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FINAL EVALUATION - PHASE 2

CHILD SURVIVAL 5 HEADQUARTERS SPECIAL PROJECTS
(Cooperative Agreement OR-0500-A-00-9149)

BY

DAVID F. PYLE, Ph.D.

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JOHN SNOW, INC.

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GLOSSARY

APHA	American Public Health Association
CBA	Child Bearing Age
CDC	Centers for Disease Control and Prevention
CDS	Centres pour le Development et la Sante
CS	Child Survival
CSSP	Child Survival Support Project
FO	Field Office
FTE	Full Time Equivalent
HIS	Health Information System
HPN	Health, Population, Nutrition
MIS	Management Information System
NCIH	National Council for International Health
NGO	Non-Governmental Organization
PMIS	Program Management Information System
PVO	Private Voluntary Organization
SC	Save the Children
USAID	United States Agency for International Development
WCI	Women-Child Impact

EXECUTIVE SUMMARY

Phase 2 of the final evaluation was conducted in the final month of the six-year CS5 Headquarters Project (Cooperative Agreement OR-0500-A-00-9149) according to a Scope of Work developed by Save the Children and approved by the PVC Office of USAID.

The evaluation was carried out in SC Headquarters in Westport, CT and in Haiti at one of the CS field sites that has utilized the latest version of the computer software program designed to manage population-based health, population and nutrition data. Relevant project records and documents were reviewed to determine CS5 Headquarters Project effectiveness. In addition, 38 people who were familiar with or been involved in project activities were interviewed in person or by telephone.

The evaluation found that SC had produced a large number of working papers, publications, workshop reports and manuals which were distributed to other PVOs so that they could benefit from SC's considerable experience and expertise in population-based health programming. The second component of SC headquarters grant, involving the upgrading of the agency's Health Information System, became increasingly focused on the development of a computer software program to facilitate the management and analysis of large volumes of population-based data. SC developed the **ProMIS** computer program which has gone through several iterations, the most current one including modifications which makes it flexible and adaptable. The SC field programs which have utilized **ProMIS** have found it useful and affordable. Other PVOs, both US and Third World, have expressed interest in **ProMIS** but have yet to receive it since a few modifications are still to be made.

Recommendations resulting from this consist of several suggestions relating to <u>what remains to be</u> (institutionalization in SC field operations, increased publicity and more demonstrations of the software so that more PVOs implementing population-based health and development projects will know about and be able to adopt **ProMIS**) and <u>what organization(s) should do it</u> (possibilities including SC, commercial ventures, CSSP and CDC). The need for **ProMIS** makes it imperative that a means be found to ensure that it is widely used now that it has been developed and is ready for broad-based field application. It is especially important that the **ProMIS** program and the skill to use it be transferred to local PVOs which are involved in community-based integrated health programming.

I. INTRODUCTION

1. Project Foundation

In the late 1980s, the Office of Private and Voluntary Cooperation (PVC) of USAID considered Save the Children (SC) to be the leader in designing and implementing community-based Child Survival (CS) projects. It wanted SC to share its experience and expertise with others in the PVO community. Moreover, PVC and a number of PVOs that it had supported since the mid-1980s to implement Child Survival projects were interested in the development of a census-based, family registration system. SC had experience with community-based registration systems in several of its countries (e.g., Bangladesh, Indonesia, Nepal) and had developed manuals and procedures for the maintenance of such a system manually; they were ready to move to a higher level of sophistication, refining and institutionalizing a computerized system. Instead of supporting several Private Voluntary Organizations (PVOs) to develop separate systems, USAID made an unprecedented grant to SC in the form of CS5 Headquarters Project (Cooperative Agreement OR-0500-A-00-9149) to:

- Implement an upgraded Health Information System and make the results available to other PVOs;
- Produce and transfer manuals, lessons learned papers, studies and other information to the PVO community; and
- Upgrade SC staff and program quality by providing technical assistance to the field.

In September 1989, SC was awarded funds as part of their Child Survival 5 (CS5) funding from the Office of Private and Voluntary Cooperation of USAID to be utilized at the headquarters level to provide this support to the PVOs involved in CS programming. In addition to receiving funds for CS programs in five different countries, SC was given a unique grant of $1,137,766 which was divided into two parts - $800,000 for the distribution of materials related to the implementation of community-based health projects and the development of an information system; the remainder of the grant supported direct backstopping and technical assistance (required of all PVC-funded projects) to all five field projects funded in the fifth CS cycle. In 1994, the CS5 Headquarters Project was granted a one-year, no cost extension and is now scheduled to come to an end on 31 August 1995.

SC's involvement and commitment to population-based information systems comes from its history of functioning at the community level and the importance the organization places on impact (achieving its objectives of improving the health status of the under-five population), equity (ensuring that all members of the community, especially the most disadvantaged sectors, benefit) and sustainability (providing the orientation and skills to continue life-saving interventions once SC operations come to an end).

PVC considered the Headquarters grant to SC "a risk" not only because it was a departure from traditional program approaches and was the first time one PVO was funded to provide support to the larger SC PVO community, but also because the capacity to develop computerized information systems was considered to rest with the large health consulting firms, not PVOs. Consequently, PVC has been particularly interested in what has been accomplished in the CS5 Headquarters Project.

2. Methodology

The final evaluation of the CS5 Headquarters Project consists of two phases. First, an external consultant with considerable experience in both monitoring and evaluation and computerized information systems reviewed **ProMIS**, the software program developed by SC to track progress of community health and development activities. This was conducted in July 1995 when he assessed the status of the program based on specifications and protocols. This part of the final evaluation of the Headquarters Project was conducted at the SC headquarters office in Westport, Connecticut and included a review of documents, interviews with staff and use of the software program itself. The results of this phase of the evaluation is provided in a separate document (Attachment I).

The second phase of the evaluation is directed at responsiveness to the broader grant, in particular the practical application of the **ProMIS** software, and was conducted according the a Scope of Work developed by SC in cooperation with USAID (Attachment II). This aspect of the evaluation was carried out over a two-week period during the latter half of August 1995. The methodology adopted consisted of a visit to SC's Westport office to review related reports and documents (Attachment III) and discussions with staff members in the Health, Population, Nutrition (HPN) Office as well as those in other programs (e.g., in the Women-Child Impact or WCI Program) as well as senior management (e.g., Senior Director for Planning and Operations and several vice presidents) who were familiar and worked with **ProMIS**. Interviews with PVC and several of the PVOs (both US-based and in the Third World) with whom SC has interacted on the development of the software program were also conducted. In order to have the broadest view of what was expected of **ProMIS** and how it is currently being utilized in the field, a number of individuals who were originally involved in the development of the software, SC country offices where the program is being used and other PVOs who have expressed interest in **ProMIS** were contacted and interviewed by phone. Attachment IV provides a list of the people interviewed.

A visit to the field was included as an integral part of Phase II of the evaluation. The SC Epidemiologist accompanied the external evaluator to Haiti where they observed the use of **ProMIS** and spoke with project managers, field supervisors and community-level workers to ascertain the value of the computerized system in relation to the manually maintained registers. Haiti was selected by SC as the site for the field visit because it was the closest of the four "core" countries where **ProMIS** has been introduced.

3. Report Outline

The report is divided into four sections. Following this introduction, the next chapter is devoted to a discussion of SC's community-based programming approach, describing how the manually maintained information was developed and operates. Included in this chapter is a history of **ProMIS**'s development since the early 1990s. The findings of the two mid-term evaluations of SC's CS5 Headquarters Project are reviewed as a part of the background section.

The major findings of the final evaluation of the CS5 Headquarters Project, especially the field application of **ProMIS**, are provided in Chapter III of this report. The lessons learned to date and the current status of the software and its use will be summarized. How **ProMIS** is being used in the four "core" countries and is being tried or considered in a couple of others will be outlined. The manuals and working papers prepared under the Headquarters grant are discussed. In addition, some attention is given the question of how much the computerized population-based information system costs so that USAID and PVOs contemplating the introduction of such a program will know the cost implications. The component of the Headquarters grant involving technical assistance to the CS5 projects will not be reviewed in this evaluation since this a normal part of Child Survival grants to PVOs.

The last chapter of the evaluation will summarize the evaluation findings and discuss the next steps in the development and institutionalization of **ProMIS**. Several options are raised and will be considered, including the issue of funding.

II. BACKGROUND

1. Origin of Headquarters Grant

Since the early 1980s, SC has been a leader in the development and implementation of the community-based strategy of primary health care. Large programs as found in Bangladesh, Indonesia and Nepal carried out censuses of their project populations and followed this up with regular visits to the individual households to update the family registers. This strategy not only permitted improved impact, but also helped ensure that all members of the community, even the hard-to-reach "hard core" or poorest 20%, were participating. During the decade and with the introduction of the Child Survival grants in the mid-1980s, SC continued to develop and expand the approach. The registration system utilized allowed SC to improve project management and determine impact. As early as 1984, they developed a computer program called PMIS (Program Management Information System) to support the population-based manual HIS which was integrated into SC programs in Bangladesh and Nepal. With strong technical support at their Westport headquarters, SC became recognized as the most experienced and capable PVO in population-based programming.

By early 1989, SC was carrying out CS projects in 13 countries, most of them following the community-based approach. So that other PVOs could benefit from their experience and expertise, the PVC Office awarded them a special grant which was to be utilized by the SC headquarters. This was a unique allocation; never before and never again has the PVC Office provided funding to a PVO for non-programmatic purposes. The grant was made on the basis of a 4-page letter from the Vice President for Program at SC to the Project Officer in PVC, dated 9 February 1989. The original request included funds for technical assistance and training for the five CS projects awarded in 1989 (the fifth cycle of CS funding or CS5), which is normal and provided to all PVO headquarters with funded projects, as well as an amount to document and disseminate SC's lessons learned and "methods and their effectiveness" to the broader PVO community active in USAID's CS effort.

The letter requesting funding specifically mentioned the documentation and dissemination of the HIS (health information system), training materials, sustainability assessment and cost analysis. The HIS component referred primarily to the registration system and mentioned the application of computers and the existence software which needed "the accompanying documentation and handbooks that would facilitate the transfer of the family registration system ... to other areas and agencies." SC discussed producing a training manual on SC interventions with a focus on the question of how the CS projects initiated with USAID support were going to be sustained. As part of this exercise, cost studies on the implementation of the family enrollment and training strategy were to be carried out.

The PVC Office awarded SC only about 30% of the requested amount for the technical assistance activities but almost 100% of the amount requested for the documentation and dissemination aspect. Almost a year later, SC prepared a Detailed Implementation Plan (DIP) for the CS5 Headquarters Project. The DIP mentioned specifically that SC would prepare workbooks and manuals on several aspects of CS programming (e.g., DIP preparation, CS program management, Health Worker training, growth monitoring). A series of lessons learned and working papers were also to be prepared and disseminated, featuring particularly interesting and/or successful country efforts.

In addition, the DIP specified that SC would develop a training manual on how to manage the population-based HIS, both manual and computerized. The agency laid out a schedule for the development and introduction of the **ProMIS** computer program:

Year 1 - Completion of software package and field testing
Year 2 - Test new program in countries utilizing old system (PMIS) and refinement; development of users' guide
Year 3 - Evaluation and refinement; installation in other field offices
Year 4 - Enhancement of system based on midterm evaluation
Year 5 - Further enhancement of system based on latest state-of-the-art technology

2. USAID/PVC

The unusual nature of the Headquarters grant to SC has resulted in it being viewed as "different" in the PVC Office of USAID. During the grant's six-year history, PVC has had five directors, each with their own interests and priorities which have, in turn, resulted in a shift in emphasis for various components of SC's Headquarters grant. Originally, the **ProMIS** was only one aspect to be funded under the support. Because one of the office directors was particularly keen on computers and their application to SC programming, his component received special emphasis. Consequently, a disproportionate amount of time and resources from the Headquarters grant has been allocated to the computerized HIS. Exactly how much of the CS5 Headquarters Project budget has been spent on **ProMIS** as opposed to the manual/working papers aspect is difficult to ascertain since SC does not track matching funds according to project activities.

The oversight of SC Child Survival programming within the PVC Office has also been disjointed since the 1989 award was made. SC has had a total of five Project Officers during the last six years. This has also resulted fluctuations in programming directions with varying degrees of interest in the computerized population-based information system.

3. Midterm Evaluations

The SC CS5 Headquarters Project underwent two midterm evaluations. The first one was carried out in mid-1992 and focused on the manual and computerized health information systems. It recommended that **ProMIS** be upgraded to include an export capability (so that data could be analyzed by means of specialized software packages) and have the capacity to add modules (so that it had greater flexibility and could incorporate other activities and variables). It mentioned the importance of **ProMIS** being able to include data from such integrated programs as WCI. It also recommended that SC not consider commercially selling the software because of the associated support demands which the agency was ill equipped to provide.

Six months after the first mid-term evaluation was completed, a second one was commissioned by the PVC Office. This review looked more broadly at the CS5 Headquarters award, examining the agency's success in "institutionalizing" field operations. The evaluation team evaluated how well SC had documented and transferred to other PVOs the approaches they had developed and lessons they had learned. This included but was not restricted to the HIS. It found that 13 manuals and studies had been completed and distributed to 15 PVOs. It also looked at the technical assistance SC had provided under this funding.

III. FINDINGS

This chapter will be divided into several sections covering document production and distribution, the computerized Health Information System (HIS) and project administration.

1. Document Production and Distribution

In response to the grant's objective to document SC's lessons and produce CS programming manuals to assist other members of the PVO community to carry out effective CS projects, the organization did a good job. During the course of CS5 Headquarters Project, SC produced 25 working papers , 19 publications, 2 workshop reports and 8 manuals. A list of these documents is provided in Attachment V.

Some of the working papers reviewed delve into particularly important and relevant issues. For example, documenting the association between membership in women's savings and credit groups and contraceptive usage/fertility reduction makes a useful contribution and emphasizes the need to integrate income generation and family planning activities. Another working paper expounds on the use of Lot Quality Assessment techniques to validate community-based data, thus introducing the PVO community to a time- and resource-saving methodology. A third working paper demonstrates the cost-effectiveness of a management information system which lowered the cost per immunized child in a Mali program. This is one of the rare times where the benefit of a management intervention is shown to have an impact and provides PVOs with the best possible rationale for introducing and institutionalizing effective information systems like **ProMIS**.

Many of the papers were presented at the National Council for International Health (NCIH) which is a good forum since many PVOs participate. Other presentations were made at the American Public Health Association (APHA) meetings.

The manuals included such topics as the development of DIPs, a practical guide and a training guide for developing an HIS, a guide of developing a management training curriculum for CS managers, a **ProMIS** user's manual (for versions 1 and 2), and a guide to operate a nutrition foyer.

SC is currently finalizing a reference compendium on the collection, analysis and use of data for accountability in health programs entitled Everyone Counts: Community-Based Health Information Systems. The organization plans to print 300 copies of the compendium for distribution to CS PVOs as well as other interested groups. It contains 27 articles on the subject, some of which were published as working papers. This collection on various aspects of SC's population-based information systems will be an excellent reference for those who are attempting to design and implement such a system on their own. However, an important aspect which is missing is the cost of establishing and maintaining a manual and/or computerized information system. Because this is the factor most often raised as an excuse for not introducing an information system, it is essential to address the issue. This point will be brought up again later in this evaluation report.

Producing the documents is only part of the equation. Without distribution to the target audience, they provide little help or support to anyone. There is a 15-page list of recipients of CS documents, but it includes only recipients of the manuals. To whom the working papers were disseminated and the number are unknown.

Several workshops were also conducted under the CS5 Headquarters Project. SC facilitated and provided support for the Child Survival Support Project (CSSP) Regional Workshop in Mali, October 1991, entitled *Child Survival - Long Live the African Child.* SC also played a crucial role in the worldwide conference held in Bangalore, India, October 1994, which addressed *Community Impact of PVO Child Survival Efforts: 1985-1994.* SC submitted nine papers which were accepted and presented, describing the impact achieved in CS programs in five country (Bangladesh, Haiti, Honduras, Malawi, Nepal).

Over the years, SC has distinguished itself as not only capable of achieving significant impact and documenting them, but the agency can be described as a "learning organization". This being the case, it is most appropriate that they document their experience. It is also appropriate that SC be on the cutting edge with an HIS to track and learn about population-based operations. They were among the first to experiment with and institutionalize community-based health service delivery and a manual system to register and document impact. Collecting and analyzing data is a particular strength of SC as is their commitment to results, equity and accountability which combine to reinforce their institutional need to have a good HIS.

2. Development and Dissemination of a Computerized HIS

A. Description: SC developed computer software to assist program managers monitor the health of individuals and communities. After having introduced and confirmed the value of conducting project population censuses and maintaining family rosters, SC identified the need to automate the process to help manage and analyze large volumes of data. The computerization effort began in Bangladesh in the early 1980s where the PMIS software package was developed and utilized.

In the late 1980s, SC headquarters developed a new software program and named **it ProMIS**. This was facilitated when SC received funding from USAID which allowed them to program it in more countries implementing CS programs. The program is able to maintain rosters and produce reports. Assuming a functioning and well maintained family enrollment system, the user is able to access longitudinal demographic data. It is easy to use and requires only that the project has an IBM-compatible computer system (286 or better). The first version of **ProMIS** took several years to develop, being introduced in the field in 1991. After the midterm evaluation, several modifications were made (e.g., export capacity, ability to add modules) and **ProMIS 2** was created and has been in the field for approximately six months.

ProMIS consists of a core of population data which contains all the detailed information about each individual enrolled in the system. The essential data consists of each individual's location ID, full name, date of birth, gender, and relationship in the family. Vital events (births, deaths, migrations)

are entered in the system in order to track population changes and movements. The program has the ability to produce statistical reports, such as demographic distributions and rates (births, deaths, fertility, mortality) based on demographic data. **ProMIS** can also produce rosters or lists of individuals that meet special criteria. For example, it can generate a list of children under five and their vaccination history, a list of children under five and their nutritional status and whether their growth is faltering, or a list of Child Bearing Age (CBA) women (between the age of 15-49) and give their pregnancy status outcome. Such lists are valuable when carrying out intervention follow-up.

The **ProMIS** program is available in English, French and Spanish versions. It is easy to learn and is considered highly "user-friendly". It presents the user with pull-down menus and on-screen windows. It requires minimal training with most staff learning the system and producing reports within a day or two. The user is also able to define additional variables which may be maintained just like the standard data. Responding to the midterm evaluation recommendation, the SC programmer added an export capability so that now it is possible to analyze data managed by **ProMIS** by most statistical software packages (e.g., EpiInfo, SPSS). A more complete technical review of the program is included in the report of the final evaluation of CS5 Headquarters Project, Phase I (Attachment I).

B. Integration: People involved in the WCI Project spoke highly of the potential that **ProMIS** held for the women/gender issue. The ability that was recently developed which allows modules to be added means that WCI-specific variables can now be entered into the **ProMIS** data set in the individual countries. To date data on women and gender have been entered into the computer in Bangladesh, Bolivia and Mali, three of the four the "core" countries where **ProMIS** is being used. Haiti, the fourth country, is planning enter data on women's club participation in the near future.

The possibility was raised of integrating the existing **ProMIS** system with the ASSIST program which SC is developing to support its sponsorship efforts. This will enable the agency to link program impact on individual and family with sponsored children making it possible to produce richer and more meaningful reports for the sponsors.

C. Country Usage: As mentioned, SC selected four "core" countries where **ProMIS** was introduced and was to be institutionalized. Each of these countries has utilized the program in a slightly different manner. For example, in Bangladesh, **ProMIS** has been used to track a subset of the entire population served by SC. In total SC reaches a population of approximately 170,000. They found that **ProMIS** became unwieldy and slow when they attempted to load the entire project population on it. It was just too cumbersome. Instead, the Bangladesh Field Office decided to utilize the program to monitor the status of a representative sample of nearly 36,000. They established 17 "sentinel sites" in 23 randomly selected villages, and all the demographic and service delivery data are entered into **ProMIS** for this population. This data is analyzed and results extrapolated to the entire population since the subsample is statistically representative of the population at large. While some management issues can be addressed, the sentinel site approach is more geared to research and discovering what works and why. The manual system continues to be

maintained for the entire project population.

SC in Bolivia covers a population of approximately 25,000 in its CS programs. It has entered the entire population and tracks impact with the **ProMIS** program. The current FO director was not favorably impressed with the first version because of its rigidity. The flexibility of **ProMIS 2** provided by the export capability has increased his enthusiasm greatly, and the field office is now utilizing the system to manage their program. It uses the **ProMIS**-produced reports in its quarterly performance reviews with the field workers. It also produces lists of the families not utilizing project services, such as immunization and attending growth monitoring sessions, so that they can be tracked down and followed-up. The office has had problems imputing the data in the last three months because their computer person resigned. They expect this problem to be resolved as soon as the newly hired computer person starts work.

The third "core" country, Mali, is a large program covering almost 140,000 people. They have entered the whole population and uses the program for both management and research purposes. They collaborate with CERPOD, a West African research institution, which has assisted in introducing and maintaining the system.

Haiti, the site visited as part of this evaluation, has entered all 48,000 people in its project area into **ProMIS**[1]. They continue to update the family registers and enter the data in the computer. However, during the first six months of 1995, the field workers have visited only half the households in the project area (4,239 households visited by the 20 Health Agents, averaging 1.5 per day per worker). this contrasts with an expected two visits during that period (based on four visits to each house each year). Because the household registers were not being updated regularly, the demographic data and vital rates are inaccurate and misleading. The crude birth rates (should be close to 45) and infant mortality rates (estimated at approximately 100) varied tremendously between the five zones:

	Crude Birth Rate	IMR
Zone 1	27.8	28.8
Zone 2	32.5	52.6
Zone 3	38.5	20.9
Zone 4	9.1	29.4
Zone 5	29.5	9.2

It is widely recognized that births and infant/child deaths are under reported even in the best of

[1] Maissade is the base of operations for a number of SC operations, including women in development (WCI and a women's credit program with approximately 150 savings groups in operation), STD/AIDS prevention and education. The CS program is funded by a local USAID grant while the nutrition component is supported under CS10 from the PVC Office.

population-based registration systems. However, the very low rates in Maissade and the large variation between zones is a reason for concern.

Because the household registers are not being kept up-to-date, the Maissade CS project makes minimal use of **ProMIS**'s capabilities, using it primarily to produce demographic information. They also prepare reports on immunization coverage, and the coverage rates are presented graphically by hand and used in quarterly meetings held with the field staff to discuss program progress.

There are several other comments on the Haiti CS project data produced through **ProMIS**. The immunization reports are good and are used by the project to identify areas of low coverage. However, the project is still using coverage rates for under fives as the indicator. This should be changed to percentage of children between 13 and 23 months fully immunized so that the field workers make a greater effort to immunize the children on a more timely basis.

The evaluation noted that the classifications of nutritional status were uniformly higher in the reports produced from **ProMIS** than seen on the growth charts. This decreases the accuracy and value of the **ProMIS** malnutrition reports. When the weight of the child was checked against the Haitian growth chart, the nutritional status did not correspond. It is important to establish what nutritional standard is used in **ProMIS**, and if it is consistent with the standard used in the local nutrition program/growth chart.

The final point on the Haiti CS project refers to the archivists' ability to input the data collected by the Health Agents. If the Health Agents were visiting the households at the rate expected, the archivists would have three times the amount of data to enter. Would they be able to cope with this volume or will more data inputers/archivists be required? If so, it would increase the cost of the operation and have implications for its sustainability.

Other SC countries utilize **ProMIS** in the population-based CS projects. Several countries in Central America have experimented with the program. Honduras originally was very unhappy with the first version of **ProMIS** and rejected it in favor of developing their own computerized system. They are much happier with the more flexible and adaptable **ProMIS 2**, but have experienced some problems with it; it is said that they want the program to do more than it is designed to do. Nicaragua and El Salvador are also familiar with **ProMIS**. After hearing discouraging references to early versions of **ProMIS**, the former developed their own program in which they have invested a great deal and are still having troubles with. They continue to hope that the program they have chosen will eventually give them what they need. The latter is interested in introducing **ProMIS** for their work with PROSAMI, a collaborative of 16 indigenous PVOs.

CS projects in Africa have also used computerized information systems. Zimbabwe utilized the PMIS program until it changed its program emphasis and no longer required a computerized system. **ProMIS** was introduced in Malawi but was recently dropped because the SC staff thought that the manual system was more appropriate for a community-based program. Not only does it maintain the interest and involvement of the villagers, but it is thought to be more sustainable after outside

funding comes to an end. Burkina Faso is currently using **ProMIS** to produce rosters but not for analysis. Mozambique used to have a manual population-based registration system, but with the civil war there was so much migration and population movement that it was impossible to maintain. Now that peace has returned to the country, the SC field office there is interested in introducing **ProMIS 2**.

ProMIS has also had an impact on several other countries where SC works. Although Egypt and Jordan have developed their own programs, their systems have been influenced by **ProMIS**. The system was also used in Sudan before SC activities were terminated due to internal security problems. In addition, Indonesia's urban CS program covering over 60,000 population was one of the first countries to experiment with SC's computerized population-based information system. The field office in Jakarta is currently conducting collaborative research with a local university.

D. Dissemination: The original objectives of the CS5 Headquarters Project included not only developing a computerized community-based information system, but also to disseminate the program to the PVOs who implement similar strategies. SC has made several attempts in this direction but has yet to distribute the software and associated user's manual to the PVO community. The delay in distribution results from several factors. First, the initial version of the software had some limitations that had to be addressed before it could be disseminated. Once upgraded the second version of the program was introduced to the "core" SC field offices within the last year, some receiving it as recently as six months ago. These projects had to install it and get used to the new software; in the process, a few new minor problems were identified and resolved. During the course of this evaluation, several more "bugs" surfaced and will have to be eradicated. The software and user's manual should be completed in the very near future and be ready for dissemination.

The second issue that has given pause to SC when considering the distribution of the **ProMIS** software is who will be responsible for the training and support of the program once it is in the field. On the one hand, SC doesn't have the personnel or financial resources to provide this technical assistance; on the other hand, the agency doesn't want to send the software to a long list of PVOs who are not familiar with how to operate it thereby giving **ProMIS** and SC a bad name. This is an important question which will be addressed in the final chapter of this evaluation report when considering the future of the software program.

Notwithstanding the lack of dissemination of the **ProMIS** software, SC has made some effort to expose other PVOs to its capabilities. For example, at the previously mentioned workshop on impact of CS efforts between 1985 and 1994 held in Bangalore, SC conducted 12 mini sessions at night with PVOs which expressed interest in **ProMIS**, describing how it works and demonstrating its capabilities. It was discovered that most PVOs had no means of managing data they collect. While some used EpiInfo, it could not satisfy all their needs. The orientation to **ProMIS** sparked considerable interest in the PVO community.

SC has also designed and printed a brochure on **ProMIS** which explains what it is, what the program can do and how to procure a copy of it (Attachment VI). SC had 500 copies of the brochures printed

and to date **about half of them** have been distributed to potentially interested parties. As a result of their efforts, SC has put together a list of people and organizations who have requested a copy of **ProMIS**. That list has 70 names on it; however, 23 of these are SC field offices and another 12 are from USAID (mostly Office of Health) in Washington.

Discussions with local organizations in several of the "core" countries indicate that there is considerable demand there as well. In Bolivia, PROCOSI, an umbrella group consisting of over 25 indigenous non-governmental organizations (NGOs), is interested in knowing more about **ProMIS** expecting that there may well be a need among its members. Moreover, during the evaluation visit in Haiti, a meeting with representatives from Centres pour le Development et la Sante (CDS) found great enthusiasm for the program after it was demonstrated to them. CDS had just begun to enter its population of over half a million into a software package which it said was not nearly as responsive to CDS's needs as **ProMIS**. It requested a copy of **ProMIS** and the users' manual as soon as possible.

E. Organizational Structure: It was evident from the evaluation that there is a need for greater support for **ProMIS** in the Program Development Division at SC headquarters in Westport. During the development stage it was necessary and appropriate that the main responsibility for the program was in the Finance Division under the Director of Management Information Systems (MIS) (organogram is provided as Attachment VII). The person in charge of developing the software has given generously of his time and, by all accounts, has done an admirable job. He has also devoted considerable time to provide technical assistance and training to headquarters and field staff in **ProMIS** which has at times been problematic since he reports to the Vice-President for Finance and has a number of other responsibilities.

During Phase II of the CS5 Headquarters Evaluation, the person who has been most responsible in the Program Development Division was not present in Westport. In general this person had too many responsibilities to pay close attention to **ProMIS**, and it was recently reassigned to the Epidemiologist. As the development of **ProMIS** is completed and the need for programming skills is dramatically decreased, the time has come when the Program Development Division must become heavily involved to introduce/institutionalize it in its field programs. How this is done will depend on the future direction of **ProMIS** which will be discussed in the next chapter.

F. Costs: Frequently, no matter how good and useful an information system or computer software program is, field offices are reluctant to adopt them because they intuitively believe that they will be too costly. They either do not have the funds, or are concerned that if adopted, they will not be able to be sustained. Certainly discussions during this evaluation confirmed the existence of these concerns. Yet, despite the importance of the question, there is no article in the previously mentioned Compendium on Community-Based Health Information Systems which addresses this issue directly or in a comprehensive way. The article on the immunization program in Mali supported by an information system being cheaper than the one with no information system makes the point but does not breakdown the costs involved.

Actual data on the additional cost of computerizing a population-based information system is extremely hard to find. In the midterm evaluation of CS5 Headquarters Project, Murthy et al (1992) mentioned that in Mali, salary and fuel (to run generator) cost amounted to $0.66 per person enrolled, of which $0.38 was recurrent cost. In Bangladesh, the cost was $0.21 for the first year and $0.07 per year every year thereafter. This comparison is complicated because of different costs of living and exchange rates in these two countries at the time.

Informal discussions of cost with several SC field offices indicate that additional costs associated with introducing and operating **ProMIS** are not formidable. The persons responsible for imputing the manual data are utilized to input the computerized data when the shift takes place. No additional people are hired. In Haiti, the three archivists are handling data entry and are keeping up without a problem. However, as mentioned, the field workers are making only about 25% of the household visits expected. Thus, the question becomes would the project have to hire additional archivists if the field workers were visiting as many houses as they are supposed to. As one would expect, when the initial data entry on the entire project population is being entered in the computer, additional people may be required. However, once the basic data is entered, maintaining the computer records by updating vital events and service delivery data does not require a great amount of time and, therefore, resources. The only additional costs the Haiti Field Office could identify were computers and their maintenance, which is minimal.

The situation may be slightly different in Bangladesh where **ProMIS** is used more for research purposes. It will require a special group of personnel to analyze the data and prepare reports. In this way it is additive to the manual system rather than a substitute for as it is in other SC countries where it reduces field workers' and managers' time in aggregating and compiling data to produce reports.

The question was also raised about sustaining the cost of the computerized system once SC is no longer involved. This question applies to the entire population-based approach, not just to the data management component. The need to reduce the intensity of the strategy was mentioned in several countries since the public system in the foreseeable future will not be capable of affording or managing it. An intermediate approach is being considered in its place where the population comes to a pre-selected nearby location to avail themselves of services every month (e.g., rally points in Haiti, central fairs in Bolivia, satellite clinics in Bangladesh, pos yandu in Indonesia). The problem in this strategy is that the entire population will not come, especially those most in need (the poorest and least educated), those referred as the "hard core" or lowest 10-20% of the population. It is possible that with a good computerized information system like **ProMIS**, the projects can maintain their lists, follow-up those not attending and, if required, do censuses every couple of years. More study will be required on how to make the community-based strategy more sustainable and affordable while not reducing its effectiveness.

The former director of SC in Nicaragua made the point that they had spent as much as $15,000 developing an alternative computer program when they were not impressed with the first version of **ProMIS**. Obviously, no PVO, either in the US or developing world, can afford each of its offices developing its own computerized HIS. Now that an automated system exists that will allow PVOs

to track populations, there is a need to inform others about its existence and what its capabilities are. This will be discussed in greater depth in the final chapter of the evaluation.

3. Project Administration

The problem relating to SC's organizational structure and **ProMIS** has already been mentioned. The vast majority of CS5 Headquarters Project funding was expended on salaries. As of the end of the end of June 1995, 77% of project funds had been spent on personnel costs, 7% on travel and 8% on supplies/equipment/consultants. SC expects to fully expend the allocated budget by the closing date of the project. Attachment VIII is a budgetary breakdown of the CS5 Headquarters Project.

In terms of staff time devoted (i.e., billed) to the CS5 Headquarters Project, Attachment IX shows the percentage of time devoted by specific individual to the two components of the project over its six-year life. In the technical assistance aspect, seven different people were funded out of the CS5 Headquarters grant, amounting to approximately 3.5 Full-Time Equivalents (FTEs). In the information dissemination and computerized information systems development component, slightly more than 9.5 FTEs were paid for out of the project. This works out to slightly less than $40,00/FTE which is reasonable.

As Attachment IX shows, many other SC personnel also worked on the CS5 Headquarters Project. This is a major part of SC's matching contribution which was 25% of the total amount of the grant. For example, the person responsible for developing the **ProMIS** software charged a total of 2.25 years of his time during the six-year effort to the CS5 Headquarters Project; according to the MIS Department records, he spent 4.25 years of his time on **ProMIS**. In other words, SC contributed approximately half of his time. While Attachment IX lists the persons working on CS5 Headquarters Project who were not charged to the project, as mentioned it is not possible to quantify the exact value of their time since SC does not track its matching time spent by specific projects. SC verifies that it has met its 25% matching obligation (valued at $267,000), and claims that they, in fact, contributed a great deal more than this.

VI. Conclusions and Recommendations

1. Conclusions

Overall SC has fulfilled the terms of the Cooperative Agreement as outlined in the CS5 Headquarters Project. They wrote and distributed working papers and manuals derived from their experience in community/population-based health programming. They also devoted great energies and resources, including a considerable amount of their own, to strengthen their capacity to track vital demographic and health service delivery data for populations served by their CS projects. Although this was originally just one of the components to be carried out by SC, it came to assume priority attention of some officials in the PVC Office of USAID and for a good portion of the grant was the primary

focus of SC activity in the CS5 Headquarters Project.

The development of the **ProMIS** software has taken longer than expected. There were a number of frustrations that surfaced during the development and testing of the program. However, anyone who has been involved in such an effort, the delays and problems encountered by SC were not unusual and should not have been unexpected. The limitations identified in the midterm evaluation were resolved and **ProMIS 2** is considered by all who have used it to be a very good information tracking tool. To accomplish this with only a portion of a programmer's time and despite structural impediments is a rather remarkable feat. And because SC has still to make a few minor modifications to the program, it is understandable that the final version of the software and user's manual have not yet been distributed.

In reviewing CS5 Headquarters Project, one must remember that the USAID funds were originally programmed for a number of things, including the documentation and dissemination of lessons learned and manuals that would assist other PVOs in the design and implementation of population-based CS projects. Some people remark that with all the CS funding available to it through the CS5 Headquarters Project, SC should have produced and distributed a computerized information system; they forget that that was only one of the tasks originally specified. Unfortunately, it is not possible to determine what percentage of the grant was spent on the software development.

What SC has accomplished is the development of a very good software program that it and other PVOs implementing population-based health and development projects can use to improve their management and action research capabilities. On the one hand, this is something that SC and the PVC Office can take pride; on the other hand, it also places a responsibility on both organizations to determine what they will do with **ProMIS** now that it is ready for broader application.

2. Recommendations

One aspect of the grant (documentation and distribution of lessons learned and manuals) has been satisfactorily accomplished and needs no further support. This section of the evaluation will focus on the recommendations or next steps resulting from the CS5 Headquarters Project relating to the **ProMIS** program since this is where serious issues remain to be addressed. The recommendations proposed here revolve around two issues: first, dealing with <u>what</u> remains to be done; second, <u>which organization(s)</u> is/are most appropriate and capable of doing what has to be done. This is a discussion of several options; there are undoubtedly more. Those responsible must consider the pros and cons of the suggested strategies and chose the one that makes the most sense for the PVO community and the vulnerable and needy populations they serve. Too much progress has been made to date not to take the next steps and make the valuable software program available to those groups who can most benefit from it.

A. What Remains to be Done: There are a number of things that must be done for **ProMIS** to move from a program whose initial trials have proven positive to a fully institutionalized, fully functioning information system, first within SC and then beyond in other PVOs utilizing the

population-based health approach. For its own purposes, SC should make every effort to fully integrate **ProMIS** into its field operations. This effort should begin in the four "core" countries where the program was first introduced. They have only received the program within the last approximately four months and need more time to learn more about all the capabilities of **ProMIS** and what it contributes to their respective CS projects. To accomplish this goal, the Program Development Division of SC should appoint someone, most appropriately in the Health Population and Nutrition (HPN) Department, who would have major responsibility for institutionalizing **ProMIS** in the four "core" countries as well as others that are interested and appropriate. Approximately half of this person's time should be allocated to **ProMIS**-related activities. The person that would be most appropriate to assume this responsibility is the epidemiologist.

Outside SC a great deal remains to be done. These activities are suitably divided between US PVOs and indigenous PVOs. In the former category, a number of US-based PVOs have been exposed to the **ProMIS** program and have indicated their interest in getting a copy of the software; however, only two or three have actually received the program itself and the user's manual. Much less energy has been devoted to introducing **ProMIS** to local PVOs in developing countries. The transfer of the orientation, technology and skills is essential if the population-based health strategy is to be maintained and sustained after the SC projects come to an end and the international PVOs withdraw. Based on the reception of local PVOs in Haiti and positive remarks made by SC representatives in other countries about local PVO reactions, there is considerable scope for distributing the software among selected local PVOs who are committed to implementing a community-based approach. It is also appropriate to consider universities as collaborators who could benefit from and use **ProMIS**, especially to utilize the exceptionally rich population-based data sets that SC can produce with the software.

In order to facilitate the adoption of **ProMIS** in developing countries by local PVOs and institutions, several specific activities have been identified. First, a target country is selected which has particularly rich PVO health experience (e.g., Haiti). As a first step, a workshop would be conducted to discuss information systems for community-based health projects. Sharing experience and approaches would be helpful to establish the state-of-the-art in the specific country and to determine what systems are most advanced. The more information systems can be coordinated and interactive, the more agencies can share and compare data and results. A second aspect on the workshop agenda would be a demonstration and discussion of the **ProMIS** software.

Both the US and Third World PVOs who want to adopt **ProMIS** will require training as well as technical assistance. The latter may include a few days with an experienced programmer to write a program that will enable a PVO to import data they have already computerized into **ProMIS** in order to save the time and expense of having to input all the data again. One problem that has been identified with inputting data is that it might be corrupted, including such things as missing information.

Once a critical mass of countries have experience in manual and computerized information systems for population-based HPN projects, it would be appropriate to organize an international forum to discuss the state-of-the-art. This may be three or four years down the road.

B. What Organization(s) Should Do it: The institutionalization and expansion of the use of **ProMIS** will have to be the responsibility of more than one group if the goal of having all PVOs employing the community-based approach know about and use the software program. Within SC, for example, the agency will have to take primary responsibility for supporting the use of **ProMIS** in its "core" countries. High-level officials in SC indicated that they would continue to support **ProMIS** for two reasons. First, they see it as important and contributing to the agency's goals of equity, impact and accountability. Secondly, SC is interested in the possibility of merging its sponsorship tracking with its impact tracking. SC would be responsible for supporting the training and technical assistance requirements of its country programs relating to the software program. Funding for these efforts should most appropriately come from the budgets of the respective projects requiring the computerized information system. As discussed, this cost need not and should not be large.

Another possibility is for SC to request a relatively small amount of funding to support the institutionalization within the "core" and additional countries of SC and promotion in these countries among local PVOs that could utilize **ProMIS** (including workshops, training and technical assistance). Such additional funding could be included in the renewal of the WCI Program grant which is expected next year. This is appropriate since WCI is interested in **ProMIS** and sees greater application of it to their programs as they are better developed and indicators are identified.

The most difficult question is how should the other PVOs, both US and local developing country, be funded in their efforts to learn about and adopt the computerized population-based CS information system. The cost of training and providing technical assistance would be considerable. A number of options were discussed during the course of the evaluation. One idea that has been raised is to have a commercial firm undertake the effort to market the software, perhaps the way EpiInfo was done. However, it was generally felt that neither was there a large enough market to make it worthwhile for a commercial firm nor was there a readily identifiable firm that could or was willing to invest the time, energy and resources to go to the grassroots to market and support the program.

Another option was for SC to maintain control of **ProMIS** and do the marketing and support. This is seen as being very difficult if not impossible for several reasons. First, how would SC's expenses be recovered? SC would have to charge the PVOs receiving training and technical assistance the real costs for these services. Although the amount may not be exorbitant by commercial standards, they would more than likely be more than the PVOs, especially the indigenous ones, would be willing or able to pay. Even PVC itself has not been willing in the past to fund such costs under the CS grants.

Another possibility might be for PVC to fund a third party to do the marketing and support of **ProMIS**. One group that was mentioned is the Child Survival and Support Project (CSSP) at Johns Hopkins University. They currently have a contract to support the US PVOs having CS grants. Over their decade of experience, they have gained the trust and confidence of the US PVO community. According to PVO representatives, they did a good job in introducing and supporting (training and, where necessary, technical assistance) the baseline survey instrument on knowledge and practices. However, because their present operating budget is so limited, additional funds would be required if they were to take on the **ProMIS** responsibility. The CSSP would have to hire a special person to oversee the **ProMIS** activity, serving both the US agencies and the local PVOs in selected countries abroad.

Someone else raised the possibility that the Centers for Disease Control and Prevention (CDC) might be interested and team up with USD, the company that markets EpiInfo. While this latter group has experience marketing software in the health field, they do not have the connections or affiliation with the PVO community, in the US much less in the Third World, that would be required to make a program like **ProMIS** a success.

These are some of the options that are available to the PVC Office in taking **ProMIS** to the next stage of broader use. It is important that it and the PVO community identify a strategy which facilitates the maximum adoption in the shortest amount of time since applying it to field programs will improve the cost-effectiveness of the population-based CS projects and assist them achieve their respective objectives.

ATTACHMENTS

ATTACHMENT I

SAVE THE CHILDREN

CHILD SURVIVAL V
HEADQUARTERS PROJECT

FINAL EVALUATION - PHASE 1

Agency for International Development

Cooperative Agreement No. OTR-0500-A-00-9149

Submitted By:
Roy I. Miller

July, 1995

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EXECUTIVE SUMMARY

Phase 1 of the final evaluation of Save The Children's Child Survival V-Headquarters Project is limited to an assessment of the ProMIS software developed as part of this project. Initially, ProMIS was envisioned as a user-friendly, field-based computer system to manage the large volume of data emerging from the type of intervention employed by Save The Children (SC), an intervention calling for an initial census of all individuals in a designated impact area and the subsequent follow-up of target groups within that area in need of selected services.

The ProMIS software meets the original criteria specified in the Detailed Implementation Plan for the project and has been modified successfully in response to recommendations made during two, distinct midterm evaluations. It is easy to use; it is designed to protect the data against computer and/or electricity failure in developing countries; it offers flexibility in defining geographical areas as well as services to be monitored, and it has an extract feature allowing users interested in more advanced statistical analysis to extract the data and transfer it to a statistical software package.

A series of criteria, developed with the SC staff, can be applied in independent evaluations of other SC field projects using the software. These criteria are expressed as questions to be asked of system users covering attributes of the system including: timeliness, accuracy, reliability, completeness, cost and usefulness.

The operation of the system is sufficiently straightforward that the reviewer was able to explore ProMIS without using the ProMIS User's Guide but, when questions did arise, the Guide served well as a reference in that it explained the issues giving rise to those questions.

In order to address the important question "What's Next?", an issue raised in both midterm evaluations needs clarification. ProMIS was designed for use in the particular type of intervention used by SC and, only occasionally, by a few other PVOs. Any plans for further development and/or dissemination of ProMIS should assure that the system is disseminated in the type of setting for which it was designed. ProMIS was not envisioned as a universal panacea for the data management problems of the PVO community -- it was envisioned as a tool to help SC manage data emerging from a program built around a village census.

Three possible courses of action are identified for the further dissemination of ProMIS: a) SC distributes the source and object code for the program but has no further obligation to service other users, b) SC continues to be responsible for periodic modifications of the software and for service to other users with funding from USAID or through funds provided by the other PVOs using the system, and c) responsibility for the software is transferred to a third party who is given the right to charge potential users for training, service and/or program modification.

In the future, three aspects of ProMIS could be explored: a) use of ProMIS in the absence of a parallel manual system, b) enhancement of the software to enable more diverse report generation including graphics, and c) analysis of the data stored within ProMIS to address questions which have not been satisfactorily answered by the international development community because of a lack of high quality, complete, time series data on a single geographical area.

INTRODUCTION

This report summarizes Phase One of the Final Evaluation of Save The Children's (SC) USAID funded project known as Child Survival V-Headquarters Special Projects. The Scope of Work for Phase 1 was limited to an assessment of the ProMIS software as observed at SC Headquarters. Five specific objectives were identified for this four day effort:

1) Assess the computerized system ProMIS based on targets established in the Detailed Implementation Plan (DIP), midterm evaluation recommendations and specifications developed over time -- from the original set to those developed after the midterm evaluation;

2) Develop a set of criteria with SC staff and assess the effectiveness of ProMIS to maintain longitudinal data in an easy user-friendly manner;

3) Assess the quality and usefulness of the ProMIS User's Guide;

4) Summarize overall achievements in the development of the ProMIS software package -- both expected positive and negative effects of project activities;

5) Provide recommendations on next steps for software dissemination and possible future uses of ProMIS;

This report will address each of these points and, in addition, comment on ways in which Phase 2 of this evaluation might be carried out as effectively as possible.

BACKGROUND

Early in 1989, Save The Children (SC) submitted a letter proposal to what was then the FVA/PVC office of USAID which led to a highly unusual award for a "headquarters" grant to enable SC to improve headquarters support to field offices, to carry out a special project to develop computer software to manage the data in the field which is so much a part of the SC approach to community development, and to document SC's methods to make them more accessible to other PVOs.

SC was a pioneer in applying an approach to working at community level built around a complete census of a designated "impact" area and the subsequent follow-up of individuals in the target groups to insure that those individuals receive essential services. Using rosters of beneficiaries growing out of the initial census and maintained through systematic home visits, service providers in the "impact" area are able to target scarce time and resources to individuals and/or villages with particular needs and/or special problems. At the time of the letter proposal, this approach was implemented through a manual (paper and pencil) system in most countries; however, in one SC field office a computerized system had been developed to manage the high volumes of data that this approach generates.

The success of that system stimulated demand for a computerized version of the manual system; however, the initial system was not designed for widespread export and was built using software that had a tendency to "crash" and lose data in developing country settings where electricity is inconsistent and hardware failures not uncommon. As the information system plays such a key role in SC interventions, a part of SC 5 was dedicated to the development of a more durable and generalizable software package which could be used in any project setting based on the SC approach to intervention.

This report focuses on that computer system, known now as ProMIS.

SCOPE - ITEM 1: Assess ProMIS based on the DIP and the Midterm Evaluations

1) Assess progress based on targets

The DIP

The targets in the DIP for developing ProMIS appear on page 6 of the document. The short duration of Phase 1 of this evaluation precluded tracking the progress by the dates of the achievements as specified; however, the initial software was developed and field tested, suggestions for major modifications grew out of both the field tests and the two midterm evaluations and these modifications were made and incorporated into the latest version of the program.

As it currently operates, the software meets the original criteria specified in the appendix to the DIP.

a) The software is easy to use.

Within 15 minutes of sitting in front of a computer with the system operating, this reviewer was able to grasp the fundamentals of its operation and perform the basic functions of data entry and roster and report generation. Once the concept of operation is understood, the menus and screen guides help the user find his/her way through the system.

b) The system is written in a common computer language and is expandable.

ProMIS is written in CLIPPER V, a programming language created for use with the popular dBASE file structure. Anyone with the knowledge of dBASE can access the data independent of the system, if necessary. Most competent programmers can learn to work with CLIPPER readily.

One of the more interesting features of the current system is the ease with which it can be expanded using the generic module capability following the mid-term evaluation. This will be discussed in more detail in discussing that evaluation.

c) The system will be faster than the system currently in place.

As the system designated as "current" when the DIP was written was not accessible to this reviewer, no comparison based on speed was possible. However, on a 486/50 laptop, there were no troubling delays in any of the operations of the ProMIS system.

f) The system will have a flexible geographic structure.

During program installation the user specifies the nature of the geographical structure of the impact area including the number and names of the geographical levels needed to characterize that area.

g) The safety of the files is insured by design.

The program is written so that the data files (and index files) are open for the shortest time possible during data entry thus protecting them well against power outages and surges. The use of the dBASE file structure instead of the structure built on a series of pointers as used in the prior version facilitates reconstruction of the data in the rare event of a hardware failure at a critical moment.

h) The ability to extract data for analysis.

Anyone who knows dBASE can extract data for analysis quite easily. The current version of the program has an export feature to help non-dBASE users extract the data. However, there is on weakness in this export feature. ProMIS is elegant in that it saves only the minimal amount of data necessary to calculate interesting indicators with which to monitor program performance, such as the vaccination coverage rate or the percentage of children malnourished. For example, ProMIS stores the date and weight of the child at each weighing. When the nutritional status of the child is needed for a report within ProMIS, the system recalculates that derived variable. Upon export, only the raw data stored is exported. The user would have to recalculate the nutritional status outside of ProMIS. (Or, the user would have to recalculate the age at time of vaccination outside of ProMIS.) For an experienced computer user, this should not be a problem; however, for some users in the field, the export option might be more "user friendly" if it could export some of the calculated variables as well.

ProMIS itself is limited in its built-in statistical and graphical capability, an attribute of the system which led to the recommendation that the export feature for non-dBASE users be created.

i) The system will use current system data from the old system.

This question was not examined during this review.

The First Midterm Evaluation (July 1992)

Child Survival V and, therefore, ProMIS was subjected to two midterm evaluations six months apart. The first was the "regular" midterm evaluation done for all USAID grants to SC while the second was a special evaluation initiated by FHA/PVC/CSH to explore the special nature of Child Survival V; that is, the fact that it was a headquarters grant.

The first evaluation, completed in July of 1992, featured a number of "major findings" as well as "recommendations" pertaining to ProMIS. Some of these findings and recommendations addressed the wisdom of the "impact" area census as compared to other methods of collecting data such as a survey. Discussion of this issue is beyond the scope of this report which can (and should) address only the question of whether ProMIS performs as envisioned when the census approach is taken. Regarding ProMIS itself, the evaluation found that the SC Headquarters based system was "not customized to the reporting needs of the field office", led to "frequent delays in the solution of operational problems", allowed "only one data entry terminal which has unnecessarily prolonged the time needed to complete data entry", and "program managers ... make little use of the computerized data".

The first two "findings" cut to the heart of an issue of importance for USAID as well as for SC; specifically, is it better to invest in one system to be shared among somewhat diverse users or is it better to let each user develop a custom system. These two "findings" identify two good arguments for the latter choice of allowing each user to develop a custom system. However, the current version of ProMIS goes a long way towards alleviating some of the basis for these arguments in the SC case. The new version enables the user to create new modules quickly and without the need for on-site programming skills and the export feature allows the user to move the data into other software for further analysis or the generation of additional reports. Nonetheless, ProMIS itself still offers only a limited range of reports, a limitation that may continue to be a problem in some field sites where computer skills in other software packages are limited. Regarding the time delays, the new version seems to suffer from relatively few operational problems in the field (based on responses to a questionnaire administered by SC to its field offices in June of this year). Nonetheless, should problems arise, the fact that there is currently only one programmer at SC Headquarters with in-depth knowledge of the software, could cause delays.

In presenting its arguments, the midterm evaluation ignored the often observed reality which follows the decision to develop customized systems. Frequently, when different systems people set out to accomplish similar ends, there is much duplication of effort and, therefore, unnecessary expense. Also, some (many) customized efforts fail altogether due to the inadequacies of available on-site staff or, more common, their departure from their field posting. It is the opinion

of this reviewer that in the SC case, where similar programs are mounted in all field offices, the benefits to be derived from having one HQ developed system which works outweigh the disadvantages associated with independent, custom efforts at system development. (As this issue arises in the second midterm evaluation, it will be discussed on more detail later in this report.)

The problem of being able to enter data from only one data terminal remains. (This problem arises due to the mechanism embedded in the program to identify and keep track of individuals. The program assigns a hidden, internal identifier to each individual during data entry. If the program was run separately on two computers, the uniqueness of those identifiers would be lost.) Following the midterm review, a merge routine was written to enable the entry of data at two work stations; however, subsequent changes in the data file structure to enable the user to create new modules renders that routine inoperable because it cannot know, in advance, what new modules the user has defined and, therefore, it cannot know what to merge. (Flexibility in one area is the enemy of flexibility in another!) Following discussions of this issue with the SC System Designer, this reviewer concluded that in situations where data entry is backlogged, steps could be taken to allow the merger of data entered from multiple computers by a skilled computer person using dBASE software (or other software which uses dBASE files). In situation where it becomes necessary to use more than one terminal, the two (or three or four) separate ProMIS data bases so created could be forwarded to SC Headquarters for merging or merged on-site by an experienced data base person who understood ProMIS. As long as there are relatively few instances where multiple data entry is required, this stop-gap measure could help field offices overcome this software limitation.

Finally, the fact that program managers make little use of the data may still be a problem. Without more extensive contact with the field, it is difficult to assess either the magnitude of this problem or the reasons for it. However, on can speculate that since the SC policy has been to run both the manual and computer systems in parallel, field offices concentrate on the manual system which governs field operations and puts comparatively little time into understanding the power of aggregating the data offered by the computer. In discussing next steps for software dissemination, this reviewer will make some suggestions that will facilitate greater use of the system in the field.

The specific recommendations regarding ProMIS made in the first midterm evaluation have been addressed by the SC staff. As noted, a facility to export data has been built, the capacity to create new modules has been added facilitating the addition of new variables; however, there remains some limitations on the ability of the user to generate custom reports from his/her own modules.

The Second Midterm Evaluation (January 1993)

The second evaluation, completed in January of 1993, concluded that "ProMIS met the specifications as originally drawn-up by the Health Unit and the PC Group". Due to the special nature of this evaluation (its focus on the efficacy of a Headquarters grant), the report went beyond this simple assessment to address the issues of whether ProMIS as designed

accomplishes what SC had set out to do, whether it is sustainable and whether it can (and should) be exported to other PVOs.

The second midterm evaluation team concluded that, in fact, ProMIS "accomplished what it set out to do, particularly in demonstrating that with an adequate Health Information System, equity in health care can be achieved" (p. 11). The evaluation team went on to address a number of broader questions, relevant to their charge to consider the efficacy of a Headquarters grant. Specifically, the evaluation team turns to the question of sustainability of a computerized system such as ProMIS and its application by other PVOs.

The team concluded that the system would collapse without continuing support from SC. This reviewer has heard the same argument applied -- with reason -- to most interventions in developing countries built around an infusion of technical assistance and/or commodities not available locally. USAID, in general, and the PVO community, in particular, has applied a variety of effective strategies for avoiding the collapse of an intervention following the withdrawal of external assistance including the purposeful transfer of skills to local residents during the implementation phase and the institution of cost-recovery mechanisms to enable local communities to take over the financing of important activities and the purchase of needed inputs. The special skills and equipment required to sustain the operation of a computer-based system call for extraordinary efforts along these lines. Although not based on hard and fast evidence, this reviewer shares the skepticism of the midterm evaluation team regarding the possibilities of local communities to keep skilled computer users at home and to generate the resources necessary to maintain the hardware required to maintain a computer system.

The team goes on to suggest that SC experiment with simpler community based information systems. This reviewer supports the notion that the PVO community needs simpler information systems; however, it is not clear that SC, perhaps, the leading PVO when it comes to the type of system represented by ProMIS should be the organization charged with experimentation with other systems too. This reviewer believes that USAID should continually encourage different PVOs to experiment with a variety of information systems and should develop a "lore" of information systems for community-based interventions which would guide PVOs in selecting appropriate strategies depending on the settings in which they are working.

The specific recommendations of the team pertaining to ProMIS address the issue of the dissemination of the system more than the issue of the quality of ProMIS itself. As this subject will be addressed in the last section of this report, no more will be said here.

SCOPE - ITEM 2: Develop criteria with SC staff

Initially, three questions summarize what SC and USAID need to know to assess the effectiveness of ProMIS.

a) To what degree does the software do what it what was originally envisioned (as well as the additions to that original vision growing out of the mid-term evaluation)?

b) Does the software, as it exists today, work well in the SC field offices and does it meet their needs?

c) Is there a larger role for the software today (not envisioned six years ago) within Save the Children, the PVO community or for USAID?

During conversations with the SC staff, the focus for developing criteria was narrowed a bit to address criteria which might be applied during the evaluations of the other USAID funded SC field projects currently using ProMIS. Thus, the remainder of this section of the report presents questions to guide evaluators of field projects in their assessment of the role of the ProMIS system in those projects. (The criteria themselves introduce the questions and are shown in upper case letters.)

1) TIMELINESS - As currently designed, is the field office able to keep the data base current? What is the lag time between the time the sheets from which data entry is done arrives at the computer site and the time the data is in the computer?

2) ACCURACY - When rosters are printed from the ProMIS system and compared to the roster maintained manually, are there many corrections that have to be made in the computer system (what is the frequency and nature of the corrections?) and, similarly, does the computer system help field workers identify problems in their own rosters.

3) RELIABILITY - Are there "bugs" within the system which are not yet corrected? Are there other problems (for example, the limitation to one data entry terminal) which cannot be solved with available local support?

4) COMPLETENESS - Are there data elements of your manual system which cannot be captured in ProMIS? Are there activities included in your program which are not tracked by either the computer system or the manual system?

4) COST - Approximately what percentage of all staff time is dedicated to operating the system (and what percentage of your budget?) and what level of individual is required to make it work? Have you derived measurable savings from having implemented the system?

5) USEFULNESS - Are the reports (not the rosters) generated by ProMIS printed out, are they used (if so, for what?), and are they returned to the villages for their review?

6) USEFULNESS - Has the data within the system been used in any kind of special inquiry; for example, to compare the vaccination status of malnourished children to those of well-nourished children? (If not, why not?)

7) USEFULNESS - What does the system add (if anything) to your ability to help villages that the manual system alone cannot provide?

8) OTHER - How might the system be improved to make it more useful for you (for example, more extensive reports, a graphic interface, linkages between the modules, etc.)?

If this set of questions is used in the field, the interviewer should be encouraged to probe the respondents. This set of questions is not likely to yield quantifiable results to be subjected to statistical analysis. Thus, full explanation of the answers should be sought, even if the interviewer must prompt the respondent.

SCOPE - ITEM 3: Quality and usefulness of the ProMIS User's Guide

Due to the short duration of Phase 1 of the Final Evaluation of the Child Survival V-Headquarters grant, very little use was made of the User's Guide. As noted earlier, in order to get into the system quickly, the author of this report relied on a brief introduction by the designer of system. With that introduction, it was quite easy to access all aspects of the system and reference to the User's Guide was limited. It should be noted, however, that shortly after this reviewer presented a series of questions to the system designer, the reviewer discovered all of the answers in the Guide.

Upon further scrutiny of the Guide in order to respond to this item in the Scope of Work, this reviewer concluded that the Guide is a complete and understandable reference for ProMIS users. It is important to realize that the Guide is intended as just such a reference, a guide to the software. It does not and was never intended to address broader issues surrounding the system such as the appropriate context for its use or the steps required in the field to create a timely and error-free flow of data from the villages to the computer. And, given its current length, this is as it should be.

SCOPE - ITEM 4 Summarize the achievements in the development of the ProMIS software

The ProMIS software does what was originally intended and more. Once installed, it can be operated effectively by persons without special skills in using computers. It has a number of "built-in" checks for the internal consistency of the data which help prevent too much "garbage" from going into the system. It is designed in such a way as to minimize the possibilities of losing data once entered due to hardware failure or power outages. It can be disseminated in a "compiled" form so that prospective users need not purchase other software in order to use it. It was designed to run on older computers (with 286 processors) and, therefore, will run on the more current systems without the user experiencing noticeable delays.

The system would benefit greatly from an enhanced reporting capability. The export feature enables analysts with knowledge of other computer software to do additional analysis of the data;

however, to increase the potential for people in the SC impact areas to make better use of the data, additional reporting and analytic functions might well be incorporated directly into the system.

5) Next steps for software dissemination and future use

Before identifying possible next steps for the dissemination of the ProMIS software, this reviewer wants to underscore a point made earlier in this paper. ProMIS was designed to meet a need growing out of the type of village-based intervention implemented by SC in its field projects. The SC approach is relatively labor intensive, both in its outreach component and in its data collection (and, therefore, data entry). SC maintains that the intensity of effort required to do a complete census of their impact areas is cost-effective in the long run in that savings are accrued when delivering service due to the availability of a good data base to guide those responsible for providing the service. The proof of this assertion is beyond the scope of this brief evaluation of the ProMIS software.

However, it is within the scope of this brief evaluation to issue a warning. There is a tendency for individuals or organizations without a great deal of experience with computers to attempt to use existing software (or, in most cases, the software they know) to solve problems that the software was not intended to solve. (This reviewer has seen countless colleagues over the years struggle trying to use one type of software to solve a problem easily handled by another -- for example, spreadsheet software for a data base application -- merely because they did not know of the existence of better software to tackle their particular problem or just did not have the time to learn how to use it.) This could happen to ProMIS. Other PVOs might be tempted to use ProMIS in situations where the strategy of intervention employed by those PVOs is quite different from SC's merely because ProMIS works for SC (or because USAID recommends it). In these situations, ProMIS will not work, not because of weaknesses in the system but because it is the wrong tool.

<u>Dissemination</u>

Owing to its charge to consider the efficacy of USAID grants to PVO Headquarters, the second midterm evaluation addressed the issue of dissemination of the ProMIS software to other PVOs. The first recommendation on page 27 of that evaluation document suggests that "ProMIS ... be made available to all interested organizations on the understanding that further enhancement of the product is in progress and individual linkages between SCF's responsibility vis à vis the product and the respective organization needs to be worked out ahead of time."

Despite the warning above, this reviewer endorses fully this recommendation made at project midterm. Still, the question of responsibility for the continuing operation of the software must be resolved before broad dissemination is considered. Even though the current version of ProMIS runs relatively error free, as more users attempt to apply the software in different settings, there will, no doubt, be an increasing number of requests of SC to "fix" the software if it

breaks down and, more importantly, to modify it slightly to fit particular situations. SC has neither the manpower nor the mandate to become a software maintenance house in this fashion.

This reviewer sees three possible courses of action for USAID and SC at this time if ProMIS is to be widely disseminated.

a) The least service, least cost option. SC disseminates not only the compiled version of the software but also the source code to anyone who wants it[1]. The recipient agrees that SC has no further obligation to them if the software breaks down or is not exactly what they needed. Under this option, SC might continue to develop the software for its own use in parallel with the efforts of the new users to develop it for their own use. This option creates the situation alluded to above where standardization is lost and duplicative effort is expended; however, every ProMIS user will be able to customize the system.

b) The moderate cost, moderate service option. SC disseminates only the compiled version of the program but is funded (by USAID, with its own funds and/or by transfers from other PVOs) to maintain the system at its HQ. SC would have to increase the size of its systems group to be able to provide continuing service. Annually, there should be a user's meeting where priorities are set for the next round of changes in the system. SC provides field support according to the availability of its staff and the level of demands placed upon it. This option is feasible only if SC agrees to take on this type of responsibility.

c) A high cost, high service option. A third party takes over ProMIS; for example, a centrally funded USAID contractor or a company specializing in software development. (There are organizations who are both, software companies and USAID contractors). They must agree to give out the current system free to interested PVOs but are given the rights to charge for any requests for additional training or for any other service on the system. In this model, individual PVOs are spared the agony of trying to develop in-house capability but they have to pay a higher premium for service and/or system modification.

Given the current funding environment of USAID, the reviewer suggests that Option c) be explored further. It might be best to place development of the system in a marketplace type of environment rather than to count on continuing external funding for system development.

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[1] In generating a computer program, the programmer writes what is called source code. Another programmer can read that source code and modify it thereby changing the program. Once a program "works", it can be compiled. The compiler creates object code which runs faster than the original and cannot be changed by another programmer. If only object code is disseminated, the user cannot change the program. With the source code, the user can run the original version or can attempt to make his/her own changes. Once any changes in the source code are made, the programmer of the original code can no longer be held responsible for the operation of the program.

Future Use

In the near future, three aspects of ProMIS could be explored. First, an experiment might be launched to test the feasibility of using ProMIS in the absence of a parallel manual system. An intervention in an urban or peri-urban setting might be ideal for such an experiment because the distance (and, therefore the time) to link the field site to the computer could be minimized. In such an experiment, the computer would generate all rosters and reports rather than duplicating those already prepared by the staff. If the use of the computer system can be shown to reduce the labor required for manual record keeping freeing up staff for additional effort in the delivery of essential services, the perceived value of ProMIS would be enhanced. (SC field staff argue that the maintenance of the manual system gives pride of ownership to the field workers. Any experiment to use the computer to replace the effort of the field staff should be conceived with a conscious effort to give that staff the feeling of ownership over the computer system.)

Second, the capacity of the system to generate interesting reports, including simple graphics, should be enhanced and experiments run to see if reports can be designed to provide rapid feedback to the villages and health workers in a fashion calculated to stimulate better performance. In a site where some SC staff have the computer skills to export and work with data, this experiment could be run without actually modifying the current ProMIS program. After the experiment indicates the types of reports which provide useful and stimulating feedback to the periphery, those reports could be incorporated into ProMIS itself for use in sites where such computer skill is lacking.

Third, the data generated in ongoing field projects should be analyzed in an academic fashion. This reviewer began his career in international working on a USAID funded project designed to analyze community-level interventions to determine what makes them work. Much of the time and energy was spent creating data sets from poorly designed manual systems for recording field data. A functioning ProMIS has data that is probably cleaner (more complete, error-free and internally consistent) than any of the data sets used in that study. A number of interesting questions should be explored using this wealth of data; for example, what is the seasonality associated with nutritional status data in a typical developing country setting? and, is there replacement mortality in communities in developing countries (are children who are vaccinated and are given appropriate treatment for diarrheal disease dying of other causes)?

APPENDIX A: References

Letter Proposal from Save The Children to FVA/PVC. February 9, 1989

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Save The Children Office of Health Population/Nutrition and the Management Information System Unit. ProMIS II (Program Management Information System) User's Guide. June 1995.

APPENDIX B: Persons Interviewed

At Save The Children:

1) M.I.S. Unit; Ken Herman

2) Office of Health/Population/Nutrition; Karen LeBan, David Marsh, Jim Sarn, Ahmed Zayan

3) USAID/PVC (By Telephone); Jean Capps

APPENDIX C

SAVE THE CHILDREN
CHILD SURVIVAL 5 HQ SPECIAL PROJECTS
FINAL EVALUATION SCOPE OF WORK
Amended 7/18/95

Project Background:

The goal of the six year (9/1/89 - 8/31/95) CS5 Headquarters Special Project was 1) to develop and implement a computerized health information system, and to make the results known to other agencies; and 2) to produce and transfer manuals, working papers, and other information of potential value within SC and to interested PVOs. SC received $800,000 from USAID matched by $267,000 for a total of $1,067,000 as part of the HQ Special Project. In addition, SC received $337,766 to provide direct backstopping support (required in all PVC funded projects) to five field projects awarded funds in this child survival cycle.

SC designed its community based health information system as a tool to 1) empower families to practice protective health behaviors and to advocate for their own health needs; 2) increase equity by reaching all community members with information, and sometimes, services; 3) facilitate the use of data for needs assessment, program design, management, evaluation and decision making; and, 4) facilitate the exchange of information between NGOs and NGOs and government. The system was computerized to manage large amounts of data more easily; and to enable supervisors to evaluate program impact (i.e. outcome in terms of infant, child and maternal mortality rates over time). Following the midterm evaluation, the system was enhanced to export the data into statistical software programs such as EPI Info and SPSS in order to ascertain the effect of various interventions on health impact. SC has developed several supporting manuals for the system and working papers documenting impact of child survival programs. Several of these papers were presented at the CS Impact Conference sponsored by USAID in Bangalore, India, September 1994.

Two midterm evaluations provided recommendations and directions for the further development of SC's manual and computerized health information systems. The first evaluation was led by Dr. Nirmala Murthy of the Foundation for Research in Health Systems, Ahmedabad, India, and conducted from April 17 to May 24, 1992, with a focus on the SC Headquarters and two field sites in Mali and Bangladesh. The second evaluation was conducted by Richard Podol and Helga Morrow in January, 1993 with recommendations for USAID FHA/PVC/CSH.

At the beginning of FY94, the prototype computerized system, PMIS, was operational in Bangladesh and the new information system, ProMIS, had been installed and in operation in five countries -- Mali, Burkina Faso, Indonesia, Bolivia and Haiti. The principle objective for the computerized information system in FY94 (following midterm evaluation guidance) was to enhance the system (creating a version 2.0) by creating an export facility, a merge capability and a generic module. The enhanced ProMIS version 2.0 was completed within the second quarter of FY94 and field tested in Haiti in April, 1994. While the field testing was successful, problems were encountered with the export facility, requiring additional time to reprogram the final version.

The one year no-cost extension enabled SC to make additional enhancements that were deemed essential to ProMIS version 2.0, to install this enhanced version in additional selected SC field offices, and to conduct a final project evaluation. In addition, a complete users guide to the system was developed as well as a protocol for distributing the software to other PVOs. A compendium of working papers related to health information systems will be completed, printed and distributed to CS agencies as well as other interested parties by the project completion date.

Evaluation Schedule of Activities:
The evaluation will be conducted in three phases.

PHASE ONE: (June 26-28, 1995) Assessment of ProMIS
An external consultant will be based at SC Headquarters, read through project documents and ProMIS files, learn how to use the ProMIS software and conduct interviews with Save the Children MIS and HPN staff to assess the status of ProMIS based on specifications and protocols that were developed.

PHASE TWO: (August 14-24, 1995) Assessment of CS5 Special Project
Part One: An external consultant will be based at SC Headquarters, read through project documents and files, interview SC HQ and field staff, staff from other colleague agencies and staff from USAID to assess grant achievements and accomplishments based on objectives set in the Detailed Implementation Plan.
Part Two: An external consultant will work with the SC Epidemiologist to evaluate the performance of ProMIS as relates to the manual HIS as well as the perceptions of information users. .

PHASE THREE: (day to be determined) Debriefing
A debriefing will be conducted with USAID and other interested agencies on the overall status of the project and the software, ProMIS.

Evaluation Objectives:
PHASE ONE: Assessment of ProMIS
1. Assess the computerized system ProMIS based on targets established in the Detailed Implementation Plan, midterm evaluation recommendations and specifications developed over time --from the original set to those developed after the midterm evaluation.
2. Develop a set of criteria with SC staff and assess the effectiveness of ProMIS to maintain longitudinal data in an easy user-friendly manner.
3. Assess the quality and usefulness of the ProMIS User's Guide.
4. Summarize overall achievements in the development of the ProMIS software package -- both expected positive and negative effects of project activities.
5. Provide recommendations on next steps for software dissemination and possible future uses of ProMIS.
6. Write a final report to be submitted to SC HPN within one week of the assignment.

PHASE TWO: Assessment of CS5 HQ Special Project

Part One:

1. Evaluate project accomplishments based on the objectives established in the detailed implementation plan. Describe circumstances which may have aided or hindered the project in meeting these objectives.
2. Summarize overall project achievements --both expected and unexpected positive and negative effects of project activities.
3. Provide lessons learned regarding the entire project which are applicable to SC, other PVOs, and relevant to USAID's support of this type of project.
4. Assess expenditures versus the planned budget. Include a pipeline analysis. Explain any changes that may have arisen.
5. Provide recommendations on how SC might best utilize ProMIS in future agency practices and systems.
6. Provide recommendations on follow-up project activities, including institutionalization of lessons learned within SC.

Part Two: Field Site (Maissade, Haiti)

1. Evaluate the performance of ProMIS, having become familiarized with the manual health information system. Parameters of interest include, but are not limited to: ease of use, timeliness of analysis, acceptance by users, usefulness for driving decisions, usefulness for guiding research, cost, availability of local and HQ technical support.
2. Assess measures used to monitor validity of ProMIS rosters, reports, and indicators.
3. Assess the impact on and the perceptions of ProMIS throughout the cascade of information users.
4. Faciliate a half day briefing for SC Field Staff.

PHASE THREE: Project Debriefing

1. Prepare and facilitate a one day debriefing and discussion with USAID and other interested colleague agencies on project lessons learned and on the software, ProMIS. (Consultant, agenda, date and place to be decided.)

Evaluation Team:

The evaluation team will consist of an external team leader and an external ProMIS evaluator with participation from an USAID representative, and representatives from SC HPN and MIS.

Final Report:

The team leader will prepare a draft report for discussion with SC HPN within one week of the assignment. A final report, incorporating SC comments, will be submitted to SC HPN within one month of the assignment. The final report will include but not be limited to the following sections: Executive Summary, Introduction/Background, Project Accomplishments, Project Expenditures, Lessons Learned, Recommendations. Copies of relevant reports will be attached as annexes.

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ATTACHMENT III

LIST OF DOCUMENTS REVIEWED

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_____, Rationale for a Community-Based Health Information System (CBHIS), presented at NCIH and USAID, June 1994.

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Zayan, A., W. Berggren, F. Doumbia, The Price of Immunization and the Value of Information, HPN Working Paper, June 1992.

ATTACHMENT IV

LIST OF PEOPLE INTERVIEWED

USAID

Jean Capps	Child Survival Advisor, PVC Office
Kathy Bose	Acting Director

Save the Children - Headquarters

Don Palladino	Senior Director of Planning and Operations
Jim Kunder	Vice-President of Program Development
Gary Shaye	Vice-President of Program Operations
Jim Sarn	Director of Health, Population, Nutrition
Marilyn Christensen	Director of Management InformationServices
Rani Parker	Director of Women-Child Impact Program
Christine Braun	Director of Program Operations (Africa/LAC)
David Marsh	Epidemiologist
Karen LeBan	Manager of HPN
MaryBeth Powers	Family Planning Advisor
Kirk Dearden	Program Evaluation Specialist (WCI)
Madie Hirschland	Director of Economic Opportunities
Michael Gibbons	Education and Training Specialist
Ken Herman*	Manager, MIS Department
Warren Berggren*	Former Director, HPN
Gretchen Berggren*	Former health Specialist

Save the Children - Bangladesh Field Office

Estella Novell*	Acting Director
Afzal Hossain*	Senior Program Officer
Abdula Masoud	Former Research Analyst

Save the Children - Bolivia Field Office

Rick Embry*	Director

Save the Children - Haiti Field Office

Franz Herder	Director
Eric Swedberg	Maissade Project Director
Colleen Swedberg	Consultant, Health Program
Dr. Sylvestre	Head, Maissade Health Program
Josselene Pierre-Noel	Nurse/Field Supervisor
Odiquet Pierre-Noel	Health Agent
Cassagnol Noelus	Health Agent

Andean Rural Health Care

David Shanklin*	Executive and Program Director

World Vision Relief and Development - Washington

Larry Cassaza*	Health Specialist

CARE

David Newberry*	Health Specialist

Child Survival Support Project (John Hopkins University)

Dory Storms*	Director

Institut Haitien de L'Enfance (Port au Prince)

Gerald Lerebours	Health Director

Centres pour le Development et la Sante (Port au Prince)

Pierre Despagne	Technical Director
Reginald Lubin	Coordinator STD/AIDS
Lionel Barthelemy	Head, Statistics Unit.

* By Telephone

ATTACHMENT V

Save the Children
Office of Health/Population/Nutrition
Child Survival V-related Publications, 1989-1995

Working Papers

Home-prepared Food-Based Oral Rehydration Therapy in Ethiopia: Two and Four-Year Followup. Dennis Carlson et al, SC/Ethiopia, December 1989.

A Community-Based Health Information System and Malaria Epidemic. James Daniel, Ihsan Sidig, Warren Berggren, SC/Sudan, December 1989.

Use of Rapid Assessment Procedures for Nutrition Program Planning, Project Reorientation and Training in Malawi. Gretchen Berggren and Beatrice Mtimuni, Save the Children, 1989.

Women's Empowerment - Critical for Health; Experiences of Save the Children. Dr. Amin, SC/Bangladesh, June 1990.

Health Information Systems: Are they worth the effort? Warren Berggren, MD, DrPH, SC/USA, April 1991.

Researching Women's Health Problems using Epidemiological and Participatory Methods to Plan the Inquisivi MotherCare Project, Elsa Sanchez, SC/Bolivia, June 1991.

The Price of Immunization and the Value of Information, Ahmed Zayan, M.D., Save the Children/USA, November 1991.

Can Health Programs Improve Health? Warren Berggren, MD., DrPH, Save the Children, November 1991

Assessing the Health Needs of Urban Slum Residents, SC/Indonesia, June 1992

A Strategy to Improve Maternal and Neonatal Survival in Rural Bangladesh, SC/Bangladesh, November 1992.

The Application of RAP in the Investigation of Community-Based Health Management and VHW Sustainability in 12 Rural Villages, Panay Island, Philippines, SC/Philippines, November 1992.

Primary Health Care in Developing Countries: Problems, Progress and Save the Children's Role, Warren Berggren, MD, Save the Children, June 1992

Urban Health from the Perspective of an NGO: Lessons Learned from a Case Study in Jakarta, Indonesia. Katherine Kaye, MD, Save the Children, January 1993.

Management Tools for Improving the Quality of Health Information in Systems Based on Full Enrollment and Sentinel Surveillance. Katherine Kaye, M.D., and Loren Galvao, M.D. August 1993.

The Use of Impregnated Curtains in Malaria Prevention in Mali, Peter Laugharn, Save the Children; Dr. Ogobara Doumbo, National School of Medicine and Pharmacology, Bamako, Mali; Dr. Steven Dolan, Malaria Research and Training Center, Bamako, Mali. September 1993.

Sustainability of Child Survival Activities in 54 Rural Communities in Honduras: The impact of decreasing institutional resources on knowledge, practices and coverage. Luis Amendola, MD, MPH, SC/Honduras, and Rebecka Lundgren, MPH, Population Council. September 1993.

Using Lot Quality Assessment Techniques to Evaluate Quality of Data in a Community-Based Health Information System. Loren Galvao and Katherine Kaye, SC/USA, December 1993.

Reaching Rural Couples: Lessons Learned from the Incorporation of Reproductive Health Services into NGO Child Survival Programs. Dr. Luis Amendola, SC/Honduras and Rebecka Lundgren, Population Council, Honduras. January 1994.

Positive Deviance as the Foundation for Sustainable Development. Monique and Jerry Sternin, SC/Vietnam, September 1994.

Do Women's Savings and Credit Programs Affect Fertility and Health? A Case from Bangladesh. Kirk Dearden, DrPH and Nazmul Khan, SC/USA, June 1994.

Urban Health from the Perspective of an NGO: Lessons Learned from a Case Study in Jakarta, Indonesia. Katherine Kaye, MD, MPH, SC/USA, June 1994.

Effect of a Nutrition Education Program on the Weight of Younger Siblings of Malnourished Children in Bangladesh. Katherine Kaye, MD, Nazmul Khan, MA and Afzal Hossain, MD, SC/Bangladesh, October, 1994.

Impact of Sustainable Behavior Change on the Nutritional Status of Children. St. Elie Dubuisson, S. Ludzen, A. Zayan, E. Swedberg, SC/Haiti, October, 1994.

The Malawi Drug Revolving Fund Experience: Impact, Sustainability and Lessons Learned. Stanley Jere and Marcie Rubardt, SC/Malawi, October, 1994.

The Impact of Village Management Committees on Service Delivery in Rural Nepal. Chanda D. Rai, et al, SC/Nepal, October, 1994.

Presentations

HIS as a Vehicle for Health Education. Poster and handout session presented by D. Sillan, Save the Children/Indonesia at CONGREX meeting, Helsinki, Finland, 1989.

Women's Empowerment - Critical for Health; Experiences of Save the Children. Dr. Amin, SC/Bangladesh, presented at the 1990 NCIH.

Health Information Systems: Are they worth the effort? Paper presented by W. Berggren, Save the Children, at the Brown University Hunger Project, April 1991.

Researching Women's Health Problems using Epidemiological and Participatory Methods to Plan the Inquisivi MotherCare Project, Elsa Sanchez, SC/Bolivia. Presented at the 1991 NCIH.

The Price of Immunization and the Value of Information, Ahmed Zayan, M.D., Save the Children, APHA presentation, November 1991.

Can Health Programs Improve Health? Warren Berggren, M.D., Dr.P.H. Save the Children, APHA Special Session, November 1991

Vietnamese Family Prevention of Nutritional Deficiency, Monique and Jerry Sternin, SC/Vietnam, Brown University Hunger Briefing, April 1992.

Assessing the Health Needs of Urban Slum Residents, SC/Indonesia, NCIH presentation, June 1992

Save the Children's Approach to Improving Women's Health in Rural Areas, presented to NCIH by Barnett Baron, VP International Programs, Save the Children, June 1992

Community Empowerment through Women's Groups in Rural Colombia. Monica Ortega, MD, MPH. November 1992 APHA presentation.

A Strategy to Improve Maternal and Neonatal Survival in Rural Bangladesh, SC/Bangladesh, 11/1992 APHA presentation

The Application of RAP in the Investigation of Community-Based Health Management and VHW Sustainability in 12 Rural Villages, Panay Island, Philippines, SC/Philippines, 11/1992 APHA presentation

A Healthier Environment: Outcome of Community Participation in the Construction of Potable Water Systems, Luis Amendola, MD, SC/Honduras. Presented to the NCIH in June 1993.

Sustainable, Community-Generated Nutrition Education/Rehabilitation in Vietnam. Jerry and Monique Sternin, SC/Vietnam. Presented to the American Public Health Association, October 1993.

STD Treatment and Preventive Approaches: Findings from a Clinic in Rangunia Thana, Chittagong District, Bangladesh, Dr. Pushpa Bhatta, with Technical Assistance from Dr. Robin Biellik, WHO, Nepal. Summary of an oral presentation given at the IX International Conference on AIDS, Berlin, Germany, June 1993.

Qualitiative Analysis of HIV Transmission in Rural Burkina Faso. Jean-Pierre Bembamba, SC/Burkina Faso, presented to the NCIH June 1994.

Urban Health From the Perspective of an NGO: Planning and Implementing Health Programs in Indonesia and the Philippines. Katherine Kaye, MD, MPH and David Claussenius. Presented to the INMED 5th Millennium Conference on *Urban Health Challenges for the 21st Century*, June 1994.

Rationale for a Community Based Health Information System. James E. Sarn, MD, MPH, presented to the NCIH June 1994.

Domestic and International Conflict Resolution, James E. Sarn, MD, MPH, panel presentation at the NCIH, June 1995.

Publications

Lot Quality Assessment Technique Survey in Malawi, Loren Galvao, M.D. and the SC/Malawi field office staff; March 1992 (published in the JHU PVO/CS Technical Report)

Health Practices and Indices of a Poor Urban Population in Jakarta, Part I: Patterns of Health Service Utilization. Katherine Kaye, MD, and Michael Novell, MPH, Save the Children, April 1992; pub. *Asia Pac J Public Health* 1994:7(3):178-82.

Health Practices and Indices of a Poor Urban Population in Jakarta, Part II: Immunization, Nutrition, and Incidence of Diarrhea. Katherine Kaye, MD, and Michael Novell, MPH, Save the Children, April 1992; pub. *Asia Pac J Public Health* 1994: 7 (4): 224-7

An Alternate Strategy for Improving Maternal and Neonatal Survival in Rural Bangladesh, Afzal Hussain, Najma Khatum and Katherine Kaye, SC/Bangladesh, Women's International Public Health Network, Vol.11, spring 1992

Empowering and Improving the Health of Women in the United States and Overseas through a Community-Based Approach. In Global Learning for Health, National Council on International Health, 1993.

Community Impact of PVO Child Survival Efforts: 1985-1994. Report on the Worldwide Conference sponsored by USAID in Bangalore, India, October 2-7, 1994.

Using Lot Quality Assessment Techiques to Evaluate Quality of Data in a Community-Based Health Information System, Loren Galvao, MD MPH and Katherine Kaye, MD, MPH. Tropical Doctor, 1994, 24, 149-151.

Everyone Counts: Community-Based Health Information Systems. A Reference Compendium on the Collection, Analysis and Use of Data for Accountability in Health. David R. Marsh, et al. Save the Children, August, 1995.

Workshop Reports

Child Survival: Vive L'Enfant Africain. Report on the 6th African PVOs Regional Child Survival Workshop, October 15-19, 1991 in Sikasso, Mali.

Epidemiology Review Notes. Katherine Kaye, MD, MPH. From the ProMIS Health Information System Workshop, SC/Westport, August 2-6, 1993.

Manuals

Sillan, D. *Developing a Detailed Implementation Plan: A Training Workbook.* Save the Children, 1990.

Daniel, K. *Measuring Health: A Practical Guide to Establishing a Health Information System.* Save the Children, 1990.

Sillan, D. *Child Survival Management Curriculum: A Guide for CS Managers.* Save the Children, 1990.

Sillan, D. *Reaching the Unreached through HIS: A Training Guide for Developing a Health Information System.* Save the Children, 1991.

Christensen, M. *ProMIS User's Manual.* Save the Children, 1991.

Ortega, M. *El Camino de la Salud.* Save the Children, 1992.

Christensen, M. *ProMIS v.2 User's Manual.* Save the Children, 1994.

Swedberg, C. *The Nutrition Demonstration Foyer Guide.* Save the Children/Haiti, 1994.

ATTACHMENT VI

THE ProMIS PACKAGE

• SOFTWARE VERSION 2.0 • INSTALLATION INSTRUCTIONS • USER'S MANUAL

The ProMIS system is due to be released by January 1995

A nominal fee for disks, manual, packaging and shipping is expected to approximate U.S. $35

For additional information on the ProMIS system or to reserve a copy of the ProMIS package , please complete the following:

Name: _____

Title: _____

Company: _____

Address: _____

City: _____ State: _____

Country: _____ Zip: _____

Telephone: ( ) _____ Fax: ( ) _____

Fax or mail this completed form to:

Save the Children
Office of
Health/Population/Nutrition
P.O. Box 950
Westport, CT 06881
Fax: (203) 454-3914

THE

ProMIS

PACKAGE

System design,
programming and manual
by
Save the Children
Office of
Health/Population/Nutrition
and
Management Information Systems

with partial funding from
United States Agency for International Development
BHR/PVC/CS/H
Cooperative agreement OTR-0500-A-00-9149

The program and the manual are in the
public domain and may be freely copied.

Distributed by:
Save the Children Federation
54 Wilton Road
Westport, CT 06880

September 1994

Save the Children.

ProMIS

Program Management Information System

A Health Information System Software Package

Save the Children®

The Problem

Future gains in child survival and reproductive health depend on the use of accurate information to plan and implement programs. One population-based approach to gathering information is to conduct a complete census of the population with periodic monitoring of longitudinal data, especially for high-risk groups. Without a proper tool, management and analysis of this data can prove to be a difficult task.

The Solution: ProMIS

ProMIS is a computerized population-based tool for managing census data and monitoring indicators. Data collected using a family enrollment process is entered into ProMIS, allowing the user to maintain and acccess demographic data over time. Built into ProMIS are capabilities permitting the creation of reports and rosters of individuals. Non-demographic data concerning individuals enrolled in the system, indicators such as health and economic development, can also be defined by the users and entered into the system.

ProMIS Requirements

The ProMIS system requires:

- a fully functioning manual family enrollment system
- an IBM compatible computer system (286 or better)
- a person familiar with the family enrollment system to enter the data into the computer

ProMIS does not require a computer programmer to be on staff

ProMIS

How does ProMIS work?

ProMIS consists of a core of demographic data, or *kernel*, which contains all the detailed information about each individual enrolled in the system. The essential data consists of each individual's location ID, full name, date of birth, sex and relationship in the family. Vital events (births, deaths and migrations) are entered into the system in order to track population movement. ProMIS has the ability to produce statistical reports, such as demographic distributions and rates (birth, death, fertility and mortality) based on the demographic data.

In addition to the demographic core, ProMIS has the ability to store other information specific to individuals in the population. This information is accessed in a modular approach, with the user able to define the nature of these modules. Examples of current modules include child immunization, growth promotion, pregnancy monitoring and cause of death. A number of statistical reports based on these health indicators are already available in ProMIS, including immunization rates, and cause-specific mortality and malnutrition rates.

Rosters

An important feature of ProMIS is its ability to produce rosters (lists of individuals) that meet specific criteria. For example, ProMIS can generate a list of children under 5 and their vaccination history or a list of women between the ages of 15 to 49 and their pregnancy status outcome. These lists are frequently used for follow-up of interventions.

ProMIS Features:

- EASY TO LEARN AND USE:
  ProMIS takes advantage of the latest in user interface technology by presenting the user with pull-down menus and on-screen windows. Training time is short, with most staff learning the system and producing reports after one or two days of training.

- ACCESSIBLE DATA:
  Since ProMIS data is stored in "dBase-type" files, it is very accessible to those comfortable with database systems. ProMIS includes a data exporting utility which provides the capability of exporting the data managed by ProMIS into most statistical software packages (SPSS, Epi-Info, etc.)

- LANGUAGE INDEPENDENCE:
  ProMIS's unique messaging system allows for easy conversions into other languages. French, Spanish and English language files already exist and by using a word processor and the ProMIS Message Utility program, the system can be run in any language.

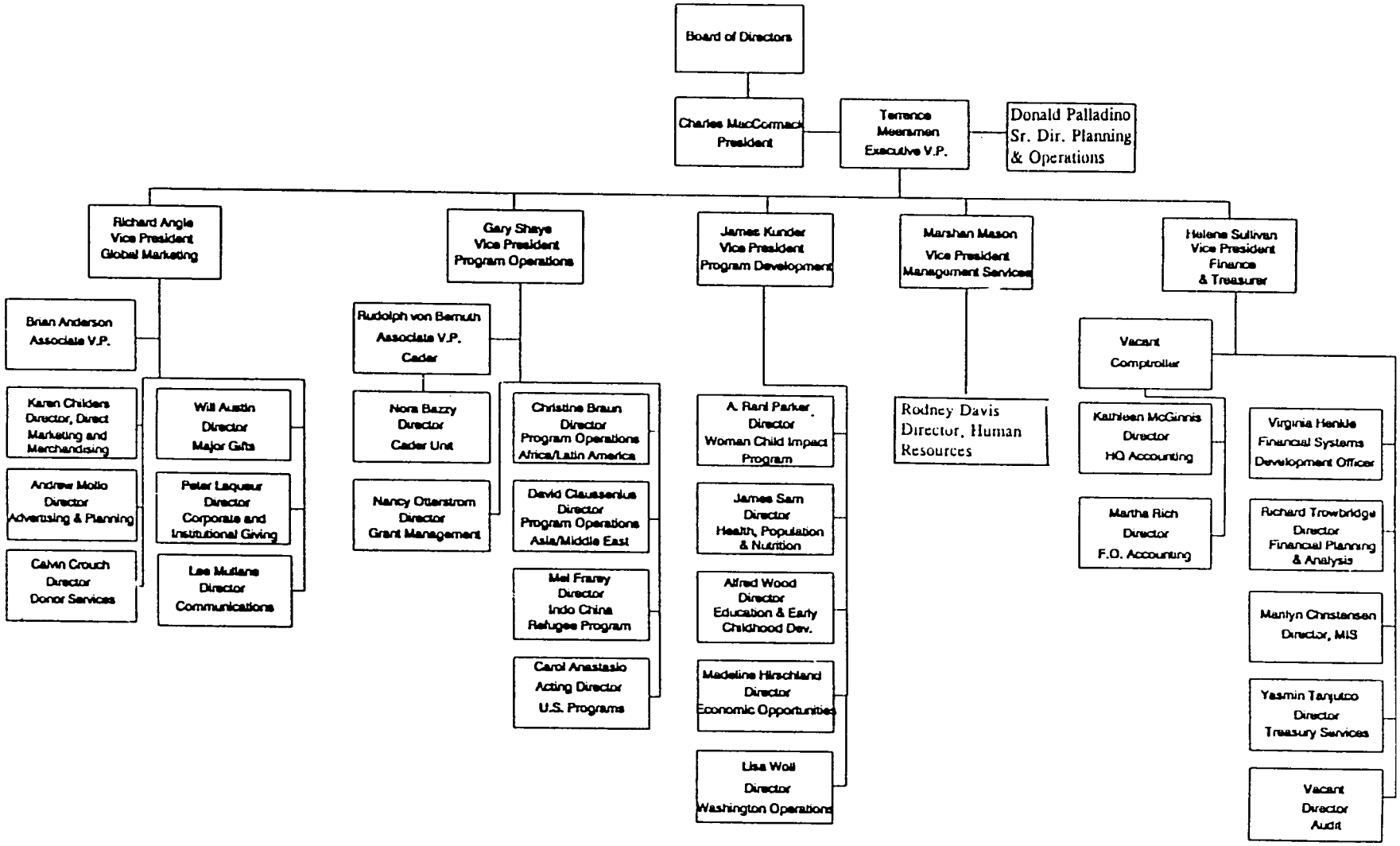
- USER-DEFINABLE MODULES:
  ProMIS comes with the ability to store standard demographic and health-related data for individuals. ProMIS also includes a utility which allows users to define additional variables which may be maintained just like the standard data.

- ERROR CHECKING:
  ProMIS periodically checks the validity of the data being entered. For example, all individuals must have full demographic data or they cannot be entered into the system and all vital events are checked for consistency.

ATTACHMENT VII

SAVE THE CHILDREN

HEADQUARTERS ORGANIZATION CHART



1/1/95

ATTACHMENT VIII

CHILD SURVIVAL V: HEADQUARTERS

BUDGET VS. ACTUALS FOR YEAR 6 AND TOTAL EXPENSES TO DATE VS. TOTAL GRANT *

HEADQUARTERS SPECIAL PROJECTS

						YEAR 6: EXPENSES VS. PLANNED BUDGET *				LIFE OF GRANT: CUM TOTAL VS. TOTAL GRANT *			
Procurement	EXPENSES YEAR 1	EXPENSES YEAR 2	EXPENSES YEAR 3	EXPENSES YEAR 4	EXPENSES YEAR 5	EXPENSES 06/30/95 Prell	PLANNED BUDGET ***	BALANCE	% SPENT	CUMULATIVE ACTUALS	TOTAL PLANNED BUDGET***	BALANCE	% SPENT
Supplies**	2,772.06	2,448.32	1,643.98	1,061.55	3,293.76	3,197.22	5,000.00	1,802.78	63.9%	14,406.89	16,209.67	1,802.78	88.9%
Assets**	4,422.00	10,790.00	0.00	0.00	0.00	(1,671.00)	0.00	1,671.00		13,541.00	15,212.00	1,671.00	89.0%
Consultants	4,770.50	2,001.73	10,520.00	5,162.00	0.00	6,340.92	20,000.00	13,659.08	31.7%	28,795.15	42,454.23	13,659.08	67.8%
Sub-Total:	11,964.56	15,240.05	12,163.98	6,213.55	3,293.76	7,867.14	25,000.00	17,132.86	31.5%	56,743.04	73,875.90	17,132.86	76.8%
Evaluation	0.00	0.00	3,200.91	51.91	0.00	0.00	3,747.18	3,747.18	0.0%	3,252.82	7,000.00	3,747.18	46.5%
Other Program Costs													
Personnel	34,504.37	115,201.03	43,518.39	93,969.80	177,226.58	51,646.38	45,000.00	(6,646.38)	114.8%	516,066.55	509,420.17	(6,646.38)	101.3%
Travel	479.00	4,303.96	10,875.70	15,561.30	7,626.74	6,169.73	15,000.00	8,830.27	41.1%	45,036.43	53,866.70	8,830.27	83.6%
Other	5,241.07	17,267.72	7,270.40	9,217.66	8,349.64	4,641.18	19,229.74	14,588.56	24.1%	51,967.67	66,576.23	14,588.56	78.1%
Sub-Total:	40,224.44	136,772.71	61,664.49	118,768.76	193,202.96	62,457.29	79,229.74	16,772.45	78.8%	613,090.65	629,863.10	16,772.45	97.3%
TOTAL SPECIAL PROJ.	52,189.00	152,012.76	77,029.38	125,034.22	196,496.72	70,324.43	107,976.92	37,652.49	65.1%	673,086.51	710,739.00	37,652.49	94.7%
Other Program Costs													
Personnel	2,341.97	32,301.21	36,446.52	41,041.12	66,656.43	6,769.32	10,163.45	3,394.13	66.8%	185,456.57	188,850.70	3,394.13	98.2%
Travel	19,908.53	36,583.63	17,236.36	22,030.14	13,905.11	1,229.00	10,064.75	8,835.75	12.2%	110,892.77	119,728.52	8,835.75	92.6%
Other	580.96	3,752.22	449.18	3,098.30	5,697.74	4,156.42	(295.84)	(4,452.06)		17,734.84	13,282.78	(4,452.06)	133.5%
TOTAL TECH. ASST.	22,831.46	72,637.06	54,132.06	66,169.56	86,159.28	12,154.74	19,932.56	7,777.82	61.0%	314,084.18	321,862.00	7,777.82	97.6%
GRAND TOTAL HQ	75,020.46	224,649.82	131,161.44	191,203.78	282,656.00	82,479.17	127,909.48	45,430.31	64.5%	987,170.69	1,032,601.00	45,430.31	95.6%

* Year 5 expenses through: 06/30/95 Prelim
** Assets are individual items $500 and over. Supplies are individually under $500 per item.
*** LOG Revised Budget approved 4/28/92.

Year 1 = Sept. 1, 1989 - Aug. 31, 1990
Year 2 = Sept. 1, 1990 - Aug. 31, 1991
Year 3 = Sept. 1, 1991 - Aug. 31, 1992
Year 4 = Sept. 1, 1992 - Aug. 31, 1993
Year 5 = Sept. 1, 1993 - Aug. 31, 1994
Year 6= Sept. 1, 1994 - Aug. 31, 1995 NO-COST EXTENSION TO 8/31/95 PER MODIFICATION 4.

ATTACHMENT IX

CHILD SURVIVAL V

Home Office Staffing: Positions and % Effort/Year Funded by CS5

A. Special Projects Component	Position Title	FY90	FY91	FY92	FY93	FY94	FY95
Dr. Warren Berggren	Director	25%	25%		25%		
Dr. Sherry Guild	Primary Health Care Coordinator	13%					
Ken Herman	MIS Manager		100%	25%	100%*		
Dr. Katherine Kaye	Epidemiologist		50%	50%	25%	70%	
Chris Burns	Technical Support Assistant				88%	46%	13%
Gail Snetro	Primary Health Care Coordinator				17%		
Nazmul Khan	HIS Specialist				18%	67%	
Dr. Monica Ortega	LAC Regional Health Specialist						
Dr. Jim Sarn	Director					50%	13%
Dr. David Marsh	Epidemiologist						10%
Dr. Loren Galvao	Primary Health Care Coordinator					70%	
Karen LeBan	Manager					13%	
Dr. Ahmed Zayan	Primary Health Care Coordinator						6%
Paulette Haave	Administrative Assistant					6%	
Maria Granata	Administrative Assistant					13%	
Carmen Weder	Operations Support Manager					15%	

B. Technical Assistance Component	Position Title	FY90	FY91	FY92	FY93	FY94	FY95
Donna Sillan	Primary Health Care Specialist	8%					
Dr. Ahmed Zayan	Primary Health Care Coordinator		50%	25%	25%	49%	
Dr. Loren Galvao	Primary Health Care Coordinator					70%	
Pat Riccio	Grants Officer		20%				
Dr. Monica Ortega	LAC Regional Health Specialist			29%	60%		
Chris Burns	Technical Support Assistant						10%
Carmen Weder	Operations Support Manager					15%	

*Includes partial salaries of MIS Department staff: Ken Herman, Zihan Tong, Wendy Seiler - totaling equivalent of one person year.

In addition to the above staff who were funded directly by the grant, all other health unit staff contributed to project efforts through a project team approach. These other staff were funded either through SC private funding or through other AID grants. Names of the other health unit team members including long term consultants during this period include the following:

FY90: Dr. Gretchen Berggren, Ass't Director, MaryBeth Powers, PHC Coordinator, Gita Pillai PHC Coordinator; Wendy Slusser, PHC Coordinator; Karen LeBan, Manager; Ken Herman, MIS Specialist, Chris Burns, Tech. Support Assistant.

FY91: Dr. Gretchen Berggren, Consultant, Dr. Monica Ortega, LAC Health Advisor, Dr. Wendy Slusser, PHC Coordinator; Donna Sillan, Asia/Pacific Health Advisor, Karen LeBan, Manager, Chris Burns, Tech. Support Assistant.

FY92: Dr. Warren Berggren, Director; Dr. Gretchen Berggren, Consultant; Donna Sillan, Asia/Pacific Regional Health Advisor, Dr. Loren Galvao, PHC Coordinator; Karen LeBan, Manager, Chris Burns, Tech. Support Assistant, Paulette Haave, Administrative Assistant

FY93: Karen LeBan, Manager, Dr. Loren Galvao, PHC Coordinator, Chris Burns, Tech. Support Assistant

FY94: Ken Herman, MIS Manager; Jim Coplit, Documentation Specialist, Norman Kim, Documentation Specialist

FY95: Ken Herman, MIS Manager, Dr. Loren Galvao, PHC Coordinator, Karen LeBan, HPN Manager; Maria Granata, Administrative Assistant; Judy Raines, Documentation Specialist, Jim Coplit, Documentation Specialist