrido Normal	Desnutrido Desnutrido	Un solo peso	Total Niños
0 - 5 meses	468	21	16	4	7	41	55
6 - 11 meses	332	26	26	18	15	58	47
12 - 17 meses	235	15	40	29	19	65	40
18 - 23 meses	32	2	11	4	1	14	64
Total	1067	64	93	55	42	178	149
Porcentaje	71,2	4,3	6,2	3,6	2,8	11,9	100

Total población de niños de 12 a 23 meses de edad = 2.110

Porcentaje de niños registrados:

$$\frac{\text{Número de niños de 12 a 23 meses registrados}}{\text{Total población de niños de 12 a 23 meses}} = \frac{1499}{2110} \times 100 = \underline{71,0\%}$$

D. ANALISIS DE DATOS: CONTROL Y PROMOCION DEL CRECIMIENTO

1. Índice de prevención:

$$\frac{\text{Número de niños (N-N)}}{\text{(N-N)+(N-D)+(N-D-N)+(D-N)+(D-D)}} \times 100 \quad \text{Total: } \frac{1067}{1321} \times 100 = \underline{80,8}$$

$$\begin{array}{ll} \text{0-5 meses: } \frac{468}{516} \times 100 = \underline{90,7} \% & \text{6-11 meses: } \frac{332}{417} \times 100 = \underline{79,6} \\ \text{12-17 meses: } \frac{235}{338} \times 100 = \underline{69,5} \% & \text{18-23 meses: } \frac{32}{50} \times 100 = \underline{64,0} \end{array}$$

2. Índice de recuperación:

$$\frac{\text{Número de niños (N-D-N)+(D-N)}}{\text{(N-D)+(N-D-N)+(D-N)+(D-D)}} \times 100 \quad \text{Total: } \frac{148}{254} \times 100 = \underline{58,3}$$

$$\begin{array}{ll} \text{0-5 meses: } \frac{20}{48} \times 100 = \underline{41,7} \% & \text{6-11 meses: } \frac{44}{85} \times 100 = \underline{51,8} \\ \text{12-17 meses: } \frac{69}{103} \times 100 = \underline{67,0} \% & \text{18-23 meses: } \frac{15}{18} \times 100 = \underline{83,3} \end{array}$$

3. Índice de captación temprana:

$$\frac{\text{Número de niños con el primer control a los 0-5 meses de edad}}{\text{Total niños controlados}} \times 100 = \frac{557}{1499} \times 100 = \underline{37,2} \%$$

## ANNEX E

TALLER DE EVALUACION  
PLAN/ALTIPLANO  
24 de agosto 1989

## PARTICIPANTES

<u>NOMBRE</u>	<u>CARGO</u>	<u>ORGANIZACION</u>
Dr. Federico Alvarez G.	Medico, Batallas	Proyecto Putaran
Dr. Carlos Espindola	Dir. Epidemiologia	U.S.L.P.
Dra. Maria Eugenia Vilica	Coord. Salud	Plan Altiplano
Dr. Roberto Diaz P.	Director Distrito	U.S. L. P.
Dra. Sonia Sempertegui	Epidemiologia	U.S.L.P.
Dr. Juan Carlos Carazas	Jefe Recursos H.	U.S.L.P.
Dr. Renato Yucra	Jefe Materno	U.S.L.P.
Dr. Gualberto Guibarra	Coordinador	Proyecto Radio
Dr. Jose Antonio Salas	Coordinador Materno	U.S.L.P.
Dr. Jose Antonio Riumallo	Asesor Salud	Plan/Sud America
Lic. James Becht, MPH	Consultor Externo	Independiente
Lic. Diane Everaert	Coordinadora Salud	Plan/Bolivia
Ester Ordonuz	Asistente de Salud	Plan
Maria Espejo	Asistente de Salud	Plan
Alicira Vasquez	Asistente de Salud	Plan
Alicia Calisaya	Asistente De Salud	Plan
Clotilde Ramos	Asistente de Salud	Plan
Lourdes Aquise	Asistente de Salud	Plan

## A.G.E.N.D.A

- 8:30 - 9:00 Bien venidos:  
Palabras del Director de Plan Altiplano, Lic. Larry Wolfe.  
Presentaciones.
- 9:00 - 9:30 Proposito de la Evaluación:  
Palabras del Lic. Jim Becdt.  
- Orden del día.  
- Metodología del trabajo.
- 9:30 - 10:30 Trabajo de Grupos:  
Grupo I Vigilancia Nutricional  
Grupo II Control enfermedades  
diarreicas  
Grupo III PAI
- 10:30 - 10:45 R E F R I G E R I O
- 10:45 - 12:30 Trabajo de grupos (continuación)
- 12:30 - 14:30 A L M U E R Z O
- 14:30 - 15:15 Presentación Grupo I
- 15:15 - 16:00 Presentación Grupo II
- 16:00 - 16:15 R E F R I G E R I O
- 16:15 - 17:00 Presentación Grupo III
- 17:00 - 17:30 Conclusiones.  
- Palabras del Dr. José Riumallo  
Asesor Regional de Plan  
- Palabras del Lic. Palmiro Soria  
Sub-Director Plan Altiplano La Paz

## GUIA PARA LOS GRUPOS DE TRABAJO

Cada grupo de trabajo tratará y evaluará el componente del programa lo cual le fue asignado:

- Grupo I - Vigilancia y Promoción del Crecimiento y Nutrición (VPC/N)
- Grupo II - Programa Ampliado de Inmunización (PAI)
- Grupo III - Control de Enfermedades Diarreicas y Rehidratación Oral (CED/OR)

Los grupos están conformados de personal de servicio de PLAN, funcionarios del Ministerio de Salud, representantes de organizaciones no gubernamentales (ONG), y asesores. Así, este proceso de trabajar en equipo asegurará que se tomen en cuenta los puntos de vista y la experiencia de varias personas que colaboran, y que tengan intereses en el éxito del programa.

Antes de comenzar, el grupo debe nombrar un moderador quién dirigirá la discusión, y un relator quién tomará apuntes y presentará luego los resultados en la sesión plenaria.

La tarea principal de los grupos es (i) **analizar** los datos y las experiencias presentados, (ii) llegar a **conclusiones** sobre los alcances del programa, (iii) formular **recomendaciones** para mejorar las intervenciones que realiza PLAN, y (iv) identificar **pautas** que tendrán valor para programas similares.

Las discusiones e informes respectivas deberán tratar los siguientes aspectos en cuanto se refiere al tema asignado:

1. El diseño del programa
  - objetivos claros y apropiados
  - grupos objetivos de más riesgo
  - estrategias e intervenciones apropiadas
2. Efectividad e impacto de los servicios
  - alcance a los objetivos
  - cobertura de servicios y beneficios
  - cambios en comportamiento o conducta
3. Cooperación y coordinación con otras organizaciones
  - Unidad Sanitaria La Paz
  - Organizaciones No Gubernamentales
4. Sostenimiento de los beneficios
  - participación comunitaria
  - criterios y normas del Ministerio
  - alternativas de financiamiento
  - sistemas de apoyo administrativo
  - disponibilidad de recursos humanos y materiales

#### 1. OBJETIVOS

Los objetivos de este estudio son claros y bien definidos, lo que permite evaluar los resultados por ser no hay coincidencia con datos reales.

El grupo objetivo de más riesgo ha sido definido en la línea de las estrategias y normas del ministerio.

#### 2. METODOS

De acuerdo a datos suministrados el alcance de los cooperivos, posterior al cambio de los mismos, se logra un 50% con la implementación de URDS-P 30% pese a la deserción de RPS de un 40%. Se logra el cambio de conducta en la comunidad en el uso de suero casero de 3.3% (1988) hasta 18.5% (1989) en los casos de diarrea.

#### 3. COORDINACION

-Coordinación buena con Unidad Sanitaria La Paz exigiendo la participación de la misma (Area y Distrito).

-Con los ONGs se logra paulatinamente una buena coordinación y cooperación.

#### 4. SOSTENIMIENTO DE LOS BENEFICIOS

-Se logro parcialmente el cambio de actitud comunitaria, que debe ser reforzada permanentemente, aprovechando el financiamiento de ONGs y el recurso humano del ministerio.

#### 5. RECOMENDACIONES

-Capacitación y supervisión integral por niveles.

-Insumos y material educativo normado

-Contar con personal estadística para facilitar datos fidedignos y retroalimentar oportunamente.

-El programa debe dar más énfasis en la motivación y organización a nivel de comunidad.

-Renovación y reproducción de material educativo.

### 1.1.1

El programa para su operatividad contó con una gran cantidad de recursos humanos, materiales, capacidad y los datos al respecto son los siguientes. En relación a las metas programadas:

- **Estado reproductivo:** Es apropiada la meta de 50% para las mujeres en edad fértil; pero no se cuenta con datos para la evaluación (son 1,400 mujeres en edad fértil).

En relación a DFT, sanampron, polio y BCG se pasó la meta del 50%.

Los objetivos del programa son claros

- La estrategia planteada en la operativización ha logrado cambiar el compartamiento en las comunidades, entrenando 4,472 madres y comunarios en general y 203 líderes en cursos de PAI y 31,613 participantes en charlas cortas de PAI.

### COOPERACION Y COORDINACION CON OTRAS ORGANISMOS

- Con la Unidad Sanitaria La Paz la coordinación es adecuada especialmente en el Distrito Tiawanaku.

- Con otros ONGs al principio fue muy difícil coordinar pero en el presente la coordinación es muy óptima.

### IMPACTO

- Los datos de un estudio hecho por PLAN en Junio 1985 indican la cobertura de inmunización completa fue 21%, en un estudio de Enero 1989 fue 28%, y la cifra en Junio 1989 según el sistema de información indica que la cobertura completa es 51.7%.

- En algunas zonas la cobertura es mas baja que el promedio total por las siguientes causas:

deficiencias en la coordinación con algunos ONGs

deficiencias en la cadena de frío

falta de conocimientos sobre las vacunas en las comunidades

- La cobertura de protección contra la tuberculosis en niños entre 12-23 meses es de 61% (1,307) de los cuales el 42% (900 niños) son vacunados antes del primer año o sea oportunamente.

- La cobertura de vacunación contra la poliomielitis es de 50.3% (1062) de los cuales el 40% se vacunaron antes del primer año.

-Se alcanzó el 93% de vacunación contra la difteria, el tétanos y la tos ferosa en los niños de 40.4.1981 entre los meses de febrero y marzo del primer año.

-Se alcanzó el 93% de vacunación contra la poliomielitis de los niños de 40.4.1981 entre los meses de febrero y marzo del primer año.

Dr. E. Williams

-Mejorar la cadena de frío  
-Mejorar la captación de niños menores de 2 años. Capacitar a la comunidad sobre los beneficios de la vacuna.  
-Educar al personal de salud sobre las pocas contraindicaciones que existen para la inmunización.

-Integrar mejor el programa de SMI con los demás programas.

-Focalizar el seguimiento a los niños menores de un año para la vacunación.

-Realizar un censo completo de los niños por edades.

#### CONCLUSIONES GRUPO I

##### Vigilancia y Promoción del Crecimiento y Nutrición (VPC/N)

#### OBJETIVOS

Se ha alcanzado al 93% de comunidades programadas, con control de crecimiento y se realizó el diagnóstico nutricional según SVEN.

-No fijado los objetivos con relación a poblaciones prioritarias al programa.

-No se implementó los mecanismos necesarios para el seguimiento.

#### SUGERENCIAS

-focalizar el programa en menores de 2 años.

-captación precoz del recién nacido (37% en el programa)

-diagnostico demografico (censo)

-Captación de mujeres embarazadas

-Diseño de estrategias para acciones de niños desnutridos

-integrar programa de control Crecimiento con otros componentes de salud materna infantil

#### CAPACITACION

-Se ha cumplido la meta en 100%.



ANNEX F

CALENDARIO DE EVENTOS MAYORES

Primer Año: 1986-1987

- Julio/86           Financiamiento de A.I.D. disponible; anterior Coordinador Médico se encargó del programa
- Enero/87           D. Everaert inicia labores como Coordinadora de Salud, reemplazando al Coordinador Médico
- Febrero/87        Se asignan 5 promotores (todas auxiliares de enfermería) como Asistentes Técnicas de Salud
- Abril/87           C. Figueroa, médico pediatra, ofrece sus servicios como asesor voluntario; se realiza la primera capacitación a supervisores, asistentes técnicos, y promotores - 5 días sobre salud preventiva, nutrición, y control de crecimiento
- Mayo/87           Segunda capacitación a supervisores, asistentes técnicas, y promotores - 3 días sobre control de enfermedades diarreicas y rehidratación oral
- Junio/87           Entra L. Wolfe como Director de Plan/Altiplano (habian 3 directores entre julio/86 y junio/87)

Segundo Año: 1987-1988

- Julio/87           Primer curso a responsables populares de salud (RPS) sobre CED/RO; Plan/Altiplano convierte sus 5 zonas de trabajo en 6 zonas
- Septiembre/87    Primer taller nacional sobre monitoreo y evaluación de proyectos de supervivencia infantil
- Octubre/87        Se retira el Dr. Figueroa; comienza el programa de Unidades de Rehidratación Oral (URO); comienza el control de crecimiento en las comunidades
- Noviembre/87     Cuarta capacitación a supervisores, asistentes técnicas, y personal colaborador del Ministerio de Salud - 3 días sobre temas de supervivencia infantil
- Diciembre/87     Tercera capacitación a supervisores, asistentes técnicas, y promotores - 3 días sobre el programa de inmunizaciones

- Enero/88 Segundo taller nacional sobre nutrición y control de crecimiento; se inician actividades educativas en las comunidades
- Marzo/88 Verificar el problema de fasciolosis hepática en humanos e informe al Ministerio de Salud.
- Abril/88 Inicia labores la Dra. Ma. E. Villca como Coordinadora de Salud
- Mayo/88 Se traslada la oficina de Plan/Altiplano de Tambillo a El Alto
- Junio/88 Se realiza el Estudio de Base (FOES)

Tercer Año: 1988-1989

- Julio/88 D. Everaert inicia labores como Coordinadora Nacional para supervivencia infantil con 60% de tiempo para el Altiplano y 40% para Sucre
- Julio/88 Llega el Dr. Victor Lara para prestar asesoría técnica.
- Agosto/88 Tercer taller nacional sobre infecciones respiratorias agudas (IRA) y el programa ampliado de inmunizaciones (PAI)
- Agosto/88 Intercambio de experiencias con PLAN/Sucre.
- Agosto/88 Estudio de fasciolosis hepática en Corapata con el Dr. Bryan.
- Octubre/88 D. Everaert participa en un curso sobre administración de proyectos de supervivencia infantil
- Setiembre/88 . Presentación del plan de actividades del gestión 88-89 para mejorar las coberturas de objetivos.
- Oct.-Nov./88 Duplicación de carnets de inmunización en todas las comunidades. Lograr la implementación de control de crecimiento en 152 comunidades.
- Noviembre/88 Asesoría técnica Dr. Victor Lara; intercambio de experiencias en PLAN/Sucre; y capacitación en medición antropométrica.
- Diciembre/88 Terminán de actualizar los carnet de salud infantil (CSI) con datos de inmunización y hacer

duplicados para las oficinas zonales; se realiza la re-encuesta de nutrición

- Enero/89 Se realiza la evaluación de medio término
- Enero/89 Cambio en las estrategias de vacunación por parte del Ministerio de Salud.
- Abril/89 Se acaban los fondos de A.I.D.
- Junio/89 Termina el proyecto de financiamiento de A.I.D.

Periodo Post-Proyecto

- Agosto/89 Se realiza la evaluación final del proyecto de financiamiento externo