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FINAL REPORT

Operations Research
for
Family Planning Programs

AID/DSPE-CA-0043

A

The Center for Population and Family Health was established in 1975. It is part of the International Institute for the Study of Human Reproduction and School of Public Health, both at Columbia University's Faculty of Medicine. The Center has a staff of 50 professionals with a wide variety of skills, experience, and training. For nearly a decade, the Center has pioneered the application of operations research to the improvement of family planning programs in developing countries. Beginning with a core staff, some of whom had been active in the International Committee of Applied Research Programs (ICARP), the Center was awarded an AID contract in 1975 to implement community-based programs in a number of Latin American and Asian countries. In 1979, these activities were continued through an AID Cooperative Agreement (AID/DSPE-CA-0043) that included a specific mandate to develop similar projects in Africa.

This report summarizes the work of CPFH during the five years of this Cooperative Agreement from July 1, 1979 - September 30, 1984, with special emphasis on the period July 1, 1983 - September 30, 1984.

B

DEDICATION

The Center for Population and Family Health dedicates this report to the innumerable health workers who labor daily, in near anonymity, with little or no pay to bring health and hope to their neighbors. Without them, the activities described herein would not have happened. Although the names are too numerous to mention, we hope they will accept this acknowledgement of their vital contribution to the health of families around the world.

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I. OVERVIEW

On July 1, 1979, the Center for Population and Family Health of Columbia University and the Agency for International Development entered into a Cooperative Agreement (AID/DSPE-CA-0043) to support a broad range of activities aimed at the improvement of family planning and primary health care service delivery in developing countries. Three primary objectives are mandated by the Cooperative Agreement, each with a number of associated activities. These objectives and activities are presented below, followed by a summary of related accomplishments.

COOPERATIVE AGREEMENT OBJECTIVES

Objective 1

> "To provide technical assistance to developing countries to initiate public and private sector family planning programs, or to solve operational problems in existing programs, with special focus upon nonclinical, community-based service delivery, to also include technical resources for programs that involve maternal/child health and/or basic public health service.
>
> a. To respond to needs for short-term technical assistance to developing country (LDC) public or private sector program managers for the improvement of components of family planning delivery systems, and/or for the design of new systems . . .
>
> b. To provide resident technical advisors to national programs in Haiti, Thailand, Peru, Guatemala and approximately three additional countries, with emphasis on the Sub-Saharan Africa region (both Anglo and Francophone).
>
> c. Both resident and short-term advisors may assist AID/DS and local USAID Missions in identifying and designing promising family planning or family planning/basic health initiatives in developing countries . . .
>
> d. Where possible, the above assistance and research will be coordinated with existing or potential clinical service infrastructure and will be coordinated with other international agencies whose focus is upon clinical service (e.g., IPAVS and JHPIEGO)".

Thirteen operations research projects were developed under this Agreement in collaboration with existing public or private health and/or family planning programs, with objectives

consistent with national priorities. For example, the projects in Brazil and Sri Lanka were undertaken directly with the principal private family planning organizations in those countries--BEMFAM and the Family Planning Association of Sri Lanka. The projects in Sudan and Nigeria are examples of University managed projects that have operated within the government health care system. In both of these countries, the success of initial efforts has led to expanded activities for which the government is taking responsibility. Similarly, the private sector project in Tanzania is carried out in collaboration with the activities of the government Regional Medical Office. Many of this project's approaches and findings, especially in training, have now been adopted within the public sector. In Haiti, the Center has enjoyed long-term working relationships with institutions in both the public and private sectors, and has fostered cross-fertilization among these programs.

All of these projects received considerable long- and short-term technical assistance from Center staff. Development of demonstration projects in countries with no community-based family planning programs (and especially in countries where health system infrastructures are weak), required close collaboration throughout all phases of planning, implementing, and evaluating these projects. This assistance was provided through short-term visits by Center staff and consultants and through long-term assignment of resident advisors and interns. At present, there are resident advisors to programs in Haiti, Sudan, Tanzania and Thailand. In the past, resident advisors were also assigned to projects in Brazil, Guatemala and Nigeria. Additional assistance in operations research is presently provided by four population interns funded through private sources. These interns participate in projects in Bolivia, Sudan, Tanzania, and Thailand.

CPFH staff worked closely with USAID mission officials to develop new projects and to monitor on going activities. Occasionally, at the request of USAID missions, informal assistance was provided to meet needs of local institutions. Rapid response to a USAID/Dakar request for technical assistance and to a USAID/Lome request for evaluation services complemented other CPFH activities in Senegal and Togo, including the in-country training workshops. CPFH resident advisors were often called upon to assist USAID missions. Advisors in Haiti and Thailand, for example, developed close working relationships with mission personnel.

In addition to the working relationships that were established with local USAID missions and host country organizations, CPFH developed cooperative ties with a number of international agencies. For example, mutual benefit was derived from cooperation with the contraceptive prevalence survey efforts undertaken in Brazil by the Centers for Disease Control and from UNICEF participation in the oral rehydration and nutrition components of the Sudan project. Collaboration with other

agencies led to financial support of service delivery components of operations research projects. This was the case in Brazil, Nigeria, and Bolivia, where the Pathfinder Fund shared some service delivery costs of CPFH-initiated projects. As a result, CPFH was able to devote greater amounts of Cooperative Agreement funds to developing strategies for improving service delivery.

Objective 2

> "To provide subagreement funding support to implement operations research towards testing delivery system components and otherwise overcoming impediments to more efficient and cost-effective service delivery, with special focus upon urban slum and poor rural areas of Latin America and Sub-Saharan Africa, but not to exclude assistance and research in other regions.
>
> a. To assume responsibility for subagreement support and short-term technical assistance as necessary to programs initiated previously under Contract AID/pha-C-1107.
>
> b. To develop approximately five (5) new subagreement activities for directly supporting implementation of operations research on family planning or family planning/basic health service delivery . . ."

Over the five years of this Cooperative Agreement, subagreements were negotiated to support operations research projects in Bolivia, Brazil, Mexico, Nigeria, Sri Lanka, Tanzania and Togo. Assistance was also provided to develop and implement centrally-funded projects in the Sudan, Haiti, and Guatemala. In fulfillment of the objectives of the Cooperative Agreement, eleven community-based family planning projects were undertaken in Latin America and sub-Saharan Africa. In addition, technical and financial support was provided to a contraceptive social marketing program in Sri Lanka and to a factory-based program in Bolivia. A number of operations research studies were also undertaken as part of a program of long-term technical assistance to the National Family Planning Program of Thailand.

Most of these projects have been of moderate size and of two to three years' duration. Designed within an operations research framework, these projects have included analysis of the processes of service delivery, implementation, and management. In many cases, quasi-experimental designs or natural variations were utilized to allow comparative analysis of alternative approaches to service delivery. Throughout, careful and sustained efforts were made to assure that capabilities in program management and operations research were transferred to collaborating local institutions.

A team evaluating the Center's performance under the Cooperative Agreement in 1983 concluded:

> "The Center has made a significant contribution to understanding the complexities of planning, organizing, implementing, and evaluating family planning service outreach projects. This is especially true for the nonclinical community or household distribution of contraceptives."

Objective 3

> "To improve developing country capabilities for evaluation and internal management of program operations research, and to improve the availability of information about international experience in family planning operations research.
>
> a. To assume responsibility for technical literature library indexing and information retrieval in the field of family planning and basic health program evaluation and operations research, to be integrated with the multicenter, computerized population information system, POPINFORM.
>
> b. To provide occasional short-term and long-term training, at the recipient's headquarters, for developing country technicians in the fields of program design, management, and evaluation, especially as such training complements other assistance and activities of the recipient in specific countries.
>
> c. To produce and disseminate (publish or otherwise distribute) results of technical analyses of operations research performed under this Agreement, and to convene seminars in LDCs which will bring to the attention of the political and professional leadership the benefits of fertility regulation and family planning/basic health delivery systems."

The improvement of developing country capabilities in program management and operations research was a major aim of each activity funded under the Agreement. Training of in-country personnel was an integral part of each operations research project. Each technical assistance visit was designed not only to fill immediate needs, but also to transfer skills and knowledge. Special efforts have also been made to involve project personnel in more formal training programs. As microcomputers have been introduced into projects, staff have been trained in the use of various statistical, accounting and word processing software packages. The Center's annual New York-based training program has provided excellent learning opportunities for many operations research project staff members.

The documentation and dissemination of information related to FP/MCH service delivery was another emphasis of this Cooperative Agreement. While the preparation of more than 100 papers for publication or presentation occupied much of the staff's attention, a variety of other media were also utilized.

- Through participation in POPLINE, the Center's Library/Information Program has become a valuable resource of relevant published and unpublished material. More than 80% of the Program's literature searches are provided to requests from developing countries.

- The chartbook Family Planning: Its Impact on the Health of Women and Children has proven to be an accessible, policy-relevant introduction to the health benefits of family planning to a wide audience around the world; with widespread distribution of English, French and Spanish versions, as well as local production and distribution of versions in Brazil and China.

- The CPFH Working Paper series was instituted as a mechanism for quickly summarizing and distributing substantive information on Center projects and programs.

- Much of the curriculum of the Center's New York-based and in-country training courses has grown out of Cooperative Agreement projects. Thus, these courses serve as valuable mechanisms for disseminating lessons learned in projects.

- The use of microcomputers, innovative data-entry software and methodological tools such as the mini-survey in matrix format has enabled the Center to decrease the time required to document project experiences, permitting timely utilization of relevant data for project improvement.

II. SUMMARY OF ACCOMPLISHMENTS

Accomplishments during this Cooperative Agreement may be best summarized in terms of progress in overcoming the various barriers to service delivery. Involvement in service delivery projects in many different settings over a substantial period of time has enabled CPFH to contribute to an understanding of what operations research is and how it can be applied. Long-term involvement in such countries as Mexico, Brazil, Haiti, Sudan, Nigeria, and Thailand has facilitated an evolution of approaches to meet needs and overcome obstacles at different levels. CPFH accomplishments in overcoming barriers to FP/MCH service provision are summarized below.

Most CPFH operations research projects have been undertaken in countries where the need for family planning services is great. Often there was little previous experience in providing family planning and no experience in the community-based approach. Thus, from the client perspective, the predominant problem in most countries in which CPFH has been involved has simply been limited access to family planning information and services. At the programmatic level, there have often been severe deficiencies in the health infrastructures through which such services are usually provided and limited access to alternative channels through which family planning services might be efficiently introduced. At the policy level, not only has there usually been no population policy, but there has often been reluctance (and at times even opposition) to initiating pilot demonstration efforts.

A. Information and Access Barriers

Activities that increase knowledge, access and use of family planning reduce consumer barriers to services. Projects in Haiti, Sudan, Nigeria and Guatemala have brought services to people living in rural areas where modern contraceptive services were not generally available. In Brazil, Haiti and Bolivia particular attention was given to improving services for poor urban residents.

The health benefits of family planning, in some settings, may be more readily perceived when family planning is integrated with selected health interventions. This has been an important feature of projects supported by this Agreement:

- In the Sudan, family planning services were introduced along with oral rehydration, nutrition education, and vaccinations;

- In Nigeria, contraceptives were made available with oral rehydration, treatment for malaria and other simple medicaments;

- In Tanzania, family planning education and referral have been made available as part of MCH outreach services that include vaccinations, oral rehydration, and growth monitoring of children;

- In Haiti, family planning has been integrated into a program of malaria control.

One of the common obstacles to service delivery is that many people live beyond the boundaries of the delivery system. Community-based programs are proving to be a viable approach to overcoming this difficulty. Data on family planning acceptance in the Sudan Community Based Family Health project show that the greatest success was in reaching lower socio-economic groups in the more remote areas of that project. Similarly, service statistics data from Nigeria indicate that this community-based project has had substantial success in communities beyond the periphery of the established health system. In Tanzania, community participation has been the key element in both the pastoral and agricultural communities which have been served by the project.

In addition to community-based programs, other approaches to providing services have been introduced and studied in CPFH projects.

- In Brazil, market distribution and clinic posts were successful in making family planning services more widely available;

- In Sri Lanka, rural marketing agents were recruited in an effort to improve contraceptive sales in a commercial distribution program;

- In Bolivia, factories and unions have become centers for providing information about and referral for family planning services;

- In Togo, a network of women's cooperatives will be used to bring family planning and MCH information and services to rural women.

During this Agreement, 13 pilot projects have been undertaken by the Center to provide services to people who previously had limited or no access to family planning information and services. In all, an estimated three million people in nine countries have been covered by CPFH pilot studies. In addition, assistance was provided to a program in Sri Lanka reaching the entire population. Summary measures of achievements in family planning use in these projects are presented below.

- Bolivia: Family planning seminars were conducted in 30 urban factories and offices , involving more than 3,000 workers. Nearly 1,000 participants utilized family planning counselling services following the seminars, and 80% accepted either IUD or sterilization.

- Brazil: In Piaui State from 1979 to 1982, 100,061 acceptors were recruited. Of these, 80.5% were pill acceptors and 19.5% accepted a barrier method. Program prevalence is estimated to have increased from 6.9% in 1979 to 12.5% in 1982.

- Haiti: In the Household Distribution Project, contraceptive prevalence increased from 1% to 26% over one year. In the present project in Miragoane, where prevalence is estimated at 10.8%, volunteers recruited 3805 new acceptors in the first round of distribution.

- Nigeria: Contraceptive prevalence increased in the original project area from 1% to approximately 10% over three years. Family planning services are now being introduced in the expansion areas.

- Sri Lanka: Country-wide estimates of prevalence indicate an increase from 19% to 30% over a seven year period, due in part to Family Planning Association programs.

- Sudan: In the most isolated villages of the original project area, contraceptive prevalence rose from 5.9% to 10.5% in one year. Preparations are being made to introduce family planning in the expansion area.

- Tanzania: The baseline surveys revealed an extremely low level of contraceptive use in the project area. Services are being introduced in an innovative manner which may substantially increase prevalence. Contraceptives have been made available to both settled and semi-nomadic people. A follow-up survey will be conducted in 1985.

B. Programmatic Barriers

More important than achievements in any specific project are the lessons that are learned and applied. During the course of this Cooperative Agreement, CPFH project accomplishments have influenced the development of new programmatic strategies. Demonstration that community based programs can provide needed services has had an impact in a number of countries in which the Center has worked.

- In Haiti, the success of household distribution of contraceptives (initiated as a pilot study in three rural communities in 1978) led to both family planning and community workers being incorporated into a number of programs throughout the country.

- In the Sudan, demonstration that government village midwives can safely and effectively provide MCH and family planning services resulted in the revision of the curriculum for training midwives and increased national interest in the community based approach.

- In Nigeria, an integrated community-based program in one region of Oyo State has been expanded as a State Health Council project and is influencing the development of primary health care programs throughout the country.

In each country in which the Center works, strategies for having long-term impact are of prime importance. For this reason, in addition to assisting with the design and implementation of specific projects, substantial effort has been devoted to developing capabilities in program management and operations research in host-country institutions. Considerable attention is also given to networking with influential adminstrators and policymakers. Often the involvement of these people in CPFH projects and CPFH-sponsored training activities has provided an additional means for solidifying their commitments to family planning and community-based programs.

Careful documentation and analysis of various program components provides insights into how they may be improved. It has been possible to build upon project experiences and conduct natural experiments towards the systematic improvement of service delivery. In both the Sudan and Nigeria, for example, expansion projects are not only providing an opportunity for involving government health systems more directly in the administration of FP/MCH programs, but also a means for further testing of innovative approaches to training and supervising community outreach workers. The phased approach to training, use of selective supervision systems and effective use of non-literate health workers are further examples of mechanisms which improve service delivery.

In countries where health infrastructures already exist, it has been possible for CPFH to employ more sophisticated operations research methods to problems of program cost. In Brazil, cost-effectiveness studies of supervision and medical support services led to conclusions with tremendous cost-saving potential for BEMFAM. In Sri Lanka, where a commercial distribution system was already well established, an operations research experiment tested an alternative approach to contraceptive sales and cost recovery. Similarly, in the National Family Planning Program of Thailand, the CPFH resident advisor assisted in the design and implementation of a number of operations research projects, including a study of using village health cooperatives to deliver family planning services; a study of the cost-effectiveness of different IEC strategies on family planning knowledge; and a test of a new logistics system for commodity procurement.

C. Policy Barriers

The ability of the Center, through this Cooperative Agreement, to support pilot projects in countries where there is no official population policy has been a tremendous asset for overcoming barriers to policy formation. Though changes in policy come about slowly and are affected by a wide variety of factors, small scale in-country demonstrations can be an effective means for encouraging change. Operations research projects with non-governmental groups have in several cases provided concrete demonstrations that such services are not only much needed but generally acceptable.

The Center has also influenced population and health care policy through wide dissemination of information both from its own operations research projects and from the broader field of family planning and maternal child health studies. Over the five years of the Cooperative Agreement, both input into the Library Information Program and output from it to developing countries has greatly increased.

Directly related to specific operations research activities of the Center has been the development and evolution of the CPFH International Training Program. Though funded separately, this program has been built largely on experiences gained and contacts developed as a result of operations research activities. The core curriculum of the annual June course "Workshop in Family Planning, Nutrition and Primary Health Care" was developed out of the first hand international project experiences of Center staff. Most of the key faculty for this course are New York and field staff who monitor and assist field projects. Many of the course participants are key government officials from countries where the CPFH is or expects to be working. Thus, the course provides a direct means for disseminating lessons learned from specific projects to an audience that can influence policy formation.

Finally, the widely-distributed and highly-regarded CPFH chartbook on the health benefits of family planning, funded through the Cooperative Agreement, has also had an important impact on policy makers around the world. To date 15,000 copies have been distributed in Africa alone. The chartbook was developed in response to requests from AID field personnel who needed a way to inform developing country policy makers about the health benefits of family planning. A thorough review of the relevant literature was conducted and the results were presented in a clear, engaging format and simple, direct prose.

D. Methodological Barriers

During this Cooperative Agreement, a variety of research approaches has been utilized with an emphasis on process documentation and system diagnosis. Their use has helped to overcome barriers to the utilization of program data for program improvement. Such qualitative research techniques as focus group

and field observation studies have been appropriately applied. Growing recognition of the basic complementarity between quantitative and qualitative research methods is resulting in study designs that can capture material underlying bare output measures. Use of such methods has been a notable feature of CPFH studies in Guatemala, Haiti, Mexico, Nigeria, Tanzania, and the Sudan.

Other methodological barriers have been lifted by technical advances. Time lags for coding and analysis of survey and service statistics data have been substantially reduced through the use of on-site microcomputers. For the last three years, CPFH has been in the forefront of promoting microcomputer use and in utilizing software developed or adapted at the Center. Microprocessors were placed in four operations research projects:

- In Haiti, microcomputers are being used to analyze data from operations research activities in the Division d'Hygiene Familiale and Cite Simone;

- In Nigeria, local staff were trained to enter and analyze baseline survey data for expansion projects. As a result, preliminary reports were available within weeks of survey completion;

- In Sudan, baseline survey data were quickly analyzed by local staff and utilized for program improvements.

- In Bolivia, a microcomputer is being used for rapid tabulation and analysis of project service statistics.

III. SUBAGREEMENTS

A. Bolivia

B. Brazil

C. Mexico

D. Nigeria

E. Sri Lanka

F. Tanzania

I. **Title:** **INDUSTRIAL SETTINGS AND FAMILY PLANNING PROMOTION AND SERVICES IN BOLIVIA, AN OPERATIONS RESEARCH PROJECT**

II. **Setting:** Urban factories and offices in La Paz, Bolivia.

III. **Duration:** October 1, 1982 to September 30, 1984.

IV. **Resources:**

A. **Financial:** $93,901 (CPFH Subagreement)

B. **Key Personnel:**

1. Center for Social Investigations, (Centro de Investigaciones Sociales, CIS):

Antonio Cisneros, M.A., Ph.D., Principal Investigator
Fernando Poppe, B.A., Director of Education

2. CPFH:

Henry Elkins, Ph.D.,Project Monitor
Katherine McVeigh, MPH, Project Intern

C. **Facilities:** Family planning education was offered to workers in the factories or offices where they worked. Most services were also offered at the large work sites by trained medical staff. Workers from small firms received services at two centrally-located private clinics with which the project had contracted. These clinics also received all referrals for sterilization.

V. **Background:**

The grantee, the Center for Social Investigation (CIS), is an independent, private, non-profit, research organization. To improve access to services, CIS proposed to demonstrate that education, promotion, and counseling for family health and birth planning were both feasible and acceptable to urban factory and office employees in La Paz and that the employees would accept and effectively use modern contraceptives.

When the project was being planned, the Bolivian Government offered no family planning services; the crude birth rate for the country was over 40; and the proportion of married women of reproductive age who currently practiced contraception was estimated to be under 20 percent. In addition, illegal abortion in urban areas was common and constituted the single largest cause of hospitalization in La Paz. The availability of family planning services was limited to private physicians, commercial sales of contraceptives by pharmacies, and a few small private organizations.

The proportion of women in the labor force in Bolivia was over 20% but had been decreasing through the early 1980s. Though it was not clear that this was directly related to childbearing, discussions with some employers indicated that the frequent pregnancies of female employees, coupled with the legally enforced maternity benefits, discouraged the hiring of women.

VI. Project Design and Development:

In approximately 30 selected factories and offices (experimental group) in La Paz, CIS met with unions or workers' committees to obtain their suggestions and approval for a series of seminars on family life. CIS offered educational seminars, counseling, and family planning services for employees of these factories and offices. As part of the educational program, CIS developed a series of training materials. Workers attended three three-hour seminars and, afterwards, could request individual counseling. After counseling, workers could be referred for services to work-site facilities or to a private clinic.

The combination of group and individual education is an important aspect of the design. In the group setting of the seminar, the educational team communicates a great deal of information in a far more cost-efficient manner than could be done on a one-to-one basis. The personal counselor can deal with individual questions regarding method choice that would be difficult or impossible to raise in a group setting. In particular, if the counselee expresses interest in sterilization, the counselor can help deal with the essential questions for anyone who is considering a permanent method.

In addition to the experimental group, 10 factories and offices with characteristics similar to the experimental group served as a control group. In these, CIS conducted only evaluation activities.

VII. Research Methods:

In-depth Interviews. CIS interviewed 55 employers and industrial managers to assess their views and their companies' policies on the costs associated with employee pregnancy.

Prospective Cost Studies. CIS obtained the cooperation of five industries in La Paz and another six in Santa Cruz to collect pregnancy cost data prospectively.

Because employers and employees indirectly bear a large percentage of pregnancy costs through payments to health plans affiliated with the Social Security Institute, the project also studied prospectively the pregnancy costs in the health services of the National Confederation of Road and Highway Employees. CIS has also begun to collect data from the La Paz Police medical services. Since the Police have recently begun to offer family planning services, there is a possibility of replicating the 1973

study by Juan Londono in El Salvador that compared medical costs of family planning acceptors with costs of non-acceptors.

Pre- and Post-Seminar Surveys of Seminar participants. As participants arrived for seminars, CIS conducted interviews regarding their knowledge, attitudes and practice of family planning and other health behavior. In this manner CIS conducted approximately 620 interviews with participants at the time of the seminars. CIS also interviewed a sample of participants six months after the seminars to ascertain their health and family planning knowledge, attitudes, and practices and to estimate change since the seminars. CIS also interviewed a control group of non-participants.

Data Processing Methodology. In March, 1983, CIS purchased a Zenith Z-100 microcomputer for project use. Since then CIS staff have used the microcomputer for both word and data processing and have achieved a high degree of competence. In June, 1984, they traded the Z-100 at a very reasonable price for a Z-150 to obtain full compatibility with the IBM-PC. Not only have they assisted Henry Elkins in the development of Survey Mate, a data entry and statistical analysis software package, but they have developed some of their own software, with Spanish commands and displays of the CIS logo.

VIII. Principal Findings:

- **The interviews with 55 La Paz employers showed that employers definitely consider pregnancy costs a deterrent to hiring women.**

It was also found that pregnancy costs would probably be an even greater obstacle to female employment if employers complied with all the existing laws such as the provision of a nursery at worksites with 40 or more people.

- **Labor union leaders and members enthusiastically welcomed the family health seminars and supported them strongly through consistent attendance.**

Although some union and religious leaders have vehemently protested the incorporation of family planning information in the seminars, rank and file members have overwhelmingly insisted that family planning be included.

- **Preliminary results of the pre and post interviews with seminar participants indicate that the seminars successfully communicated a great deal of information about health and family planning.**

About two-thirds of seminar participants requested counseling sessions after the seminars to discuss personal problems. A large majority of these requested more information on family planning and referral to a clinic for services. As of July, 1984, 982 seminar participants from among slightly more

than 3,000 total participants visited one of the two family planning clinics and received services. Over 80 percent of these received either an IUD or underwent female sterilization. Since some of the participants were single or otherwise not exposed to the risk of pregnancy, the percentage of married participants of reproductive age who received services was even higher than the above data might suggest. Based on the characteristics of the participants interviewed, it appears that 46 percent of those participants married and of reproductive age visited a clinic and received family planning service after the seminars.

- **Employers were enthusiastic and expected concrete benefits to accrue from the reduced fertility of their employees.**

IX. Dissemination and Replication:

Two breakthroughs have recently occurred for groups for which CIS gave seminars. First, the La Paz Police, with 13,000 members, has requested additional education and information, contraceptives, and assistance for offering services. Second, the Banco Central and Banco del Estado have begun to provide family planning services in their own medical clinics. Both of these groups can offer family planning services because they are only loosely affiliated with the Social Security Institute and are not subject to the Institute's norms that prohibit such services. The change for the banks occurred in spite of strong opposition of one of the labor leaders, who was overruled by rank and file members. The provision of services within the employee health services themselves will have the immediate effect of making the seminars even more cost effective since employees can avail themselves of an additional service point. For the long run, the project has the potential of serving as an example for the institutionalization of family planning services in many employee health services affiliated with the Social Security Institute. In addition, the demand for seminars and service is thought to be substantial in factories and offices in other Bolivian cities.

The CIS has published, as part of its own Working Paper Series, a number of reports detailing various aspects of the project. In addition, two papers were presented at the 1984 NCIH Conference.

I. **Title:** **COLLABORATIVE OPERATIONS RESEARCH PROJECT: BEMFAM AND CPFH**

II. **Setting:** Piaui; a large, sparsely-populated state in northeast Brazil.

III. **Duration:** April 1, 1979 - June 30, 1983.

IV. **Resources:**

A. Financial: April 1, 1979 - June 30, 1979, $95,049 (CPFH Subcontract from AID pha-C-1107); July 1, 1979 - June 30, 1983, $1,542,166 (CPFH Subagreement)

B. Key Personnel:

1. BEMFAM

Dr. Walter Rodrigues, Executive Secretary
Jose Maria Arruda, Deputy
Marcio Schiavo, Deputy
Eliane Reis, Evaluation Department
Dra. Claudia Valladao, Evaluation Department
Carmen Celia Correia, Piaui Coordinator
Francisca da Chagas Souza, Piaui Operational Research Supervisor

2. CPFH

Dr. James R. Foreit, Resident Advisor
Dr. Martin Gorosh, Project Monitor

C. Facilities: The network of BEMFAM headquarters and field programs in Piaui as well as the State Health Department facilities were used in addition to the far reaching network of volunteer distributors and educators.

V. **Background:**

By the late 1970's Piaui displayed all the signs of a society entering the fertility transition. Urbanization, industrialization, increasing female labor force participation, improved health, and high levels of contraceptive knowledge and use were all present prior to the introduction of the BEMFAM program, as was fertility decline itself.

The world's largest private family planning agency, BEMFAM, was founded in 1965. By 1980, at its peak, BEMFAM operated clinics and/or community-based (CBD) programs in 17 of Brazil's 23 states and recruited over 259,000 new acceptors. In recent years, BEMFAM's budget has varied between U.S. $3 and $6 million, with the bulk of funds provided by international donors.

The involvement of the Center for Population and Family Health (CPFH) with BEMFAM dates from 1974 when Columbia University consultants assisted in the design of a service statistics system for the first BEMFAM CBD project in the state of Rio Grande do Norte, and in 1978, when the CPFH provided funding and technical assistance for an acceptor follow-up survey in the same state.

In 1978, BEMFAM reached agreement with the government of the state of Piaui to provide family planning services through the state health department. When expected United Nations funding for the Piaui project did not materialize, BEMFAM approached the CPFH. In 1978, Brazil was a priority country for CPFH and the AID Office of Population, and the Northeast, where Piaui is located, was the highest priority region in Brazil. Consequently, BEMFAM and the CPFH entered into a three-year, $1.5 million subagreement to conduct operations research. The agreement included support of service delivery costs for two years in Piaui and operations research support for three years. The project began in April, 1979 and continued through June, 1983, as underspending by BEMFAM resulted in a no-cost extension of the project for an additional year. The Pathfinder Fund assumed service delivery costs in Piaui in 1982.

VI. Project Design and Development:

Piaui was the proving ground for several new program launching techniques. These techniques enabled the program to become operational in 113 of Piaui's 114 counties in approximately 45 days. In other states, BEMFAM had extended the program gradually, taking 1-2 years to cover all counties. New processes of implementation, training, and administration were developed. Cadres were selected from existing programs and sent to every county in Piaui. A baseline prevalence survey was undertaken in Piaui in July, 1979, with the technical collaboration of the U.S. Centers for Disease Control (CDC), Atlanta.

Several issues relevant to program design were explored using a variety of operations research techniques. Some of these issues were:

- **Cost-effectiveness.** Nationally, about 40 percent of BEMFAM's 1,900 CBD posts are located in private homes, community centers, town halls, and schools; the rest are in health facilities. Given the very large number of posts involved, and given the fact that BEMFAM must often choose from among several alternative locations for CBD posts, the effectiveness and efficiency of various post types was an important operational question. This issue was explored in a variety of ways over the course of the project. For example, preliminary analysis of post locations suggested that it would be possible to predict which locations would result in high levels of client recruitment and in higher proportions of rural clients. Identification of strategic

locations, and the establishment of posts in them, if done at the time of program launch, could maximize cost effectiveness by making it possible to limit the total number of posts required to provide a high level of availability.

- **Home Visiting and Household Delivery of Contraceptives.** The original research design called for home visiting and household distribution of contraceptives in one-third of the State of Piaui. However, the heart of the program was the established distributor posts. These were inexpensive, in the sense that a housewife at home, unpaid, could be available at most hours, and a worker in a community center, school, or health center could be available to a flow of visitors, whereas active outreach to the doorstep to deliver contraceptives would require paid workers. It became clear, through the operations research efforts, that unpaid workers would not reliably make home visits. Since BEMFAM did not feel it possible to pay such workers, the concept of home visiting was abandoned.

- **Physicians' Contributions.** Private doctors in Piaui represented an attractive delivery system, particularly for clinical methods. The BEMFAM project, while based on the dispersed, simple distributor posts, nevertheless explored several ways to activate private physicians to make additional contributions.

- **New Methods.** The pill was the mainstay of the distributor post program, but consideration was regularly given to how additional methods could be included. Non-clinical methods could potentially be added to the distributor network, while clinical ones might be included by somehow involving private doctors or clinical facilities. It was argued that the new methods would increase both acceptance and continuation. There was, however, concern that the new methods would compete with (rather than complement) the pill, and that large numbers of pill users would be induced to discontinue use in favor of less effective barrier methods.

- **Efficient Supervision.** A considerable portion of the budget went to maintain a system of supervisors, who traveled out to make monthly visits to the distributors. Salaries, per diem, and travel costs mounted for this program, but it was considered essential in order to maintain the motivation and effectiveness of the individual distributors. A continuing issue was how costs could be reduced without sacrificing effectiveness.

- **Traditional Birth Attendants.** Another network, never fully exploited, was that of the traditional birth attendants, the parteiras. If they could be successfully included in project activites, they would address the difficult problem of rural coverage, and this issue was recurrently explored during the project.

- **Post-partum Outlets.** Like private physicians, postpartum facilities offered an opportunity to expand clinical services. The issue was how to do so, particularly as many of them were private, and, whether private or public, would require a special training effort and the launching of new activities within rather conservative medical facilities. Still, a post-partum project had the potential of reaching cheaply and efficiently a large proportion of the target population, since roughly half of all Piaui women deliver in hospitals, and pregnancy complications comprise a significant proportion of hospital caseloads in Piaui.

VII. Research Methods

An impressive variety of research techniques was used, not only the usual surveys and service statistics and a follow-up survey, but also numerous others. Service statistics do not appear separately in the list below since they were used in combination with several of the methods described and served as background information throughout.

Time series and areal comparisons. Starting from program launch, monthly performance was compared in the several CBD states, and administrative causes of differential performance were highlighted. Sharp performance changes were matched to important program decisions, and states with markedly different time trends were contrasted with attention to the differing nature of their programs.

Household surveys. Before and after sample surveys were conducted, prior to and following the main action. These provided much of the fundamental information for judging the outcomes of the project independently from the flow of program information.

Experimental design. Within the state of Piaui, 12 large administrative districts were identified, and combined into 6 matched pairs, with the members of each pair assigned randomly to experimental and control designations. This was to support an examination of alternative supervisory systems, by having supervisors continue to visit the distributors monthly in the control gorup, but to visit only every three months, with selective supervision of problem areas, in the experimental group. "Work sampling," another method, was combined with this, to record the time allocation of distributors and their functions, through logs and through observation during the supervisor's visits. Cost comparisons were made between the two approaches using detailed budget data and the time allocation information.

Mapping and analysis of traffic patterns and road networks. To examine the issue of post location, areas were mapped to show minor roads and bus pickup points. Experimental posts were opened in markets, bus stations, food stores, etc., to test the efficiency of posts where people gathered in already established mobility patterns, rather than to create posts in rural villages without attention to such factors.

Mail questionnaire to physicans. To help explore the issue of physician interest, a mail survey was conducted to assess their capability and willingness to offer certain clinical methods and to assess physician demand for training.

Prevalence and continuation estimates. The BEMFAM service statistics system maintained a record through time for each individual client, along with the number of pill cycles given at each visit. This permitted an exploration of methods to estimate both client continuation and program prevalence through central analysis. In the state of Rio Grande do Norte, this information was compared systematically to that gained from a follow-up survey of the same clients.

Cost effectiveness analysis of physician payments. During one period BEMFAM attempted to enlist physicians to supervise CBD distributors at the county level by paying them retainers of approximately $50 per month per county covered. Large sums were involved, and a cost analysis was done comparing this budget to the apparent contribution to performance.

Referral diffusion using coupons. While the distributors could not directly offer clinical methods, they could offer written referrals using coupons, which clients could then carry to the nearby clinical facility listed on the coupon. This required the training of physicians in those outlying facilities for IUD insertion, sterilization procedures, etc. This was in effect a new program system, and a special evaluation design accompanied it.

VIII. Principal Findings:

- **Contraceptive prevalence in Piaui increased by about 5% (net) as a result of slightly less than three years of program activity.**

This corresponds to a TFR reduction of about 4.5%. Given the high level of sterilization and the pharmacy availability of low cost pills in Piaui, a <u>total</u> prevalence increase of 9-10% between 1979-1982 does not seem unreasonable. It appears that there has been a very respectable increase in prevalence of 3% per year.

- **Even in the poorest regions of Brazil, there exists an enormous demand for family planning services.**

Statewide contraceptive prevalence in Piaui was found to be surprisingly high (30% of married women).

- **The greatest need for family planning services in Piaui is in the interior, where about three-fourths of the population lives.**

Prevalence in the state capital of Teresina was 45 percent while in the rest of the state it was 29 percent. As the program expanded into low-density rural areas both the cost per acceptor and the difficulties of supervision increased markedly, a fact of life that programs must face in servicing large, sparsely distributed populations.

- **Distribution posts in health facilities are substantially more cost-effective than in non-health posts, primarily because they attract many more clients.**

A secondary reason for the superior cost-effectiveness of health posts is that they experience less distributor turn-over than do non-health posts.

- **Health posts and non-health posts, when clustered in the same small communities, are competitive rather than complementary.**

BEMFAM should avoid placing more than one post in the typical small county seat. After it was clear that the clustering of posts did not improve program performance, posts were opened instead in small rural villages outside the county seats.

- **Retainer fees for local physicians were not a cost-efficient method of providing medical backup to the CBD program.**

During February-December 1980, BEMFAM paid retainers. The cost per client attended was $58.93. BEMFAM halted payments to physicians in Piaui.

- **The addition of the new contraceptive methods to the program substantially increased the number of new clients.**

Also, the rate of switching from the pill to the new barrier methods was modest.

- **Replacing monthly with quarterly supervision visits did not harm the program.**

When this innovation was introduced, an annual savings estimated at $100,000 resulted with no adverse effects on program performance. Unfortunately, the shift from monthly to quarterly supervision has not been implemented in all of BEMFAM's programs for internal political reasons.

- **Service statistics indicated that most alternative posts recruited very few clients, but posts located in urban places frequented by rural people could not alone be considered a solution to the problem of rural coverage.**

Alternative posts performed poorly in exactly those areas where they were expected to perform well -- small towns in the most rural counties. The mobility analysis was useful but was not extensive enough, and its results were not implemented sufficiently to make a major improvement. Partly this outcome reflected inherent difficulties in trying to expand the rural network beyond a certain point. Therefore, alternative posts should be regarded as only one of several approaches to adequate rural coverage. No negative impact on established posts was observed as a result of opening alternative posts; they made a positive contribution, but one that needed supplementation. The problem of providing rural coverage in low density areas has no simple solution; the problems inherent in serving an area containing only one eligible couple per square km. are formidable. The most cost-effective solutions appeared to be integrated services in mini-posts, and alternative posts in the largest markets. Mobile vans, which were not studied in Piaui, might also make a useful contribution. Currently, many more rural posts could be opened within the limits of the existing budget.

- **The information obtained suggests that most "parteiras" would not make good BEMFAM family planning distributors.**

Major disqualifying factors include their age and lack of literacy. Also, most wait to be summoned rather than aggressively recruiting clients.

- **Physicians in Piaui proved to be tremendously interested in receiving training in clinical family planning.**

The mail questionnaire showed that between 60-70 percent of those interviewed were interested in training and/or receiving supplies. Many physicans were known to be active in sterilization, and this piece of evidence corresponded to that larger pattern, and was reassuring that the approach of giving additional training would pay dividends.

- **The post-partum project recurited 324 new acceptors in all post-months of operation, a rate more than three times as high as the average Piaui post.**

More than 70% of the women attending lectures accepted. With one part-time distributor/lecturer per post, 40-50% of all women delivering or hospitalized for pregnancy complications participated in the program. Only 25% of acceptors were former BEMFAM clients, indicating that the project reached a group of women different from that reached by the regular CBD program.

XI. Dissemination and Replication:

Operations research projects in Piaui have investigated many subjects of practical significance to program operations, and many of the findings are transferable to other settings. The results on reducing supervisory costs while maintaining quality are an excellent example; the evidence on how to make wider use of physicans applies elsewhere; the postpartum success is reinforced by much similar experience in other countries; the gains from adding new methods are applicable almost everywhere; and the financial attractiveness and general effectiveness of unpaid distributors is well worth applying elsewhere (the average recruitment per distributor may be low, but the total numbers of acceptors can nevertheless be large). The negative results on trying to use TBAs are often found elsewhere except in cases of larger input and greater persistence; and the finding of some demand, in rural areas and even in a very poor state like Piaui, is no longer uncommon. Overall, the BEMFAM experience is quite a replicable one, and the documented lessons there give exceptional evidence seldom gathered in such variety and with such direct applicability to an operating program.

The findings from Piaui have been applied both there and in other state programs, and some of the research methods and program techniques developed in the Piaui laboratory have found their way to Morocco, Indonesia, and Guatemala.

The effects of the project activities on BEMFAM itself have also been significant. The conduct of these activities has served to create and maintain operational research and evaluation capability. The evaluation department of BEMFAM has been strengthened in a variety of ways over the past months:

- A quarterly report system has been developed which allows BEMFAM to identify changes in State performance.

- State evaluation units have been trained by central personnel in the uses of evaluation and in evaluation techniques. This is a first step in transforming these units from clerical departments into contributing members of a program management team.

- New service statistics forms have been developed to accomodate the new methods of contraception that are being introduced into the program.

- Contraceptive prevalance surveys were carried out in Piaui and Amazonas in the second half of 1982. The CPFH contributed funds to the Piaui survey and questionnaire modules to both surveys.

To summarize, this project has been a rich and diverse one, using a great variety of approaches, and investigating a wide range of program questions.

I. **Title:** **ALTERNATIVES FOR REINFORCING RURAL COMMUNITY-BASED MATERNAL AND CHILD HEALTH AND FAMILY PLANNING SERVICES**

II. **Setting:** State of Chihuahua, Mexico

III. **Duration:** November 1 - December 31, 1981

IV. **Resources:**

A. Financial: A CPFH Subagreement of $19,407 was provided for the baseline survey. The remainder of the first year budget of $130,000 was not used since the project was prematurely terminated.

B. Key Personnel:

1. Project

Dr. Carlos Walther Meade, General Director of the Direccion General de Salud Maternal Infantil y Planificacion Familiar

Dr. Renaldo Ramos Varda, Director of Coordinated Public Health Services, Chihuahua

2. CPFH

Dr. Henry Elkins, Project Monitor

Dr. Michele Shedlin, Project Monitor

C. Facilities: The existing state network of community health agents and module supervisors was utilized. The participating institutions, in addition to the Center, were the National Family Planning Coordination Organization, the General Directorate of Maternal and Child Health and Family Planning, and the Coordinated Public Health Services of the State of Chihuahua.

V. **Background:**

Plans for the Chihuahua project developed in late 1980 in response to problems of training, supervision, and logistics for rural family planning/health workers and the widespread malnutrition and infant diarrhea common to rural areas of Mexico. The Chihuahua project was a joint effort of the Mexican National Family Planing Coordination, the General Directorate of Maternal/Child Health and Family Planning of the Ministry of Health, and the Coordinated Public Health Services of the State of Chihuahua. CPFH was involved in the development of the project and provided both financial support and technical assistance.

The project sought to reinforce the existing family planning and maternal and child health activities in the rural areas of Mexico's largest state and to develop models for application throughout the country. The project was designed to implement and evaluate alternative approaches to training and supervision, and to modify and assess changes in the logistics and service statistics systems. In addition, the project was to assist the Ministry in evaluating the introduction of new health services, including oral rehydration therapy for diarrhea.

The project began November 1, 1981 but was prematurely terminated December 31 of the same year. Because of financial constraints and internal political problems, the Ministry of Health cancelled the Chihuahua project along with a number of other projects. During this short period, the data collection for the baseline survey was completed. AID/Washington and CPFH agreed that CPFH would process these data in order to provide the potentially useful results to the Coordinated Public Health Services of Chihuahua. Consequently, the data were processed and anlyzed and the results forwarded to Chihuahua and presented in two papers at the APHA Conference in Dallas in 1983.

VI. Project Design and Development:

The project design assigned each of the state's health service modules to one of three groups: a control group and two groups for the testing of different systems of training and supervision. The duration of the project was to be 24 months: six months for planning, personnel selection and training, 12 months of service delivery, and six months for evaluation and the preparation of a final report.

The operations research proposed in this document responded to the objectives of the National Family Planning Coordination and is a direct outgrowth of close collaboration among the Center for Population and Family Health, the Rural Health Program, and the State of Chihuahua. All of the above mentioned institutions collaborated closely in the elaboration of the proposal, and utilized information provided by the reports, service statistics and field experience of the PSR, as well as the preliminary results of the New Strategies Project.

VII. Research Methods:

Baseline Survey. A three-part baseline survey was completed, with the following groups interviewed: a) a probability sample of 1,200 women of reproductive age from rural areas; b) 166 community health agents; c) 26 community health agent supervisors.

Service Statistics Analysis. The systematic analysis of service records early in the collaboration clarified the needs of the communities and assisted in determining the design of the project.

VIII. Principal Findings:

- **The problems faced by the State of Chihuahua in its health program were identified and included poor acceptance of family planning, a decreasing number of home visits, and weak training, supervision and logistics systems.**

- **The analysis of the baseline survey was forwarded to the State of Chihuahua Coordinated Public Health Services where the information could be utilized in the ongoing health program.**

IX. Dissemination and Replication:

The untimely termination of the project was a disappointment to the Center and to the collaborating authorities in Chihuahua who worked so hard to operationalize it. However, the experience gained in planning the project's design, implementation, and evaluation was valuable in itself to all of the parties involved.

Two papers were presented on the results of the baseline survey at the APHA Conference in Dallas in 1983.

I. **Title: COMMUNITY-BASED DISTRIBUTION OF LOW COST FAMILY PLANNING AND MATERNAL AND CHILD HEALTH SERVICES IN RURAL NIGERIA (PILOT PROJECT)**

II. **Setting:** Thirty-nine villages and over 600 hamlets in a rural area (Akinyele Local Government Area) north of Ibadan in the forest belt of southwestern Nigeria. The population was estimated to be 85,000.

III. **Duration:** July, 1979 to November, 1982

IV. **Resources:**

A. **Financial:** $244,593 (CPFH Subagreement)

B. **Key Personnel:**

1. **Project:**

Dr. O.A. Ladipo, Project Director and Professor, Department of Obstetrics and Gynaecology, University College Hospital (UCH)

Mrs. Grace E. Delano, Project Deputy Director and Clinic Director, Family Planning Unit, UCH

Dr. O. Ayeni, Project Director of Survey Research, Professor of Preventive and Social Medicine (Biostatistics), Faculty of Medicine, University of Ibadan

Mrs. F.O. Fakunle, Supervisor of Nursing Services, Akinyele LGA, Field Director of CBD program

2: **CPFH:**

Ms. Priscilla Randall, Resident Advisor (1981 - 1982)
Dr. Joanne Revson, Project Monitor (1979 - 1981)
Dr. Eugene Weiss, Project Monitor (1981 - 1982)

C. **Facilities:** Office space for project directors, program supervisors, and research personnel was provided by UCH. Community services were directly supervised by the health staff at the seven maternities of Akinyele Local Government, where both initial training and continuing supervision of CBD workers took place.

VI. **Background:**

The need for low-cost family health services in rural Nigeria has been well documented. In the project area, as in most of rural Nigeria, due to limited resources only one third to one half of the population in need was being reached by the existing health services. Accompanied by low levels of income and education (only 15% of women are literate), morbidity,

mortality and fertility rates were all very high. Though the Federal Government had developed plans for a national Basic Health Services Scheme (BHSS), it had been only partially funded, and each of the 19 states had been left to itself to figure out how to put into practice such a program. Further, the BHSS had not planned for a village level worker. It is in this context that the community-based delivery of health and family planning services was developed.

Faculty at UCH wished to demonstrate that village level workers, including traditional birth attendants, could be trained to effectively provide simple health treatments for common ailments as well as offer family planning education and selected contraceptives. Though the State Ministry of Health was approached, they were not interested at the time. Therefore, the Ministry of Local Government, which administers rural health services was contacted and offered support to the pilot project. The objective was to build upon the existing network of government nurse/midwives and maternity centers through the mobilization of village volunteers and TBAs. In addition, family planning services were to be introduced to the rural community for the first time. Though such services had been offered in Ibadan by the Family Planning Unit for 10 years with much success, the staff were anxious to turn their efforts toward the rural areas.

VI. Project Design and Development:

The project was a pilot demonstration study, designed to introduce both a new approach for extending health services to every rural sector as well as to introduce modern family planning for the first time to the village communities. The basic objective was to develop and test the feasibility of a safe, effective, low-cost, and broadly replicable model for the door-to-door delivery of basic family health services. In addition, the project was to: develop and test appropriate training programs, test specific components of the service delivery package for acceptability and replicability; determine the characteristics of effective community agents; train the personnel; and explore the feasibility of a self-sufficient drug supply system based upon the collection of small fees for services.

The original design called for the assignment of variations of the above factors to each of the seven maternity centers. However, this design could not be adhered to. The population to be served was much larger than anticipated, requiring a much larger service delivery system with its large accompanying logistical and administrative load. Further, because of the proximity of the maternity centers to each other, the use of the same supervisory personnel, and a strong preference among the staff to follow a consistent implementation pattern, carefully controlled variations among the different centers were not possible. Nevertheless, due to feedback from the implementation experience and consequent adjustments and revisions in the

program, most of the project objectives have been met, though through an inductive rather than an experimental format. Revisions of the program after the first two years were incorporated into the design of the expanded project (see next section).

One hundred and sixty five fieldworkers were selected and organized into seven groups based around seven maternities. The staff of the maternities supervised the fieldworkers in monthly meetings and in village visits, resupplied them with drugs and contraceptives, and collected records of their activities. Two-thirds of the fieldworkers were female TBAs (mainly non-literate) while one-third were male volunteers. All were selected by their own communities. In addition to providing health education and referrals to the maternity centers, the CBD workers provided treatment for malaria, diarrhea (oral rehydration therapy), worms, cough, and first aid for cuts and bruises. They distributed vitamin and folic acid pills for anaemic children and pregnant women, and distributed condoms, foam tablets, and oral contraceptives. Supplies were kept in an aluminum kit. Fees of from 30 to 70 cents were charged per treatment, while the fieldworker received $15 per month.

VII. Research Methods:

Baseline Survey. This provided data that helped to determine the project population previously estimated at only one-third its actual size. It also gave indicators of the level of health and family planning knowledge, attitudes and practices.

In-depth Interviews. To provide detailed information on the ability of the CBD workers to correctly carry out the educational and clinical tasks assigned to them, several rounds of semi-structured in-depth interviews were held with the fieldworkers. In addition, interviews were held with selected clients.

Service Statistics Collection. Because most of the CBD workers were non-literate, a pictographic reporting form was developed to record the number and age of clients, and the type of service given out. The monthly totals were collected and analyzed to give feedback on the activity of the fieldworkers and to identify problem areas.

Comparative Analysis of Contraceptive Service Statistics And Supply Records. Because of unavoidable deficiencies in the reporting of contraceptives distributed by the CBD workers, the prevalence of contraceptive use could not be determined. However, by also utilizing the records of the amount of contraceptives supplied to the workers, estimates of acceptance and prevalence rates could be made.

VIII. Principal Findings:

- **The CBD project rapidly and significantly increased the delivery of health services to the rural population.**

Before CBD services were introduced, a baseline survey (see Weiss et al., 1984a) found that only 36% of the respondents' families had utilized any government health service in the last year. In the first full year of operation (1982), the 170 CBD workers provided the following services to the 85,000 Akinyele residents:

Illness Treatments	33,788
Prenatal Pill Disbursements	2,051
Contraceptive Disbursements	6,662
Deliveries	575
Health Talks	4,751

The treatments were for:

Malaria	37%
Cough	19%
Worms	12%
Diarrhea (ORT)	11%
First Aid	11%
Anaemia	9%

- **Very positive and practical benefits resulted from integrating family planning with basic health services.**

From the perspective of Oyo State, there is tremendous value in integrating family planning with basic health services. Not only does this make the initiation of the topic of childspacing acceptable at the village level, but it allows family planning to be associated with a very much appreciated service -- bringing basic health care to the rural villages and hamlets. It allows the CBD workers to justify their promotion of family planning through an emphasis on its health benefits.

- **There were large political and program advantages in utilizing Traditional Birth Attendants in the CBD services.**

TBAs and other workers effectively delivered services. Moreover, TBA involvement had a political overtone that made the project more acceptable to many health and other government personnel. It also was consistent with the federal government's policy and efforts to train TBAs.

- **Dissemination of project information at the local level proceeds through a variety of channels, both formal and informal, and can have a major impact on project replication.**

The interest of the Oyo State Health Council in expanding the project, and of nearby states in starting a CBD project, was due less to a formal examination of the initial project and its impact than to word-of-mouth communication among health professionals and other officials. This was facilitated by political feedback from the project area that the services were valuable and appreciated, and by television and radio coverage of graduation and launching ceremonies. Demand grew among other constituencies of Oyo State that they too should have such services.

- **The local university played an important role in initiating the CBD project. However, there are drawbacks to running a project from a university hospital.**

Effective supervision has remained a problem in the original project area. In particular, a number of the local government nurse/midwives have remained somewhat aloof from the CBD project, and thus have not become effective supervisors. This has not been the case with the nurse/midwives in the expanded project areas, where they display enthusiasm and commitment. The likely explanation lies in the dominant role played by University College Hospital's staff in the original supervision of the CBD workers. This points out a serious disadvantage of a pilot program led by university or other outside personnel. However, UCH staff provided the dynamic and charismatic leadership that was needed to initiate an innovative project of this type.

- **The successful transfer of the pilot project was the result of a carefully planned "apprenticeship".**

State personnel first spent time in the pilot area observing the functioning of the program. After training-of-trainers programs, they observed and assisted UCH staff in the initial steps of the expanded project, gradually taking over the training and other local program functions. Planning and overall project management are still jointly undertaken.

- **Small service fees are an acceptable part of the CBD program, though it is unlikely they can ever totally support the costs of the program.**

While the project has been able to collect small service fees (33-67 U. S. cents) from the clients, it is clear that this is not on a strictly commercial basis. Most CBD workers do not collect fees from their relatives -- a significant portion of their clients. Each group of CBD workers has its own bank account where its leader deposits the money collected each month, currently about 60% of the cost of drug resupply.

- **Field studies have verified that non-literate villagers can properly treat malaria and other common illnesses. In addition, they can also be taught to recognize their limitations.**

Two separate field studies (Randall and Adekola, 1983; Reyes and Jinadu, 1984a) each questioned a sample of approximately 30 CBD workers to determine how well they knew the presenting symptoms and appropriate treatment for the illnesses they treated. Both concluded that over 90% of the mainly non-literate villagers had been taught to effectively diagnose and treat a few common illnesses. The use of pictographs for instruction and labels help to ensure the correct disbursement of treatments. Color, odor and taste are also used to distinguish the different drugs.

- **Because of its relationship with the postpartum nursing/abstention taboo, contraception is not a topic easily talked about in the rural communities.**

It is important to have both male and female community agents to introduce and promote modern contraceptives in the rural areas. The average number of contraceptive disbursements in 1983 differed only slightly by sex of worker: 61 for males and 69 for females.

- **It appears that any personal use of contraception by the fieldworker greatly increases the ability of the worker to influence others.**

A current study of the process and impact of CBD educational efforts will attempt to document this hypothesis.

- **Non-professional rural health personnel have made a major contribution to the CBD program.**

After the project began, it was discovered that some of the ward maids, locally trained assistants to the nurse/midwives, spent more time with the CBD workers than did the nurses. In addition, the ward maids were always available at the maternity center, and did not commute like the nurses. Following the special training that was organized for them, they have played an effective role in supervision and family planning education, and are now a standard element of the program. For example, at one of the pilot maternities, Alade, a ward maid, ran the CBD project for six months when the nurse midwife was transferred and a replacement had not come.

- **The development of a mechanism to record the activities of the CBD workers, most of whom are non-literate, has been a notable achievement.**

A pictograph-based sheet, turned in once a month, has been developed. It is simple, usable by non-literates, and records

the type of service and the type of patient. A series of mini-studies assisted in the evaluation and consequent improvement of this "tally sheet."

IX. Dissemination and Replication:

The success of the project was such that the Oyo State Health Council expressed interest in expanding activities to additional areas of the state. This expanded project is described in the following section.

Project results have been documented in a number of CPFH Research Papers and presented at a variety of conferences, as indicated in the Bibliography in Appendix D.

I. **Title: COMMUNITY-BASED DISTRIBUTION OF LOW COST FAMILY PLANNING AND MATERNAL AND CHILD HEALTH SERVICES IN RURAL NIGERIA, EXPANDED PROJECT**

II. **Setting:** Four local government areas from each of the four health zones of Oyo State. The population of each zone varies from 25,000 to 50,000.

III. **Duration:** December, 1982 through December, 1984.

IV. **Resources:**

A. **Financial:** $237,517 (CPFH Subagreement); $313,080 (Pathfinder Grant)

B. **Key Personnel:**

1. **Project:** In addition to the UCH staff active in the project, the following staff of the Oyo State Health Council have been involved in the expanded project:

Mrs. O.O. Williams, Chief Matron, Director of CBD program for Ministry of Health

Field Directors of CBD program:
Mrs. Amoo (Ife)
Mrs. Jaiycoba (Oyo)
Mrs. Ladipo (Ilesha)
Mrs. Owodimilehin (Oshun).

2. **CPFH:**

Ms. Priscilla Randall, Resident Advisor, 1982 - 1983
Dr. Eugene Weiss, Project Monitor, 1982-1984

C. **Facilities:** Office space has been provided by the State Health Council at their headquarters in Ibadan and in the Primary Health Centres in each of the four zones. Training programs have been conducted at these Primary Health Centres as well as at all of the maternities in the zones.

V. **Background:**

As a result of word-of-mouth communications among health professionals, television coverage of graduation ceremonies, extremely positive political feedback from the pilot project area, the State government requested assistance in expanding the program under its own direction. An expanded project was designed which would implement, on a phased basis, a revised service delivery program in four additional areas. UCH staff would initially join with State Health Council staff in directing and implementing the program, though gradually all service

functions would be turned over to government personnel. In order to provide more support for the expanded project, the Pathfinder Fund was asked to provide financial assistance, mainly for the training and service components.

VI. Project Design and Development:

Essentially the same CBD program was developed in the expanded area as in the pilot area, modified in light of the initial experience. For example, monthly stipends of 10 naira were no longer given to the CBD workers and because of government policy, no fees were to be charged for CBD services. (This policy was recently reversed by the state government). Also, instead of reimbursing individual maternity staff members for supervision of the CBD workers, a full-time CBD supervisor was assigned to each zone and provided with a vehicle. These Field Directors attended CPFH's June Course in New York during the planning phase.

Each zone was limited to 100 CBD workers serving a population of not more than 50,000. In some areas, females who are not TBAs have been trained as CBD workers. The training was implemented in a phased format in each zone by the local health staff and the zone's Field Director. All local health personnel attended training of trainers courses conducted by UCH and State Health Council staff.

VII. Research Methods:

Village Survey. Accurate population data are not available in most of Nigeria. By counting houses and employing parameters obtained from a sample enumeration, adequate population estimates were made, useful for both local program planning and evaluation procedures.

Baseline and Post-Surveys. Baseline surveys were conducted in each of the new project zones (Weiss et al, 1984). By measuring utilization of local health facilities, these should provide a useful baseline from which the impact of the CBD services can be assessed in the post-surveys. These surveys will be processed and analyzed through the use of a microcomputer in order to obtain timely results and provide feedback to the program managers.

In-Depth CBD Worker Interviews. Additional interviews have been held with CBD workers and their supervisors to document their work performance. (Reyes and Jinadu, 1984).

Structured Observation of Training. Two different research teams have observed and provided detailed assessments of the training of CBD workers.

Analysis of Supervision Records. The monthly supervision reports have been analyzed in collaboration with information on distribution of CBD workers and on supervision practices (Reyes and Jinadu, 1984b).

Field Study of Helminthic Infestation. Dr. Onadeko of UCH has examined the worm infestation in two project communities. By identifying the incidence of various helminths, the study has helped managers select the appropriate drug for treatment.

Case Study of the Impact of the CBD Program. The impact of the CBD program will be assessed by Health Education faculty at UCH in two villages through a case study approach in which they will interview village residents emphasizing the educational as well as clinical role of the CBD workers.

VIII. Principal Findings:

- **About half of the married women of reproductive ages in the project area are not sexually active at any one time, practicing abstinence for the purpose of ensuring the health of the nursing child.**

Postpartum sexual abstinence is universally practiced in Nigeria, typically for one to three years in the rural Yoruba communities. The project's baseline survey found the median period of abstinence to be 24 months, and the median length of breastfeeding to be 22 months. Consequently, only 42% of the mothers interviewed (only those women who had a child under five) were sexually active at the time of the interview. The rest were still practicing abstinence since their last birth. (Weiss et al., 1984b).

- **Most of the acceptance of modern contraceptives replaces use of traditional abstinence (Weiss et al., 1984b).**

Due to increasing education as well as other modernizing influences, there is a desire among many women and men to reduce the length of postpartum abstinence. As the primary (but not only) purpose of the abstinence was to postpone the next pregnancy, use of a modern contraceptive can achieve the same end. Studies have shown, however, that the desired length of the birth interval or the desired family size has not diminished among the majority of those now using contraception.

- **The use of condoms and male interest in family planning have proven greater than was anticipated. Male promoters are an asset to male acceptance.**

While females practice postpartum abstinence for 2-3 years, no such requirement is placed upon the male. Some (perhaps 30-40%) of the men are polygamous and extra-marital relationships are common. One male reported that the use of contraception allowed him to remain faithful to his wife: they could have sexual relations but, by not allowing conception, they would not

break the taboo of the wife becoming pregnant before her child was weaned. CBD workers report that an important reason for husbands objecting to their wives' use of contraception is the fear of their wives becoming "promiscuous". The project has greatly benefitted from having male CBD workers promoting family planning.

- **While initial family planning acceptance was low, indications are that ever use of a modern method has increased from 2% to 25% in the pilot area.**

While the CBD system does not allow the collection of detailed client data, estimates of use have been made from the number of disbursements and the amount of contraceptives distributed. During 1982-1983 (12 months), the number of pill, condom, and foam tablet acceptors was estimated at 2,460, 830, and 605, respectively. Thus, of the approximately 16,000 women of reproductive age, about 25% have used modern contraception. Current use, however, is estimated at about 10% due to the relatively short periods of usage.

- **A major value of CBD workers has been the linking/referral functions they have served with the government health services.**

A recorded referral in the CBD program means that the CBD worker personally accompanies his or her client to the maternity center, hospital, or other clinic. For example, 142 such accompanied referrals were made to the Primary Health Center of Ilora in nine months by the CBD workers. Of course, many verbal referrals to clinics or maternities were made by the CBD workers for IUD insertion and for other reasons.

- **Individual monetary incentives are not required to motivate CBD workers.**

A very significant finding is that in the new areas volunteers carry out the CBD program without a monthly financial supplement. One might hypothesize that effective community organization and participation may be an alternative to the provision of monthly stipends. On the other hand, once incentives are given, they create difficulties if they are stopped, as they were in the pilot area.

- **The community-based approach has changed the concept of health care from that of providing services to clients who come to a fixed site to providing services to all people living within a particular catchment area.**

A significant result of the implementation of the CBD program, especially in the expansion areas where the government midwives have been the organizers, has been a new emphasis placed on serving the population in need. In the fixed clinic program the fact that typically only 25% - 50% of the rural population utilized the facilities did not seem to be relevant to the rural

nurse/midwife. In the CBD program, on the other hand, the supervising nurses make considerable efforts to see that all parts of their catchment area are served by the program, and that none are left out. This also has political overtones, as no area should be seen as being denied the services of the program. In particular, supervisors now express concern that the more distant/isolated communities, who greatly rely on their CBD workers for the treatment of illness, are served. The workers from these areas are very motivated.

- **The utilization of a microcomputer significantly reduced the time needed to provide results of survey research and feedback to program managers.**

By utilizing microcomputers directly under the control of the researchers, it is possible to greatly speed up data analysis. Data entry, editing, cleaning and deriving basic results now takes 2-3 months instead of the 12-24 months previously common. Costs are greatly reduced and at the same time, significantly greater accuracy is obtained.

IX. Dissemination and Replication:

The expanded project was specifically designed to be administered by Oyo State health personnel and to be at a resource level that could be easily replicated by the state government. As the result of a carefully planned "apprenticeship" program, all service and management functions will have been transferred to State Health Council personnel by the end of the current project. With State institutionalization of activities came better supervision and higher morale in the expanded project area. This has most likely resulted from the Health Council and Local Government nurses having taken responsibility themselves for the development and organization of the CBD program in their areas. Finally, the State Health Council intends to further expand the CBD program into additional areas of the State. Continuing assistance from both Pathfinder and CPFH is being sought for 1985 by the State Health Council for this enterprise.

A major project information dissemination conference is scheduled for January, 1985 in Ibadan. Representatives from the other 18 states in Nigeria and the federal government will attend. They will have the opportunity to discuss the processes and findings of the project as well as to visit the project areas. It is expected that the experiences of the Oyo State government will encourage other states to implement similar programs.

I. **Title: OPERATIONS RESEARCH ON THE SOCIAL MARKETING OF CONTRACEPTIVES, SRI LANKA**

II. **Setting:** Nationwide, through a network of pharmacies and commercial outlets.

III. **Duration:** April 1, 1980 - March 31, 1983.

IV. **Resources:**

A. **Financial:** $154,015 (CPFH Subagreement)

B. **Key Personnel:**

1. **Project:**
Mr. Daya Abeywickrema, Executive Director, FPASL

2. **CPFH**
Dr. William Van Wie, Project Monitor

C. **Facilities:** The project is based in the FPASL facilities in Colombo, with sales through retail outlets throughout Sri Lanka.

V. **Background:**

Sri Lanka is an island nation with an estimated 1982 population of 15.2 million, a crude birth rate estimated at 28 per 1000, and a crude death rate of 6.5 per 1000. Sri Lanka is characterized by very good transportation and mail systems, both relevant to this project design, and a very high rate of literacy (currently estimated at 85%). Current estimates of contraceptive prevalence suggest relatively high overall prevalence (55%), with approximately 20% of married women of reproductive age using sterilization, but a surprisingly high (25%) use of traditional methods, and low (10%) use of modern spacing methods.

This project was carried out by the Family Planning Association of Sri Lanka (FPASL), one of the first FPAs, founded in 1953 following visits to Sri Lanka by Margaret Sanger and Dr. Abraham Stone. As the government became active in providing clinical contraceptive services in the late 1960's, the FPASL focused increasing effort on research, training and supplementary services, such as social marketing.

From 1974 to 1981, the FPASL provided services to 7% of all new family planning clients in clinics, including 29% of the vasectomy clients and 47% of the clients for injectable contraceptives; and is currently distributing, through its commercial sales program, approximately 90% of the condoms and 40% of the oral contraceptives used nationally.

VI. Project Design and Development:

The FPASL's primary objectives in the project were: to strengthen its operations research capacity; to compare an existing social marketing scheme (principal agent system) with a new model (commission agent system); and to develop an income-generating mechanism which would help the social marketing program move toward self-sufficiency.

The original social marketing program of the FPASL, to which this project was added, was based on the use of a nationwide commercial network. The FPASL supplied contraceptive products to a principal agent commercial distributor in Colombo. The rest of the distribution system - from district wholesale distributors to local retail outlets - was determined and managed by the principal agent.

The project design called for the continuation of this original (principal agent) system in five of the 10 sales districts, and the development of an experimental (commission agent) system in the other five districts. In this experimental system, the FPASL assigned marketing officers at the district level and transferred distribution from Colombo to selected wholesale distributors in these districts. A subsequent modification in trial areas included FPASL-managed distribution to smaller, community-level wholesalers. In 1980, the FPASL took over nationwide distribution for all oral contraceptives through a part-time Medical Representative added to its staff. In addition, during the past year, the FPA has introduced several new products, and has begun development of several new strategies for strengthening the program and for linking it more closely to community based activities.

VII. Research Methods:

The primary research objectives of the project were to explore and evaluate alternative sales strategies and to improve the capacity of the FPASL to monitor and evaluate program modifications. Research methods included:

Comparative Analysis. Existing and new distribution systems were evaluated and their results compared.

Improved Charting of Sales. Project improvements in documentation of sales provided the FPASL with small area sales figures for the first time, permitting evaluation of promotional and distribution experiments.

Documentation of Distribution Network. With the FPASL managing distribution at the district level, detailed information on individual sales outlets became accessible and allowed the FPASL to analyze changes in the system.

Dealer Surveys. Analysis of these data provided insight into the needs and problems of the retail outlets.

Surveys of Condom and Oral Contraceptive Users. While surveys of clients utilizing family planning clinics are fairly common, this project surveyed purchasers of contraceptives through a nationwide network of retail outlets. Surveying these clients required a system of coupons and mailed questionnaires.

Follow-up of Unexpected Findings. The careful observation of turnover in the sales force and the success of changes in the design of the distribution network permitted the FPASL to modify the design to meet local needs.

Cost Analysis. The availability of small area sales information and cost figures permitted cost comparisons of the distribution alternatives.

VIII. Principal Findings:

- **The FPASL established and managed an effective contraceptive delivery system.**

It also developed a practical record system for monitoring this program. This was particularly important during the changing market conditions which followed the 1977 removal of import restrictions.

- **The FPASL increased its capacity to carry out operations research.**

By improving monitoring and management of the distribution network, the FPA was able to try out additional products, promotional campaigns and distribution strategies.

- **Sales of oral contraceptives increased by seven percent during the project.**

When there were difficulties with the principal agents, the FPASL was able to modify its distribution network and to continue sales without interruption.

- **Total sales of condoms decreased by almost 12 percent.**

Some of the major factors appear to be price increases, a major increase in sterilizations and the sale of low-priced products by other suppliers.

- **The comparison of condom sales between the principal agent system and the commission agent system did not show major differences.**

The commission agents were successful at opening rural outlets, but these did not have many sales.

- **The FPASL was able to recover a larger proportion of its operating costs through the commission agent system than through the principal agent system.**

- **Having small area wholesale distributors proved to be an effective model.**

In two districts where commission agents did not function satisfactorily, the FPA experimented with smaller community-level wholesale distributors. This model is being further developed by the FPA.

- **Personnel turnover and sales force vacancies were reduced.**

The FPASL developed a system of compensation, commissions and allowances which is more competitive with private sector practices in an effort to retain workers.

IX. Dissemination and Replication:

Because this was a nationwide project, the replication of its findings has taken place as the project developed, and as natural experiments provided opportunities to improve the design. In addition, the improved capacity of the FPASL to monitor small area costs and sales will continue to allow better evaluation and modification of the design.

Papers have been written, documenting project activities and accomplishments, and presentations have been given at international meetings (see bibliography). In addition, the Project Director, a widely recognized leader in the international community of professionals concerned with social marketing, has represented the project and described its findings in many international visits and meetings, and has hosted a large number of international visitors to the project.

I. **Title:** **MAASAI HEALTH SERVICES PROJECT, TANZANIA**

II. **Setting:** The communities surrounding the seven Lutheran Synod dispensaries in the Arusha Region of northern Tanzania. The population of these communities is approximately 55,000.

III. **Duration:** April, 1982 to December, 1985. Activities during the period from April 1, 1984 to December 31, 1985 are continuing under a no-cost extension.

IV. **Resources:**

A. **Financial:** $69,208 (CPFH Subagreement)

B. **Key Personnel:**

1. **Project:**

Dr. Elihuruma M. Nangawe, Project Director and Medical Director, Lutheran Synod, Arusha Region

2. **CPFH:**

Erik Rowberg, Resident Advisor
Dr. William Van Wie, Project Monitor

C. **Facilities:** Project headquarters is in the largest of the seven Lutheran dispensaries, Selian, which is also equipped with a classroom and dormitory accommodations for centralized training. Field training of Community Health Workers (CHWs) is based at the local Lutheran dispensaries, while schools or churches are often used for group discussions and community meetings. As befits an outreach program, most services are provided in the open air in the communities.

V. **Background:**

The Lutheran Synod in the Arusha Region has long operated dispensaries in Maasailand through its Maasai Health Services Program. In 1975, an examination of this health care delivery system was undertaken. Results showed the seven operating dispensaries to be characterized by no community outreach, very low attendance (averaging 5-10 patients per day), poorly trained and unsupervised staff, and inadequate supplies and equipment. In addition, vast areas of Maasailand were virtually without services of any kind.

From the foregoing, the Synod identified the need to: (a) train a cadre of workers to extend services beyond the dispensaries; (b) retrain dispensary workers; and (c) improve the supply and supervision system. In 1981, CPFH agreed to collaborate with the Synod by supplying financial and technical assistance for an operations research project to improve services

in Maasailand over a period of three years.

The objectives of the project were: (1) to establish a community-based health care program in the communities served by the seven dispensary sites of the Lutheran Church Synod; and (2) to improve the quality of health and medical care, including family planning, provided by the dispensaries. It was important that the objectives and design of the project be consistent with national and regional health policy. Because the health services of the Synod are designated as a component of the national health system by the Ministry of Health (MOH), there are several natural links which have been further strengthened. Most importantly, an excellent working relationship and rapport has been maintained between the project and the MOH, as demonstrated by collaborative priority setting and training efforts.

The Arusha Region serves as a pilot region for the MOH in the development of community health services and project experience has proven to be a valuable resource for the region as it plans its strategy. To ensure consistency and to avoid duplication, the Regional Medical Officer has been intimately involved with the project since its inception. His involvement in clarifying needs, in deciding the CHWs' role particularly in reference to family planning, and in shaping the training design, the supervisory system, and other project components, has forged a link between the project and the region that has aided both.

The difficulties encountered by project staff in introducing and improving service delivery are well illustrated by an examination of the barriers to family planning use which exist in Tanzania. First, there is no clear government policy concerning how and by what level of health worker contraceptives are to be delivered. Second, the severity of Tanzania's economic crisis has produced shortages of funding and basic commodities essential to service delivery. Third, MHS project personnel, prior to the beginning of CPFH assistance, did not have the same degree of expertise in family planning as in other health interventions. Finally, although postpartum abstinence is still practiced in many areas, modern family planning methods are virtually unavailable and unknown among the Maasai and the Waarusha. To respond to these barriers, the project aimed to provide family planning training to project staff and health workers, education and motivation in the communities, and a system of referrals and service provision through dispensaries.

VI. Project Design and Development:

The Maasai Health Services Project was designed in collaboration with the Ministry of Health as a pilot demonstration study in the development of primary health care services in Maasailand and by extension, in other rural areas of Tanzania. The project's purpose is to test the feasibility of a community-based, community-managed health improvement program among the underserved and traditional Maasai.

CPFH assistance was divided into two phases. During Phase I (April, 1982 - November, 1982), detailed implementation plans were completed, project staff recruited, training procedures and materials developed, and evaluation and operations research activities and priorities identified. In addition, project training and services were initiated in the pilot area of Orkesmet. Phase II, which began in December, 1982, included the continuation of activities in the pilot area and the initiation of activities in the six remaining sites with the training and service designs modified in accordance with pilot area experiences.

Project activities generally followed a sequence starting with a series of meetings with community leaders and residents to discuss health problems and potential solutions, the communities' selection of residents to serve as health workers based upon criteria determined by the community, and the training of those selected using an appropriate combination of classroom and practical learning. Ongoing supervision is provided by the workers at the Lutheran dispensaries, who are also involved in the CHWs' training.

Because family planning was new to area residents and the project staff, special attention was given to the design and implementation of project activities in this area. First, demographic and attidudinal data were gathered through such research methods as surveys and focus group discussions. Second, family planning was a major topic in the training programs for project staff, trainers of CHWs and the CHWs themselves. Third, a system of referral and service delivery was developed which responded to the health needs of the population in a culturally appropriate way. As a result of these efforts the climate for introducing family planning through the community based approach has greatly improved, particularly in the Waarusha area.

Evaluation and operations research activities carried out in the project include project development analysis, mapping and listing of villages, pre- and post-surveys, analysis of service records, analysis of training, and dissemination of findings.

VII. Research Methods:

Needs and Resources Assessment. Because this was the first attempt in the Arusha region to introduce community-based services, the project was designed to include a Phase I assessment of local needs and resources. This provided substantial baseline data and a basis for detailed project design.

Mapping of Bomas and Villages. A clearer understanding of the movement patterns of the semi-nomadic Maasai provided a sound basis for training and service design.

Baseline and Follow-Up Surveys. Very few data were available concerning the health status of the Maasai tribe or its Waarusha sub-group. The information gathered served as a resource for project design and as a basis for assessing project achievements.

Field Observation/Interviews. The extensive time spent in the field by project staff made this tool very valuable. Their interaction with CHWs and community residents permitted the assessment of actual and perceived project achievements and modifications required.

OR in Training. CHW training content and delivery and subsequent CHW performance were measured and modified through pre- and post-training tests, daily feedback reports, trainers' peer review, detailed structured interviews with CHWs, observation guides to CHWs' work, surveys of MCH target groups, and structured interviews with traditional leaders.

Focus Groups. Focus groups on family planning attitudes were conducted among a) traditional leaders, and b) married women.

VIII. Principal Findings:

- **The provision of MCH services by CHWs on an outreach basis increases clinic attendance and improves MCH coverage.**

On the basis of the baseline and post-training surveys in the pilot region, it was found that: MCH clinic attendance increased from 20% of mothers bringing their pre-school children irregularly to 86% of mothers attending monthly; ORT awareness increased from 10% of women to 90%; 87% of pre-school children were in the process of receiving the full immunization series compared to virtually no children prior to the project since those services were unavailable; no measles deaths occurred in the pilot area after vaccination services commenced though several such deaths were reported in neighboring areas; 75% of children under five had up-to-date and accurate growth charts at the end of CHW training vs. no children prior to the project; over half of the women interviewed had been taught about and practiced eye-washing to prevent conjunctivitis.

- **Traditional Birth Attendants with limited training in family planning and MCH services can effectively refer women to the dispensary for those services.**

This aspect of the program is just being implemented in Selian, a settled Waarusha community. Referrals for family planning services have increased significantly since the start of this effort.

- **Local dispensary workers can carry out effective technical supervision of the CHWs in their areas.**

In one project site, the dispensary workers have assumed total responsibility for all CHW technical supervision needs. In the remaining sites, project staff still share that responsibility as the process of skills transfer is not complete.

- **A community-based project begun with intensive outside input oriented towards skills transfer can become self-sustaining.**

After an initial reliance on substantial outside resources, MHS project activities can be sustained with minimal outside assistance. Over time, the community provided an increasing amount of financial and human resources to carry out the management, training, and supervision functions required for continuation of the project. This occurred in the project pilot area of Orkesmet in one and a half years and is in process in four other sites.

- **Frequent meetings in the community with elders, elected leaders, and the general public contribute to community involvement in project activities.**

In those villages where few meetings were held, community participation was less evident than in communities where meetings were frequent, as measured by: 1) active participation in the decision-making process affecting the project; 2) provision of food and/or stipends to the CHWs; 3) provision of kerosene for vaccine refrigerators and other supplies; and 4) utilization of CHW services.

- **Community involvement and support is more difficult to obtain in the settled areas than in the traditional Maasai communities.**

With greater demands on their time, less felt need for health services, and a rapidly changing social structure, the settled, semi-urban Waarusha present difficulties in conducting well-attended meetings, and achieving concensus on project issues.

- **Maasai communities are willing and able to provide regular financial and in-kind support to CHWs.**

In two of the five sites which have functioning CHWs, the community organized to provide them with monthly stipends. In one other site, food and assistance with domestic responsibilities was provided while CHWs were in training or on home visits. The process through which this tangible support was achieved requires time and patience.

- **Once convinced that a particular service is worthwhile and that they are responsible for making it available, Maasai communities will take the steps necessary to assure the availability of the service.**

When kerosene for the vaccine refrigerators runs out, community members in Orkesmet, Ketumbeine, and Gelai have taken it upon themselves to obtain supplies from the District Medical Office or, in most cases, to purchase it themselves.

- **The project must use a broad definition of health development in order to respond to the felt needs of a community and to gain its trust.**

When a community's felt needs fall outside the expertise and declared purpose of the project, staff must be willing to assist insofar as possible or facilitate referral to a more appropriate source of assistance.

- **Training conducted in the CHWs' own communities is feasible, desirable and necessary.**

Training of approximately 50 CHWs was carried out in five sites of the MHS project. The benefits associated with decentralized training include:

CHWs need not neglect their domestic and community responsibilities;

visibility of CHWs and trainers is increased;

informal discussions with community members about the project are encouraged, leading to a better informed community;

field work during training is directly relevant to the CHWs' work and provides needed assistance to this underserved population;

community leaders are able to participate as trainers and resource people;

sessions are open to any community members who would like to attend;

community meetings held during training increase CHWs' facilitation skills and promote community participation;

CHWs gain credibility from their visible association with respected and trusted trainers;

An exception to decentralized training is made when the CHWs are brought to the central dispensary for training in some clinical skills because the number of cases in their smaller home dispensaries would be insufficient to ensure competency.

- **Full-time dispensary workers are a valuable training and supervision resource for the CHWs and are necessary for decentralized training and supervision.**

After attending Training of Trainers workshops conducted by project staff, dispensary workers and project staff become co-trainers of CHWs. The dispensary workers gradually assume all training responsibilities. Currently, dispensary workers in three sites have primary responsibility for CHW training and in two sites are well on their way towards the same level of competence.

- **Competency-based training is appropriate and effective in training CHWs in the performance of specific skills.**

Training was evaluated in the pilot area of Orkesmet in April 1983 by CHW performance of specific tasks which had been targeted during training. Clinical skills, which easily lend themselves to the competency-based approach, were uniformly well performed, while education and counseling skills needed more attention.

- **The content of training must be based on a thorough needs and resources assessment of the project area but must remain flexible in order to respond to specific needs of each community and each group of CHWs.**

For example, conjunctivitis treatment and prevention must be highlighted in the arid parts of Maasailand but need not be in the areas with greater water availability.

- **Phased training is an appropriate response to a number of needs.**

These include the community's immediate need for services; the CHWs' need to apply skills to cement learning before new skills are learned; the CHWs' inability to leave their domestic responsibilities for extended periods; and the logistics problems of organizing field trips of more than 2-3 weeks duration, given the scarcity of goods in Tanzania.

- **Documentation of objective and subjective results of training must be maintained for continual feedback and for the improvement of training.**

Training evaluation tools include pre- and post-tests, skills records kept by the CHWs, written daily feedback from CHWs to trainers, community mini-surveys on coverage by CHWs and reaction to CHWs and their role, team training with daily critique meetings, and extensive guided observation of trainers and CHWs.

- **The initiation of services in a pilot area is an efficient use of scarce resources and a valuable method with which to investigate operations research questions.**

The needs and resources assessment, baseline survey, training materials development, training program, service delivery, and evaluation carried out in the pilot area in Orkesmet provided valuable information for expanding activities to other project sites.

- **Extensive time spent by the project staff in the field yielded impressive returns in data quality and community relations.**

The staff's impressive and increasing familiarity with the various project sites improved the quality of data, particularly qualitative data, collected. This familiarity also has a positive impact on community participation and training.

- **Contrary to widely held opinion, it is possible to conduct both large scale and small sample surveys among semi-nomadic, traditional people.**

- **Small scale surveys and service statistics hold great potential for improving service delivery but only if they can be immediately analyzed and modifications made based on the results.**

- **Focus groups can provide valuable information for program guidance.**

Focus groups on the topic of family planning/child spacing were recently held in one semi-urban project site. It was found that the women and traditional leaders were quite open in the discussion. The method provided important insights into their perceptions of traditional and modern contraceptives and child spacing practices.

IX. Dissemination and Replication:

The CPFH is presently seeking funds for continuation of its support to the Maasai Health Services Project, necessary in light of the unavailability of AID funding to support activities in Tanzania.

Project findings regarding both implementation processes and results have national applicability since the project was designed in collaboration with the Ministry of Health to include elements which the MOH could replicate. The operations research questions were chosen with this issue in mind. The Arusha Region, designated by the MOH as a pilot area for rural health care, is a fitting site for the project. The project has served as a field test for selected aspects of the regional program through continuous collaboration on priority setting and implementation. The project emphasis on family planning within a strong community-oriented primary health care service will, therefore, have an impact considerably beyond the project area.

Exciting results are emerging from a program affliated with the project which trains Traditional Birth Attendants in family planning counseling and referral. Thus far, approximately 100 TBAs have been trained in the Selian area and referrals to the Selian Dispensary for family planning, as well as for other MCH services, have increased dramatically, although the total numbers are as yet still modest.

Project staff members have been involved in numerous regional and national primary health care seminars, workshops, and conferences both as facilitators and participants. The project has often been highlighted at these gatherings because it reflects field implementation of regional and national PHC priorities. For example, at a workshop jointly sponsored by the MOH and CPFH, regional and district program coordinators from five regions were brought together and the MHS strategy was frequently cited as a resource from which other programs could learn.

International meetings at which project activities have been discussed include NCIH in June, 1984. Papers and reports which document project activites are listed in the bibliography.

IV. SUPPORT TO FAMILY HEALTH PROJECTS

A. Guatemala

B. Haiti

C. Peru

D. Sudan

E. Thailand

I. **Title:** **BRINGING FAMILY PLANNING TO THE INDIANS OF GUATEMALA.**

II. **Setting:** Cakchiquel and Quiche speaking communities in the highlands of Guatemala.

III. **Duration:** CPFH participation lasted between June, 1979 and February, 1981 when the Resident Advisor was withdrawn from Guatemala for security reasons. The project continued without CPFH assistance.

IV. **Resources:**

A. **Financial:** CPFH provided technical assistance, and salary, travel, and revolving fund expenses for in-country technical assistance.

B. **Key Personnel:**

1. **Project:**

Robert Santiso, Project Director

2. **CPFH:**

Mr. Stephan Isaacs, Project Monitor
Dr. James Mondloch, Resident Advisor

C. **Facilities:** In July 1980, the project acquired its own small facilities in Chimaltenango, a centrally located town in the predominantly Indian highlands which served as the project headquarters.

V. **Background:**

The population of Guatemala can be roughly divided into two large categories, Indian and non-Indian (Ladino), based on racial and cultural criteria. The first group, the Indian, are the descendants of the original Mayan inhabitants of the region. It comprises about 45% - 50% of the country's total population. Most of the indigenous population is concentrated in the highlands on family plots or in small towns and villages. Sixteen mutually unintelligible Mayan languages are spoken in Guatemala. Four of these, Cakchiquel, Quiche, Kekchi, and Mayan have the most speakers. Although Spanish is the official language of the country, many Indians, especially women, are still monolingual Maya speakers.

APROFAM, the private family planning association of Guatemala, affiliated with IPPF, is a non-profit organization. It is the only organization in the country which has been providing family planning information, training, services, and evaluation. It has been one of the region's pioneers in establishing community-based distribution programs, voluntary sterilization activities, information programs using mass media, and leadership training projects.

VI. Project Design and Development:

Several early attempts by APROFAM to introduce family planning programs into Indian communities had little success. By far the most ambitious of these pioneer programs was a CBD project working in rural areas through existing community organizations such as peasant leagues and cooperatives. Given the limited success of this program, in 1979 APROFAM decided to initiate a pilot project specifically designed for the Indian population.

Recognizing that Guatemalan Indians were culturally different from the Ladino population, the project's objectives were to find ways of delivering family planning information and services which would be acceptable to the indigenous population. Since family planning acceptance was so low, the project attempted to answer a number of basic questions with regard to information and services. Among these were: would a purely educational program, which referred clients to clinical sites, increase family planning acceptance? If not, should distributors provide only contraceptives or a wider variety of health services? Is it more effective to provide information/education in group meetings or in the homes of Guatemalan Indians or a combination of the two? Should programs focus primarily on the woman, the man, or should both be involved in contraceptive decision-making?

Throughout most of the life of the project, eight to ten couples worked as educators and distributors. Most were married and had children -- a status, it was discovered, that makes them more acceptable as family planning promotors.

During the first year of the program it was noted that if the communicators were to have any credibility in the villages they had to do more than talk about health and family planning; they had to also give services. For Indians, actions, not words, count. For that reason, during May and June, 1980 all of the personnel of the program participated in a six week training program in family planning, rural health, and first aid. Upon completion of this training, the Guatemalan Ministry of Health gave each participant an official rural health promoter I.D. card which allowed them to provide health services. These services which consisted of the distribution of basic medicines (oral rehydration salts, aspirin, prenatal vitamins, antiparasite medicine, and a lotion for skin infection), contraceptives (pills, condoms, foams, and jellies), and first aid treatment.

The increase in political violence in Guatemala forced the early departure of the Center's resident advisor and a termination of the Center's active role in the project. A number of important lessons were learned, however.

VII. Research Methods:

Qualitative Observations. Information was gathered through informal conversations and observations. Dr. Mondloch's observations made at the village level were written in quarterly reports. Monthly reports concerning discussions about family planning in their communities were filed by the communicators.

Service Statistics Collection. Referral coupons were collected at health posts allowing for monitoring of the number of referrals by the communicators.

VIII. Principal Findings:

- **For a health and family planning program to be successful it must provide services in addition to information.**

A purely informational program will have little success among Indians. Health services, as well as contraception, should be provided.

- **For a village worker to effectively promote family planning he/she should be married and, preferably, be planning his/her own family.**

Leadership and respectability in Indian communities are qualities found in adults and not in unmarried youths.

- **The most effective place to reach Indians with the message of family planning and contraceptive services was in the privacy of their own homes.**

Family planning was still not socially acceptable in Indian communities and those interested in using contraceptives wished to remain anonymous and avoid being the target of ridicule and gossip.

- **It was important that promotors of family planning contact both the wife and husband.**

In Indian families most important decisions are made by the man in consultation with his wife. However, the husband usually has the final say, even if the wife disagrees.

- **Since sex and reproduction were taboo subjects for discussion, people did not want to hear about or discuss these topics in the presence of their relatives, friends or neighbors. Group activities, however, were useful in discussing other aspects of health.**

They were also a good vehicle by which a communicator became accepted in a village where he or she was not known.

- **Avoid the use of questionnaires and formal interviews.**

Indians are usually reserved and do not speak freely about their personal affairs. Asking direct questions is considered rude. People who ask personal questions are looked upon with suspicion, and frequently they are given false information. The only way to obtain reliable information is to live among the people, observing, and asking indirect questions.

- **Many excellent community workers cannot read or write, nor can they speak Spanish.**

Any program should be designed so that such individuals are not *a priori* excluded as village workers.

- **Any materials made for Indians should be produced *by* Indians.**

I. Title: HAITI HOUSEHOLD CONTRACEPTIVE DISTRIBUTION PROJECT

II. Setting: Three rural areas of Haiti each with populations of 10-12,000 inhabitants.

III. Duration: January, 1978 - January, 1982

IV. Resources:

A. Financial: This project was funded by AID ST/POP/R.

B. Key Personnel:

1. Division d'Hygiene Familiale:

Dr. Ary Bordes

2. CPFH:

Dr. James Allman, Resident Advisor
Dr. Joanne Revson, Project Monitor, 1978 - 1980
Dr. Joe Wray, Project Monitor, 1981 - 1982

C. Facilities: Office space was provided by the Division d'Hygiene Familiale and rural households were used as depots.

V. Background:

The Division d'Hygiene Familiale (DHF) was established by the Department de la Sante Publique et de la Population in 1971 to coordinate all MCH and FP services in Haiti. Programs began in 1973 and were initially hospital- and clinic-based. Efforts to achieve broad coverage got underway in 1978 and included setting up a household contraceptive distribution project with CPFH in January 1978.

VI. Project Design and Development:

The project tested non-clinical delivery of contraceptives and studied community interest in family planning, particularly unmet demand for modern methods. Eighteen community members were recruited and trained in rural areas around Fond Parisien, St. Marc and Leogane. They distributed pills, foam and condoms to a population of over 30,000. The rounds of household distribution of contraceptives ended in Fond Parisien in January 1979, in St. Marc in August 1979 and in Leogane in March 1980.

VII. Research Methods:

Baseline and Later Surveys. The baseline survey was done at the time of the first distribution using a simple form containing ten questions. Surveys using the same form were repeated at rounds two and three of contraceptive distribution.

Qualitative Studies. These provided additional data on project impact and allowed project staff to monitor ongoing activities.

VIII. Principal Findings:

- **Use of oral contaceptives and foam increased substantially.**

Use increased from less than 3% in the first area (Fond Parisien) to almost 10% percent; from less than 2% in the second area (St. Marc) to over 15 %; and from less than 1% in the third area (Leogane) to over 50%at the final distribution and survey interview, eight months after the first round of visits. Acceptance rates for condoms by both women and their partners was also high.

- **Acceptance and use of modern contraception appeared to be directly related to the liberalness of distribution.**

As the program went on and rural people welcomed the distribution, the field staff became more comfortable with the idea of a broadscale distribution of contraceptives by non-medical personnel. All methods were supplied more generously in St. Marc and Leogane compared with Fond Parisien.

- **There were substantial decines in pregnancy prevalence in St. Marc and Leogane.**

- **The spontaneous formation of family planning acceptor groups occurred.**

From field observation it was apparent that these greatly facilitated the process of resupply and led to sustained interest in contraceptive practice. Many of these groups met on a regular basis and made the whole idea of family planning practice much more visible and acceptable in these communities. Encouraged by this, DHF staff subsequently promoted the idea in all three areas.

- **Analysis of the project data showed no apparent interference with traditional prolonged breastfeeding.**

Postpartum women, following the distributors' instructions, did not begin using pills until they were over nine months postpartum. Studies were also done on contraceptive continuation rates, effectiveness in preventing pregnancy and cost-effectiveness of the project.

- **The project has clearly demonstrated that household distribution of contraceptives is a viable and effective strategy for use in rural settings in Haiti.**

IX. Dissemination and Replication:

In part because of this project, the climate towards the acceptability of family planning services has changed among many health professionals in Haiti. The much broader scale of activities of subsequent projects provides an opportunity for further testing and demonstrating the efficiency of the community-based approach for delivering family planning and basic health services.

The operations research project has also contributed to increasing knowledge of demographic, family planning and health conditions in Haiti. Over 30 documents, reports, presentations, and articles based on project data, the 1977 Haiti Fertility Survey, the 1978 Nutrition Survey, and numerous regional and local studies (including attitudes of men to family planning, women's attitudes toward menstruation and the introduction of DMPA, birthing practices, infant and child mortality, the diarrhea control program, etc.) have been prepared by the project team.

I. Title: OPERATIONS RESEARCH ON LOW-COST DELIVERY OF MATERNAL AND CHILD HEALTH AND FAMILY PLANNING

II. Setting: Rural Haiti

III. Duration: October, 1981 - September, 1985

IV. Resources:

A. Financial: The project is funded by AID ST/POP/R for $495,166.

B. Key Personnel:

1. Direction d'Hygiene Familiale et Nutrition (DHFN)

Dr. Sage Armand

2. Health District of Miragoane

Dr. Yves Alexandre

3. CPFH

Dr. Joe Wray, Project Monitor
Dr. James Allman, Resident Advisor

V. Background:

Given the success of the Haiti Household Distribution Project, CPFH staff, in cooperation with DHFN officials and USAID, drew up the current operations research project. This proposal was approved in October 1981, and was to provide for initiation and evaluation of various non-clinic-based approaches to service delivery in the South Region.

VI. Project Design and Development:

The initial phase of the project was designed to institutionalize DHFN capability to carry out operations research activities by providing opportunities for its personnel, both in Port-au-Prince and in the South Region, to participate in the selection and design of projects. These were to be based on the results of a series of workshops and field studies. Preliminary discussions led to focusing initial efforts at analyzing and evaluating the FP/MCH services provided by the community-based activities and health centers in Arniquet, a model program of the South Regional Health Bureau.

As a result of these workshops, which illustrated that paramedical distribution of FP/MCH services could be done very successfully and which identified weaknesses in training, supervision, logistics and service provision, participants identified MCH/FP priorities on which to focus operations research activities. The major activity undertaken was the

integration of family planning services into the SNEM (malaria control) community volunteer program. Workgroups, with active participation from the DHFN, the malaria program officials and regional and district health staff, coordinated and monitored the DHFN/SNEM contraceptive distribution by community volunteers.

The SNEM combats malaria, a serious problem at altitudes less than 500 meters throughout Haiti. The primary approach is based on the training of community volunteers who are supplied and supervised by Agents de Campagne. To date over 6,000 community volunteers and a number of Agents de Campagne have been trained and are in place. It was apparent that if the SNEM network could be used for distribution of contraceptives, significant progress could be made toward meeting the family planning needs of the roughly 50 percent of Haitian women (and men) who want no more children.

The intent of this OR activity was to test the feasibility of this approach by addressing the following questions:

- How best can new (even though simple) services be added to those provided by an existing, extensive, but rather weak system?

- What are feasible and effective ways to motivate and/or provide incentives to community volunteers in such programs? Certificates? Performance bonuses? Prices?

- What are the characteristics of the volunteers who do perform well? How can such individuals be identified and recruited?

- How can a program like SNEM which is essentially vertical, be linked effectively to the existing health service system for back-up?

- Is it possible to use such a vertical program to extend significantly the delivery of FP services or ORT?

- Is it possible to convert a program based on volunteers of uncertain motivation who play a passive role to one with active outreach to achieve more extensive population coverage?

VII. Research Methods:

Knowledge, Attitudes and Practice Surveys. The analysis of the Arniquet program was carried out during July - September 1982. The study included careful examination of the knowledge, attitudes and field practices of community health workers, as well as supervisory and training personnel. In addition, a survey was designed and prepared to elicit public knowledge, attitudes and practices concerning health and family planning from participants in nutrition rally posts in October 1982.

Baseline and Follow-Up Surveys. These consisted of a simple form filled out by each volunteer using door-to-door visits for distribution in July - August, 1983 and again in January - March, 1984. In addition to indicating changes in contraceptive acceptance and use, the forms contained data on basic demographic and MCH factors.

Surveys of Volunteer Contraceptive Distributors. This was carried out in August, 1984 and indicated the characteristics and background of the volunteers and their attitudes toward the program. When linked with data on service delivery, it was possible to draw a profile of characteristics influencing volunteer performance.

VIII. Principal Findings:

- **Community-based distribution in rural areas was successful in rapidly increasing contraceptive prevalence.**

Recent results, available in April 1984, are very impressive. In addition to continued high acceptance, contraceptive use (pills and condoms) increased from less than 6% of women 15-49 years visited to over 33% in round two. Pregnancy prevalence declined from over 13% to less than 10% between the two rounds.

- **The SNEM community volunteers were an acceptable source of contraceptives for residents.**

Over 50% of couples accepted condoms or pills during the first round of SNEM volunteer home visits.

- **The extensive network of SNEM community volunteers was mobilized to perform the additional function of contraceptive distribution.**

IX. Dissemination and Replication:

Community-based contraceptive distribution using SNEM volunteers is to be expanded in the Miragoane area in 1985 to include a population of about 200,000 people. In addition, areas in the Tranverse region will be selected to experiment further with volunteer door-to-door distribution compared with depot distribution of contraceptives in a population of 500,000.

The integration of family planning services into ongoing health activities has produced positive results The Director General of the Department of Health noted in his April 1984 speech at the region and district directors' meeting in Hinche, that in Miragoane, thanks to the OR project, service delivery is improving dramatically. His orders to the health staff to improve service delivery, as well as the discussions USAID and others have been having with high level policymakers give hope that broadscale expansion of contraceptive distribution using

SNEM and other community volunteers, which the OR project pioneered and documented, will move ahead rapidly in the future.

X. Other Activities:

The Center has collaborated with the Cite Simone Medical-Social Complex in establishing a family planning center (September, 1983) and testing different community-based approaches (use of family planning promotors compared with TBAs) to recruit new contraceptive acceptors. The initial prevalence of contraceptive use in the slum population of 100,000 people was less than 10 percent of women aged 15 - 49 years in union and fecund when the program began and close to 20 percent after nine months of field activities.

The Center is also assisting the the National Oral Rehydration Therapy program with monitoring and evaluation of ORT activities.

The Center has recently been invited by the USAID/Port-au-Prince Health Office to provide technical assistance in identifying OR needs and approaches to family planning and primary health care service delivery using community-based resources in both the public and private sectors. A team is being formed to respond to this request and will visit Haiti in the fall of 1984.

Numerous papers and presentations resulting from the project are listed in the bibliography.

I. **Title: MATERNAL CHILD HEALTH AND FAMILY PLANNING IN THE MID-SOUTH PERU HEALTH REGION**

II. **Setting:** The Mid-South region of Peru, in 1979, covered a population of approximately 600,000 people; of whom roughly half lived in small rural villages of 200 or less inhabitants. The geographic setting is quite varied, extending from the Pacific Ocean through the Paracas desert to the Andes mountains.

III. **Duration:** August 1, 1979 - May, 1980

IV. **Resources:**

A. **Financial:** The project was initially funded by ST/POP/R, and later through the AID Bilateral Agreement.

B. **Key Personnel:**

1. **Project**

Dr. Jesus Romero, Project Director
Americo Menduza, Director at the Health Region

2. **CPFH**

Dr. Walter Torres, Resident Advisor
Dr. Henry Elkins, Project Monitor
Mr. Stephen Isaacs, Project Monitor

V. **Background:**

When the Mid-South project began, Peru had a long history of governmental hostility towards family planning, and almost no provision of family planning services. However, a written national policy had been issued in 1976 which talked of a governmental obligation to provide contraception.

In 1978 two factors converged which led to the development of the Mid-South project. Dr. Americo Mendoza, Director of the Mid-South Health Region, who had visited the community-based distribution programs of Colombia and Mexico under an AID participant training grant, had been quite impressed, and had returned believing that similar programs would be practicable in his region. USAID/Peru, recognizing that CPFH was one of the few outside agencies which had experience in helping develop family planning projects in Peru, invited the Center to work with the Mid-South health region in developing an operations research project which would include the provision of family planning services.

The region was characterized by high illiteracy and mortality/morbidity rates, with almost no health services extending beyond three comparatively urban areas.

VI. Project Design and Development:

The concept of the project was to expand the existing national health infrastructure by recruiting lay personnel from villages and urban areas to serve as unpaid volunteer promotors or community agents. The basic strategy was to focus MCH services on pregnant and postpartum women, newborn infants, and children under age five. Specific services were to include family planning, nutritional supplements, oral rehydration and antiparasite treatment. An active health information and education effort was considered to be an important component of the project. A baseline survey was planned, and follow-up surveys at 18 and 36 months. The project was promoted at the community level by means of group meetings, formation of mothers' clubs, and use of groups which already existed at the community level.

As planned, the project was quite ambitious, particularly in light of the lack of any health infrastructure extending into rural areas. It was recognized that training, supervision, and logistics would all strain the resources of the region; but such a commitment was necessary in order to offer primary health services (including family planning) at the village level. If the project were shown to be workable, it would be important within the Peruvian context by showing that contraception was acceptable in rural areas and that services could be offered without the intervention of a physician. It would have provided a model for the other health regions in Peru.

The Center's involvement in the Mid-South Project ended in May, 1980. A number of serious programmatic and administrative problems within the project had led to strained relations between CPFH and USAID/Peru staff, and it was mutually agreed that the project would continue without CPFH assistance. Funding responsibility for the project was transferred from AID/Washington to USAID/Peru in May, 1980.

VII. Research Methods:

Survey. A baseline maternal-child health and family planning survey among women 13-49 and their children under five years age in 1,530 households in the Mid-South region was conducted.

Special Studies. Special studies in nutrition and for control of parasites, diarrhea, and tuberculosis were implemented in conjunction with the University of Ica.

Information Systems. Service statistics systems for the community agents and supervisors were developed in conjunction with the Information Office of the Ministry of Health.

Training. Training courses for supervisors and for community agents were developed. A seven-month training course for 42 sanitarians (who, in the project, were to be the first level of supervision) was conducted and evaluated. Twenty-eight physicians from the Region were given one week of training in IUD insertion.

VIII. Dissemination and Replication

The project, as originally planned, appears to have progressed slowly following the termination of CPFH involvement. The lack of progress may well have been attributable to political changes in the Ministry of Health which led to changes in the personnel responsible for project management. More recently, however, many components and strategies of the project have been successfully adopted by the Ministry of Health throughout the country. It is apparent, therefore, that much of the Center's effort in helping to design a primary health and family planning delivery system for the Mid-South Region have yielded considerable benefits for Peru as a whole.

I. **Title: SUDAN COMMUNITY-BASED FAMILY HEALTH PROJECT**

II. **Setting:** Eighty-five villages stretching along both banks of the Nile north of Khartoum for a distance of 140 kilometers. This area has 92,000 inhabitants.

III. **Duration:** April 1980 to October 1983. Some follow-up research activities continue in the project expansion.

IV. **Resources:**

A. Financial: Originally, $755,065 was budgeted for this project through a grant from the Research Division of the Office of Population, AID/Washington and administered through USAID/Khartoum. However, only $415,224 was spent from April 1980 to May 1983. Devaluation of the Sudanese pound during the project period was the main reason for this savings. CPFH has provided technical assistance.

B. Key Personnel:

1. Project:

Dr. Abdel Rahman El Tom, Project Director and Chairman, Department of Community Medicine.

Dr. Naila Mubarak, Deputy Director.

Ms. Susan Wesley, Assistant Director for Training, seconded from Nutrition Division, Ministry of Health.

Dr. Kamal Khirella, faculty member, Department of Community Medicine, and Information Systems Coordinator

2. CPFH:

Mr. M.H. Matthews, Resident Advisor, 1980 - 1983

Dr. Walter Watson, Project Monitor, 1980 - 1981

Dr. Donald Lauro, Project Monitor, 1981 - 1983

C. Facilities: Office space for project managers and researchers was provided by the University of Khartoum. Community-level activities benefitted greatly from the local infrastructure of health centers and dispensaries. Training programs were conducted at government midwifery schools in Omdurman and Khartoum North.

V. Background:

The project area, like most of rural Sudan, has low levels of income and education, and high morbidity, mortality and fertility rates. While conditions vary greatly among the project villages, proximity to Khartoum does result in some advantages. Literacy rates, for example, were shown by the project baseline survey to be relatively high -- 35% for ever-married women and 60% for their husbands. The health system is also more developed in this area. Within the project area, East Bank communities are somewhat more developed than are those on the West Bank, largely as a result of better transportation.

In 1976, the Ministry of Health of Sudan developed regional and national plans for implementing primary health care in the Sudan. These plans relied heavily on the development of a new cadre of worker, the community health worker (CHW), and included many elements later incorporated in the Alma Alta Declaration, including an orientation towards preventive care and community participation. However, this program paid little attention to maternal and child health and made no mention of family planning.

This project developed out of initial contact between Dr. Duff Gillespie of the AID Research Division and Dr. Fatma Mahmoud who was then Minister of Social Affairs. To redress the lack of attention to FP and MCH in the national plan, a project proposal was developed for a pilot study, with technical assistance from CPFH. It was determined that government village midwives were a promising resource. Though some initial discussions were held with the Ministry of Health, it was decided that this innovative project could best be developed, monitored, and studied if based in the Department of Community Medicine, Faculty of Medicine, University of Khartoum.

VI. Project Design and Development:

The project was designed as a pilot demonstration study, to introduce a new approach for improving health services in rural Sudan. The principle purpose was to test the proposition that village-level government midwives could provide basic MCH and FP services to their communities.

The basic model of utilizing local midwives to provide MCH/FP information and services remained intact throughout the project. However, drawing upon assessment of experience in other projects, a number of modifications were made. These include focused refresher courses and the phased introduction of services (see El Tom, et al., 1983). In turn, these modifications led to greater reliance upon the community paramedics to provide back-up and support. Over time, these experiences were developed into ideas on how training and supervision might be decentralized. These ideas have been incorporated into the project expansion.

After a period of field study, community meetings, and curriculum development, all village midwives living in the area attended a three-week training course to prepare them for the project (see El Tom, et al., 1983). Key to the project design were three service delivery strategies: 1) providing a few services well, rather than a large number poorly; 2) delivering services to the household; and 3) introducing services in a phased fashion. During March-September 1981, four health interventions -- oral rehydration therapy, birth spacing, nutrition education, and immunization -- were introduced in the project villages through rounds of household visits by the midwives.

VII. Research Methods:

Health Infrastructure Survey. This provided basic information about the existing system, services provided, and local health problems.

Baseline and Follow-up Surveys. These provided data for assessing changes in knowledge, attitudes, and behavior resulting from project activities. However, inadequacies of local computer facilities led to considerable delay in analysis of data. To remedy this situation, computer tapes and some editing responsibility were transferred to CPFH.

Field Observation. As part of needs and resources assessment, field observations were made in project communities, including special attention to health facilities and household environs. To monitor services, midwife household visits were regularly observed during the first six months of the project, and on a less regular basis throughout the project.

Unstructured Interviews. To provide detailed information on local practices and attitudes, open-ended discussions were held with community leaders, including religious leaders, various health practitioners, and village mothers.

Mini-surveys. A mini-survey was conducted in May 1981, after two rounds of household visiting. Hand tabulation of the data provided the basis for rapid assessment of initial project accomplishment in introducing ORT and family planning into project communities (see Bennett, et al., 1983). A second mini-survey was conducted in April and May 1982, to assess long term retention of information and involvement in project activities of midwives and mothers.

Pre- and Post-training Questionnaires. The effectiveness of the training course for midwives was evaluated by means of a simple questionnaire covering the basic subject areas.

Service Statistics Collection. A record form was specially developed for use by the midwives, many of whom cannot read. The data gathered using this system provided a basis for monitoring contraceptive acceptance and use.

VIII. Principal Findings:

- **Government village midwives, the majority of whom are non-literate, can be effectively trained to deliver basic FP/MCH services to their communities.**

The results of the pre- and post-training questionnaire showed marked improvements on all measures related to project interventions. For example, before the training 71% of the midwives thought children with diarrhea should be given less fluid than usual. After training, this had been reduced to 5%. Similarly, the proportion of midwives who knew about three or more methods of contraception increased from 41% to 87%. Knowledge of good nutritional practices also increased.

- **Demand for modern methods of family planning exists even in traditional, rural communities of the Sudan. Adoption of family planning was greatest in communities which had had least access to family planning before the project.**

Overall, current contraceptive use increased from 11% at the time of the baseline survey, to 14% at the follow-up survey. However, these increases varied widely by both education and access to Khartoum. Current use increased from 8% to 11% among married women who never attended school, and from 15% to 19% among those with elementary schooling. In the most isolated villages (those located along unpaved roads on the West Bank of the Nile) current use increased from 5% to 11%.

- **Discussing family planning with the project midwife had a significant positive effect on women's use of modern contraceptives.**

Using logistic regression, a variety of possibly confounding factors were controlled: village location; woman's age; education; number of living children; number of children under 5 years; husband's education; husband's occupation; ownership of land and of a television or radio; and other project interventions (vaccination and treatment of diarrheal children). Nevertheless, women with whom the midwife had discussed family planning were 70% more likely to be currently using contraception than were women who had not had such discussions.

- **Family planning was not neglected by the midwives, even though they had a number of tasks to perform.**

The midwives appear to have devoted more effort to discussing family planning with those women thought to be hardest to reach than with other women. For example, 65% of women on the West Bank reported discussing family planning with the project midwives, as compared with 57% on the (more developed) East Bank. Additionally, the proportion of women with little or no education who had discussed family planning with the midwives (62% and 58%, respectively) was higher than the proportion of women with at least intermediate schooling who had done so (41%).

- **The phased introduction of services has proven a viable means to overcome the overloading and confusion that has resulted elsewhere when too many services were introduced at once.**

Field observations during household visiting indicated that each of the interventions was being correctly and separately introduced in village homes. A mini-survey conducted after the completion of two rounds of household visiting substantiated that considerable information was conveyed to villagers during these home visits. For example, in West Bank villages, 97% of the women interviewed recognized the ORS packet and 93% were able to correctly explain how the solution should be mixed. Nearly all of the 76% of women who reported that the midwife had talked to them about family planning indicated that they now had a positive attitude about oral contraceptives. Of the women who reported that they were taking the pill, nine in 10 were able to state without any mistakes the correct procedures for using it.

- **Provision of family planning services has proven acceptable in this very conservative, rural society. To a great extent, negative attitudes towards modern contraception have been dispelled and knowledge has increased.**

The baseline and follow-up surveys revealed declines in the proportion of women citing negative attitudes and familial obstacles as reasons for not using contraception. These declines were nearly identical across educational groups. Prior to the project activities, 28% of women interviewed replied that they were not using contraceptives because their religion discourages it, it was harmful, or their family forbade it. In the post intervention survey, these reasons were cited by only 14% of the women.

- **Oral rehydration therapy was an outstanding success. That it was introduced in a separate round of household visits increased the credibility of and confidence in the interventions which followed.**

Data from the follow-up survey revealed that three-fourths of all the households sampled had a marked container used for preparing ORS, and that three-fourths of the women with diarrheal children used ORS as a treatment. Additionally, over half of the women had ORS packets in the house at the time of the interview. Among those who did not, 60% had already used all of them and 72% indicated plans to obtain additional packets from the midwife.

- **There were improvements in some nutrition behavior and attitudes throughout the project area. However, in comparison to the other interventions, the nutrition component was not sufficiency focused or defined to produce marked behavioral changes.**

The follow-up survey showed that the proportion of women who believed that mothers should continue breastfeeding 20 or more months, and the proportion who believed that breastmilk was the best food for young children increased throughout the project area. However, the clear impression of project staff was that mothers might have become more involved in improving nutrition for their children had a more structured activity (e.g., growth chart monitoring) been introduced.

- **The mass campaign approach to providing immunization, though fraught with logistical difficulties, did accomplish substantial improvements, especially among the most neglected groups.**

Project coverage for immunization of young children (roughly 40% for initial rounds, 30% and 25% for subsequent rounds) was comparable to that of other programs in the Sudan. However, it is strongly felt that coverage would be greatly increased if local depots could be established to store supplies. Nevertheless, the campaigns did have some success. In the baseline survey, only 19% of the women interviewed reported that their children had received vaccines. This increased to 60% in the follow-up survey.

Prior to the project, the proportion of women reporting that their children were vaccinated was lower among the uneducated (14%) than those with intermediate schooling (40%), and also lower among those in the remote villages (10%) than the more accessable villages (27%). By the end of the project, these relationships were reversed. The proportion of women with vaccinated children was higher among the less educated (61%) than among the more educated (53%) and higher in the remote villages (68%) than the accessable ones (45%).

- **Not all service delivery problems can be readily or quickly solved, even if a problem is well understood and if actions are taken to overcome it.**

Some problems are systemic and difficult to solve. This was the case with supervision. Despite a great deal of attention given by project staff to improving the motivation and skills of MOH supervisors, little lasting improvement occurred. To some extent, compensation for vertical supervisory system inadequacies was provided by developing local-level support through the cooperation of community medical assistants, nurses and health workers.

IX. Dissemination and Replication:

The Sudan Community-Based Family Health project is being replicated in an area just north of the original project. The purpose of this replication is to involve the Ministry of Health more directly in the planning and management of community-based activities. University of Khartoum staff will assist the MOH in planning and research. Within the expanded project several modifications are being introduced including greater commitment to community participation, decentralization of training, and point-of-contact supervision.

Substantial effort has been made to disseminate the principal findings. A workshop held in Sennar in December 1982 disseminated many of the important lessons that were being learned to mid-level Ministry of Health officials from throughout the country. There has been continuing contact with several of them about prospects for supporting similar activities in other regions of the Sudan. In addition, there have been a number of visits to the project, one of which resulted in a follow-up consultancy by a project staff member to an AID-funded primary health care project in western Sudan. Project staff have also recently served as consultants to WHO-funded activities in eastern Sudan. At a broader level, the two project staff members responsible for planning and conducting the training of midwives were invited to participate in a national committee for revising the curriculum for midwifery training.

Health professionals from other African countries have visited the Sudan project. Two project staff from the Nigeria CBD project visited in 1981 and were subsequently able to apply some of the administrative procedures and health intervention strategies within their own project. In 1981, a consultant to the PRODEF Family Health Project in Zaire, and in 1982, the project director of this project made extensive field observations of the Sudan project. Notable results of these visits were that additional rounds of household visits and refresher training became important strategies within the Zaire program.

Papers have been written which document project activities and accomplishments (see bibliography). Presentations have been given by the project director at a number of international meetings including the Workshop on Family Planning and Health Interventions in CBD Projects (in Charlottesville, Virginia, January 1982), the International Conference on Oral Rehydration Therapy in Washington in June of 1983, and the National Council on International Health Conference in June of 1984.

I. **Title:** **SUDAN COMMUNITY BASED FAMILY HEALTH PROJECT EXPANSION**

II. **Setting:** The project area extends from the northern boundaries of the Khartoum region to a location south of Shendi, capital of Nile Province. These rural agricultural communities are similar to the more remote rural communities of the original project which lie just to the south of the expansion area.

III. **Duration:** May 1983 to December 1985

IV. **Resources:**

A. **Financial:** As a result of the no-cost extension granted to the original project, funds in the amount of $339,832 have been allocated for the project.

B. **Key Personnel:**

1. **Project**

Dr. Abdel Rahman El Tom, Project Director and Chairman of Department of Community Medicine

Dr. Khawad Shendi, Medical Inspector of the Shendi District, Civil Hospital Ministry of Health Provincial Health Department

Ms. Suzanne Wesley, Assistant Director for Training

Dr. Naila Mubarak, Deputy Director

2. **CPFH:**

Dr. Donald Lauro, Monitor

Dr. Abdel Aziz Farah, Resident Advisor

Ms. Willa Pressman, Intern

C. **Facilities:** Community facilities, usually health centers or dispensaries, are used for training the midwives. Ministry of Health offices and buildings in Shendi will be used for routine administrative and supervisory activities. Department of Community Medicine offices in Khartoum, including a specially constructed room for housing the project's microcomputer, are being used by project planners and researchers.

V. **Background:**

The original project demonstrated that family planning and a limited number of health interventions can be effectively provided at the community and household level by government

village midwives. However, to further redress the omission of MCH/FP in Ministry of Health plans for PHC implementation, involvement and cooperation with Ministry of Health administrators is highly desirable. Given the movement towards decentralization of Ministry of Health planning and implementation that has occurred in the Sudan over the last four years, it is appropriate that this effort take place within regions and provinces outside the Central Regional Khartoum Province in which the original project was undertaken.

The original project provided many important lessons as to how a community based program could be designed and operated in the Sudan. The expansion project will allow testing of a number of additional modifications to the basic model. For example, in keeping with the overall movement towards decentralization of Ministry of Health programs, both training and supervision are decentralized to place more responsibility and activity at the local level.

VI. Project Design and Development:

The research question which lies at the heart of this project is whether a community-based program of MCH/FP services can be effectively integrated within the existing Ministry of Health system. To this end, University project staff have assisted in planning the project, but will not play a direct role in implementing or administering the project. Direct responsibility for the project lies within the Ministry; the role of the University is to monitor, evaluate, and document what happens as a result.

The basic service delivery model is the same as in the original project. Government village midwives introduce a limited number of interventions--oral rehydration, family planning, nutrition, and immunization--to mothers in their communities. Within these interventions, efforts are made to improve services. For example, plans have been made to provide more than the single type of oral contraceptive available in the original project. Similarly, growth chart monitoring and local depots for vaccines are being studied for inclusion in the nutrition and immunization components.

Phased introduction of services is being incorporated into a decentralized program for training village midwives. Medical assistants are trained by senior level Ministry of Health personnel. In turn, the medical assistants conduct training within their own communities of those midwives whom they supervise. Variations in approaches to phasing and/or decentralization of training are studied within an operations research framework. A training manual developed for the medical assistants covers each of the interventions.

VII. Research Methods:

Field Observation. The performance of Ministry personnel at senior administrative, community, and household levels are observed on a regular basis to document the extent to which responsibilities have been assumed and are being performed at the various levels.

Focus Groups. Focus groups have been conducted with village leaders to ascertain their perceptions of local health problems. PIACT will hold a workshop in October, 1984 to provide formal training in focus group research. The focus group approach will then be applied to develop pamphlets on the various health interventions and to study other aspects of the project.

Sample Surveys. Baseline and follow-up surveys are used to assess coverage and acceptability of project services. The baseline survey completed in November 1983 is being used for project planning. Cluster sampling techniques and use of a microcomputer have resulted in considerable cost and time savings as compared to the original project.

Mini-Surveys. At appropriate points in the implementation of the project, mini-surveys are conducted to provide rapid feedback on project accomplishments. The mini-survey may be routinely incorporated as a means of structuring supervision and supplementing service statistics data.

Clinical Assessment. All children under three years of age of a sample of women from the project area have been clinically assessed to study the incidence of malnutrition. These data will be matched with weights and heights of these children over time and responses that the sampled women gave to the baseline survey.

Health Intervention Field Studies. A number of studies of alternative approaches to providing services are being carried out as planned. For example, an extensive study of using school teachers and students to promote ORS is being completed. A similar study may be conductd on homemade mixtures of ORS. In family planning, considerable thought is being given to a comparative study of IUD insertion by doctors and paraprofessionals.

VIII. Principal Findings:

- **The presence of a microcomputer at the project site has greatly facilitated the entry, editing and analysis of survey data and its subsequent incorporation into project refinements.**

During February and March, 1984 project staff entered and edited their baseline survey (1500 respondents and 275 variables) in less than six weeks, and shortly afterwards had frequency

distributions of all the variables in the survey. The time between the point at which a survey comes in from the field and the staff obtain analyses of the data has been greatly reduced, and project staff have been able to retain complete control over the entire process. A preliminary report of the data was produced in July, 1984 (El Tom et al.) and is being used to plan the oral rehydration and family planning strategies for the project. A similar report on nutrition will be produced to facilitate detailed planning of that intervention.

- **Community participation is an important component of the community based approach. However, sufficient time and energy must be allocated if villagers are to be included in the project planning process.**

The meetings that were held with community councils prior to initiation of activities in the original project provided a useful means of introducing the project to the villagers. However, the timetable that was established did not allow for substantial involvement of villagers in the project planning process. Nevertheless, the level of interaction and interest in these meetings encouraged project staff to undertake more sustained efforts to involve villagers in planning and implementing such programs. In the expanded project, a more systematic approach to the study of perceived health problems, and to involvement of community leaders in proposing solutions to these problems, is being undertaken.

A community participation workshop was held in August 1984 with the district council leaders, who are the local political decision-makers. These influential persons will be instrumental in gaining support and making plans for the project. It is a project priority to initiate village reponsibility for the project; the more the villagers take hold of the project and accept it as their own, the more likely they are to continue to support and utilize it.

- **Technical assistance workshops provide a useful means of transfering capabilities to the counterpart institutions.**

In January 1984, and again in May 1984, technical assistance workshops to familiarize and train university project personnel in the use of the microcomputer for analyzing survey data were held. Subsequent performance has substantiated the effectiveness of this means of transferring institutional capabilities. A workshop in curriculum development and training techniques was held in August 1984 to more fully prepare them for their work. A workshop will be held in October 1984 under sponsorship of PIACT to train staff in the use of focus group research.

IX. Dissemination and Replication:

As the Department of Community Medicine staff continue to develop skills in operations research, they provide assistance to other organizations in the Sudan interested in developing

innovative approaches to improving the delivery of family planning and related health services. Several additional projects are being planned for which the University staff will be a local level resource responsible for the research components of service delivery projects. While some of these efforts will be quite different from the rural CBD program already undertaken, others will be similar. Given this direct involvement of the Department, the potential for replication of many of the lessons learned during five years of previous experience is considerable. In addition, the Department of Community Medicine continues to participate in and convene conferences and workshops in the Sudan devoted to exploring more effective ways to deliver health services.

X. Other Activities:

Efforts will be made to conduct special follow-up studies in the original project area. Not only does the Department utilize this as a research opportunity for graduate students, but the small core of social workers who have gained a great deal of research experience through previous project involvement have expressed interest in conducting follow-up studies. Among the most promising areas for study will be analysis within an operations research framework of the impact that a family planning pamphlet may have on acceptance.

I. **Title:** **TECHNICAL ASSISTANCE TO THE NATIONAL FAMILY PLANNING PROGRAM OF THAILAND**

II. **Setting:** Throughout Thailand

III. **Duration:** 1976 - present

IV. **Resources:**

A. **Financial:** CPFH provided salary and support for one Resident Advisor.

B. **Key Personnel:**

1. **Project:**

Dr. Somsak Varakamin, Director of the National Family Planning Program (NFPP)

Mr. Mechai Viravaidya, Director of the Population and Community Development Association.

2. **CPFH:**

Mr. Anthony Bennett, Resident Advisor
Dr. Donald Lauro, Project Monitor

C. **Facilities:** The project functions within the existing networks of the National Family Planning Program of the Ministry of Public Health and private sector associations involved in population research throughout Thailand.

V. **Background:**

The national family planning program in Thailand has been credited with a major role in the substantial fertility decline that has occurred there since the late 1960s. The success of the Thai program is probably due, in large part, to the spirit of innovation that has characterized it. Thailand was among the first countries to implement a number of revolutionary contraceptive distribution schemes. A program for providing contraceptives to women immediately after they have given birth was organized in 1966 in Bangkok, and later was instituted throughout the country. Early in the 1970s, midwives were trained by the government to prescribe the pill in order to broaden its availability. In 1976, contraceptives were made available free to all rural residents through the national family planning program. Since then, nurses and midwives have been trained to insert IUDs and to provide contraceptive injections. Non-physicians have also been trained to perform minilaparotomies and vasectomies. Finally, the government has encouraged private-sector organizations to establish community-based distribution programs, which, for a small fee, provide contraceptives to women

who live outside the areas served by the national program. This mix of distribution strategies has ensured that many different methods are widely available.

CPFH involvement in Thailand has emphasized technical assistance in several of these areas. The purpose of this assistance is to gain a better understanding of the mechanisms used to gather data and to help develop new initiatives, both of which are aimed at helping the NFPP reach its current reproductive goal of 1.5% growth rate by 1986.

VI. Activities:

AID and CPFH agreed on general technical assistance because of the variety of research activities going on in Thailand. A recent inventory of newly completed and ongoing population research activities revealed 300 studies (many of which are operationally-oriented) from 56 institutions and over 100 researchers. A summary of many of these activities may be found in the International Family Planning Perspectives, (Vol. 8, No. 2) article "Thailand's Family Planning Program: An Asian Success Story" by CPFH and NFPP staff. To confine the CPFH and AID assistance to only one of the many applied research projects in Thailand would mean sacrificing valuable opportunities to help integrate the results of related research endeavors. Anthony Bennett has been the resident CPFH advisor since 1976 and has become involved in studies being conducted at the NFPP, the university-based population institutes and the innovative private sector associations involved in population research. A number of these activities are summarized below:

- A priority of the CPFH is to promote institutional capability for conducting research. In his capacity as resident advisor to the Research and Evaluation Unit of the NFPP, Mr. Bennett has worked to further develop the research capabilities of the unit's staff. These efforts have been primarily targetted along two lines: 1) to transfer proficiency in operating each of the monitoring tools and the three essential program packages, SPSS, TABRAP, and LIFETAB; and 2) to develop a program of provincial workshops to train provincial staff in research and evaluation. As these workshops are conducted by Unit staff, an important by-product is that staff members must develop a good working knowledge of the Unit's activities and reports.

- Mr. Bennett was instrumental in the development and implementation of a management information system to evaluate nationwide family planning services. The major components include new family planning acceptor rates by rural administrative units, areal rankings by cumulative achievement, month by month contraceptive prevalence figures by province, provincial achievement targets for new and continuing acceptors and a quarterly assessment of sterilization acceptor characteristics.

- Assistance was provided to the Community Based Family Planning Services Population and Development Association in the analysis of an integrated family planning and parasite control project, and the monitoring and assessment of the Family Planning/Health and Hygiene Project. CPFH staff assisted in the operation of the Asian Training Center for Community Based Distribution Program Development and served as resource persons and speakers for the training courses.

- CPFH has been involved in a number of studies that are helping the Thai government assess the pros and cons of free contraceptive distribution as compared to approaches that attempt cost recovery through sales distribution. Specifically, Mr. Bennett has assisted with the design, execution and analysis of a continuation rate survey, in a commodities forecast exercise and in the design of an operations research project to assess the impact of charging for pills within the context of health cooperatives.

- Mr. Bennett also participated directly in the evaluation of two operations research projects which are attempting to integrate selected primary health care interventions into existing community-based family planning programs. Both of these projects were developed under the auspices of the Population and Community Development Association. The first project utilized an experimental study design to assess an effort to integrate antihelminthics within an ongoing community-based family planning program. A second, much larger project introduced primary health care training and services to 11,000 village distributors of contraceptives in 80 districts throughout Thailand.

- Mr. Bennett assisted in a comparative study of the cost-effectiveness of services provided by three different types of mobile clinic programs: a private sector vasectomy mobile clinic, a government vasectomy mobile clinic, and a multi-method mobile clinic. The vasectomy clinics were found to be more cost-effective in terms of couple years of protection than a multi-method approach.

- While the rapid fertility decline in Thailand has been well documented, there are unanswered questions concerning its determinants. Only now are such basic factors as accessibility and availability of services being examined along with such other variables as coital frequency, age at menarche and economic status. At the NFPP, simple variables that could be easily tabulated by province (Thailand has 72 provinces) were analyzed. A number of statistical techniques were used to explore the relationship of these variables to family planning acceptance and prevalence.

- As a non-profit organization, the Population and Community Development Association seeks efficient means for monitoring and evaluating program activities. In this regard, Mr. Bennett has assisted this Association in the development of two innovative tools for collecting data about program activities. Both the new acceptor coupon and mini-surveys are now employed throughout the program and have great potential for application elsewhere.

- More than 20,000 village health volunteers have been trained by the Ministry of Public Health and 30,000 are to receive training in the coming years. The curriculum includes family planning, but it was not known how well the volunteers were performing family planning tasks. Bennett helped design and conduct a study to see how they were functioning and to assess their interaction with the Ministry staff. The study showed that in areas where the volunteers had greater responsibility, such as in the resupply of oral contraceptives, morale was high and relations with the district supervisory staff were good.

- Other areas of technical assistance provided by CPFH include formal course instructions in the graduate degree program in demography at the Institute for Population and Social Research, Mahidol University and the processing of clinic record data from the Department of Obstetrics and Gynecology at Ramathibodi Hospital. In addition, CPFH assisted PIACT-Thailand in the design and field testing of a handbook for low-literate acceptors of the injectable contraceptive and helped to draft other research proposals to be carried out by PIACT; and assisted in the development of the Thailand Fertility Research Association.

V. Technical Assistance and Project Development Activities

A. Burundi

B. Senegal

C. Togo

BURUNDI

The Center has been engaged in a dialogue with USAID and host-country officials in Burundi since 1982. A project proposal to support a rural CBD program was completed in mid-1983, and a CPFH staff member was sent to Burundi in anticipation of project initiation. Unfortunately, the project did not receive the necessary Ministerial approval, and it is unlikely that this particular activity will be undertaken. In spite of this disappointment, the Center maintains excellent relations with AID/Bujumbura staff and others working in the health and family planning field. Contacts such as Dr. Paul Mpitabakana, Director-General of the Ministry of Health, Dr. Gaston Legrain of UNFPA, Dr. Roger Nibigira, Chief of the Gitega Medical Region and Director Gitega Training Institute, Mr. Emmanuel Bizimana, Demographer of the Center for Demographic Research and Training, and Dr. Evariste Ndabanze, Dean of the Faculty of Medicine, University of Burundi, could be instrumental in the development of future projects.

SENEGAL

The Center's activities in Senegal commenced with technical assistance visits to the USAID-financed Bakel Project. During the course of these visits, discussions were held with USAID staff, Ministry of Health personnel and other health professionals to investigate and identify opportunities for CPFH involvement in Senegal. As a result, ten Senegalese health professionals attended the June training course in New York, 25 professionals participated in a CPFH in-country training course on oral rehydration in January 1984, and an in-country workshop on the integration and management of FP/PHC programs was held in September, 1984.

Other involvement in Senegal resulted from a request from USAID/Dakar for two CPFH staff members, Joe Wray and Jim Allman, to provide technical assistance in the evaluation of population assistance efforts. During this visit, Wray and Allman also assisted in formulating future activities in FP/MCH.

The network of contacts resulting from these activities has proven to be a valuable asset to the development of OR projects in Senegal, such as the private sector post-partum family planning project which is currently being developed.

TOGO

The Center's involvement in Togo has grown along with the Ministry of Health's interest in family health and family planning activities. Training in FP/PHC necessary to overcome the barriers to service delivery has been provided to ten Togolese health professionals at the Center's June course. Some of these participants are staff members of the Togolese Family Health Center and will serve as trainers for an in-country workshop to be sponsored by CPFH early in 1985. They have also been of great assistance in the development of the OR project for which final approval is expected in the immediate future.

This project, entitled Education of Rural Women in Health and Nutrition, is in conjunction with the Directorate of Women's Affairs and involves the integration of FP/MCH services into the existing network of women's income-generating groups. The project will seek to demonstrate that women's self-help groups can effectively serve in rural settings to promote health, nutrition and family planning. Among the health services to be introduced are monthly weighing of children, oral rehydration, contraception, malaria prophylaxis and treatment, and immunizations. Not only will the project be among the first in Togo to promote family planning in an integrated health service delivery scheme, but it will also be a pioneering experiment in the utilization of women's groups that may prove replicable in other countries.

Besides its involvement in training and project development in Togo, the Center has also worked closely with USAID/Lome in a planning capacity. At the request of USAID, two Center staff members, Susan Nalder and Jim Allman, made a technical assistance visit in November, 1983 to help develop a long-term population assistance strategy appropriate to Togo's policies, needs, and resources.

VI. Information and Dissemination and Training Activities

A. Library/Information Program

B. Chartbook

C. Program Documentation

D. Interaction with African Training Program

I. **Title: LIBRARY/INFORMATION PROGRAM**

II. **Setting:** Center for Population and Family Health, Columbia University School of Public Health, New York

III. **Duration:** 1979 - 1984

IV. **Resources:**

Key Personnel:

Susan Pasquariella, D.L.S., Head Librarian
Carole J. Oshinsky, M.L.S., Reference Librarian
Janice E. Watterworth, M.S., Technical Services Librarian

V. **Background:**

The CPFH Library/Information Program was established in 1969 with AID funding to collect, organize, and disseminate published and unpublished literature pertinent to family planning program evaluation, operations research, program design and development, and evaluation methodology, in addition to documents on various related primary health care topics. AID funding was also allocated to enable contribution of bibliographic citations to POPLINE, the computerized bibliographic database jointly maintained by the Johns Hopkins Population Information Program, the Center for Population and Family Health Library/Information Program, and Princeton University's Population Index.

The CPFH Library is user and service-oriented, concentrating on service provision to several audiences, but with particular emphasis on provision of computer searches and document delivery in response to requests from developing countries. POPLINE and other library activities have increased considerably since the commencement of the Cooperative Agreement.

In terms of service provision to the staff of the Center for Population and Family Health, the Library works closely with all Center divisions, but primarily concentrates on providing bibliographic support for AID contract-related activities including the Operations Research Cooperative Agreement, the Development Law and Policy Program and the Training Program in Family Planning, Nutrition and Primary Health Care for Africa.

In addition to providing basic bibliographic support for these programs, the Library is responsible for introducing June Training Program participants and other CPFH visitors to the wide range of health and family planning information resources available and for providing follow-up information services to participants after training is completed.

VI. ACTIVITIES:

Collection, indexing, and abstracting of documents and retrieval of citations from POPLINE comprise the bulk of the Library activities. However, in addition to POPLINE input and retrieval, library activities include work on the first and second editions of the POPLINE Thesaurus (published in 1981 and 1984, respectively). CPFH, as a member of the United Nations Population Information Network (POPIN) Working Group on the Management of the Population Multilingual Thesaurus, has also contributed to the second edition of the POPIN Thesaurus: Population Multilingual Thesaurus which will be published in French, Spanish, English, and Portuguese in the Fall of 1984.

With other POPLINE contributors, the CPFH Library/Information Program actively seeks to promote increased direct access to POPLINE by demonstrating use of the database and exhibiting CPFH publications and papers at selected health and family planning conferences.

The Library continues to produce a monthly acquisitions list (now distributed to over 120 requestors internationally) and 200 copies of a bimonthly listing of journal tables of contents (POP/FAM Alert).

VII. ACCOMPLISHMENTS:

Since the commencement of the AID/CPFH Cooperative Agreement on July 1, 1979, the Library collection has expanded by 50% to approximately 3000 books and doubled to 200 journal subscriptions. The Library has contributed over 20,000 citations to the POPLINE database, and the activities of the Library continue to center on contributions to and retrieval from POPLINE.

To briefly summarize some of the accomplishments, requests for computer searches have increased from 315 in Fiscal Year 1978/1979 to 3974 during FY 1983/1984 (+1162%). Approximately 83% of searches performed during the last fiscal year were provided to requestors from developing countries or those affiliated with international organizations. The geographic distribution of literature searches completed during the course of the Cooperative Agreement has also shifted. Of particular interest is the significant increase in the number of searches performed for African requestors (from 26 or 8.1% of searches in 1979/1980 to 1069 or 27% in 1983/1984). There was a concurrent fall in the proportion, though not the number of searches performed for North American requestors (from 159 or 49.7% of 1979/1980 to 585 or 15% in 1983/1984). Copies of approximately 1463 CPFH documents were distributed in the last year.

To further promote use of POPLINE, CPFH, Population Index, and the Population Information Program have exhibited the database at several conferences during the past five years. In the past year, for example, POPLINE was exhibited at the Annual

Meetings of the American Public Health Association, the Population Association of America, and the National Council for International Health, and at the International Conference on Population which took place in Mexico City in August 1984. Usage of POPLINE has increased from approximately 30 hours per month in 1979 to about 200 hours per month in 1984. Exhibits have also encouraged subscription by several population institutions, e.g., Family Health International, the Population Council, the Carolina Population Center, the United Nations Fund for Population Activities, the Association for Voluntary Sterilization, the Population Crisis Committee, the Population Reference Bureau, and the Population Research Center at the University of Texas in Austin, among others.

The Library also functions as an information link with CPFH field staff and developing country projects; and, within the past year, has initiated several efforts to maximize the utility and impact of population information resources and to increase the availability of these resources to developing country personnel. In response to requests from the field, the Library is assisting in the development of a library collection in the Sudan Community-Based Family Planning Project (University of Khartoum) with which the Center is associated. Working in collaboration with the International Development Research Centre (IDRC), the CPFH Library arranged for the donation and delivery to the Sudan of a packaged microfiche collection of over 11,000 full-text documents on low-cost rural health care delivery and manpower training. Microfiche reading equipment was also provided. The IDRC donated collection includes both published and unpublished documents and constitutes a unique resource which can be used by the University of Khartoum students, faculty, project staff and other interested individuals. The CPFH Library has also subscribed, on behalf of the Sudan Project, to key population, family planning, and primary health care periodicals which are available free of charge to developing country institutions. Of special importance is the fact that all of these materials (microfiche collection and periodicals) have been provided at no cost either to the Project or to the Center for Population and Family Health.

While it is still too early to evaluate the success of this venture, (the microfiche reader was delivered in May 1984), the Project staff is enthusiastic about developing a library on site and has recently requested and received further CPFH Library assistance in setting up a satellite library at the Shendi Hospital in Shendi, Sudan. In an unrelated but similar venture, CPFH is providing assistance in collection development to the Community-Based Family Planning Services Project in Bangkok.

VIII. REPLICABILITY:

The CPFH Library has received several requests from African institutions which need technical assistance in developing and organizing family planning, population, and primary health care library collections. Requests of this type have increased in

frequency due to increasing CPFH involvement in operations research and training activities in Africa. Results of a questionnaire, completed by participants in the CPFH June 1984 Training Program for Anglophone and Francophone African health workers, have further documented both the need for information and library resources within African health care projects and institutions, and the need for technical assistance and support in strengthening institutional capabilities to organize these resources. For this reason, and particularly in support of operations research projects in Africa, the CPFH Library/Information Program is seeking additional funding to enable increased technical assistance in library and information resource development for requesting organizations.

IX. OTHER ACTIVITIES:

The Library staff continues to participate in Association for Population/Family Planning Libraries and Information Centers International (APLIC) and POPIN activities. Susan Pasquariella served as APLIC President during 1984, and in this capacity assisted in the establishment of a POPIN/APLIC Reference Centre at the International Conference on Population in Mexico City. She also continues to serve as a member of the POPIN Working Group on the Management of the Population Multilingual Thesaurus, the POPIN Working Group on the Establishment and Strengthening of National Population Information Services, and the POPIN Working Group on Dissemination of Information, in addition to serving as technical consultant in the establishment of a Population Information Network for Africa (POPIN-Africa).

I. **Title: Chartbook -- Family Planning: Its Impact on the Health of Women and Children.**

II. **Duration:** Prepared during 1980. First printings: English edition, 1981; Spanish and French, 1982. Distribution continues.

III. **Resources:**

A. **Financial:** Preparation of original (English) version: $13,000. Translation and preparation of Spanish and French versions: $11,000. Initial mass mailings (34,000 copies): $27,000. Printing (100,000 copies): $120,000 spent, at least $35,000 of which will be recovered from sales.

B. **Key Personnel:** Deborah Maine, of the New York office, researched and wrote the chartbook and supervised its production. A number of staff members reviewed and commented on the manuscript.

IV. **Background and Development:** The Center had had requests, including some from AID personnel, for educational materials on the MCH benefits of family planning. The chartbooks are, for the most part, distributed free of charge. When feasible, a nominal fee was charged for medium and large orders from organizations in developed countries.

V. **Methods:** Preparation of the chartbook began with a thorough review of existing data on this topic. Then the key studies and relationships were expressed in clear, simple text and graphics. The design and illustration of the chartbook were aimed at making the book attractive and accessible and useful to a variety of readers, ranging from the 20-minute skimmer to the student. Mass mailings were done of each edition immediately after its first printing.

VI. **Principal Findings:**

o **The demand for simple, attractive educational materials on this topic is greater than imagined.**

Each version has gone through 2-3 printings, totaling more than 100,000 copies. To date, about 70,000 have been distributed. Furthermore, the demand has not slackened off over the years. In addition to the French and Spanish versions produced by CPFH, Portuguese, Chinese and Indonesian translations have been done by other groups.

o **The format and style of this publication has proved suitable and engaging to a wide variety of readers.**

Hundreds of letters from government officials, parliamentarians, physicians, nurses, trainers, and educators have been received saying how useful the chartbook is.

VII. Replicability:

The immunization (EPI) and diarrheal disease (CDD) units of WHO have requested that a new chartbook, focusing on birth spacing be produced for them.

VIII. Other Activities:

The chartbook has been used to prepare a variety of other educational materials, including slides, briefing sheets, etc.

PROGRAM DOCUMENTATION:

Throughout the Cooperative Agreement, efforts have been made to document and disseminate project findings, methodological advances and more general information related to operations research and family planning/maternal and child health. The bibliography attached as Appendix D presents the results of these efforts.

In addition, a selection of these documents is presented as a separate Annex, the contents of which were chosen to demonstrate the broad range of channels through which findings have been disseminated. It includes, for example, papers published in peer review journals, selections from the CPFH Working Paper series and CPFH Research Paper series, the chartbook on the health benefits of family planning, and a Working Paper of the Center for Social Investigation in Bolivia.

INTERACTION WITH AFRICAN TRAINING PROGRAM

Since 1980, the Center has offered an annual one-month course for developing country participants on the design, management and evaluation of community-based family planning, health and nutrition programs. Consistent with an increasing emphasis on Africa in the operations research program, a bilingual course focused entirely on Africa was initiated in 1983 with funds from the Africa Bureau of AID. Nearly 200 participants from 35 developing countries have attended the one-month training program. There have been 110 participants from 23 countries in sub-Saharan Africa.

In addition to the June course, a series of in-country workshops were held in Africa during 1982 - 1984. These workshops, involving a total of 88 participants, were held in Sudan, Tanzania, Kenya, and Senegal. Along with disseminating information and lessons learned from Center-sponsored operations research projects, the workshops have also provided useful means for identifying project opportunities in family planning. Funding for conducting four additional workshops in Africa in 1984 - 1985 has been secured from the Africa Bureau.

The linkages which have evolved between operations research and international training activities provide the Center with an excellent basis for continuing and expanding its efforts in Africa. Years of experience in project development, monitoring, and training closely connect the Center with an important network of policy makers, program administrators, and researchers throughout Africa who are now well acquainted with the Center's capabilities.

APPENDIX A

FINANCIAL STATEMENT*

	Funds Awarded 7/1/79 - 9/30/84	Expenditures 7/1/79 - 6/30/83	Estimated Expenditures 7/1/83 - 9/30/84**
Salaries	$3,384,785	$2,588,273	$1,073,849
Consultants	106,783	85,084	44,138
Fringe Benefits	827,705	623,540	275,289
Travel/ Transportation	900,949	607,377	297,826
Allowance	540,816	454,483	149,679
Other Direct	706,153	433,621	189,133
Equipment/Supplies	160,707	105,932	90,420
Subagreements	2,751,842	2,166,745	194,351
TOTAL DIRECT COSTS	9,379,740	7,065,055	2,314,685

*Significant efforts have been made throughout the life of the Agreement to reduce costs and to increase efficiency. These efforts include a reduction in the indirect cost rate to 35.5% for the period 2/1/83 - 9/30/84, from rates which had been as high as 55.091% in 1981. Among other cost-saving factors were cost-sharing of projects with other agencies and a reduction in staff levels.

**Includes actual expenditures through 6/30/84.

Appendix B
Percentage Level of Effort toward Cooperative Agreement Activities
of CPFH Professional Staff for Period July 1, 1983 - September 30, 1984

	Quarters					
	1	2	3	4	5	Average*
Allman	100	100	100	100	100	100
Baldi	70	70	30	30	70	54
Bennett	100	100	80	100	100	96
Elkins	100	100	100	20	0	64
Farah	--	100	100	100	100	80
Gorosh	20	10	10	10	20	14
Hardy	100	100	100	100	100	100
Lauro	100	100	100	100	100	100
Lyman-Fenn	100	100	100	100	100	100
Maine	49	49	49	49	100	59
Matthews	100	100	--	--	--	40
McNamara	0	0	0	33	50	17
Nalder	50	50	50	50	30	46
Pasquariella	83	83	83	83	80	82
Rosenfield	60	50	15	15	15	31
Ross	0	0	35	35	0	14
Rowberg	100	100	100	100	100	100
Van Wie	50	50	50	30	20	40
Weatherby	15	15	20	20	30	20
Weiss	100	100	100	100	100	100
Wray	60	60	60	60	70	62

* Computed for entire period, although some staff worked for part of the period. Total staff effort for this period is 13.19 person-years, as compared with 15.03 person-years for the period 7/1/79 - 6/30/80 and 16.93 person-years for the period 7/1/81 - 6/30/82; reflecting the Center's efforts to increase the efficiency of the program.

Appendix C:
Staff Travel, July 1, 1983 - September 30, 1984

Bolivia

Staff Member	Date	Purpose
Henry Elkins	11/22 - 12/3/83	1) To assist in the data entry, tabulation, and analysis of data from industrial executives and seminar participants in the industrial - Labor Union Project; 2) To review and observe procedures for the seminars, counseling, and provision of family planning service for the Industrial - Labor Union Project.
Henry Elkins	3/19 - 3/31/84	To provide technical assistance for study of pregnancy costs for labor union members, before and after surveys of seminar participants, and in particular, to assist in the data processing and data analysis.
Henry Elkins	9/9 - 9/28/84	To assist CIS staff in preparing project final report.

Burundi

Eugene Weiss, Thomas Hardy	6/21 - 7/14/83	1) To assist in preparing a final agreement between AID, Columbia, and Burundi government for the Gitega OR project.
Eugene Weiss	8/9 - 9/17/83	1) To assist in the final negotiations of the Operation Research Project Agreement with the Burundi Ministry of Health. 2) To plan the initial data gathering that will assist in the design of the project activities. 3) To assess housing, transport, and other needs of resident Columbia advisors. 4) To enable the proposed resident advisor, Dr. Peter ten Ham, to meet with the Burundian counterparts and AID/Burundi Staff.

Haiti

Staff Member	Date	Purpose
Thomas Lyman-Fenn	8/15 - 9/2/83	1) To assist the operations research project in Mirogoane regarding their data processing needs. 2) To follow up earlier recommendations regarding data processing at the Complexe Medico Social de la Cite Simone with the purchase and installation of microcomputer. 3) At the request of USAID population officer, to review micro-processor needs for several projects in Haiti.
Thomas Lyman-Fenn	3/14 - 3/24/84	1) To prepare the operations research project's micro-computer for entry of data collected during the second round of contraceptive distribution in Mirogoane. 2) To assist Le Complexe Medico Sociale de la Cite Simone with the analysis of data from the Cite Simone census and their family planning survey. 3) To assist L' Association des Oeuvres Privees de Sante (AOPS) with continuing data entry and analysis of the patient record forms obtained from three health organizations recently recruited as members of the association.
Thomas Lyman-Fenn	10/23 - 10/30/83	1) To continue assistance to the operations research project in Mirogoane, espcially in reviewing the processing and analysis of the service forms and the survey of volunteer cooperatives.

Staff Member	Date	Purpose
		2) To deliver and install statistical software and an operating system to the Complexe Medico Sociale de la Cite Simone and review procedures for the analysis of several surveys. 3) To install a microcomputer to handle the data entry requirements of the Association des Oeuvres Privees de Sante.
Joe Wray	8/31 - 9/9/83	1) To review progress in the SNEM/CV program in Mirogoane. 2) To discuss with Dr. James Allman and Sue Gibson future directions of OR in Haiti. 3) To discuss TBA family planning project in Cite Simone.
Joe Wray	3/7 - 3/21/84	1) To review project activities in Mirogoane and Cite Simone. 2) To discuss with USAID and Haitian officials possibilities for future CPFH assistance and activities.
	Kenya	
Susan Nalder	8/10 - 8/31/84	1) To prepare and conduct a workshop on training for staff from CPFH community based project in Tanzania and Sudan.
	Mexico	
Donald Lauro	5/21 - 5/25/84	1) To attend PRICOR meetings on Operations Research.

Staff Member	Date	Purpose
		Nigeria
Eugene Weiss	6/21 - 7/9/83	1) To consult with the Oyo State CBD project concerning the analysis of the village documentation survey data.
Eugene Weiss	10/10 - 10/27/84	To review progress of Oyo state CBD project, and discuss future directions with representatives of participating agencies. Review the progress of baseline surveys of expanded service areas and assist in analysis of data and installation of micro-computer. Assess proposed assignment of Dr. White as resident advisor.
Eugene Weiss	1/27 - 2/17/84	1) To assist in the analysis and write-up of the baseline survey as well as other program components and to prepare the Akinyele Post-Survey.
Thomas Lyman-Fenn	1/31 - 2/5/84	1) To assist in the installation of an uninterruptable power supply and additional software for the analysis of CBD project survey data. 2) To help in the conversion of survey data to a format used by statistical analysis software. 3) To help in the additional training of project staff in data processing and analysis utilizing software available on the project's microcomputer.

Staff Member	Date	Purpose
		Nigeria
Eugene Weiss	4/9 - 4/28/84	1) To meet with the directors of the Oyo State CBD project and Ministry of Health and U. S. Embassy/USAID staff officials to review project progress to date, evaluate the medical component of the services, and to discuss the future directions of the project. 2) To assist in analysis of the completed baseline surveys and to design and pretest the post-survey for the original project area.
Allan Rosenfield	4/15 - 4/19/84	1) To meet with directors of the Oyo State CBD project and Ministry of Health and U. S. Embassy/USAID staff officials to review project progress to date, evaluate the medical component of the services, and to discuss future directions of the project.
Eugene Weiss	7/9 - 8/1/84	1) To consult with Oyo State Ministry of Health and UCH staff regarding future project proposals. To review CBD project and to finalize questionnaires and sample for Post-Survey. To consult with Kano State MOH and other officials regarding possible future collaboration.
		Senegal
James Allman Joe Wray	7/27 - 8/10/84	1) To participate in an evaluation of and assist in future planning for an AID bilateral Maternal Child Health/Family Planning Program.

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Staff Member	Date	Purpose
		Sudan
Joe Wray	7/18 - 7/22/83	1) To complete negotiations concerning the project extension; to define the technical asssistance that will be provided by CPFH staff during the course of the project. 2) To complete negotiations concerning the appointment of Dr. Abdul-Aziz Farah as CPFH resident advisor to the project.
Donald Lauro	8/17 - 8/30/83	1) To discuss procedures for expansion of Sudan Community Based Health Project. 2) To develop a logical framework for achieving and measuring the achievements of project objectives and to review the implementation schedule for the project expansion. 3) To discuss USAID/Khartoum quarterly report requirement to be implemented with the project expansion. 4) To review, revise, and finalize papers prepared on the aims of activities undertaken and data collected in the original project area.
Joe Wray	10/4 - 10/11/83	1) To review plans for implementation of the expanded project. 2) To provide assistance in developing nutrition components for project expansion.
Thomas Lyman-Fenn	1/16 - 2/5/84	1) Assist in delivery and implementation of micro-computer and related software for Sudan Community Based Family Health Project.

Staff Member	Date	Purpose
		Sudan
		2) Conduct the training of project staff on how to use this micro-computer for data entry and management, and specifically, on how to process the project's baseline survey data.
Joe Wray	3/27 - 4/9/84	1) To review progress in processing the data obtained in the baseline survey in project expansion area. 2) To review the progress in the actual expansion plan of the Sudan Community Based health Project. 3) To provide technical assistance for the various health interventions being introduced through the project, with a special concentration on nutrition and growth monitoring.
Thomas Lyman-Fenn	4/30 - 5/24/84	1) To deliver and help in implementation of a micro-computer and related software for the Sudan Community Based Family Health Project. 2) To assist with the processing and analysis of data from the new project baseline survey; to further train project and Department of Community Medicine staff in the use of their micro-computer.
		Tanzania
Donald Lauro	8/28 - 9/6/83	1) To review status of activities in the Maasai Health Services Project in Arusha Region. 2) To provide assistance in the development of a baseline survey to be used in the evaluation of the second phase of the Maasai Health Services Project.

Staff Member	Date	Purpose
		3) To meet with Dr. Tengio Urrio, Director of the MCH division of MOH.
	Togo	
James Allman	11/7 - 11/18/83	1) At the request of USAID Mission, to assist Mission personnel in the development of Population Assistance Strategy for Togo.
Susan Nalder	11/13 - 11/23/83	1) At the request of USAID Mission, to assist Mission personnel in the development of Population Assistance Strategy for Togo. 2) To introduce Jean Meyer as a potential candidate for the resident advisor position to USAID officials and government authorities.

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APPENDIX D

Bibliography Appendix

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