

PD-ABP-301
94463

CLAPP AND MAYNE, INC.

**ASSISTANCE TO THE EL SALVADOR HEALTH
SYSTEMS SUPPORT PROJECT
APSISA**

Contract No. 519-0308-C-1216-00

**FINAL REPORT OF THE TECHNICAL ASSISTANCE - ES
10/91 - 08/96**

Clapp and Mayne, Inc. • Consultants to Management

1606 Ponce de León Avenue • San Juan, Puerto Rico 00909 • Tel. (787) 721-3800 • Fax (787) 721-3812

A

CLAPP AND MAYNE, INC.
ASSISTANCE TO THE EL SALVADOR HEALTH SYSTEMS SUPPORT PROJECT
APSISA
Contract No. 519-0308-C-00-1216-00

FINAL REPORT OF THE TECHNICAL ASSISTANCE
October 1991 - August 1996

From the *Final Report of the Technical Assistance*
Clapp and Mayne, Inc.

San Salvador, El Salvador - October 1996

TABLE OF CONTENTS

	<u>Página</u>
EXECUTIVE SUMMARY	
1. INTRODUCTION	1
2. BACKGROUND	2
3. TERMS OF REFERENCE: GOAL, PURPOSE AND RESULTS OF THE PROJECT	5
4. ACTIVITIES, RESULTS AND WORK METHODS USED, PROBLEMS AND RECOMMENDATIONS	9
4.1 Goal of the Project	9
4.2 Project Purpose	11
4.3 Component I: Logistic Support - Procurement, Distribution and Handling of Medicines, Medical Supplies, Equipment and Health Establishments	15
4.3.1 Supply of Medicines and Medical Supplies System	15
4.3.2 Transport and Maintenance	24
4.3.3 Biomedical Equipment Maintenance	29
4.3.4 Potable Water and Sewer Systems	32
4.4 Component II: Improvements to the Basic Health Delivery Services	34
4.4.1 Maternal and Child Health	34
4.4.2 Family Planning	41

TABLE OF CONTENTS
cont.

	<u>Página</u>
4.4.3 Community Health	47
4.4.4 Malaria	50
4.4.5 Medical Emergencies	55
4.4.6 Nursing	56
4.4.7 Health Education	58
4.5 Component III: Planning and Program Management Strengthening	60
4.5.1 Planning of Health Services	60
4.5.1.1 Health Sector Reform	60
4.5.1.2 Sectorial Planning	62
4.5.1.3 Annual Operating Plan	64
4.5.1.4 Training and Technical Assistance in Strategic Management and Planning	68
4.5.2 Monitoring, Research and Evaluation	70
4.5.2.1 Patients Referral System	70
4.5.2.2 Monitoring and Evaluation System	72
4.5.2.3 Research and Studies Conducted	74
4.5.3 Financial Planning: Cost Recovery	75
4.5.4 Information Systems	80

TABLE OF CONTENTS
cont.

	<u>Página</u>
4.6 Component IV: Assistance to the National Reconstruction	87
4.6.1 Supply of Medicines and Medical Supplies	88
4.6.2 Maintenance of Biomedical Equipment	88
4.6.3 Potable Water Systems and Drainage of Used Waters	89
4.6.4 Community Health	89
4.6.5 Malaria	89
5. LOGICAL FRAME WORK OF THE PROJECT: STATUS OF THE PROJECT AS AUGUST 28, 1996	90
6. PROJECT STAFF	94
6.1 Long Term Staff	94
6.2 Short Term Staff	95

ANNEXES

- Annex I: List of documents produced under the project
- Annex II: Reproductive Health and Population Assistance Project:
 Subcontract with the Futures Group International

EXECUTIVE SUMMARY

This document presents the results of the Technical Assistance to the Ministry of Public Health (MOH) of El Salvador rendered by Clapp and Mayne, Inc. (C&M) as principal contractor and University Research Corporation (URC) as subcontractor during the period of October 1, 1991 through August 28, 1996, under Grant Agreement signed between the Government of The United States of America and the Government of El Salvador, Health Systems Support Project. (APSISA).

Due to the critical economic and social condition existing in El Salvador since 1978 and augmented with the war conflict in 1979, in 1983 the Government of the United States of America and the Government of El Salvador signed an Agreement whereby AID agreed to assist the GOES in the health area. The El Salvador Health Systems Vitalization Project was organized. (VISISA).

Between 1983 and 1987, VISISA provided MOH with over \$20 million in technical assistance and medicines, insecticides, biomedical equipment, vehicles. Also built the Central Warehouse and the Medicines and Medical Supplies' Quality Control Laboratory, strengthened the maintenance programs for motor vehicles and biomedical equipment, developed some of the sub-systems for the Management Information Systems (MIS), supported the Malaria Control program, medical emergencies and public health planning.

In 1986, the Government of the United States of America and the Government of El Salvador signed an Agreement was signed, as a continuation of VISISA replacing the VISISA activities. During 1986 through 1991 the technical assistance was provided by Medical Services Corporation International and C&M, and significant improvements were obtained in the different areas of the project.

In 1990 an external evaluation of the project recommended the extension of the APSISA project for three more years to continue the development and consolidation of the goals achieved in the different project areas. AID and the GOES signed amendment #6 to the Agreement extending the project through June 1994. The new contract was awarded to C&M with URC as its subcontractor. This report corresponds to the second phase of the project, which began in 1991.

The Terms of Reference of project between 1991 and 1996 were defined in the amendment #6, of June 1991, amendment #7 of May 1992 and amendment #10 of September 1994.

The **goal** of the project was to assist MOH to improve access to, and availability of, basic health care services and reduce child and infant mortality.

The original **purpose** was to support and strengthen the capability of the MOH to deliver and support basic health services. The **revised purpose** was to support and strengthen the capability of the MOH to become the leader ("rector") of the health sector and to help with the process of decentralization.

The objectives of Component I, Logistic Support are: 1) improve the institutional capacity of MOH to select, procure, receive, warehouse, control the inventories, distribute and monitor the use of medicines and medical supplies; 2) to expand and strengthen logistical support systems particularly by vehicle fleet management, biomedical equipment maintenance, facilities maintenance.

The objectives of Component II, Improve the Health Services Delivery are: 1) to improve MOH capacity of the MOH technical support services; 2) to improve treatment and expand the range of services provided by lower level care providers by implementing newly revised treatment norms and improve the quality of supervision; 3) to improve and expand out-reach services, including support for Malaria control, Family Planning, reproductive health services, and the Community Health Program and 4) to improve emergency medical services.

The objectives of Component III, Strengthening policy and Program planning and management include the following: 1) support in analysis of the recurrent cost burden of increased primary health care and development of cost recovery of revenue generation measurements; 2) technical assistance in applied health services research to facilitate informed decision-making; 3) continued assistance and provision of equipment necessary to computerize the MOH's management information system; 4) technical assistance for the MOH to continue, define parameters, processes, and results for the health sector reform; 5) support the efforts to improve the planning and budgeting processes and to decentralize responsibilities to the regional offices, including the participation of NGO's and the community in the delivery of primary health care.

The objectives of Component IV, support to the National Reconstruction Plan are: 1) Support the reopening health facilities closed by the conflict; 2) strengthen the logistical support systems of those facilities; and 3) extending primary health care, in zones affected by the conflict.

The compliance indicators of the goal, as defined in the Logical Framework of the project and the status as of the end of the contract, August 28, 1996, show the following behavior:

1. Infant Mortality reduced to 42/1000 live births. In 1998 it was 54/1000, in 1993 it was 41/1000.
2. 80% children under one fully vaccinated. In 1992 it was 58%, in 1995 it was 94%.
3. 85% children under one vaccinated for measles. In 1992 it was 62%, in 1995 it was 93%.

4. Malaria rate reduced and maintained at under 3/1000 pop. In 1991 it was 1/1000 pop, in 1995 it was 0.65/1000 pop.
5. A large proportion of poor population has access to primary care providers. 3010 Voluntary Malaria Collaborators offering free diagnostic and treatment at national level with emphasis in areas of high incidence; In October 1991 25.7% of the districts had MOH's Community Health Promoters and at the end of the technical assistance, 69.8% of the districts had Community Health Promoters of the MOH; 3000 midwives trained providing maternal health care.

The levels attained in the above indicators are superior to the ones established in the goal of the project. This is the result of the efforts of the APSISA project as well as other institutions: MOH, NGO's, UNICEF, PAHO, etc.

Following are the indicators of accomplishment established in the design of the project and status at the end of the technical assistance contract:

1. 90% of the MOH facilities have at least a minimum stock levels of the 24 selected drugs based on their importance in relation to key morbidities. As of April 1996, 81% of 30 essential drugs were supplied, at national level.
2. 90% of MOH's biomedical equipment (clinical laboratories of health units and posts, including cold chain equipment) functioning. The report of the first quarter of 1996 indicated a 95% level functioning.
3. Improved MOH policies, program planning and management capabilities. 200 persons trained in strategic management and planning, monitoring and evaluation of health services.
4. Standardized system of fees for consultations and medicines, and uses of fee's received: the Fee's decree for out-patient and hospitalized services, fee's defined and in use for hospitalized patients in general services or those that require out-patient treatment; using the income to improve the quality factor perceived by the user's of the health services.
5. Increase the resources for the primary health care services: 100% of the Community Health Promoters were incorporated to the MOH Salary Law; increase in the GOES assigned budget for the procurement of medicines from ¢20,947,890 in 1991 to ¢230,000,000 in 1995.

6. Regional Offices controlling the distribution of medical supplies: computerized system for inventory control and distribution of medicines and medical supplies installed and operating at regional level.
7. Regional Offices monitoring the epidemiological status: Integrated Health Statistical and Epidemiological System (SIEES) installed and functioning properly in the five regional headquarters..
8. Regional Offices providing maintenance to vehicles and biomedical equipment: The oriental, paracentral and occidental regions are providing these services. The central level provides these services to the central and metropolitan regions.
9. Regional Offices monitoring, planning and budgeting resources: Local programming elaborated in the health establishments and in the 18 departmentals management: the monthly computerized statistical report installed and functioning properly in the departments and providing information to monitor the services.
10. Regional Offices responsible for Community Health Promoters: The CHP's are part of the health establishment staff.
11. Regional Offices reacting to Malaria indicators from regional level: The malaria program is administratively and operationally decentralized. The central level performs only normative and supervision functions.
12. Medicines, medical supplies and hospital personnel assigned on the basis of demand/need, not historical levels: The distribution of medicines and medical supplies based on consumption information/availability of each article, in each establishment and availability in the regional and central warehouses.

The indicators show that the APSISA project contributed to strengthen the MOH capacity to plan, provide and monitor the basic health care services; the extension of the services in the rural areas is evident; the level of development of the logistic support systems permitted an effective response to the needs of the health services programs.

Important results were obtained in the administrative decentralization in the areas covered by the project. Also, improvements were made in the decentralization of the information systems of the medical supplies and health statistics.

The MOH dependance on AID assistance for the procurement of medicines and medical supplies, and for salary payment to the CHP was progressively reduced and finally terminated.

The improvement on the efficiency of the malaria program brought a significant reduction in its operational costs to levels that permitted the MOH to assume them.

The cost recovery system proved to be a success and all indicates that it will continue and expand nationwide.

On the following pages we summarize the most important achievements the APSISA project obtained by component and areas:

In the **Medicines and Medical Supplies System** the policies, norms, the organization, the procedures and the instruments for the operation of the subsystems were defined for the following subsystems: selection and utilization of medicines, pharmacotherapy, pharmaco surveillance, procurement programming, procurement, registry and rating of suppliers, procurement follow-up, warranty control, budget execution, reception of medicines, quality control, warehousing, inventory control, distribution, supervision and evaluation, and management information. The different subsystems processes were computerized and for each one of them, manuals (organization and operation, technical and users) were prepared and distributed. A draft was prepared for the Supply Law. 2206 persons from all MOH levels were trained in the use and operation of the subsystems.

The Paracentral, Central, Oriental and Occidental regions warehouses were built, equipped and its micro-centers organized. In the medicines central warehouse, a computer network was installed to enter the required information the moment the medicines are received, update the inventory, and prepare the exit vouchers. 8 trucks were procured for the distribution of medicines and medical supplies.

The expected results when compared against the results at the end of the project, reflected the following:

1. The Medical Supplies Management Information System and its subsystems operational in the Central and Regional levels: The system and its subsystems are fully operational in the central and in the five regional warehouses. In the regional level, the following subsystems are operational: Basic List of Medicines, Inventory, Supplies Management Information, and Distribution. At the central level all the subsystems are operational.
2. The availability of medicines from the basic list at the health centers, posts and community health promoters increased by 20%. The availability of medicines increased from 57% in November 1991 to 81% in August 1996.

In the **Motor Vehicles Maintenance and Transportation** area the cost control system and the programs for vehicle administration were revised and updated. Program routines were prepared

for preventive maintenance, the methodology for programming spare parts for repair and maintenance of equipment, resources needed and alternatives to organize a motorcycles maintenance program in the central and regional workshops, and policies for the standardization and replacement of vehicles.

The motor maintenance workshops of the Paracentral and Occidental regions were built, equipped and inaugurated; at the central level, a warehouse for used spare parts was organized with its respective inventory control system; a unit for vehicles reception, testing for quality control was established.

The expected results when compared against the results at the end of the project, reflected the following:

1. Procedures for cost control and monitoring established: The system was established and is in operation.
2. Motor vehicle maintenance program established and applied to all MOH vehicles: Maintenance routines followed by all vehicles with an 89% efficiency.
3. 30 mechanics trained in motor maintenance routines: 54 mechanics received the training.

In the **Maintenance of Biomedical Equipment**, the project conducted a diagnosis of the equipment in the 54 clinical laboratories of MOH and a list was prepared of the equipment to be discharged because they were unreparable, additional equipment needed to normalize production, and equipment needing repair. The equipment to replace the ones eliminated and the additional one needed was procured, installed and calibrated; with assistant from the project, MOH personnel repaired the damaged equipment.

The paracentral and occidental regions laboratories were built, equipped and started operations. 8 health units laboratories were remodeled.

Four (4) persons from the biomedical equipment maintenance unit and 229 persons from the central and health units laboratories were trained in the use, maintenance and repair of the equipment procured by the project.

The expected results when compared against the results at the end of the project, reflected the following:

1. The MIS subsystem established and in operation, including inventory: The data base updated with the information of the equipment from clinical laboratories of the Health Posts and Units.

2. Standardization policies established: all the equipment of the laboratories standardized of the Health Posts and Units.
3. Two new biomedical equipment repair biomedical workshops established and in operation at regional level: The workshops of the paracentral and occidental regions built, equipped and in operation.
4. In-service training offered to 100 biomedical technicians: 233 persons trained in the operation and maintenance of the equipment.
5. The biomedical equipment preventive maintenance program established and in operation: 95% of the equipment complying with the program.
6. 90 health units with clinical laboratory in operation: 56 laboratories in operation. (MOH has only 56 laboratories in Health Units. The project funds could not be used to built additional laboratories).

The works realized in the **Potable Water and Waste Disposal Systems** in the health units and health posts consisted in the replacement or installation of pumps, storage tanks, sanitary equipment, plumbing, distribution and drainage lines, construction of cisterns, pumping stations sheds, septic tanks and collectors. In 124 establishments the systems were improved; a maintenance manual was prepared; the health establishments were equipped with spare parts and maintenance equipment; and 217 persons were trained in the operation and maintenance of the systems.

The expected results when compared against the results at the end of the project, reflect the following:

1. 90% of the primary health care facilities have adequate, functioning water and waste disposal systems: Improve the systems of 124 priority facilities.
2. Procedures and routines for the maintenance of the systems developed and in operation: Procedures and routines developed and in operation and 217 persons trained in its application.

The activities in the **Maternal/Child Care Program** were as follows: Updating of norms and guidelines for the promotion of exclusive breastfeeding at the institutional and community levels; training of 4260 persons in mother/child health care; strengthening of the monitoring operations in the maternal/child health care services; development of instruments for monitoring and supervision. The project activities were focused on an integral care of the mother and the

child at risk , particularly at the first level of service (health units and posts), complemented with the interventions of the community health promoters, the midwives and the community leaders.

In the **Family Planning (FP) Program**, the project designed and installed a Demonstration Community Based Distribution Program of contraceptives (CBD) in 11 health establishments with excellent results in the number of active users. The demonstration program showed that it is possible and not difficult nor costly the extension of the program nationwide. To facilitate the implementation of the program, a Manual of Norms and Procedures of Family Planning was designed, tested for the use of primary health establishments personnel. A public information system of the program was prepared and 70 Community Health Promoters were trained in CBD.

During 1991 and 1993 the **Community Health Program** defined and implemented criteria for the selection of priority districts, the requirements for the recruitment of new CHP's, the recruitment procedures, the CHP Manual, the training programs, the systems for logistic support, the monitoring and evaluation system and the management information system.

During 1995 and 1996, the project concentrated in developing the capacity of the CHP in problems solving. The CHP occupational profile was revised and a new Manual of Procedures was prepared with the continuous education program designed and operating is expected to train 1700 CHP from MOH and the health NGO's of the MOH/SETEFE agreement following the new procedures.

The technical assistance supported the coordination of activities among MOH and the NGO's: The criteria for the registration in MOH of NGO's were prepared; for their participation in the Nutrition National Program; the action plans submitted by the 18 NGO's included in the SETEFE agreement were revised; and the evaluation indicators and the information system of the MOH/SETEFE agreement were defined.

In the **Malaria Program**, the efforts of the project were directed to the consolidation of the integrated control activities, improvement of the epidemiological surveillance system, and the design of engineering work in the costal areas with more incidence of the malaria.

Sixty (60) Malaria Inspectors were trained in the use of control measures, 105 persons of the epidemiological surveillance program, 100 professionals and technicians of the clinical laboratories in microscopic analysis diagnosis and quality control, each year, before the beginning of the spraying operations, training was given to the personnel in charge of the operation in the proper handling and application of the insecticides.

The use of insecticides of the residual action insecticide was reduced significantly due to the efficiency of the epidemiological surveillance. The spraying with ultra low volume and

thermonebulizers were carried out in a selective basis. Application of larvicide (Temephos/ABATE) were used during the dry seasons.

One warehouse for the storage of insecticides was built in the central level and separate special facilities for their storage in the Oriental, Occidental, Paracentral and Central Warehouses. 35 motorcycles were procured for the Malaria Inspectors in charge of the network of Voluntary Collaborators.

The expected results when compared against the results at the end of the project, reflected the following:

1. The collection of blood samples in the health establishments incremented by 10%; As of January 1995, the program incremented the diagnosis and treatment of cases by 131%.
2. The operations of residual fumigation covering at least 90% of the houses programmed for fumigation in each of the three cycles: An average of 90% covered during 1991 to 1995.

In **Medical Emergencies**, needs study was conducted and based on the results, a training program was developed.

The expected results when compared against the results at the end of the project, reflected the following:

1. Two thousand (2000) MOH staff trained in medical emergencies: Four MOH doctors trained in the School of Medicine of the University of Puerto Rico; 40 local instructors prepared in El Salvador with the assistance of the four doctors trained in Puerto Rico and a team of three Medical Emergencies Experts from Puerto Rico; 2239 persons trained in medical emergencies by the instructors and training of 33 ambulance drivers in first aid techniques.

In **Nursing**, two studies were conducted. One in risk classification of hospitalized patients and the other in nursing time utilization in the different levels of health services care. The project assisted MOH in the design of the recruiting system for nursing professionals. Three workshops were conducted for the design of the nursing Staff Supervision and Evaluation System.

In **Health Education**, assistance was given in the promotion of the maternal/child care by means of TV and radio messages and the production and reproduction of educational material. The CHP's were provided with a manual detailing the methodological processes for the community work; 25% of the local level establishments personnel was trained in organization and community participation, leadership and social communication; 700 copies of the manual on the dynamics

and techniques training were reproduced and distributed to the personnel of the health departmental management and health units.

In the **Health Sector Reform**, the APSISA project revised the strategic plans of the different components of the program; in the design of the organizational structure of the project; gave orientation on work methodologies; prepared the training component; prepared the short term action plan; prepared the terms of reference for the pilot study on the contracting of health services with the private sector; prepared the terms of reference for the design, development and implementation of a National Health Information System. Also, participated in the definition of a basic health services package.

In **Sectorial Planning**, the project edited the Plan Nacional de Salud (PNS) for 1994-1999; prepared a simplified instrument for the standardization of the design of the MOH programs; a methodological summary to conduct sostenibility analysis; prepared a strategy to revive the PNS, called Formation of Leaders on Health Policies (Formación de Gestores de la Política de Salud) that was applied in eight health departments. The application of the strategy permitted the preparation of departmental plans in those departments. Prepared a proposal of basic definitions, models and paradigms for a Sectorial Planning System.

In the **Operations Annual Plan**, adjustments were made to its programming and instruments, that were implemented in all health departments. It is today the fundamental tool in the local level planning process. With the application of the instruments for the preparation of the departmental health plan (PDS), the programming and budgeting coordination was initiated in all the health establishments.

In the area of training and technical assistance in **Strategic Management and Planning**, the project trained more than 80 professionals of MOH in strategic management and planning; 123 in Health Planning; 50 in design of strategies and 25 in Management Control. Seven workshops were conducted at the departmental level with more than 75 participants. During these workshops, guides for self-training in strategic management, corporate culture and health services marketing were prepared.

The expected results when compared against the results at the end of the project, reflected the following:

1. One Hundred (100) participants completed training in health program planning, applied research and management: 123 persons trained in health services planning, 74 in operational research and more than 80 in strategic planning and management.

In the **Patients Referral System**, the project prepared 18 medical guidelines and 17 for odontologists; all the health establishments of the departments of Chalatenango, La Libertad and

Cabañas have their services complexities profiles; each departmental organization has defined strategies to review and modify the conditions observed in the short as well as the medium term; with instruments and administrative procedures to implement the system; and with a teaching guide for training.

In the **Monitoring and Evaluation System**, the project identified the clue areas of results, the variables and their indicators; adjustments were made to the model and an organization proposal was made; the system was applied in more than 10 health facilities, the San Miguel department with satisfactory results that indicate that the system can be implemented in other departments without much difficulty.

In the **Research** area the project trained personnel from the central and regional level in OR; research committees were organized in the regions with the help of the monitoring and evaluation team; 34 research studies were conducted in: acute diarrheal infection (EDA), acute respiratory disease (IRA), mal nutrition, immunizations, family planning, Environmental Health, Health Services Costs, and MOH Community Health Promoters and Health NGO's in El Salvador.

The expected results when compared against the results at the end of the project, reflected the following:

1. Regional committees in applied research organized and operating: Committees established in the five health regions.
2. Thirty (30) applied research studies on health services completed: 34 studies completed.

Financial Planning. In this area, the efforts were concentrated in the design, development, testing and implementation of the cost recovery system. Based on the results of the nationwide health services cost study, the Fee Decree was prepared, approved and implemented in all MOH hospitals and health centers. The decree establish the charge for different services offered to institutional (insured) patients, as well as private patients who, have the capacity to pay for the services.

For the patients with scarce economical resources the User Fee System was designed. The system is based on a socio-economic classification of the patients with a fee table, by type of social class and type of establishment. A methodology to diagnose the problems and to improve the quality of the health services; The organizational system escheme the strategy to divulge at users level and health staff; and the supervision procedures. The system was tested in seven health establishments with positive results.

The expected results when compared against the results at the end of the project, reflected the following:

1. Cost Recovery System in Operation: System designed and tested in seven establishments; a fee's decree prepared, approved and implemented; a fee system for the poor patients designed and tested and an strategy was defined to implement the system nationwide.

Management Information Systems. In this area 32 subsystems were prepared that were later integrated into two systems, the Integrated Epidemiological and Statistical System (SIEES), and the Integrated Supply Information System (SIISUM). 5 subsystems remained independent but with possibility of integration. These are Cost Recovery System and MOH Budget Calculation. APSISA Project Accounting and Fixed Assets System, Malaria Epidemiological Information System and the Transportation Information System. The MOH Management Information System is used by some 1200 direct users and around 3600 indirect users.

The project trained 1662 persons in the operation of the sub-systems developed; in maintenance routines, and trained the staff in the Informatic Office in the installation, maintenance of application in networks and PC's.

Repaired 46 PC's, 6 printers and upgraded 16 PC's. With the technological tranference by the project to he MOH, 119 units or institutions that uses automatized data procesing , 387 PC's and 292 in operation. 81 of the PC's and 61 printers were donated by AID in thei different projects..

The expected results when compared against the results at the end of the project, reflected the following:

1. Fortry five (45) new PC's in operation: 34 new and 16 upgraded in operation.
2. Software developed for 10 subsystems: 32 subsystems were developed, integrated into two systems with five remaining separate but with possibility of integration.
3. Two hundred (200) MOH employees trained in the operation the maintenance of the hardware and software installed in their units, and programming; another 1,662 employees trained in the operation of the subsystems.

National Reconstruction Plan (NRP). In this component of the project, the effort was to reopen and equip all the health establishments (50) in the conflict areas that were closed during the war. Of the 127 health establishments that existed in the areas, 126 were incorporated to the MOH supply system. One did not accept the incorporation.

With APSISA funds, the project procured, distributed and installed the biomedical equipment of the 18 Health Units and 3 Centers located in the NRP cities. The project also remodeled the physical facilities of 3 clinical laboratories.

The potable water system and the drainage of used water system were reconstructed in 67 establishments in the areas, including the systems of the Suchitoto and Nueva Concepción Health Centers, thus covering all the establishments in the NRP areas.

When the NRP was formulated, 255 Community Health Promoters were working in equal number of districts. With the assistance of APSISA, 229 additional CHP were incorporated to the areas for a total of 484 serving a rural population of 605,000 persons.

One Hundred and Ninety Seven (197) additional Malaria Volunteers were recruited in the NRP areas to compensate for the increase in the population that moved back to the municipalities, the endemic condition of the areas and the control capacity of the program.

In all the activities covered under the four basic components, the project identified the problems encountered and left recommendations to solve them. During the life of the project all problems that the project was able to resolve were solved. However, some of the project activities were not totally completed at the end of the project, e.g. the cost recovery system, all the activities or most of them are continuing activities that will continue after August 28, 1996, and eventually their users will encounter problems along the line of operations. It is very important that MOH continue with its institutional development and when needed, seek assistance from the international health community.

Finally, we are annexing to the report the list of documents and reports by component and areas produced by the project. Copies of these documents are available in MOH, the AID/ES HPN office and in the offices of Clapp and Mayne, Inc. in San Juan, Puerto Rico.

**Final Report of Contract Number AID 519-0308-C-00-1216-00
Technical Assistance to the Ministry of Public Health and Social Welfare
of El Salvador
(El Salvador APSISA Project)**

1. INTRODUCTION

Clapp and Mayne, Inc. is pleased to submit the final report of the El Salvador APSISA Project, contract number AID/519-0308-C-00-1216-00 between Clapp and Mayne, Inc. and the AID Mission in El Salvador, to give technical assistance to the Ministry of Public Health and Social Welfare (MSPAS in Spanish) of the Government of El Salvador (GOES). The technical assistance ran from October 1, 1991 through August 28, 1996.

The project consisted of four (4) basic components, twenty three (23) sub-components and the activities conducted during the life of the project. During this period, the country as well as the Ministry of Health went through many important and significant changes (probably the strongest in the last ten years) that had positive as well as negative effects on the project's development.

Initially the project started with three (3) components, but when the Peace Accord was signed between the GOES and the FMLN in January of 1992, the GOES and the US Government (USG) signed an amendment to the original Agreement of the Project to extend technical assistance to the war zones and adding a new component to the project known as Assistance to the National Reconstruction. However, the goals of the project as well as purpose and results expected were not changed.

Between October 1993 and May 1994, the AID/ES Mission conducted an Analysis of the Health Sector in El Salvador. As a result of this analysis the GOES and the USG signed a new amendment to the Project Agreement modifying its objectives to support and strengthen the capacity of the MSPAS to become the leader of the health sector and giving more emphasis to planning, the development of norms and standards, training and supervision.

During the period from October 1, 1991 to August 28, 1996, the project dynamic was subjected to at least three different functional and organizational structures of the Ministry of Health; to decisions and directives of different permanent or acting Directors of Operational Units, some of them with excellent qualifications and interest, others with little or no interest and understanding of the programs and the tasks to be accomplished; to a change in government that brought a complete change in the Executive level of the Ministry of Health and of most of the Directors of the different programs and systems; the creation of eighteen (18) "Direcciones Departamentales de Salud" replacing the existing five Health Regions; to the enactment of Laws 111 of 1991 and 471 of 1995 to reduce the size of the government bureaucracy by offering early retirement to

employees that qualified. A large number of the trained and qualified employees of MSPAS that had been working in the new programs and systems developed by the project, opted to retire.

Clapp and Mayne, Inc. understands that its role in the APSISA project, as well as in any technical assistance project, is that of coaching and guiding its counterparts and employees of the operational units in each of the components to find the best solution to their problems. The purpose of this approach is to (1) accomplish an adequate transfer of technology, (2) train the counterparts and users of the systems without promoting dependency and, (3) develop their sense of responsibility so that they visualize the new systems as their own.

In each of the chapters of the report, we try to present a clear but concise picture of the work to illustrate, without going into detail, the activities conducted and results achieved in each component and their areas. However, if someone is interested in obtaining a clearer picture or complete information on a particular activity or component this can be attained by referring to the list of reports produced during the life of the project that is enclosed as part of this document. Copies of the reports can be examined in the Ministry of Health's APSISA office, in the HPN office in AID/ES, and in the C&M office in San Juan, Puerto Rico.

The Clapp and Mayne APSISA team of long term as well as short term consultants wants to express its sincere thanks for the assistance and support received from MSPAS Officials, the Directors of the Operating Units of the Project, the Health Reform Group, and to all the staff of the AID Mission in El Salvador. A special mention of gratitude is expressed to all the Officers and employees of the MSPAS Departmental and Local levels that demonstrated genuine interest during all our interventions with them in training and workshop activities and office visits. These Departmental and Local levels employees deserve all the help and support that the Project and the related institutions can give them in the future.

Clapp and Mayne, Inc. and its subcontractors, University Research Corporation and The Futures Group International, believe that they devoted all their efforts to the improvement of the MSPAS capacity to attain the principal goal of the Project; that is, to improve the delivery of the basic health services to the families in need of these services and to reduce infant mortality. It is our belief that our intervention and interaction with our counterparts and employees of the Ministry of Health permitted us to introduce and institutionalize many changes in their knowledge, interest, abilities and attitudes that will directly or indirectly have an effect on the MSPAS operations and on the health of the Salvadorean population.

2. BACKGROUND OF THE APSISA PROJECT

In 1983, two fundamental problems were affecting El Salvador: the deterioration of the economy that started in 1978 and the war conflict that started in 1979 and lasted for a decade. These problems affected all the sectors, but in particular the Health Sector. Trauma cases increased

significantly due to the war, the MSPAS national budget was reduced, in 1980 MSPAS had to stop all equipment procurement and the appointment of new personnel; the budget proportion for salaries went from 55% in 1977 to 92% in 1984.

Due to the extremely difficult and dangerous situation affecting El Salvador, the governments of the United States of America and of El Salvador agreed to create the Health Services Vitalization Project (VISISA in Spanish) to prevent the total collapse of the health services in El Salvador and to supply the medicines and biomedical equipment that MSPAS was not able to procure. The project started in September 1983 and lasted through July 1987. The project had four components: Supply Management; Maintenance of the Health Services Infrastructure; Management Information System and Medical Emergencies Services.

During the life of the project, VISISA supplied MSPAS more than \$20,000,000 in medicines, insecticides, biomedical equipment and vehicles. Some of the project components were implemented, others were only programmed; the Central Warehouse for Medicines and Medical Supplies and the Quality Control Laboratory for medicines were built. The Vehicles and Biomedical Equipment maintenance programs were improved, some subsystems of the MIS were developed, and some health planning activities were conducted. The Medical Emergencies component prepared some manuals and supplied emergency room equipment, surgical instruments, ambulances, electric power generators and steam plants. The two components that benefited most of the technical assistance were Malaria Control and Vehicle Maintenance.

During the life of the VISISA project, the country's economic crisis continued: the MSPAS real per capita expenditure in health services was reduced in 28% from 1977 to 1986. In 1985 MSPAS had only \$11.75 per capita for the total health services, including medicines, hospital services, etc. The national budget part assigned to MSPAS was reduced from 10.6% in 1980 to 7.1% in 1986. Of the existing 344 health establishments, 50 were closed due to the war conflict.

As a continuation of the VISISA project in August 4, 1986, the governments of El Salvador and of the United States signed a new agreement extending the USAID assistance in the health sector and assigned \$48,000,000 to a new project called APSISA. \$28.7 millions of this fund were consigned for the procurement of medicines, biomedical equipment and vehicles. However, the APSISA project concentrated a large part of its resources to institutional development of MSPAS.

The technical assistance from October 1987 to September 1991 was conducted under a contract awarded to Medical Services Corporation International and Clapp and Mayne, Inc. with University Research Corporation as a subcontractor. During the period, the project accomplished significant results in the supply of medicines and medical supplies, vehicle maintenance, health education, community health, malaria, management information system, research and health planning. The quality control laboratory for medicines was equipped and organized, and its staff

appointed and trained, the motor vehicles maintenance shop was remodeled and a diesel engines testing laboratory was established. However, little was made in the areas of biomedical equipment maintenance, potable water and used waters drainage systems, and training due to the indifference of the MSPAS authorities to these areas.

In an evaluation of the project conducted in July 1990 by external evaluators contracted by USAID/ES, the evaluators concluded that the project should be extended for two or three years more to continue with the development and consolidation of the goals achieved in the different areas; modify the strategies that were applied in the areas of biomedical equipment maintenance and potable water and used waters systems; concentrate the procurement of medicines to the needs of the primary health services level (health promoters, health units and posts); and terminate the assistance the project was giving to general training and the quality control laboratory.

Both AID and the GOES accepted the recommendations of the evaluators and extended their agreement with amendment #6 of June 19, 1991 that extended the duration of the project for three more years. AID/ES published a new RFP for the project extension and Clapp and Mayne won the contract. Clapp and Mayne subcontracted URC for the services in the areas of Clinical Pharmacology, Malaria, Community Health and Research. This three years extension is the object of this report.

3. TERMS OF REFERENCE: GOAL, PURPOSE AND RESULTS OF THE PROJECT.

These documents define and determine the Terms of Reference of the technical assistance of the APSISA Project for the Health Systems. These are:

1. Amendment No. 6 of June 19, 1991,
2. Amendment No. 7 of May 6, 1992, and
3. Amendment No. 10 of September 22, 1994.

In the following paragraphs we present the Amplified Project Description resulting from the integration of these amendments to the original contract.

The Goal of the Project:

The goal of the Project was to assist the Ministry of Health to improve access to, and availability of, basic health care services and reduce child and infant mortality.

The Original and Revised Purpose of the Project:

The original purpose of the project was to assist and strengthen the capacity of the Ministry of Public Health to improve basic health services delivery including the preventive and primary services to the Infant/Child Survival Program of MSPAS.

The revised purpose was to support and strengthen the capability of the Ministry of Health to perform its role as "head" of the health sector, and to provide technical assistance that will facilitate the decentralization process.

The Results of the Project:

The results of the project classified by its three original components are summarized herewith:

COMPONENT I: Logistic Support - Procurement, Distribution and Handling of Medicines, Medical Supplies, Equipment and the Improvement of Infrastructure of Health Establishments.

The objectives of this component were to consolidate and extend the efforts of the project to: (1) improve the institutional capacity of MSPAS to select, procure, distribute and supervise the use of medicines and medical supplies; and (2) strengthen and expand the logistic support systems, in

particular vehicle fleet management, maintenance of bio-medical equipment and the improvement and maintenance of health installations in the regional and local levels.

Support was given to the dissemination at the regional and local levels of the achievements attained by the Project in the central level during the period 1988 - 1991, related to the handling of supplies (a computerized inventory system for medicines and medical supplies), reception procedures, warehousing and distribution, and transfer of medical products approaching their expiration date. At the end of the project, the computerized system, particularly the programs that handle inventories and consumption data, were regionally managed.

At the end of the project, the regional offices managed and were given responsibility for the monitoring of the Health Units and Posts, the inventories of medicines, medical supplies, bio-medical equipment in the region, the distribution of medicines and medical supplies, maintaining the fleet of vehicles assigned to the region as well as the bio-medical equipment, and were in charge of all planning and budgetary activities.

Project resources were used to cover the needs for basic clinical laboratory equipment in Health Units with available laboratory space and staff. The project developed a basic preventive

maintenance program for the clinical laboratory equipment, and its recurring costs will be a MSPAS responsibility.

The project continued supporting training programs, funds, and equipment for three (3) regional bio-medical equipment maintenance facilities to assure their normal operation throughout the life of the project.

The project financed the procurement of water pumps and the construction of cisterns and tanks for the storage of potable water in Health Units and Posts. A preventive maintenance program for these water systems was established.

COMPONENT II: Improvements to the Delivery of Basic Health Services

The objectives of this component were: (1) improve the capacity of MSPAS technical support services, (2) assist MSPAS to upgrade the services offered by the health providers at the primary level, develop and implement revised treatment norms to improve the services and improve the supervision; (3) improve and extend the outreach services, including support for the malaria control, family planning, reproductive health services and the Community Health Program (CHP); and (4) improve the medical emergency services at all levels of health delivery services.

In the child survival area activities concentrated on: Prevention and control of diarrheal disease, acute respiratory infection, parasitosis, nutrition and micronutrients. In maternal health the emphasis was toward the control of pre and post natal care, attended deliveries, nutrition and micronutrients.

In Family Planning, the availability of the mix of temporary contraceptive methods was increased, access to family planning services was improved, education and promotional activities to increase demand for family planning were carried out, with special emphasis on men and women between ages 15 - 24.

The project provided technical assistance and training for the development of alternatives and new models for primary care services delivery in local health systems that were decentralized, self-financed, and involved intersectional and community participation. The new models included both public and private alternatives.

The project supported the production of training (maternal and basic) operational manuals to improve the delivery of primary health care services, including general treatment norms for the health providers and installations and MSPAS norms for child survival activities. The project supported implementing a training program for MSPAS outreach workers, nurse aids, nurses, medical doctors, technicians and administrative personnel on the use of the new treatment norms.

The technical assistance assisted the Community Health Program to develop general treatment norms, training and materials for the Community Health Promoters as well as to develop an computerized management information system for the program.

This component also included reduced but continued support to the Malaria program. The identification of malaria cases and the respective treatment activities were integrated into the regular health program in MSPAS.

The project supported the training of approximately 2000 MSPAS employees (Medical Doctors, Nurses, Nurse Aids, Community Health Promoters) in the management and operation of emergency medical services.

COMPONENT III: Strengthening of the Health Planning and Programming Functions of the MSPAS

This component continued supporting MSPAS efforts to supervise the planning and budgeting processes and the decentralization of responsibilities to the regional offices. Three basic activities were contemplated in this component: (1) assist the MSPAS in the further development and implementation of the Cost Recovery System; (2) technical assistance in research oriented to facilitate management decisions related to health services; (3) technical assistance and procurement of equipment to computerize the MSPAS management information system. This computerized management information system together with the management decisions capability developed in number 2 above allowed MSPAS to have on time data needed for the appropriate allocation of resources and to improve planning and management of the health sector.

The project carried out combined efforts to improve the delivery of health services. Based on the improved capacity for research, studies and analysis, the technical assistance team worked together with MSPAS to establish goals and objectives for responsible planning and budgeting of resources.

The project helped MSPAS to examine all available options to develop a strategy for the sustainability of the primary health care services. It assisted MSPAS in the design, development and implementation of a Cost Recovery System, including the preparation of an integrated national program and financial plans on an annual basis which include linking local programming of services and budget development at each level of service delivery. By the end of the project, the cost recovery measures had been examined and adjusted. The budget distribution to hospitals was done based on days/bed occupancy, out patients visits and other criteria that can be objectively verified.

Other activities of the project included:

- * A hospital study to determine capacity/use of beds in hospitals/centers and the budgetary allocation.
- * A study on prescription of medicines by patient and by institution.
- * A detailed study of the institutions involved in the development of community health services in order to coordinate all the activities of delivery of services, develop norms and standards, and to offer services to a larger clientele.

Other studies included areas such as cost of services by patient; referral system by the Community Health Promoters, an evaluation of the CHP, and the quality of the primary health service and child survival.

The development of the Computerized Management Information System (SIG in Spanish) started during the VISISA project back in 1982, with a first module for the control of vehicles. During the life of the project SIG was expanded to cover handling of medicines and medical supplies, procurement, control of vehicles replacement parts, bio-statistics, epidemiological vigilance, community health and handling of bio-medical equipment. The project assisted MSPAS to extend these systems to the regional level by supplying equipment and training. SIG guides decision making with respect to handling of medicines and medical supplies, maintenance of equipment and vehicles, logistics, management, planning and the delivery of services.

The supervisors, program planners and policy workers received training in planning, monitoring and simplified methods to collect data in order to complete and maintain the data in SIG. In-service training was offered in the interpretation and use of morbidity and mortality statistics, in the planning and design of programs, establishment of goals and design and implementation of strategies to satisfy specific health needs identified in the general population and in specific groups of the population, in methods to define priorities among various alternatives and the opportunities to distribute resources, preparation of budgets in line with the programs and the use of alternate methods of monitoring and sources of information (e.g. the use of SIG to track and supervise selected indicators of the health conditions in the population and by groups).

The activities in this component included technical assistance to MSPAS for the continuation of the definition of parameters, processes and results of the Health Sector Reform program.

Both the "Consejo Consultorio de Salud" (CCS) and the Grupo Asesor en Salud (GAS) received technical assistance in institutional reorganization. MSPAS received technical assistance in the design and monitoring of a planning strategy of the sector and to gain public support for the reforms.

MSPAS received technical assistance to implement a plan for the decentralization of its services, including planning and budgetary responsibility and authority for the allocation of resources within each region. This plan took into consideration and requested NGO participation in the

delivery of health services and the active participation of the community.

4. ACTIVITIES, RESULTS, WORK METHODS, PROBLEMS AND RECOMMENDATIONS

In this chapter we cover the degree of accomplishment of the technical assistance activities using the structure, sequence and established indicators of the Terms of References for the Project.

4.1 Goal of the Project

As indicated above, the Goal of the Project was to assist the MSPAS to improve access to and availability of basic health care services and reduce child and infant mortality.

The behavior of the indicators of goal progress, as defined in the Logical Framework of the Project and the status at the end of the project (28 August, 1996), were the following:

Goal Indicators	Status as of August 28, 1996
-----------------	------------------------------

1. Infant Mortality reduced to 42/1000	1983 - 1988; 54/1000 - FESAL - 88. 1988 - 1993; 41/1000 - FESAL - 93.
2. 80% of the children less than one year of age totally inoculated.	Year 92; 58% Year 93; 80% Year 94; 86% Year 95; 94%
3. 85% of the children less than one year of age inoculated against measles.	Year 92; 62% Year 93; 84% Year 94; 86% Year 95; 93%
4. Malaria incidence rate reduced and maintained below 3/1000	Year 91; 1/1000 Year 92; 0.84/1000 Year 93; 0.7/1000 Year 94; 0.7/1000 Year 95; 0.65/1000
5. A large percentage of the poor population has access to primary health care services	<p>3010 Voluntary Malaria Collaborators offering free diagnostic and treatment at the national level with emphasis in areas of high incidence.</p> <p>1438 Community Health Promoters serving the same number of "cantones" and assisting the immunization program, acute diarrheal disease, acute respiratory infections, growth control and child health, the delivery of birth control (contraceptive) measures of the family planning program and improvement of sanitation measures such as potable water, handling of trash, and installation and use of latrines. Together with community education and promotion of health measures.</p> <p>On October 1, 1991, 25.7% of the MSPAS "cantones" had Community Health Promoters and at the end of the technical assistance this indicator increased to 69.8%.</p> <p>3000 midwives were trained and active in the "cantones", control of the pregnancy, birth care and delivery and referral of risk cases to Health Units.</p>

The vital statistics indicated a steady reduction of the rate of infant mortality during the period 1983 - 1993. This was a result of increased health services in the rural areas, due to the

intervention of CHP, the trained midwives the Voluntary Malaria Collaborators, and to efforts of many other health collaborators. The diseases in infants that can be reduced through immunizations and diarrheal control have been considerably reduced during the last 10 years when compared to profiles of the 70's and early 80's.

It is difficult to determine with precision the contribution of the APSISA project to the reduction of infant mortality. However, the records indicate that the efforts and resources of the project have strengthened the handling and on-time delivery of medical supplies in MSPAS and the almost perfect operation of the cold chain ensuring the flow of vaccines to all levels of attention and down to the rural posts. There is no doubt that the Radio and TV vaccination promotions conducted prior to vaccinations, together with the Community Health Promoters working with the Health Units and Posts personnel, have been important in the successes achieved. The levels obtained, higher than the goals of the Project, were the result of the concerted efforts of many sources including MSPAS, UNICEF, WHO, AID and other participants.

The incidence of Malaria in El Salvador during the last 15 years showed a significant reduction: from a rate of 20.1/1000 in 1980 to 0.65/1000 in 1995. This record was achieved because of the continued support of AID since the VISISA and APSISA projects. This reduction was successful because of the implementation of various strategies, stratification of the endemic areas, epidemiological vigilance, concentration of control measures in the principal "focos de infección", drainage and in clearing of "criaderos del vector", support from MSPAS to the Voluntary Malaria Collaborators, organization of the Malaria Laboratory, prompt identification of potential malaria cases and treatment, and supply of insecticides.

The 3010 Voluntary Malaria Collaborators deserve a very special mention for their participation in the program; 72% are women, many with families to care for.

The figures of the previous chart are a good indicator of the APSISA Project contribution to the improvements obtained in the health condition of the needed families of El Salvador.

4.2 Project Purpose

The performance of indicators used to measure compliance with the project purpose, defined in the Logical Framework of the project, and the status of the project at the end of the technical assistance contract, was as follows:

Success Indicators	Status as of 08/28/96															
<p>1. 90% of MSPAS establishments have minimum supply of 24 medicines selected on their importance in key morbidities.</p>	<p>1. National level supply of 81% of 30 medicines selected on their importance in key morbidities.</p>															
<p>2. 90% of biomedical equipment functioning properly (clinical laboratory of health units and posts, and cold chain equipment).</p>	<p>2. 95% of clinical laboratory equipment (including cold chain equipment) in health units and posts functioning properly.</p>															
<p>3. 25% increase in the number of medical consults for primary health care (health units, posts, and community health promoters) achieved with the increment in community health promoters and health referrals.</p>	<table border="0"> <tr> <td>3.</td> <td><u>Year</u></td> <td><u>Medical Visits</u></td> </tr> <tr> <td></td> <td>1992</td> <td>664,993</td> </tr> <tr> <td></td> <td>1993</td> <td>841,724</td> </tr> <tr> <td></td> <td>1994}</td> <td></td> </tr> <tr> <td></td> <td>1995}</td> <td>data not available</td> </tr> </table>	3.	<u>Year</u>	<u>Medical Visits</u>		1992	664,993		1993	841,724		1994}			1995}	data not available
3.	<u>Year</u>	<u>Medical Visits</u>														
	1992	664,993														
	1993	841,724														
	1994}															
	1995}	data not available														
<p>4. Improved MSPAS policies, programs planning, and management capabilities, evidenced by:</p> <p>a) Sustainability of reforms being implemented:</p>	<p>4. 200 persons trained in management and strategic planning, monitoring and evaluation of health services.</p>															
<p>* Standardized system for quotas charged for medical visits and medicines; and proper use of quotas received.</p>	<p>* Tariff decree for ambulatory and hospital services applied to hospitalized pensioned and institutional patients. Established quotas applied to patients who require ambulatory services or hospital services.</p> <p>Utilization of cost recovery system's earnings in programs for the improvement of the quality factors perceived by health services users.</p>															

<p>* Increment in primary health care resources (all health promoters incorporated to MSPAS, medicine levels for primary health care incremented).</p>	<p>* 100% of community health promoters incorporated to the MSPAS Salary Law.</p> <p>Increase in Government assigned budget for the procurement of medicines.</p> <table border="1"> <thead> <tr> <th><u>Year</u></th> <th><u>Assignment in Colones</u></th> <th><u>Variation</u></th> </tr> </thead> <tbody> <tr> <td>1991</td> <td>20,947,890</td> <td>-----</td> </tr> <tr> <td>1992</td> <td>25,392,210</td> <td>21.2%</td> </tr> <tr> <td>1993</td> <td>74,339,200</td> <td>192.8%</td> </tr> <tr> <td>1994</td> <td>123,396,680</td> <td>66.0%</td> </tr> <tr> <td>1995</td> <td>230,000,000</td> <td>86.4%</td> </tr> </tbody> </table>	<u>Year</u>	<u>Assignment in Colones</u>	<u>Variation</u>	1991	20,947,890	-----	1992	25,392,210	21.2%	1993	74,339,200	192.8%	1994	123,396,680	66.0%	1995	230,000,000	86.4%
<u>Year</u>	<u>Assignment in Colones</u>	<u>Variation</u>																	
1991	20,947,890	-----																	
1992	25,392,210	21.2%																	
1993	74,339,200	192.8%																	
1994	123,396,680	66.0%																	
1995	230,000,000	86.4%																	
<p>b) Regional Offices will be:</p> <p>* Controlling the inventory and distribution of medical supplies.</p> <p>* Monitoring the epidemiological situation.</p>	<p>* Computerized systems for inventory control, and distribution of medicines and medical supplies installed and functioning properly in the five regional warehouses.</p> <p>* Integrated Health Statistical and Epidemiological System (SIEES) installed and functioning properly in the five regional offices. MSPAS has been installing and running the system in the 18 Health Departmental Directorates.</p>																		

<ul style="list-style-type: none">* Providing maintenance to vehicles and biomedical equipment. * Monitoring, planning and budgeting resources. * Assuming responsibility for the Community Health Promoters. * Controlling the regional level Malaria indicators. * Assigning medicines and hospital personnel based on demand/need of service instead of on historic levels.	<ul style="list-style-type: none">* The Oriental, Paracentral and Occidental regions are providing maintenance services to the vehicles and biomedical equipment. The Central Level provides maintenance to the vehicles and biomedical equipment of Central and Metropolitan regions. * Local programming was performed by the health establishments at the local level and at the 18 Health Departmental Directorates. The monthly computerized statistical report installed and functioning properly in the departments and providing information for the monitoring of the services. * The Community Health Promoters are part of the personnel of each health establishment. * The Malaria Control Program was administratively and operationally decentralized. The central level performs normative and supervisory functions only. * The distribution of medicines and medical supplies was performed based on consumption (requirements) and existence of each article in each establishment and on the availability of the articles in central and local levels' warehouses.
--	--

Analyzing the above results, it was concluded that the project contributed effectively in the strengthening of MSPAS capacities to plan, provide and monitor basic health care services.

The results in terms of coverage extension, principally in the rural area, are evident. Meanwhile, the level of development reached in the provision of medicines and medical supplies, maintenance of vehicles and biomedical equipment systems, and the improvements in health units and posts'

drinking water systems, has permitted an effective response to logistic demands from health services programs.

Advances in the decentralization of administrative functions were only possible in the areas where the project had provided technical assistance: supplies, maintenance of vehicles and biomedical equipment, and maintenance of drinking water systems. Also, improvements were made in the decentralization of related computerized systems and in the health statistical system. Other critical areas in a true decentralization process are finance and personnel, which were not included on the framework of the APSISA Project. Their level of development is low.

Due to costs, distances to central level workshops and their installed capacity, decentralization in the areas of vehicles and biomedical equipment maintenance was only performed in three health regions. It was decided that additional workshops in the metropolitan and central region were not justified because of the costs and the service volume to be provided.

The project efforts to tie the planning and programming processes to the budget process depended on the policies and norms defined by the Ministry of Finance. These policies and norms do not favor the development and implementation of a true decentralization in the administration of the financial resources.

During this phase of the project, the dependency of the MSPAS on AID assistance for the acquisition of medicines and medical supplies and for salary payment to Community Health Promoters diminished. This permitted the forecast that medicine supply levels will not diminish and that health services coverage in the rural areas will not deteriorate due to financial factors.

Equally, improvement in the efficiency of the Malaria Program, due to its adequate focus on actions and the impact obtained with the implementation of the strategies proposed by the Project, permitted a substantial reduction in program operational costs to levels easily affordable by MSPAS.

Even with the absence of a clear MSPAS policy in this area, the cost recovery program demonstrated real progress despite the fact that MSPAS never delineated policy in this area. Nevertheless, all seems to indicate that the cost recovery system will be continued and consolidated at the national level. It is important to mention that the Integrated Finance Administration Law, which established that all income generated by the government institutions has to be deposited in the General Fund, constitutes a threat to the cost recovery system.

4.3 Component I: Logistic Support - Procurement, Distribution and Handling of Medicines, Medical Supplies, Equipment and Health Establishments.

4.3.1 Supply of Medicines and Medical Supplies System

RESULTS

The supply level of the thirty (30) basic medicines in the MSPAS Pharmacopeia of the health establishments improved significantly in the health establishments, from an availability rate of 58% in November 1991 to 82% in April 1996.

This achievement to increase the resources assigned for the procurement of medicines and of the development process of the supply system is reflected in:

- * Improved capacity of MSPAS personnel in the analysis, evaluation and selection of medicines.
- * Use of better norms for treatment of ailments and prescription of medicines.
- * Rational uses of medicines.
- * Adequate programming of medicines and medical supply needs.
- * Improved procurement process. The procurement process time was reduced from twenty seven (27) months to less than eight (8) months.
- * Registry and certification of suppliers.
- * Construction and organization of medicines and medical supply warehouses at the central and regional levels.
- * Computerized inventory control at the central warehouse and the five (5) regional ones.
- * Optimal physical and organizational conditions of the warehouses at the central and regional levels.
- * Computerized distribution of medicines and medical supplies system operational in the "Unidad Técnica de Medicamentos e Insumos Médicos" (UTMIN) and in the central and regional warehouses.
- * Availability of vehicles for the distribution of medicines and medical supplies from the regional to the local levels.
- * Computerized Management Information System (SIG), inventory and consumption of medicines and medical supplies module fully operational in the central and regional levels.

- * Availability and use of Norms and Procedures Manuals and trained personnel at all levels.

ACTIVITIES AND APPLIED METHODS OF WORK

The subsystems developed as part of the Supply Systems were:

Evaluation and Selection of Medicines

UTMIM staff was trained in the theory and practice of evaluation and selection of medicines using primary as well as tertiary sources of information. Efficiency, security, cost/benefit, therapeutic effect, other indicators and availability of medicines in the market were weighted based on their relative importance and a point rating system was established to facilitate the analysis and final selection by the Therapeutic Technical Committees (CTT in Spanish).

Because of the importance of this CTT and the difficulties observed for its integration, a special training activity was organized for the newly appointed CCT members to promote integration and to review the technical concepts of analysis and selection processes. Resolution No. 461 of August 14, 1990 was the basis of this training activity as it defines the composition and functions of the Committee. Strategies were established to bring to the Committee the members of Internal Medicine and Surgery and a work plan was prepared. The existing MSPAS Pharmacopeia was revised and 39 pharmaceutical products were excluded from the list and 289 were confirmed for use in the health installations.

Once the MSPAS Basic List of Medicines and Medical Supplies (Pharmacopeia) was revised, the project reproduced and distributed the booklet to all health installations and organized training seminars at the central, regional and local levels in the utilization of the list.

A list of 30 essential products for use in the health services in the Health Units and Posts was selected. Also the list of pharmaceutical products for the Community Health Program was revised.

Pharmacotherapy and Pharmacosurveillance Manuals

These two manuals for the treatment and control of the most common ambulatory ailments were revised and copies distributed to all health installations.

The second edition of the Pharmacopeia was revised and published, and 2000 booklets were distributed to the health professionals of MSPAS.

In the revision made to the Pharmacovigilance Manual, the UTMIM functions and the methodology to follow were clearly defined.

A special training program was conducted for the hospital committee of pharmacotherapy of five (5) hospitals: Rosales, Bloom, Maternity, San Rafael (Santa Tecla) and San Juan de Dios (Santa Ana) on how to prepare utilization statistics on medicines and to conduct utilization studies based on the daily doses prescribed in the Manual.

Medicines Utilization Studies

The staff of UTMIM received training in the methodology of the Indicated Daily Dosage (DDD) in order for them to conduct comparative studies.

Three simple design proposals for comparative studies on the use of medicines were prepared. One of them applies the DDD methodology to compare the utilization of antibiotics in the Health Units and Posts of the five sanitary regions. Another compares the prescription of antibiotics in hospitals and health centers. The third one studies the use of high concentration of dextose solutions. A number of medicine utilization studies were conducted with the participation of UTMIM staff. They are totally capable to continue these studies without any outside assistance. The results of these studies confirmed that the DDD methodology is an excellent tool to identify problems and to provide follow up qualitative medicine prescription studies.

Continuing Professional Education

As part of the training program developed during the APSISA project, a series of continuing education activities were conducted oriented to the efficiency, safety and rational use of medicines.

- * Rational use of medicines in Gynecology and Obstetrics - 10 participants.
- * Contribution of Utilization of Medicines studies to the rational use of antibiotic - 50 participants.
- * Participation of the Pharmacotherapy Committee in the rational use of medicines - 10 participants.
- * Studies of Utilization of Medicines and Pharmacovigilance - 25 participants.
- * Concepts and Criteria for the evaluation of the efficiency and safety of medicines - 23 participants.
- * Studies of Utilization of medicines, Pharmacovigilance and rational use of medicines in El Salvador.

- * Consumption of Medicines in MSPAS Hospitals and Health Units.
- * Analysis of the Utilization Study of antibiotics in the Health Units of North SILOS of the Metropolitan Health Region.
- * Notes for the preparation of treatment guides.

During these training activities the participants were asked to present the results of different studies conducted by them, mainly results of consumption and qualitative studies of medicines.

Programming

A computerized software module for the identification and quantification of medicines and medical supplies needed by specific health programs (Community Health, Mother/Child, Nutrition, Malaria, etc.) utilizing consumption, stock, guaranteed supplies in transit orders (procured through the MSPAS Procurement Division, AID, PAHO, UNICEF, EEC and the UN) was designed, implemented and is fully operational.

Procurement

A computerized procurement program with users manuals was designed, tested and implemented covering the following procurement activities:

- A computerized listing of qualified suppliers by group of supplies procured by MSPAS. This register permits prompt identification of available suppliers by group of supply made, verifies information about active contracts and offers, identifies previous procurement by articles, suppliers, prices and the past performance of suppliers.
- A module to generate Pre-qualification invitations, procurement news, including evaluation matrices, offerors analysis and adjudication, contracts and purchase orders.

Reception and Warehousing

The reception and warehousing subsystem was redesigned, tested and implemented including a module for quality control.

In coordination with the Engineering Unit of MSPAS and the regional authorities, the project assisted in the planning, design, preparation of technical specifications, selection of contractors and supervision of the construction of warehousing facilities in the Paracentral, Central Eastern

and Western Health Regions. Also, assistance was given for the transfer of goods to the new buildings and in its operation.

The new warehouses have facilities for receipt and delivery of goods, cold storage facilities, emergency power plants, adequate illumination, ventilation, office spaces, and computer facilities for the adequate operation of the warehouse.

Due to lack of funds the warehouse of the Metropolitan region was not built even though all planning and design activities were completed.

A computer system was designed, tested and implemented in the Central Warehouse for the control of incoming as well as outgoing supplies, the inventory, and the production of receipts and vouchers.

Assistance was given in the design and production of a "model" organization manual and a Job Classification Manual for the Regional Supply Departments. A workshop seminar was offered to the five regional committees to review and approve the manuals.

An administrative manual for the operation of the Regional Warehouses was designed, reproduced, distributed and training seminars were conducted among its users.

Computer micro-centers were organized in the five regional warehouses, equipped and software installed. The computerized inventory control system is fully operational in the regional as well as the central warehouses.

Assistance was given in the receipt and transfer to the central warehouse of imported medical supplies procured through AID-PIO/C's and APSISA procurement contracts.

224 employees of MSPAS were trained in modern warehousing techniques.

Assistance was given in the preparation of documents requesting financing from the GOES through the Public Investment Division of the Ministry of Finance for the following projects:

- * Improvement to the central warehouse area and the reception of products in the Matazano facilities.
- * Construction in the Metropolitan Region of the San Salvador Warehouse.

The Preventive Maintenance Manual of the Physical Facilities of the Regional Warehouses including a security program was designed, tested and implemented.

Distribution of Medicines and Medical Supplies

A diagnostic study of the existing distribution sub-system in operation in the central and regional levels was conducted to identify problems and propose alternatives for its solution. A new computerized system was designed that incorporated data of stock and consumption by regions, hospitals, health centers and stock in the central warehouse as well as in the regional warehouses.

A computerized software program was designed, tested and implemented in the micro-centers of the regions and in UTMIM for inventory control and distribution of medicines and medical supplies. This system has improved and accelerated the distribution process and the administration of the warehouses by issuing computerized delivery vouchers and by updating the inventory and the production of statistics of deliveries by health establishments. 196 persons were trained in the norms and procedures for distribution, in the operation of the system, the production of reports, the analysis of the reports and the decision making process.

Monitoring and Evaluation

During this phase of the project ten (10) monitoring activities were conducted to:

- * Verify reception and distribution of medicines and medical supplies from the central to the regional warehouses and from the latter to the health establishments.
- * Identify damaged medicines or with expired shelf life in the regional warehouses to recommend their formal disposition, in order to save space and reduce administration costs.
- * Identify medicines and medical supplies with low consumption or demand to recommend its redistribution to other regions with higher consumption and demand to prevent spoilage and/or expiration of their shelf life.
- * Follow up on the administrative as well as physical organization of the warehouses at the regional level as well as in the Health Units and Posts, including a verification of the use of the internal controls in warehouses and pharmacies - Kardex, adequate use of the forms, daily entries and the monthly summary reports on consumption.
- * Assist the Regional Managers and the Supply Clerks in any operational problem they may have related to establishment of delivery schedules and routes and verification of the quarterly inventories of medicines and medical supplies at all health establishments.
- * Verify the quantity and availability of the basic medicines and medical supplies in all health establishments.

- * Verify the adequate operation of inventory control and distribution sub-systems in the micro-centers of the five regional warehouses including the production of the delivery vouchers.
- * Verify the availability of the following forms and manuals: List of Basic Medicines, Therapeutic Guides and norms and procedures for the transfer of medicines.
- * Verify the frequency of supervisory visits from the regional offices and the maintenance of the cold chain.
- * Promote and assist in the installation of SIG in the new departmental organizations for the input of data on consumption and inventory in the health establishments of the department.
- * Assist in the updating and use of the following manuals and guides:
 - Transfer of Medicines
 - Donation of Medicines
 - Inspection of warehouses and stored supplies
 - Departmental Supply Committees
- * Promote and assist in the training course on the use and maintenance of the supplies system - 1868 persons (Medical Doctors, Nurses, Pharmacy Clerks and Warehouse clerks) were trained.
- * Trained the Departmental Supply Heads in the monitoring of medicines and medical supplies.

PROBLEMS AND RECOMMENDATIONS

The central level Therapeutic Technical Committee should give first priority to the updating of the MSPAS Basic List of Medicines (Pharmacopeia). Also should examine the medicines the usage levels and adjust them to the new decentralization policy of MSPAS.

The MSPAS Pharmacopeia should be followed and respected by all MSPAS Health establishments. The Minister should order the Tertiary Hospitals to use solely the MSPAS List.

Each hospital facility, independent of its level, should be able to select its own list of medicines based on their needs, but only if they are included in the MSPAS Basic List of Medicines (National Pharmacopeia).

The local pharmacotherapy committees should play a more active role in assisting the health establishment within their responsibility. UTMIM should train them in the following aspects: how to select medicines and how to evaluate medical literature, consumption studies and pharmacovigilance norms and programs.

The DDD methodology should be used in the consumption studies, particularly studies on the treatment of acute respiratory infections, the diarrheal diseases and parasite infections, and to examine the causes. The results of these studies should be made available to all medical doctors and published in medical journals. This will help reduce the incidence of the first three causes of ambulatory treatment diseases.

The quality of the information handled by UTMIM for the determination of medicines and medical supplies needs, is not the best. MSPAS should promote the use of the quality control procedures proposed by the project.

The use of centralized procurement should be continued. This process ensures better products and lower costs. As mentioned earlier, the hospitals continue buying locally medicines that are not in the MSPAS Basic List and not essential for the treatment of the key morbidities of El Salvador. MSPAS should not permit this, particularly with the existing shortage of funds.

The Proveeduría in MSPAS is not using the computerized budget subsystem for the control of supplies. This lack of an adequate control of the procurement budget is contrary to the basic principles of administration.

The proposed new "Ley de Suministros" was not submitted by the Ministry to the higher bodies of government. We recommend that the Ministry examine their position and submit the bill for approval. However, it should be revised to conform to the new "Corte de Cuentas" law and the Integrated Financial Administration System law recently approved.

MSPAS has not finished with the codification of the non-medical supplies. This does not permit its handling through the computerized systems developed for MSPAS. It is recommended that the completion of this process should be given top priority by the "Unidad Asesora de Insumos". This will make optimal use of the computerized systems, reduce the workload of the administrative staff, permit an effective control of the procurement budget execution and control, and produce reliable inventories.

The technical assistance in coordination with the Engineering Unit of MSPAS produced construction plans for the Metropolitan Region Warehouse and components to the Central Warehouse, but lack of funds did not permit the construction of the facilities. It is recommended that special efforts be made by MSPAS to obtain the necessary funds as the construction of these facilities will complete the program for the improvement of the supply system infrastructure.

A list of equipment needs in the warehouses was prepared but lack of funds preclude its procurement. MSPAS should try to obtain either funds or donated equipment from donor institutions to complete this activity.

4.3.2 Transport and Maintenance

RESULTS

Construction, supply of equipment and implementation of motor vehicle maintenance workshops at the Paracentral and Occidental Regions.

The Oriental, Paracentral and Occidental Regions are providing the maintenance to their vehicles. The Central Level provides maintenance to its vehicles as well as those from the Central and Metropolitan Regions.

A computerized cost control system and other programs that support the vehicle fleet's administration are being prepared.

Established routines and maintenance programs are being followed for all the MSPAS vehicles.

54 technicians were trained on administration and motor vehicle maintenance.

ACTIVITIES AND METHODS USED

Physical Infrastructure, Equipment and Tools

The project provided technical assistance for the planning, design, bidding, contracting, construction, supervision and implementation of the motor vehicle maintenance workshops at the Paracentral and Occidental Regions.

A needs assessment was prepared for physical infrastructure of maintenance workshops at the Oriental Region and for the repairs needed at the Central Workshop at El Matazano.

A plan was prepared and implemented to establish a used part warehouse and its inventory control was defined.

The tools needed at the regional and central workshops were identified, and some were procured by AID and the rest by Clapp and Mayne, Inc. Receipt and distribution charts were prepared, and the administrative mechanisms for the control of these tools were defined and implemented.

Transportation Information System

The computerized system to process the vehicle's use, maintenance and transportation costs was optimized. This included the preparation of a User's Manual and the procurement of new computerized equipment to increase the system's storage capacity and processing speed.

At the conclusion of the technical assistance, the following programs were operational:

1. General Vehicle Inventory List
2. Services by Dependency
3. Vehicle Yield by Dependency
4. Cost and Index Analysis
5. Operational Costs by Dependency
6. Cost per Kilometer per Vehicle
7. Vehicle Yield at Control
8. Inventory of Junked Vehicles
9. Operational Status of Vehicles
10. Effectiveness of Preventive Maintenance
11. Effectiveness of the Motor Vehicle Technicians
12. Consolidated Cost by Type of Vehicle
13. Cost by Specific Vehicle

The transport information system was officially approved by the MSPAS on June 1995, when the technical assistance elaborated and delivered the respective Technical and Users' Manuals.

Selection, training and development of the personnel

Having in mind technological developments over the past years in the automotive industry, technical assistance was provided to the MSPAS on the definition of a new motor vehicle technician's education and experience profile to provide an adequate framework for the recruitment, selection, training, personnel development processes, and the preparation of an updated salary scale, in accordance with the established requirements.

Based on the training contents defined by the technical assistance, the following courses for the motor vehicles maintenance personnel were procured and implemented:

- * Engine Reconstruction - 10 participants
- * Turbo Charger Performance and Operation - 8 participants
- * Motor Vehicle Workshop Administration - 8 participants
- * Body Repair Using Fiberglass - 6 participants
- * Fuel Injection Pump Repair - 6 participants
- * Motorcycle Maintenance and Repair - 8 participants
- * Basic Vehicle Electronics Repair and Maintenance - 6 participants

To improve the performance of the responsibilities of the Transportation Administrative Section, two persons were trained in planning, organization, direction, implementation and work control processes.

Preventive and Corrective Maintenance

The methodology for the programming of spare parts needs for the preventive and corrective maintenance was defined, based on the number of maintenance routines that should be performed each year. This was prepared by vehicle type and model to avoid the problems generated by the procurement of parts with the petty cash and by the anticipated acquisition of parts without knowing if they will be used or not.

Based on the experience MSPAS had acquired on the operation of the different vehicles, 17 preventive maintenance routines were adjusted.

With the help of 3 persons assigned by the Head of the Transportation Department to define the new vehicle's maintenance routines, routines already developed for the available vehicles at the MSPAS were compared and the vehicles that lacked any specific maintenance routine were identified. Some of the tasks included the preparation of a format that would be used to define the Preventive Maintenance Routines, DT-110, the identification of the recommendations for severe use as defined by the vehicles' manufacturers, the parts that should be revised, lubricated or adjusted, and the tasks that the maintenance technicians should perform. With all this information available, then the tasks were ordered according to its execution sequence.

The Receiving and Testing Unit was organized to control the quality of the work performed, both in the corrective and preventive maintenance routines, to be sure that the vehicles and motorcycles were efficiently repaired. This will reduce the service user's complaints and increase the reliability and operational age of the vehicles.

To define plans to discard non-reparable equipment, repair needs and parts required, the condition of the motorcycles used by the Community Health and Malaria Programs was evaluated. In addition, the resources necessary to organize the motorcycle maintenance program at the central and regional levels were identified, and alternate proposals to implement the maintenance program were elaborated in case that the Ministry could not supply the required infrastructure.

Replacement of vehicles, standardization of makes and models

A study was conducted to determine if it was more convenient for the MSPAS to rent or procure its vehicles. The study took into consideration the following factors: monthly rental costs, price of new vehicles, a useful life of 5 years, market value after depreciation, preventive and corrective maintenance annual costs, and the annual cost for the repair and replacement of tires. The results allowed the technical assistance team to determine if it was more economical for the MSPAS to acquire the vehicles or to rent them. The result of this analysis was significantly influenced by the efficiency level (low unit maintenance costs) achieved by the Motor Vehicle Maintenance Department of the MSPAS.

Different studies indicated that the MSPAS should implement a replacement policy for light vehicles every six (6) years, and of heavy vehicles every eight (8) years. Also, that it should standardize all the vehicles to a maximum of 3 makes and to a minimal amount of models, for example: the most appropriate model for the rural areas was found to be the pick-up, double cabin, 4X4, diesel or unleaded gasoline; for urban areas the same model, but 2 X 2.

The light vehicle replacement policy of 6 years was considered to be economical for the MSPAS, taking into consideration the increase in the repair costs after a 6 year life period, the vehicles' fatigue and their low reliability. With this policy, the MSPAS only has to replace one sixth of its complete vehicle fleet every year, and in this way the replacement can be made in small groups, with the funds more manageable. The same applies to the heavy vehicles, but their replacement should be done every 8 years.

The existing vehicle fleet at the central level and the regions was evaluated with the purpose of establishing the transportation needs for the distribution of medicines and medical supplies. After evaluating the vehicles and determining any additional needs, the reassigning and modifications of the vehicles was made. The specific needs of double traction vehicles and regular vehicles were determined, having in mind the roads of each region and the places where the medicines and medical supplies are distributed. Following the standardization policies at the MSPAS, the technical specifications for the procurement of vehicles were defined, and eight trucks were procured for the distribution of medicines and medical supplies at the regional level.

PROBLEMS AND RECOMMENDATIONS

The total amount of operational vehicles has diminished and the amount of reparable vehicles has increased, which means that the amount of vehicles available for the normal activities of the Ministry has decreased considerably. Indications are that this trend is not going to improve. The vehicles are getting older, over-used and fatigued, which in the long run will cause the vehicle fleet to decrease rapidly.

The adoption of a replacement program for 73 vehicles per year, adequately financed, is the only alternative that exists to guarantee the permanent availability of the vehicles needed for the normal performance of the Ministry.

The motorcycle maintenance system does not have enough personnel, physical installations and financial resources to carry out its different functions adequately. These problems were presented to the MSPAS Officials for their solution, but no decision was made.

The lack of adequate mechanisms for the assignment and control of automotive tools has facilitated their loss. To end this problem, it was recommended to establish a tool coding and assignment system, with their respective inventory control registries, and the periodical verification of their existence and use. The adoption of this system will establish administrative responsibilities in case of loss and to apply the necessary sanctions.

The amount of money allocated for the procurement of spare parts through petty cash has no relation with the real price of the parts. Additionally, the diversity of products that can be procured with these funds does not allow parts to be bought that are considered essential for the maintenance activities. We recommend:

- * Increase the amount per procurement.
- * Authorize the procurement of materials directly related to the repairs, like: sealers, paint, polishers, etc.
- * Assign the administration of the funds to the Head of General Services or to the Head of General Maintenance.
- * Provide training to the personnel responsible for the fund on administrative procedures that should be followed to guarantee their adequate handling.
- * Conduct audits, without previous warning, to verify the correct use of the funds.

It is necessary to mention that if the recommendations regarding vehicle replacement, maintenance and control of vehicles and motorcycles are not implemented in the near future, the Department will not be able to cover the MSPAS needs, with a negative effect on the development of the different health programs.

4.3.3 Biomedical Equipment Maintenance

As decided by AID, the scope of action of the project was limited to the equipment at the clinical laboratories at the health units and posts and to the construction and implementation of the biomedical equipment maintenance workshops at the Paracentral and Occidental Regions.

RESULTS

95% of the clinical laboratory equipment at the health units and posts functioning.

The clinical laboratory equipment maintenance was performed at the central level and at the Oriental, Paracentral and Occidental Regions.

Construction, supply and implementation of the biomedical equipment maintenance workshops of the Paracentral and Occidental Regions accomplished.

233 persons trained in the use, operation and maintenance of the clinical laboratory equipment.

Compliance with the routines and preventive maintenance programs of the clinical laboratory equipment at the health posts and units.

ACTIVITIES AND METHODS USED

The technical assistance consultants and the MSPAS biomedical equipment maintenance personnel visited the 56 clinical laboratories located at the health units and posts. On that visit, an inventory and a diagnostic study was done of the existing equipment, and the repair needs were identified, specifying the useful life, spare part list, technical personnel time and the financial resources requirements for each equipment.

Based on this diagnosis the following lists were prepared:

- * Equipment to be discarded without replacement,
- * Equipment to be discarded with replacement,
- * Additional equipment to standardize the production of the clinical laboratories at the health units, and
- * Equipment to be repaired.

The technical specifications for the procurement of the new equipment needed were prepared and delivered to the AID for its procurement. When the equipment arrived in El Salvador, the technical assistance personnel participated in its reception, distribution and installation.

After receiving the spare parts needed, and through an in-service training process, the MSPAS personnel responsible for the biomedical equipment maintenance, repaired the damaged equipment with assistance of the biomedical consultant.

The project supported the planning, design, definition of technical specifications, bidding, awarding, construction supervision and implementation of the biomedical equipment workshops at the Paracentral and Occidental Regions.

The needs for equipment were identified and the technical specifications were defined of the equipment and tools needed to equip the biomedical equipment maintenance workshops at the Paracentral and Occidental Regions. The equipment and tools were procured by the AID and distributed to the different regions.

Technical guides for the training of laboratory personnel were prepared. These guides specifically cover the microscope, the macro and micro centrifuges, and the spectrophotometer. Due to its faulty use these are the most complicated and easily deteriorated equipment due to its faulty use.

4 persons from the Biomedical Equipment Maintenance Section were trained in the maintenance and repair of the equipment procured by the project, and 229 persons from the central laboratory and from the clinical laboratories at the health establishments were trained in the use and maintenance of microscopes, macrocentrifuges, serum separators, laboratory scales and spectrophotometers.

These training sessions have had a decisive impact on the maintenance and operation of the laboratory equipment and furthermore, on the life and good use of the equipment procured by AID. On very few occasions, if in any, the majority of the laboratory and maintenance personnel of each region were involved in such a massive training with so many technical details.

The project provided technical information about the equipment models donated to the Biomedical Section. This information is very valuable and is the product of many years of collection by the Project Advisor.

With resources from the project, improvements were made to the clinical laboratories at the health units Tomas Pineda Martínez, La Libertad, Zacamil, San Antonio Abad, Apopa, Sitio del Niño, Apaneca and Berlín.

PROBLEMS AND RECOMMENDATIONS

The Biomedical Equipment Maintenance Section at the central level should restart the preventive maintenance visits to all the health units to guarantee the adequate maintenance and the maximum use of the equipment procured by the Project.

The absence of labor stability in the Biomedical Equipment Maintenance Section is a critical problem encountered that has affected its functioning. This problem makes impossible the continuity of the formulation and execution of the programmed activities, and thus the achievement of the proposed objectives.

The expertise of the personnel of the Biomedical Section on Photometry Theory and its measurement units, chemical preparation of samples and in electronics is deficient. This limits the development of abilities for the repair of spectrophotometers and color meters. It is recommended that the Ministry revise the academic requirements of the personnel in this area for the purposes of recruitment and selection of personnel and in the promotion process.

With the purpose of achieving the maximum advantage from the available infrastructure and thus provide a better service to the community the efforts made by the APSISA project on the remodeling of physical installations, supply of equipment to the clinical laboratories at the health units and personnel training on the functioning, operation and maintenance of the equipment should be complemented by the adequate supply of reactives and materials.

The Central Laboratory needs additional equipment to be able to perform its educational objectives. The educational equipment is necessary to provide training to the new doctors in their social service year, and for the training and improvement of permanent staff that needs to learn new laboratory techniques.

The employment policies at the Health Units for doctors in their social service year should be modified. Every year these doctors, with limited or no experience at all, are assigned to distant places where the supervision is very limited. This creates two grave problems:

- * Deficient professional attention to the patient that already mistrusts the primary health services.
- * Deficient or bad use of the new equipment and its fast deterioration.

The solution to this problem is to appoint these doctors to a medium size health unit or health centers with more than one laboratory licensed professional, that can orient their work and train them rapidly at a low social and economic cost.

At the Oriental Region the majority of the laboratory personnel are technicians, not licensed professionals. To be able to improve the technical level of this personnel, the Central Laboratory should provide a more efficient supervision in that Region.

4.3.4 Potable Water and Sewer Systems

RESULTS

Improvements to the potable water and sewer systems of 124 health establishments, with a total investment of C12,509,717.

217 persons, including inspectors, collectors and orderlies of the health establishment personnel, trained in the preventive and corrective maintenance of the installed systems.

ACTIVITIES AND METHODS USED

The work performed at the existing potable water systems in Health Units and Posts consisted in the installation or replacement of pumps, elevated tanks, sanitary equipment, plumbing, distribution and drainage networks, construction of cisterns, pump houses, septic tanks and drainage wells.

On the drainage system, all the plumbing as well as the septic tanks were cleaned and repaired, increasing their useful life for 10 to 15 years more. The damaged drainage tubes were replaced with new plastic ones.

When possible to connect the building plumbing system with the public system, the change was made, building the necessary collectors and disconnecting the existing septic tanks. As the septic tanks were cleaned, new drainage wells were built to assure their good functioning.

The activities performed for the development of the program were divided in two groups:

- * Field studies, approval transactions and contracting.
- * Execution, receiving and contract liquidation.

The first group comprised the following activities:

- * Distribution by groups of the establishments for their initial field evaluation and to identify the list of the establishments that needed repairs.
- * Redefinition of the groups, according to their geographical area to prepare final topography and damage studies.
- * Preparation of draft drawings and budgets for the final field evaluation.

4.3.4 Potable Water and Sewer Systems

RESULTS

Improvements to the potable water and sewer systems of 124 health establishments, with a total investment of C12,509,717.

217 persons, including inspectors, collectors and orderlies of the health establishment personnel, trained in the preventive and corrective maintenance of the installed systems.

ACTIVITIES AND METHODS USED

The work performed at the existing potable water systems in Health Units and Posts consisted in the installation or replacement of pumps, elevated tanks, sanitary equipment, plumbing, distribution and drainage networks, construction of cisterns, pump houses, septic tanks and drainage wells.

On the drainage system, all the plumbing as well as the septic tanks were cleaned and repaired, increasing their useful life for 10 to 15 years more. The damaged drainage tubes were replaced with new plastic ones.

When possible to connect the building plumbing system with the public system, the change was made, building the necessary collectors and disconnecting the existing septic tanks. As the septic tanks were cleaned, new drainage wells were built to assure their good functioning.

The activities performed for the development of the program were divided in two groups:

- * Field studies, approval transactions and contracting.
- * Execution, receiving and contract liquidation.

The first group comprised the following activities:

- * Distribution by groups of the establishments for their initial field evaluation and to identify the list of the establishments that needed repairs.
- * Redefinition of the groups, according to their geographical area to prepare final topography and damage studies.
- * Preparation of draft drawings and budgets for the final field evaluation.

- * Revision of the projected improvements and amount of work that were part of the final project for each establishment.
- * Final Revision of drawings and budgets to be submitted for MSPAS and AID approvals.
- * Elaboration and/or detailing of specifications and other contractual documents for the bidding and awarding process local contractors.
- * Invitation of local contractors, specialized in civil works, to present offers according to the proposal plan defined by Clapp and Mayne, Inc. and in compliance with the established timeframe.
- * Reception, analysis and award of contracts.
- * Communication of the results to the winning bidder and to request the performance bond, contract signature and issuance of order to start the construction.

The second group comprised the following activities:

- * Supervision and control of the contractor's activities, established compliance indicators, technical specifications, quality of materials and their origin.
- * Pressure and leakage tests, reception of contracted works, installed sanitary equipment, accessories, valves, automatic pump controls, etc.
- * Reception of amounts of materials at each site, tools for maintenance and final receipt of the work performed.
- * Revision of the final construction plans submitted by the contractor.
- * Reception of the one-year warranty and contract liquidation.
- * Final payment of contract and delivery of drawings, files, manuals and warranties to PLANSABAR for their respective distribution to the MSPAS units on charge of the Project.

A Potable Water and Sewer System Maintenance Manual was prepared using as our frame of reference the recommendations from the equipment manufacturers and the maintenance technical criteria of civil works.

Each health establishment where work was performed was given a tool box and basic materials to be able to carry out any preventive and corrective maintenance work. Finally, 217 persons, including inspectors, collectors and orderlies, part of the health units personnel, were trained in the preventive and corrective maintenance of the systems installed.

PROBLEMS AND RECOMMENDATIONS

During the development of the program, a series of problems that caused delays and serious difficulties to perform the programmed goals were identified and solved.

Some of the problems encountered were:

- * Lack of technical support personnel or its inappropriate assignment by the Ministry.
- * Assignment of personnel specialized in areas different than the one required by the project or personnel assignments without the required experience.
- * Limited availability of technical personnel to design and produce the drawings needed.
- * Lack of equipment and materials for the design, drawing and training activities.
- * Irregular availability of transport during the project, for the field personnel to develop their field supervision and studies.

The on time assignment of adequate resources by the MSPAS could have prevented the problems mentioned.

4.4 Component II: Improvements to the Basic Health Delivery Services

4.4.1 Maternal and Child Health

From October 1st, 1991 to December 31, 1994, the project's participation in the maternal and child area was limited to radio and television promotion activities and to the reproduction and distribution of educational material for the health establishments. In the Extended Immunization Program, the project supplied syringes and equipment for the cold chain.

From January 1, 1995 to June 30, 1996, the Project was assigned technical assistance responsibilities to (1) conduct a diagnostic study of the maternal and child health program of MSPAS, and (2) to define and implement strategies to improve the efficacy and efficiency of the program to reduce the mobility and mortality of mothers and children under 5 years of age.

RESULTS

The technical assistance activities resulted in the following:

- * Updating of the norms and procedures of the Maternal/Child health program.
- * Promotion of breastfeeding.
- * Training of 4,260 persons on maternal and child care.
- * Strengthening of the surveillance system of the maternal and child services. Understanding, analysis and use of statistical data.
- * Design of supervision and monitoring instruments.
- * Correctives measures geared to the decrease of maternal mortality within the MOH Institutions.

ACTIVITIES AND METHODS OF WORK USED

The project's activities were oriented toward the integral attention of the mother and child, particularly at the primary level (health units and posts), complementing them with the actions of the community health promoters, midwives and community leaders.

To strengthen the planning and execution of activities of the Reproductive Health Department in the priority areas of child survival and maternal health, technical assistance was provided in the development of activities aimed at improving the quality of services, increasing their coverage, identifying and managing risk factors, and on time referral and adequate child birth attention.

Basically, the methods used were workshops, direct assistance, training, monitoring, information exchange and motivation. The collection of analysis and use of statistical information of the maternal and child area also contributed to the identification of the problems and to the development of intervention strategies for their solution.

Technical Assistance

A training program on planning, organization, supervision monitoring and evaluation of maternal and child services was organized and offered to the program staff to strengthen their management capabilities at the central and departamental levels.

Initially, a diagnostic study was conducted of the maternal and child health program and a 1995-96 Action Plan was prepared.

Subsequently, and using information on the principle causes of maternal and child mortality, workshops were conducted at the central level as well as in the departments to review and examine the maternal and child norms and procedures in use.

With the information obtained in these workshop a new set of norms and procedures was developed. 197 persons, including medical doctors, nurses, nutritionists, social workers and educators, participated in this activity.

The technical assistance also supported the Reproductive Health Department's technical team that together with staff of other MSPAS units, designed a manual for the handling of obstetric emergencies, to be applied in the solution of the most frequent problems that the woman faces during pregnancies, labor and post-partum, including the newborn. The manual also incorporated preventive measures to promote self care activities by the women during those processes.

Since supervision and monitoring are key elements in the management of the maternal and child care programs, a set of supervision and monitoring instruments was designed, revised and shared with other units at the MSPAS.

The instruments for the recollection of statistical data for the different service levels were revised with the help of technical team of the maternal and child health area and with staff of preventive medicine. Other instruments were designed to collect additional information for on time diagnosis of the problems. These instruments were reviewed and approved by MSPAS.

Since 1992 MSPAS has been actively promoting and supporting breastfeeding, to increase the exclusive breastfeeding practices in the first 6 months of life. In 1992 the amount of breastfeeding was 13% and in 1994 was 15%. In 1995 and 1996, it was decided to conduct training activities on clinical management breastfeeding and counselling at the community level.

Some of the efforts of the project to reduce the acute respiratory infections (IRA's) and acute diarrheal diseases (EDA'S) included training activities for the promotion and extension of breastfeeding, and the adequate identification and treatment of cases.

Logistic Support

The project gave technical support for the reproduction and distribution of educational material, promotion of the maternal and child care components through radio and television, and the contracting of the logistical support needed for the training sessions provided during the 1995-1996 period. For the biomedical equipment at the health establishments and the midwives, the

technical support was limited to the identification of needs and the drafting of technical specifications.

As part of the efforts to improve child health, the project supported the Extended Immunization Program (PAI) through the procurement of syringes and equipment for the cold chain. The 1995 data show excellent coverage for DPT3 (100%), OPV3 (94.0%) and Measles (93.0%) for children under one year of age.

Training

Training activities were concentrated on specific areas to improve the quality of services, reduce the problems encountered at the institutional and community level, and contribute to the decrease of the maternal and child morbidity and mortality rate. Training was given at all levels, including the community.

753 persons from the health units and posts were trained on interpretation and use of the maternal and child care norms and procedures.

59 persons from the Health Departments were trained as facilitators for the training of midwives using the risk methodology. To improve the quality of the midwife's performance, 1730 midwives were trained on risk identification during pregnancy and during birth, handling of premature births and the opportunity referral.

A theoretical and practical course was conducted about treatment of cervical cancer using high voltage electro-surgery. 15 Obstetricians were trained. The practical phase of the course was conducted in each region, in a previously selected and equipped establishment.

The trained doctors have been using these techniques at their respective health establishments.

157 persons, including medical doctors and nurses from the primary level establishments were trained in the handling of obstetric complications and emergencies.

35 technicians from the central level were trained in the use of supervision and monitoring instruments. Afterwards, the departments trained their personnel.

Educational and training activities of community support groups were conducted on breastfeeding counselling. Groups from 12 departments were trained, as well as 901 persons from the communities including pregnant women, breastfeeding mothers, health promoters, midwives and other community leaders.

With the purpose of strengthening child care at the community level, 546 community health promoters were trained in child growth and development, using the risk factor methodology. This training included basic concepts, the handling of instrument, use and interpretation of charts, alarm signals and the actions to be taken for immediate attention of cases.

With the purpose of promoting exclusive breastfeeding as a feeding modality, from birth to 6 months, and to diminish the diseases among the breastfeeding infants, at the institutional level 64 participants were trained in clinical management of breastfeeding. As a result, the 15 maternity units agreed to use the 10 steps to protect, promote and support breastfeeding (OMS/UNICEF).

PROBLEMS AND RECOMMENDATIONS

To strengthen the problem solving capacity of the maternal and child health services, efforts were made to equip the health units, health posts and midwives with basic biomedical equipment. The project made all effort possible, but the equipment was never supplied due to the negotiations to extend the APSISA project.

Each establishment should be equipped with the minimum equipment necessary for pre-natal control, birth care, post-natal control, and the attention of obstetric's emergencies or complications. Also equipment should be supplied for the attention of the health or sick child and the attention of the infant and pediatric complications that may occur.

The midwives should also be supplied with the necessary equipment to be able to offer safe services on time and with the lowest chance of complications.

The Government should obtain this equipment, with their own funds or funds from loans or international donations. Only with proper equipment will the midwives and health units and posts, be able to improve their capacity to reduce the maternal and child morbidity and mortality.

For the MSPAS to improve the health of the mother and child, it is necessary to:

Reduce or eliminate the risk factors existing at the community level that contribute to maternal and child morbidity and mortality.

Improve the access to health services of women and children by eliminating institutional barriers that limit their use, and extend their coverage at the community level. The maternal and child care services are basic for the social development of the country. These services should be free

for all people that need them, no matter their social condition, and in particular to those who are at the poverty level (62% of the total population).

Direct the interventions to the priority areas:

- * Integral attention of the pregnancy, birth and post-natal care.
- * Adequate handling of obstetrics and pre-natal complications.
- * Attention to the primary causes of death in children less than 5 years old: Acute diarrheal diseases (EDA's), acute respiratory infections (IRA's), low birth weight/ premature babies.
- * Mother and child nutrition.
- * Pregnancies in women of less than 20 years old.

Strengthen or improve the planning, supervision and evaluation aspects of all the actions realized.

It is necessary to concentrate the training efforts on the following areas by level of attention and education of the health personnel:

- * Identification and handling of risks on pregnant, post-partum women and children with acute diarrheal diseases and acute respiratory infections.
- * Identification and opportune handling of obstetrical and pre-natal complications, specially on the maternity services.
- * Handling of obstetrical emergencies at the health units posts and community level.
- * Standard management of acute respiratory infection cases and acute diarrheal disease cases at the primary and community levels (promoters).
- * Supervision and monitoring of services.
- * Adequate application of norms and procedures for the attention of cases at all operational levels.
- * Training on primary maternal and child health care for Interns before starting their social service year.

One problem that translates into high maternal and child mortality rates is the low pre-natal attention coverage. The MSPAS pre-natal coverages for 1994 and 1995 was 32% and 33.2%, respectively. These are very low if we take into consideration the consequences these have on the mother and child. The low coverage of post-natal control (25.8%) is very significant. The maternal and child deaths related to the absence or inadequate pre and post natal care (low birth weight, hemorrhage, blood poisoning, sepsis), that are preventable can contribute significantly to the decrease of the maternal and child morbidity and mortality.

The Reproductive Health Department needs information to monitor trends in the indicators related to women's and children's health. The information should be divided adequately to be able to take on time corrective measures over anything that might affect the maternal and child health. The instruments for the collection of statistical data adjusted and prepared by the Reproductive Health Department should be incorporated into the Health Statistics Information System of MSPAS. Also, the maternal and child morbidity information should be collected and processed in order to have all the information necessary to clearly identify the main morbidity causes.

The World Health Organization (WHO) has identified the adequate management of cases as the most effective strategy to reduce the mortality causes by acute respiratory infections and acute diarrheal diseases. This includes the opportune recognition of the signs by the health establishment personnel as well as the community level personnel. Even though the knowledge and abilities for the standardized management of cases is relatively simple, the training of medical doctors and paramedics should be conducted with the best available instructional material and a substantial time dedicated to clinical practice of real cases. The regular uninterrupted supply of medication to the establishments is very important.

The supervision and monitoring of mother and child services should be effectively integrated with the existing systems. This should include the application of existing norms, availability of trained motivated personnel, equipment and supplies, and a patient referral system. On the administration side it is important to establish and maintain adequate records, feed back mechanisms and evaluation systems.

In El Salvador the schools of medicine and nursing give more attention to curative medicine when the reality is that primary health services are in more demand and should be given more attention in the faculties of medicine and nursing. The clinically oriented health professionals are not prepared to handle the basic primary and preventive health services mainly needed in the rural and periferal urban areas of the country.

It is recommended that the medicaid and nursing facilities design a training program in maternal/child care as part of their standard curriculum with follow up practice during the "social services year".

For the improvement of the nutritional level of the population it is necessary to improve their diet, improve the sanitary condition in their communities, adequately control infections and to better maternal and child health services.

The poor nutritional level of the population has its roots in multiple factors such as: poor socio-economic conditions, inadequate pre-natal care, chronic maternal malnutrition, short spacing between pregnancies and interruption of breast feeding before the infant reaches six month. Also it is the result of inadequate intake of nutrients and micro-nutrients, diarrheal diseases, infections, parasites and a combination of customs, habits and old believes during pregnancy, breast feeding and diarrheal symptoms.

One of the main problems that affects infant health is the high incidence of anemia in the poor population of El Salvador due to a high deficiency of iron. The real level of this deficiency is not known in the country. The efforts to control it are limited and poorly coordinated. The high incidence of anemia contributes to a significant proportion of maternal deaths because of uncontrolled bleeding during birth. It also contributes to early morbidity and mortality due to premature birth intrauterine growth retardation and low birth weight.

The strategies that MSPAS can develop in this area are limited since their interventions to improve the nutritional health of the mother and the child are through distribution of food and micro-nutrients during the pregnancy and after birth. Because of the limitation of funds, MSPAS needs and should seek assistance from international organizations such as AID, UNICEF, PAHO, etc. The food supplement program and the distribution of micro-nutrients is very limited in its coverage. There is a great need of vitamins and food supplements in the country.

AID should explore the possibility of donating micro-nutrients to be distributed to pregnant mothers and children under 5 years of age. To help reduce the rate of post-partum death in mothers and infants under one year, the program should prioritize these clientele. Unless MSPAS finds a way of supplying iron vitamin and folic to the expectant mothers during their pregnancy and post-partum period and to all children under 5 years of age, the death rate among mothers and children due to complications arising from anemia will continue its rise. The Community Health Promoters as well as the Mid-Wives are excellent resources for the continuous distribution of these vitamins in the community.

4.4.2 Family Planning

The technical assistance in this area started on April 16, 1995 and lasted through the end of the project. The objective of this TA can be summarized as follows: Conduct a diagnostic study of MSPAS activities in the area taking into consideration the low coverage of the program, in particular in the rural areas where it was almost non-existent and recommend measures to improve and extend the program; if accepted by MSPAS, work on its implementation.

RESULTS

At the end of the TA, there were eleven (11) health establishments conducting a Demonstration Program for the Community Distribution of Contraceptives (DCA). It was expected that this program will give MSPAS the elements to decide on the extension of the program to the rest of the country.

The impact of this program on the fertility rate, birth rate, population, infant and mother mortality, etc. can only be measured on a long term basis. Family Planning records are not accurate. It can be measured only with special long term studies (health surveys, fertility and use of contraceptives). On a short term basis we can only compare data of the active users of FP obtained from the Monthly Reports produced by the health establishments before the new program was started in the 11 participants establishments against the recent reports that take into consideration the new and active users under the demonstration program.

We compared the data of FP users from the monthly reports for October 1995 from the Health Units of La Palma and San Isidro (before the DCA program commenced) with similar data for June 1996 and the results were as follows:

Active Users

	<u>Oct. 1995</u>	<u>June 1996</u>	<u>Difference</u>
La Palma	191	285	+50%
San Isidro	86	234	+172%

The data collected was fairly good. However, we had to take into consideration the under reporting that was prevalent in the reports before the DCA program. However, the inefficiency of the old data, it can be concluded that the DCA program results showed that it has the expected characteristics of:

Feasibility: The program was established in eleven (11) health establishments, with the existing elements and personnel without affecting the work program of the establishments.

Duplication: The staff of the health units that were trained in the DCA program, can install the program in other units with minimal participation from the FP Advisor.

Acceptability: The program was accepted by all concerned at all levels and including (most important) the community.

Sufficiency: The program did not require additional funding or personnel from the units where it was tested. The only expenses were the paper used for the forms to enter the data and the copies of the FA Norms and Procedures Manual for use by the primary level staff.

Training: The manual was used by over 70 Community Promoters and was very well received. A few changes were made to it after the first experience. The manual proved to be self sufficient for self-training. There was no need for expensive training courses.

ACTIVITIES AND APPLIED METHODS OF WORK

During the period of assistance, the FP Specialist tried to gather and review all the reliable and useful information about the socio-demographic condition of the families, maternal and child health, family planning services, organization, resources, etc.

The participation of the three counterparts from MSPAS was excellent. It should also be mentioned that the assistance received from the health staff in the departments that participated in this demonstration project was excellent.

Extensive and intensive visits were made to these departments to observe the family planning activities, meet the health staff and many of the users and to examine the quality and acceptance of the services.

Once the field work was concluded a report was prepared and submitted to MSPAS that included a full diagnosis of the situation and the results obtained.

The findings of this diagnosis enabled us to conclude that:

- * the demographic, economic and sanitary condition of El Salvador makes imperative demands for a well organized Family Planning Program.
- * the government is receptive to a Family Program and that MSPAS has the adequate infrastructure to operate and expand it if adequate resources are assigned.

The factors affecting the MSPAS program are:

- * Too much medical participation in the Family Planning program.
- * Too many bureaucratic administrative steps to obtain the service.

- * The FP program lacks an important component of Information, Education and Communication (IEC in Spanish) that will motivate, inform and support the couples interested in family planning.
- * The supply of contraceptives is very erratic, particular at the level of the Health Promoters.
- * The difficulty in evaluating the results of the program since the statistics available are not updated and are not reliable.

The diagnostic study was submitted to MSPAS with a recommendation to establish a Community Distribution Program of Contraceptives (DCA in Spanish) administered by the Health Promoters with the support and participation of community leaders and of the health establishments in the area.

Under this program (DCA) most of the contraceptive methods prescribed by Medical Doctors and supplied at the Health Unit or Post can also be prescribed and supplied by properly trained Health Promoters following specific norms and procedures indicated in a special DCA manual for the use of Health Promoters and Midwives. The Health Promoters are instructed to refer to the health establishment the users that prefer to be treated in the establishment or those ones that, according to the list of risks found in the manual, do not qualify to be treated by the Promoter.

Due to MSPAS financial limitations we did not recommend the establishment of the Information Department (IEC). It was recommended that MSPAS coordinate with the Asociación Demográfica Salvadoreña (ADS in Spanish) for the latter to include the areas served by MSPAS in their information releases.

With the authorization of MSPAS a Community Distribution of Contraceptives Demonstration Program (DCA) was established to analyze the community response to it, difficulty of duplication in other areas, difficulty of operation and acceptance, support and understanding of the Health Promoters and other health personnel in the area. The program's key covenant was that it had to be run by the local Promoters and health establishment at no extra cost.

A manual of Family Planning Norms and Procedures was designed and reproduced for the use of primary health personnel. Also the Information, Education and Communication Program was prepared.

In November of 1995, the demonstration program was started in the Health Units of La Palma, (Chalatenango) and San Isidro (Cabañas). In both departments it received full support from the Health Directors and the Units. In February of 1996, the program was extended to Citalá and

San Ignacio; in March it was extended to Villa Victoria and later it was extended to Villa Dolores, Guacotecti, Santa Lucia, Carolina, San Luis de la Montaña and the Health Center of Ilobasco in Cabañas.

The sequence of the steps followed to install the program were:

1. Authorization of the Health Department Director.
2. Meeting with the Director of the establishment to familiarize him/her with the APSISA project, its FP component, the FP plan submitted to MSPAS, the idea of conducting a demonstration program in his/her Unit and if accepted, request his/her authorization for a meeting with the personnel of the Unit to explain in detail the program and to distribute copies of the DCA manual.
3. A follow up meeting with health personnel to answer any question they may have about the program and the manual and specifically to orient them in how to fill the forms used to enroll the users.
4. Follow up meeting to verify the use of the forms and to retrain on doubtful aspects of this enrollment and control procedure.

We established this program in eleven (11) establishments, trained 70 Promoters and by June 30, 1996 the program had 654 active users. The program was accepted and proved to be easily duplicated in the other health establishments.

In April of 1996 we submitted to MSPAS the results of the demonstration program in a document entitled, "Program for Family Planning in El Salvador".

PROBLEMS AND RECOMMENDATIONS

The most promising factor observed in the Family Planning activity was the interest, motivation, and support received from all the MSPAS personnel in the health departments, units and centers and in particular the support and dedication from the Community Health Promoters and Supervisors. Every persons that directly or indirectly participated in the Demonstration Program considered that it was a success and that it should be extended to all the country.

On the other side, the negative factor was the difficulties found to communicate with the central level of MSPAS. Our communication was limited to the personnel of the Reproductive Health Department of MSPAS.

The erratic flow of contraceptives from the central level to the health departments, centers and units affected in large measure the potential enrollment of new FP users during the demonstration program. During the period we conducted the demonstration program and the central warehouse had ample supplies of contraceptives, but the bureaucratic labyrinth of the distribution process prevented its on-time distribution. Not even the special efforts from the APSISA FP Specialist were able to accelerate the flow of contraceptives to the health establishments participating in the study.

One important restrictive factor in the use of FP methods in El Salvador, as well as all over Latin America, is that of the religion. The Catholic Religion in particular opposes the use of artificial family controls. This belief has to be respected. No one can be forced to accept the program if they feel it is against their religious principles. The MSPAS program should continue its low key approach, offering the best service possible to families that voluntarily enroll in the program.

The following recommendations were made on the assumption that MSPAS would accept the establishment of the National Family Program following the DCA demonstration program results. There are some factors that need to be resolved internally in MSPAS before it can be nationally implemented.

For a successful implementation of the program the following actions and decisions have to be taken by MSPAS:

At the Local Level: The responsibility for the program should be assigned to the Health Center or Unit Director and its staff. There is no need to assign additional staff to run the program.

At the Departmental Level: The Head of the health department should assign the responsibility of the program to one of his staff (Community Health Supervisor, Head Nurse, etc.) and to consolidate the monthly reports received from the different health establishments with DCA program in his department into one departmental report following the same format as the units reports.

At the Central Level: The program needs a Director of Family Planning (DPF) with full authority for the program and direct access to the top echelon of MSPAS.

Contraceptives: One of the basic responsibilities of the DPF is to ensure a steady flow of contraceptives from the central level to the local level. Of primary importance is to try to expand the types of contraceptives available for distribution.

Once MSPAS includes the DCA Program as part of its basic programs, the Departmental Heads should actively promote the establishment of the program in their health establishments and conduct activities to enroll the community leaders in the promotion of the program. The staff

of the units where the program was established with the assistance of APSISA should be invited to help organize the program in other units and to train its staff. With full effort from the Departmental Heads the program could be established in all health units of MSPAS within a year.

4.4.3 Community Health

During the first stage of the APSISA project in 1989, and as a result of a study conducted to examine the organization and operation of the existing community activities performed by the "Ayudantes Rurales de Salud" (ARS) and the "Ayudantes Comunitarios de Salud" (ACS), MSPAS created the Community Health Department with the purpose of extending the health services to all the rural communities in the country. AID/ES gave full support to this expanded program.

The department was adequately, organized and staffed at the central level. The activities conducted by the ARS and the ACS were consolidated into what is now the Community Health Promoters (CHP). A training program was designed and offered to all 529 CHP's and 60 Supervisors. The project continued supporting the program until September 1993. In the project extension of October 1993 through December of 1994, the Community Health Program did not receive technical support. Technical Assistance to the program was resumed with the project extension of January 1995 through August 1996.

RESULTS

In 1991 the GOES accepted to extend the health services to 1,800 "cantones" (87% of the rural areas) and to assign enough resources to MSPAS to absorb the cost of the Promoters.

From October 1991 to September 1994, the number of Promoters was increased to 1540 and the Supervisors to 150. The GOES assigned additional funds to MSPAS to continue the program.

With the technical assistance received through APSISA, MPSAS redefined the objectives and goals of the program, established a set of criteria to select priority areas (cantones), defined more clearly the qualifications of the CHP's and the recruitment and selection procedures, and developed a "Manual del Promoter". Also developed and implemented was a program for continuing education, a system for logistic support, a system for monitoring and evaluation and the computerized management information system.

As a result of the ANSAL Study, MSPAS refocused the goals of the project. Consequently, technical assistance offered to the program from January 1995 through August 1996 was concentrated in the training of the CHP's to make them more self sufficient in their actions. However, MSPAS slowed the appointment of new or vacant positions, and at the end of the

project the program had only 1438 CHP's capable of serving only 69.8% of the rural area of El Salvador.

ACTIVITIES AND APPLIED METHODS OF WORK

To update the job description of the CHP's and to determine their training needs, a questionnaire was designed and all CHP's were asked to fill it. Focal groups were conducted with local level Medical Doctors, Nurses, Promoters and community leaders to obtain their opinion about the Promoters scope of work, activities, etc.

With all the information obtained from the questionnaires and focal groups, a new Manual del Promoter was drafted and distributed among the different MSPAS programs that the Promoter was supposed to support in the field--Maternal/Child Health, Family Planning, Acute Respiratory Infections, Acute Diarrheal Disease, Environmental Health, etc.-- to obtain their opinion.

During the first semester of 1996, the manual was validated by the MSPAS technical departments and by the Promoters. The final version of the manual was printed and delivered to MSPAS. This manual will be used by all MSPAS Promoters as well as the Health NGOs, in particular the 18 NGOs covered in the MSPAS/SETEFE agreement.

In coordination with the "Subdirección General de Unidades de Salud" a list of the basic clinical equipment that the Promoter needs to conduct his activities was prepared, approved by MSPAS and procured and financed by AID/ES.

A commission composed of members of the different health programs in MSPAS assumed the responsibility of coordinating the retraining of the Promoters in their new duties. A continuing education program was prepared for this purpose. The Health Departments were responsible to conduct the training in all their health establishments. A total of 1700 Promoters from MSPAS and of the participating NGOs was trained.

In coordination with UTMIM, ten (10) medicines and 5 medical products were selected and included as the Promoters Basic List of Medical Products. The Basic List was approved by the MSPAS authorities and included in the list of medical products to be procured in 1996. A Promoters Supply Manual was prepared with full and clear instructions for the prescription of the medical products.

APSISA participated in the coordination of activities carried out by MSPAS and the NGOs. These activities included the NGOs registration process in MSPAS, their participation in the National Nutrition Program, revision of the action plans submitted by the 19 NGOs of the MSPAS/SETEFE agreement, definition of the evaluation criteria, indicators, and the information system to be used.

PROBLEMS AND RECOMMENDATIONS

The Departmental Units and the health establishments have been slow in supplying the Promoters with the medical products included in the Promoters Basic List. Two monitoring activities conducted by the project found that the Promoters were receiving only three medicines (23%) and two of the five medical products they were supposed to receive. Situations like this affect the efficiency of the Community Health Program and the Promoters lose credibility in front of the Community.

On the other hand, the Maternal/Child Health and the Health Education Programs do not supply the CHP's with any educational material. This hinders the efficiency of the Promoters.

During 1995 the position of the MSPAS authorities was not clear regarding the Community Health Program, and in particular the position of the Promoters and Supervisors in the chain of authority of the health establishments. This created a problem of communication and coordination with other programs such as Reproductive Health, Nutrition, etc. The action plan of the CHP's was affected and a number of goals were not met on time.

It is important that AID/ES continue giving technical assistance to the "Subdirección General de Unidades de Salud" in their efforts to develop and modernize the primary health services. Some of the activities that AID should promote and give assistance to are:

- * Design, implementation and evaluation of a new health attention model. The new model should have the following characteristics:
 - Offer integrated health services: preventive and curative
 - Universal coverage with emphasis in the rural urban-marginal, and very poor population with social and geographic difficulties to receive the health services.
 - Referral and counter referral system that ensures the mobility of the patients both horizontally and vertically in the services structure so that their needs receive the prompt attention prescribed by the complexity of their illness.
 - Strengthen the health promotion activities and establish epidemiological vigilance in all health units.
 - Guarantee the quality of services and the satisfaction of the clientele.

- * Revise the information system (SIEES) to incorporate any changes required by the new model.
- * Establish a control and evaluation system to guide the operations and growth (development) of the health establishments at the primary health level and the departmental offices. The system should supply information on achievement of goals, human resources satisfaction and productivity, costs, research, (coverage), quality of services and satisfaction of the clientele.
- * Based in the new occupational profile of the promoters and the new model, redesign the diagnosis and programming of activities subsystems, the promoters information system, and the evaluation system.
- * Design and implement promoter training activities to gradually increase their problem solving capacity among the staff of the health establishment and within the new model of attention.
- * Supply the promoters with the basic clinical equipment they need to perform the activities contemplated in the new profile.
- * Develop the following actions to extend and strengthen the pilot plan MSPAS/SETEFE:
 - design a new information subsystem to record morbidity and mortality data, production and other data generated in the NGOs. The subsystem should be integrated with the SIEES to permit MSPAS access to or receipt of information from the NGOs.
 - Establish a control and supervision system specially designed to evaluate, monitor and reorient the operation and development of the NGOs serving the health sector.
 - The accreditation should reflect the results of their periodic evaluation. In order to guarantee the quality of the services against the standards previously established for the operation of the NGOs, establish as accreditation system of NGOs serving the health sector.

4.4.4 Malaria

RESULTS

The epidemiological condition in El Salvador that showed a significant improvement from 1980 to 1987, was based on 9,000 cases reported per year during the first phase of APSISA. At the time, it was thought that this was the maximum control level achievable. However, the epidemiological rate continued decreasing during the second phase of APSISA and in 1995, the last year of the APSISA Malaria program, the cases reported went down to 3,000. The reduction of cases during 1991 to 1995 together with the 90% improvement achieved in the 1980 to 1990 period, represented a net reduction of 97% of the cases between 1980 to 1995. The malaria incidence went from 20/1,000 in 1980 to 0.6/1,000 in 1995. The project indicator of 3/1,000 was amply achieved.

Between 1980 and 1990 the number of P.falciparum cases reported was reduced by 97%. This downtrend continued during the period 1991 to 1995, reaching a record level of 99.9%. Only 5 cases were reported during the period. This result is very significant because of all Plasmodiums species (4) that produce Malaria, P.Falciparum is considered the more endemic and the mortality rate among children infected is high.

Once the third cause of morbidity (EDI and IRA were the first two in the list) in El Salvador, Malaria is now very low (not even in the first ten) in the list of endemic diseases.

ACTIVITIES AND METHODS OF WORKS APPLIED

The Malaria program in APSISA was focused towards the consolidation of integrated control, training of program personnel and Voluntary Collaborators, and logistic support to the Voluntary Collaborators in the local level and improvement of the epidemiological vigilance. In the coastal zones where malaria incidence was higher, infrastructure improvements were made to reduce the breeding areas of the Vector and the use of insecticides that affect the environment.

Epidemiological Surveillance System

The control strategy effectiveness depends on an adequate epidemiological Surveillance system. During the first phase of APSISA a computerized system was designed that tracked problems areas down to the level of wards ("cantón"). The system produced weekly data that permitted rapid control actions, however, from time to time large tracks of data were lost within the system. The need of a better system that could track a large volume of data was apparent and a new program capable of processing a large volume of data was designed and started operations in 1994. To this date it is working satisfactorily and the Malaria Volunteers are receiving the necessary information to move promptly into critical areas.

Once the new system was tested and found free of defects, it was submitted to the MSPAS with the corresponding operational and users manuals. The Informatics Department is responsible for its maintenance. A training program was conducted for the departmental personnel responsible of the Malaria Control.

The information generated by the system is distributed to the regions and to the departments.

Reduction of the Vector's Sources

Through the end of the project the Malaria Control Program continued receiving our assistance for the effective reduction of mosquito breeding sources via the construction of drainages to reduce the accumulation of stagnant water near rivers and low lands. The last two construction projects were in the marshes in San Diego and Ticuiziapa.

Training

Training was concentrated to improve epidemiological Surveillance, microscopic identification of the infection, and the safe use of insecticides.

Sixty (60) Malaria Inspectors and 105 other personnel from the Epidemiological Surveillance Program were trained in the application of control measures. One hundred (100) laboratory technicians and supervisors were trained in microscopic identification and quality control. Every year before the fumigation activity was started, training was given to all the personnel in charge of the spraying of the insecticide in the proper use of the insecticides. Because of the reduction of APSISA funds for Malaria, the training of the Voluntary Collaborators was financed with funds from other sources.

As of today, the Malaria program has the capacity to organize and conduct training without external assistance.

Control Measures

During the period, the use of residual action insecticides was reduced because of the efficiency of the epidemiological Surveillance that facilitates precise identification of problem areas and a more rational utilization of insecticides. This reduces the negative effect on the environment and the need for costly insecticides. The manual coverage of intra-domiciliary fumigation reached 90%, the established annual indicator.

The open ultra low volume spraying and thermonebulization using "permetrina" were carried out on a selective basis and were applied only in areas of extreme need (hyperendemic areas), where the volume of Anopheles albimanus increased during the rainy season.

Also, the program continued the application of larvicides (Temephos/ABATE) during the dry season in about 100 identified breeding places and new breeding places in the hyperendemic areas. This activity was a result of the constant monitoring of endemic areas that detected the larvae.

Infrastructure

As part of the construction of the new MSPAS warehouses in the regions, specially built separate facilities were prepared for the storage of insecticides. Also a special central warehouse for the storage of insecticides was built in San Salvador. All these facilities were constructed and equipped with APSISA project funds.

Integration of the Program to the MSPAS General Health Services

The Malaria Program, which until 1991 functioned as a vertical program with an organization that reached all the levels of health and down to the wards (caserios), was integrated into the health general services and the staff, equipment and budget were assigned to the different health regions.

Other Activities

During the months of August and September of 1993 and with the participation of two Epidemiologists from the CDC, a study was designed, organized and conducted to study the efficiency of the epidemiological Surveillance system, its cost, and to find means of improving the efficiency/cost ratio. The efficiency of the system was found to be 50%. However, this efficiency is considered to be very good (twice as good) when compared against similar studies in Central America. The study confirmed that the work of the Voluntary Collaborators detect 92% of all the reported cases and that it is the most cost-effective means of Surveillance in terms of cost per treated patient, particularly in the areas of higher incidence of Malaria.

The principal recommendations arising from the study and immediately implemented were:

1. Reduction of the active search system of potentially infected patients by the Supervisors of the program. The study showed that this search was costly, while most of the cases of febrile patients were either identified by the Volunteers or came to the Volunteers for assistance.
2. Elimination of special surveys for the same reason in #1 above.

3. Increase the active participation of the general health services in the diagnosis and treatment of cases (from January to August of 1995 this showed an increase of 131%). Other recommendations are still under consideration by MSPAS.

In July 1995 AID/W and PAHO requested an external evaluation of the program. The experts that conducted the evaluation concluded that the Malaria Program had achieved excellent results during the last years. However, they indicated that the goals were not firmly consolidated and suggested that special attention be given to the performance of the following activities: the system of voluntary collaboration as a base for the epidemiological Surveillance, the treatment and the identification of the endemic areas, the continuation of the infrastructive improvements to reduce the spawning areas of the mosquito, use of insecticides to spot areas, and expansion of the training for control measures as part of the integration of the programs to the health services of MSPAS in an effort to maintain the goals achieved by the program. The experts make an important reminder to MSPAS; that is, that no one should think that Malaria will disappear, which points out the need to consolidate the goals achieved to prevent an increase of Malaria incidence.

Procurement of Motorcycles

One of the basic objectives of the program was to maintain the network of Voluntary Collaborators in operation. Since the Supervisors are the ones responsible for maintaining the network, the program procured 35 motorcycles for use of the Supervisors to facilitate their mobility from community to community to supervise the volunteers and recruit others when needed. The network is very important in the identification and treatment of cases. The response time between diagnosis and treatment is 8 to 10 days. Before the network of volunteers was established the response time was approximately 3 months.

PROBLEMS AND RECOMMENDATIONS

With the decentralization of the program, the equipment, budget and vehicles were distributed to the health regions. Some of the regions respected the budget and the equipment, but others used the funds and equipment in other activities, reducing the efficiency of the program.

From now on MSPAS has to prove its capacity to maintain and even improve the achievements of the program without any external assistance. It is important that MSPAS continue the strict control measures of the program that permitted the significant reduction of Malaria incidence in El Salvador to the point that it is eliminated as a public health problem. However, El Salvador still has many potential areas for larvae breeders--if the Surveillance and control measures are relaxed. The cost/benefit of the control achieved should be measured on the number of deaths

and cases prevented, the reduction in cost of the treatment of cases, the number of working days not lost to the illness, and the global effect that this reduction in morbidity and mortality due to Malaria has on the socio-economic indicator of the country and its people.

To identify and treat new cases, it is important that the program keeps the epidemiological approach under constant analysis by means of the computerized Surveillance system. The prompt diagnosis and treatment of cases and the constant adjustment of the epidemiologic stratification to spot and control problem areas will be critical in maintaining the excellent per thousand rate already achieved.

As part of the consolidation efforts of the program, it is important that the department heads assign sufficient budget for the continuing development of the program. For many years AID/ES supported the program through the APSISA project paying for most of its expenses and, in particular, for the insecticides.

The MSPAS decision to integrate the program with the other programs to control other vectors of transmitted diseases was a good one. However, it should be done in a progressive manner and based on its importance in terms of public health and the availability of human and financial resources. Concurrently, the organization of the Dengue program should have the necessary funds for its development and the implementation of adequate controls with a high participation of the community in lieu of sporadic and independent activities that produce very little permanent results.

4.4.5 Medical Emergencies

Based on the terms of the project, the technical assistance in this area was limited to training in handling trauma cases by medical doctors, nurses, nurse aids and paramedics.

RESULTS

Four Medical Doctors of MSPAS received special training in the School of Medicine and the Medical Center of Puerto Rico as a starting point for developing professionals in this area.

In El Salvador, 40 professionals (medical doctors and nurses) received training in medical emergencies. These professionals organized and conducted 47 basic courses in handling medical emergencies in the 5 health regions. 2,239 doctors, nurses and nurse aides from the hospitals, health centers and units of the regions were trained.

Organization and conduct of a course in first aid to 33 ambulance drivers.

ACTIVITIES AND METHODS OF WORK USED

The methods used and the activities developed are those normally applied in the design and execution of training programs:

Analysis of the organization and operation of the medical emergency services in the MSPAS health facilities, identification of problems related to knowledge, aptitudes and attitudes of the staff and definition of training needs.

Design of the training programs, contents, methodology, teaching aids, etc.

Definition of strategies for the execution of the training programs: First training of a group of Medical Doctors abroad in a School of Medicine with an adequate health center for demonstration and practice, training of trainers in the country with the assistance of experts from abroad and the group of local doctors trained abroad, and design of basic courses to be carried out in the 5 health regions of El Salvador using the trainers previously trained.

Evaluation of the results of the training program and periodic repetition of the training process.

PROBLEMS AND RECOMMENDATIONS

The objectives of the program were more than successfully achieved. However, the program has been negatively affected because a large number of the participants were Interns or Residents who, once they finished the practice required by the universities to graduate, resign their positions in MSPAS.

To solve the problem mentioned, it is necessary to establish in MSPAS or preferably at the universities a continuing program to train doctors in the attention of medical emergencies. With the closure of the MSPAS "Escuela de Capacitación Sanitaria" at both the central and regional level, the chances of conducting this training in MSPAS are minimal.

4.4.6 Nursing

The work in this area was limited to the termination of two studies started in the first phase of APSISA. The purpose of the studies was to improve the use of nursing staff time to guarantee more time for care of the patients. In addition it was decided that the project should also assist in the design of a development plan for the adequate supply of human resources in the area.

RESULTS

Conduct of the following studies: Risk classification study of nursing care to users of hospitalization services, study of the utilization of the nursing time in the different levels of attention and the design of a development plan for the supply of human resources in the area.

ACTIVITIES AND METHODS OF WORK USED

For the risk classification study, the following activities were conducted:

- * Bibliographic review and observation visits to health establishments.
- * Conduct of 4 workshops with 14 participants for the tabulation and analysis of the data collected.
- * Design and validation of the documentation with the participation of 75 nurse professionals in supervisory positions in the Health regions, hospitals, schools of nursing, Health units and central level.

For the time utilization study, the following activities were performed:

- * Review of available bibliography and drafting of a research plan.
- * Design of instruments for the collection of data and training of the counterparts.
- * Collection of the data, tabulation and analysis of the information and writing of the final document.

For the design of the human resources development plan, 4 workshops were conducted with the participation of 20 nurse professionals.

In addition, the project financed in-service training and workshops for the design of a supervision and evaluation system for nursing personnel.

PROBLEMS AND RECOMMENDATIONS

The principal problem in the nursing areas is the limited offer of human resources by the education sector and the rapidly growing demand for nurse professionals by the different health

subsectors. The answer to this problem is the formation of nurse professionals by the education sector after an adequate coordination with the health sector.

4.4.7 Health Education

From October 1991 to December 1994 the activities of the project in this area were directed to the promotion by radio and television of maternal and child care. Also involved were the printing and distribution of posters, booklets and other printed material.

As a result of contract amendment #10, in January 1995 the APSISA project offered technical assistance to MSPAS in the design and management of health promotion and education activities.

RESULTS

From 1992 on, the project conducted radio and television promotion campaigns for immunizations, diarrhea control, oral rehydration, child growth and development, maternal child care and acute respiratory infection. Also the program funded the reproduction and distribution of educational materials (posters, pamphlets, etc) on dental health care, immunizations, breast cancer, cervical cancer, acute respiratory infections, acute diarrheal, and maternal and child care.

100% of the health community promoters have copies of the "Manual del Proceso Metodológico del Trabajo Comunitario".

25% of the local level health services personnel received training in community organization and participation, leadership and social communication.

ACTIVITIES AND METHODS OF WORK USED

The Department of Health Education of MSPAS prepared the message (dialogue) for the radio and TV campaigns. APSISA handled the contracting of the radio and TV time. A similar process was used for the reproduction of the materials produced by the Maternal Child Department and the Health Education Department.

Technical assistance was focused on the review of documents and the administration of workshops, focal groups and team work with the staff of the Health Education Department and the community.

To strengthen the technical capacity of the community health promoter in educational participating techniques and methodologies and to make more effective their communication with the families and the communities, a special commission of the Health Education Department

prepared the "Manual del Proceso Metodológico del Trabajo Comunitario". The training of trainers was conducted in July 1996 and the CHP are now being trained as part of the continuing education program that is being administered as part of the new occupational profile of the CHP's.

The training of local level personnel in the methodologies for correspondence courses in organization and community participation, leadership, and social communication was developed through the printing and distribution of 200 copies of the "SILOGUIA" and the administration of 5 workshops to train 110 trainers from the Departmental Health Units in the use of the "SILOGUIA".

Also a special commission from the Health Education Department prepared a "Manual de Dinámicas y Técnicas Educativas" to fill a void of this topic in the "SILOGUIA". 700 copies of the manual were reproduced and distributed among the health departments and units.

PROBLEMS AND RECOMMENDATIONS

MSPAS does not have a clear understanding of the role of its Health Education Department in reference to other departments in MSPAS. This situation creates duplication of efforts between the Health Education Department and the other departments. It is very common to see departments involved in the design of educational materials for their programs while at the same time the Health Education Department is working on similar materials. The coordination between departments is almost unknown and resources are wasted.

The answer to this problem is a clear definition and communication to all departments, health regions, etc. of the role of the Health Education Department. For the department to accomplish its role very tight coordination is required among the different MSPAS programs and the department.

It is also recommended that in the light of the high costs of the Radio and TV spots, MSPAS evaluate the impact and the efficiency of the promotion strategies that they carry out and define criteria to make better use of the resources.

It is necessary that the health educators at the departmental and local levels receive training in market research techniques that will enable them to understand the abilities and interests of the persons they want to reach with their messages in order to improve their effectiveness.

It is recommended that MSPAS continue sponsoring continuing education activities directed to the health educators at the departmental and local levels to improve their technical expertise in the design of educational materials and in the evaluation of the results of the campaigns.

4.5 Component III: Planning and Program Management Strengthening

4.5.1 Planning of Health Services

4.5.1.1 Health Sector Reform

Since the organization in MSPAS of the Health Sector Reform Project working group at the beginning of 1995, technical assistance in the planning of health services was made available to the group. Various requests made by the Reform Project to help with some aspects of the work done by the Projects' Formulation Unit of the group were evaluated.

RESULTS

Assistance was provided in the development of the different components of the Reform Project.

Strategic plans of the different project components were revised and an improved version of the initial proposal strategies as well as objectives was prepared.

Support was provided in the design of the organizational structure as well as general operating guidelines for the project.

Working methodologies were suggested including guidelines for the eventual negotiation with international banks.

With APSISA's technical assistance the working group prepared the training component of the Reform Project and its short term action plan together with the terms of reference for a pilot test for contracting health services with the private sector.

ACTIVITIES AND WORK METHODS USED

Technical assistance was offered in the review of documents, meetings with the Project Formulation Unit personnel, interviews with international consultants, preparation of workshops, drafting of proposals, and orientation of personnel as needed.

The documents prepared by the Project Reform Group were revised and recommendations were made to the group.

During the months of June and July of 1995 a working group was organized with staff from the APSISA Project, MSPAS, and ISSS, to work on two products: the design of a pilot test for the

eventual contracting of departmental health services with some NGOs, and the preparation of a training plan for the different components of the Reform Project.

Key personnel from NGOs such as PROSAMI were consulted, the products were completed, and the training component was examined and improved in a DELPHI workshop with officials from GOES, PAHO, AID, NGOs and various governmental organizations.

Recommendations were also made for the preparation of different plans for the Reform Project and for the proposed basic basket of health services.

PROBLEMS AND RECOMMENDATIONS

MSPAS authorities did not create the Health Consultative Council nor the Health Advisory Group mentioned in Amendment No. 10 of the APSISA Project. As such, it was not possible to develop the planned technical assistance activities.

In general terms it could be said that the Health Reform Project did not receive the political support needed. This lack of support affected the preparation, design, and development of the Project and also the technical assistance participation. Since the Reform Group requested to put it on hold, the pilot test for the contracting of services with private organizations reached only the planning phase. In the case of the training component some international activities were performed. They were isolated initiatives without any articulation and plan.

The coordination within the Reform Group, the mechanisms used for decision making, and their restraint in the handling of information seemed to be the cause of the difficulties encountered in the development of the tasks and in the utilization of the products.

In the initial phases the Group followed a slow pace in the preparation of the project. This action did not allow for a clear understanding of their technical assistance needs.

The basic basket of health services proposal prepared by the Reform Group is part of a project that has not been approved. It was not even possible to determine if the observations and suggestions made under technical assistance were considered and included in the reform project document.

During the second quarter of 1996 the Reform Group was dissolved, and no additional planned technical assistance activities were conducted.

If in the future support is provided by AID/ES to the MSPAS Health Reform Project, it is suggested that attention be given to the formulation of the Health Services Model that the sector needs to provide consistency to the activities carried out by the different MSPAS units.

The training component should be updated and carried out. This component should be used as a model for the training activities that are frequently performed by all MSPAS authorities and levels.

The Reform Project's products should be revised, adjusted and used based on changes that the sector demands due to its significant delay in responding to the needs of the community and the organizational improvements offered by the health systems worldwide.

4.5.1.2 Sectorial Planning

Given their relationship, this section consists of two work areas: the National Health Plan (PNS in Spanish) and the Sectorial Planning System.

RESULTS

The National Health Plan for 1994-1999 was edited and submitted to MSPAS in September 1995.

A simplified instrument was prepared to adjust and standardize the design of the programs in operation at the MSPAS, as well as a methodological summary for the preparation of sustainability analyses.

APSISA's technical assistance and the MSPAS Programming Unit prepared a strategy to promote the PNS activation, called "Development of Community Representatives of the Health Policy". This strategy was applied in eight departments of El Salvador, and with the participation of more than sixty officials important decisions were made for the preparation of departmental health plans.

Three workshops were conducted with 45 departmental representatives to review the Sectorial Planning System proposal prepared under technical assistance.

ACTIVITIES AND WORK METHODS USED

The process to formulate the National Health Plan was reviewed: its content was analyzed; the design of a proposal for the unification of criteria in the preparation of programs; a model summary for the analysis of program's sustainability; the preparation and conduct of two workshops for the formation of community leaders in departmental level policies; and visits and support workshops in the preparation of departmental plans.

Due to the existence of disarticulated components of the planning function in the Planning Directorate, it was decided to prepare a proposal of basic definitions, models and paradigms for a Sectorial Planning System. This proposal was discussed with three groups from the

departmental level while obtaining inputs to improve the proposal.

PROBLEMS AND RECOMMENDATIONS

There was not a clear decision to project actions in the health sector, the decentralization policy needs to be revised to make it more explicit, clear. A stronger judicial technical, normative and administrative support is needed for its application.

Regardless of the existence of resources and technical elements to carry out the activities, internal problems in MSPAS delayed the preparation and publishing of the PNS document. This situation affected the progress of the technical assistance activities, and delayed the initiation of the component support activities.

Some departmental directorates prepared their plans following the guidelines given in the Development of Health Community Representatives' workshop, while others prepared the plans independently. The Planning Directorate did not follow-up on the agreements that were reached in the workshops.

The officials that were responsible for the preparation of the PNS are no longer in MSPAS. It is recommended that the authorities review the guidelines presented in the workshops, and that the Planning Directorate develop initiatives to make the PNS an effective tool for sectoral planning.

The frequent changes in the post of Planning Director, the lack of clear definition of the Directorate's role, and the massive retirement of personnel due to the application of Law 471 of 1995, created delays that prompted the technical assistance in planning to direct its efforts to the departmental level where there was more interest.

A consistent coordination should exist between the National Health Plan, the Sectorial Planning System, the development of health services programs, and the daily activities in the different MSPAS levels.

The Planning Directorate should assume the necessary leadership to reach the above goals, directing not only the MSPAS institutions but the general sector to a unified and harmonic performance that develops the necessary resources and efforts to improve community health conditions and to offer the best possible community health services.

The sectorial planning system could be the bonding element and the leader in efforts in the planning area. Its application at departmental and local levels could be of great help to institutional development. The formation of groups at different levels, starting at the central level, could accelerate and facilitate this development. The planning function and its control at each

level-- establishment, program and unit--can not be optional. The personnel responsible for the development

of this function should technically capable, should be able to communicate, and should have positive attitudes toward the planning and control processes.

4.5.1.3 Annual Operating Plan

The MSPAS Annual Activities Programming System (PAD Spanish) is still in its developmental stage, and can not be considered a finished system. Adjustments have been made by MSPAS officials with the support of APSISA technical assistance. The staff responsible for the system has requested and received training in local planning in its initial application in the different regions and recently in the departments. The plan has reached a high degree of acceptance at the departmental level and the staff feels confident in the application of the methodology and corresponding instruments.

With the MSPAS health services decentralization that started in mid-1995, the health regions were replaced and a new departmental organization established--the Health Departments. This new organization required the redistribution of the planning, programming and control functions to the new local levels. Also evident was the need to accelerate the design and or identification and adaptation of all the forms used in the programming process.

RESULTS

The adjustments made to programming and its instruments were implemented in all the departments, making the PAO the fundamental planning tool at the local level.

In March 1995 a proposal was developed and delivered to MSPAS for the integration of budgeting and programming activities and tools.

In a simple but effective manner, the coordination between programming and budget was established in all MSPAS local establishments by the simple applicaiton of the forms for the Health Departmental Plan (PD's in Spanish) and its methodology.

ACTIVITIES AND WORK METHODS USED

Work was accomplished through the analysis of instruments and directives for the PAO prepared between 1992 and 1996; restructuring of tables and texts; editing, printing and distribution of documents; training of local staff in the handling of PAO; consolidation of 1992 to 1996 information at the regional level; design of PDS forms for 1997 programming and budgeting;

creation of a central level group to advise and monitor the process at the departmental levels and hospitals; and guidance to the central level on how to consolidate the programs.

In 1996 a request from the Planning Directorate postponed the introduction of strategies in the mentioned processes. The request was due to the urgency in preparing departmental plans and budgets to comply with the calendars prepared by the Presidency of the Republic, the Ministry of the Treasury, and MSPAS authorities. Using the principals of the Logical Framework system and following the instructions of the Budget Law, the forms were designed to facilitate the rapid establishment of programmatic goals and budget assignments that reflected the local level programming of activities and the desired results or changes in the health condition of the population.

During the development of the departmental level programming tools, an agreement was reached to apply the structure of the budgeting units, working guidelines and purposes contemplated in the Budget Law. Simultaneously negotiations were initiated with the Ministry of the Treasury to improve and give more rationality to the programmatic process.

The forms and directives were adjusted and adapted for use at the departmental level, hospitals and health centers. The working groups at the central and departmental levels were oriented in their use. A suggestion was made to eliminate the consolidation of the local level PAO at the MSPAS central level and to leave this task in the hands of Health Departmental Directorates in order to initiate the PAO application as a working tool for the primary health services.

PROBLEMS AND RECOMMENDATIONS

It was not possible to initiate the involvement of the community in the decision making process through the annual programming of activities. A model applied in Brazil and a copy of a Colombian Decree assigning health planning responsibilities to communities, were submitted to the Planning Directorate and various departments for study and to its possible utilization as a reference model.

When the majority of departmental and hospital budgets responded directly to the programming of activities for 1997, budget adjustments and cuts were managed by the central level alone without the participation of the local levels.

The PAO model proposed should continue with the development of its essential characteristics that are synthesized below.

1. OAP features, besides including the short term activities, should provide elements to permit medium and long term projections. These projections could be formulated in terms of mission, objectives, policies, goals and strategies for periods from two to three years

and should concentrate on the critical factors of institutional development, environmental control, and modification of the health condition of the people of El Salvador.

2. The diagnosis phase requires the consideration of additional elements belonging to the structure and behavior of the different systems that are part of the external environment--socio-cultural, economic, political and technological--related to the health situation in the country. These systems are determinants of the future of the health situation and permits the visualization of future strategies to be developed.
3. Equally, the diagnosis of the internal aspects can not be limited to the determination of the characteristics of physical and personnel resources, but also must contribute with information related to the managerial behavior of health institutions, their fiscal conditions, evolution of different health services' programs, and the existing degree of technological development. This is the only way to carry out an integrated and effective effort.
4. The design of the new programming model should allow for effective coordination with the budgeting, accounting and costs systems, as well as with policies and financing mechanisms.

The isolation of the PAO from other related processes should be overcome through its coordination with the operating budget and the determination of physical investments in both equipment and infrastructure (capital budget). The experiences and directives, (like the ones from the SIG), the simplified cost methodology, and investment and pre-investment models from the Social Investment Fund (SIF) should be utilized along with the studies for the adaptation of technologies and network infrastructure such as the ones proposed in the Patients Referral System.

5. The defined programmatic approach should be based on preestablished health prevention activities and others to be added. It should be based on health services supply in a selective manner and subject to the existing institutional tasks.

The programmatic model based on the identification of final activities should continue grouping the activities according to the priority programs. It should take into consideration policies, the most vulnerable to risk population groups, and existing programs. Some forms should be modified to include this information. This process could generate a reorganization of the programming and control systems with the identification and adoption of interdisciplinary programmatic activities.

6. The times required for administrative or logistic support tasks should be established based on the type of program function while taking into consideration progressive time

reductions to meet optimum minimums. These reductions impact positively on the time dedicated to preventive health activities.

7. If the two above principles are applied properly, the rest of the time should be dedicated to meet demands of the population not linked to any program.
8. It is essential that every operating level official has a personal work agenda that reflects the above principles and that serves as a feedback instrument for work improvement. For second and third tier personnel, a work performance system should be developed based on control by exception that identifies the achievement of results and rewards excellence.
9. The project focus should be based on results, not only on efficiency. To accomplish this it is necessary to establish indicators and to prepare or adapt instruments in the following areas of results:

Health Condition. Implies the analysis of risks and the monitoring of the level and structure of morbidity and mortality at ambulatory and hospital levels, in health problems like EDA, IRA, newborns, immunopreventibles, epidemiological Surveillance, and others, with programming of desired goals according to programmed annual interventions.

Institutional Development. Comprises the programming and evaluation of the development of systems, processes, networks, installations, technologies and other aspects exposed to evolution, to support the provision of health services as well as the changes in organizational climate, culture and corporate image.

Optimization of Resources. The programming and follow-up with well established goals for critical inputs for the provision of services, such as medicines, laboratory chemicals, hospital beds, etc.

Social Involvement. The programming that allows the estimation of the degree of equity and participation reached in an established period.

Provision of Health Services. This field has to do with expected results in production, productivity levels per resource, and others.

Clients' Satisfaction. The quality which permits programming and measurement of results of associated parameters for clients' satisfaction such as processes for the provision of health services, efficiency of the services, human behavior, and satisfaction in clients' expectations.

10. In order to make PAO an operational instrument it is necessary to indicate, on each of its tasks and tools, its potential use in decision making.

11. In the future, other activities should be taken into consideration, such as involving the community in the preparation of PAO to differentiate normative programming from programming based on needs, and to identify, analyze and adopt measures for the sustainability of special programs with origins outside the program and budget.
12. Equally, the PAO should incorporate forms or mechanisms that allow for the analysis, control, follow-up, and evaluation of achievements and performance of the institutions in comparison with the process for the execution of programmed activities, thereby establishing a close and definite relationship with the monitoring and evaluation areas.
13. It has to be taken into account that the PAO is essential to achieve the results and purposes involved in the provision health services. This can be perfectly visualized in the Logical Framework that has been applied since 1996 to sectorial projects in the Planning Directorate.
14. The multiple anxieties, doubts and difficulties that have emerged from this first programming and budgeting experience should be analyzed for future adjustments and for the preparation of directives to improve planning activities in future years.
15. In relation to departmental programming and planning, emphasis is made on the need to strengthen the decision to proceed on the basis of projected results and to project them to mid- term results, structuring the activities and modifying the programs or projects by functional areas. Given their close relationship with the budgeting process, the Ministry of the Treasury should be pressured for its approval.
16. According to the above, some of the ideas related to the evolution of departmental programming and its relationship to local programming could be formulated by the elaboration of five modules: Diagnosis of the Situation; Budget Cost; Decision Making, Control and Follow-up; and Projects of Infrastructure, Endowment, and Maintenance.
17. Training will continue to be an excellent strategy to develop the planning function at departmental and local levels. It should use the information, methodology, and instruments available in the area that will permit the improvement of operational abilities.

4.5.1.4 Training and Technical Assistance in Strategic Management and Planning

This area comprises two groups of activities: Continued Education and Strengthening in Strategic Planning and Management, and Specialized Technical Assistance.

Originally, the training activity was the only one foreseen, but changes in MSPAS directives forced changes in the strategy, and in 1996 the methodology for special technical assistance at the departmental level was established.

RESULTS

Two 80 hour courses in Strategic Management were offered to more than eighty directors and executives from MSPAS.

A training program in local planning was prepared for the entire country; it was given by trained officials from the departmental level.

Two immersion workshops in Design of Strategies were offered to fifty officials. One workshop in Management Control Tools was offered to twenty-five participants.

Material for the immersion workshops in identification of objectives, strategic positioning, Environmental Auditing, and Situational Diagnosis was selected and distributed to the participants of the Strategic Management and Planning courses.

In 1996, and as part of the technical assistance program, at the departmental level seven workshops were conducted for a total of seventy-five participants. These workshops generated four Guidelines for Self-instruction in the areas of Strategic Management, Service Management, Corporate Culture and Health Marketing.

ACTIVITIES AND WORK METHODS USED

Given annual programming the following activities were developed: Needs assessment, design of programs, selection of specific bibliographical material, execution of training events, immersion workshops, design of self-instruction guidelines, and site visits.

The methodology started with the presentation of proposals to the Planning Directorate of Health Services for discussion and final adjustments. Arrangements were made at the departmental level, training participants were selected and the training agenda prepared. At the same time, bibliographical material, working guidelines and materials to support the activities were collected. The conduct of courses and workshops were the responsibility of the technical assistance, while the coordination was the responsibility of MSPAS counterparts. The contents and materials of

the technical assistance work were arranged and delivered to the Planning Directorate for their reproduction and distribution to participants.

PROBLEMS AND RECOMMENDATIONS

Due to high staff turnover, there were many changes in priorities. In 1995 many activities were cut and only the ones already approved were continued. This action reduced significantly their activities and expenditures.

By 1996 the situation worsened, precluding the execution of any training activity and making it necessary to follow the direct technical assistance modality to provide the departments with at least some knowledge on very important issues.

Training is an essential strategy in the development of human resources, particularly in times of change to new operational models. MSPAS authorities should promote and sponsor training at all health services levels.

The Sector Reform Project should have a strong training component if its implementation is to be successful.

The self-instruction guidelines prepared are preliminary. To convert them into a useful tool MSPAS should revise, compliment, adjust and use them. As they provide adequate results, utilization should be extended to the entire country.

It should be remembered that training requires multiple **didactic** materials that have to be prepared. The modern technological alternatives based on computer systems should be considered and tried.

The technical assistance is rich in options for the transfer of technology and development of new ideas, abilities and modus operandis. It is suggested that MSPAS continue the utilization of this form of assistance, with all its potential, in areas receptive to changes and improvements and based on diagnostic study results.

4.5.2 Monitoring, Research and Evaluation

4.5.2.1 Patients Referral System

The development of the model for the Patients Referral System (SRP in Spanish) proposed in 1994 was started in 1995.

RESULTS

At the end of the APSISA project, 18 Medical Guides (Protocols) and 17 Dental ones were prepared by specialists in their field for the use of staff at the local levels. These guides were tested and evaluated in the Health Departments of Chalatenango, La Libertad and Cabañas. This study analyzed the technological capacity, the condition of the local infrastructure, the training, motivation and abilities of the medical and dental staff and the existing administrative procedures to implement the system. A training guide was also prepared to cover training needs among the staff.

ACTIVITIES AND WORK METHODS USED

One of the first activities carried out to identify the basic content of the SRP was to identify the principal causes of referrals in the different health establishments of MSPAS by examining the statistics available from previous years. These statistics were further completed and corrected in a workshop organized for that purpose and attended by health professionals representing the different health levels. Also in the same workshop the professionals discussed the basic content of the referral system and four groups were organized: a group to oversee the development of the model, a group to draft the medical guides, another group to draft the dental guides and a fourth group to prepare the administrative procedures of the system.

The first group produced some medical guides, and adjustments were made to the general model as a result; the study of the network and technologies that facilitate or permit the adaptation of the health institutions to the demands of the system was improved.

The second and third groups produced the number of guides mentioned earlier. The fourth group had to be restructured twice, and finally produced a basic administrative procedure for the implementation of the system.

Using as a basis a document produced by PAHO/WHO but revised, modified and expanded for the purpose, a number of surveys and computerized charts was conducted and produced to determine the complexity profiles of the system.

The study was tested in three health departments, Chalatenango, Cabañas and La Libertad and involved more than 50 health institutions of all levels and types. The models were discussed and the results obtained were analyzed in meetings with the health supervisors of the departments.

Finally, a series of visits and workshops were conducted in the departments of La Unión, La Paz, Usulután and Sonsonate to explain and promote the use of the system.

PROBLEMS AND RECOMMENDATIONS

As a result of the reorganization of the Health Planning Directorate, the Unit in charge of the design of the SRP and the System of Monitoring and Evaluation (SME) changed its priorities and functions. The transition period that the MSPAS is undergoing with no clear directives has affected the efficiency of MSPAS and in particular the interest, attitudes and behavior of the professionals responsible for these two programs. This situation had a negative effect on the implementation process of the SRP despite the fact that they had a lot of time to complete the complex studies (network and technology).

An administrative mechanism is necessary to guarantee adequate coordination between the units that have or will have responsibility in the SRP. Due to the absence of this mechanism, the SRP has not been finished nor delivered to the general Health Directorate for its implementation and future development.

The importance of the SRP is very clear in the basic document. Its potential effects on the health delivery system are evident. The Health Directorate should recognize this if they want to significantly improve the health services offered to the community. On the other hand, the Planning Directorate must continue supporting the system, continue improving its components, and link it to other systems and procedures such as programming, budgeting, investments, monitoring and evaluation.

The training and promotion activities should be continued. The design of forms and procedures should be continued, the services directories and of health specialists should be prepared and the detailed plans for the staffing needs at the local level should be completed.

4.5.2.2 Monitoring and Evaluation System

Similar to the SRP, the Monitoring and Evaluation System (SME in Spanish) had its origin in a basic model prepared in 1994, following guidelines for similar systems designed by the Aga Khan Foundation.

Initially the system was designed for the use of the central level of MSPAS. Because of the decentralization process that occurred in MSPAS, the system was modified for application at the departmental and local levels with elements for self control under the supervision of the upper levels in the organization.

RESULTS

With participation of representatives from all the health establishments of MSPAS, the system was designed and validated in a series of meetings conducted in the central level. Adjustments to the basic model were made and a plan drafted for its organization. The system was tested in the department of San Miguel, with more than ten establishments participating in the exercise.

The results varied from establishment to establishment, but in general they were considered satisfactory. Other departments are evaluating the system for its possible application in their establishments.

The key areas of results offer variables and indicators that, when complemented by inputs from the departments, permit the measurement of the work achievements (goals) of the establishments using the system.

ACTIVITIES AND WORK METHODS USED

Eight key areas of results were defined; objectives and extent of the system were defined; indicators for each variable of the key areas of results were established; training was given to the staff on the methods to prepare control standards and their importance; orientation was given on the use of control instruments.

The methodology applied was the following: Review of related documentation; design of a preliminary model; review and adjustment of the preliminary model in consultation with the central level; the conduct of a pilot test in the department of San Miguel; training of supervisory personnel and staff responsible for the application of the model in the local level; follow up and adjustment activities; conduct of seminars and workshops to evaluate results and promotion of the methodology in meetings with staff from the health departments of La Unión, Usulután, Sonsonate, La Paz and Chalatenango.

PROBLEMS AND RECOMMENDATIONS

The activities of monitoring and evaluation of results (control processes) are not well received by many professionals in MSPAS. They are used to the old systems based on statistics and the formulation of indicators without a frame of reference and without corrective measures.

On the other hand, the high level of supervisory personnel attrition in Health Units and Posts and the high level of routine work in the establishments has affected the implementation of both the system and the basic components.

At the central level there are no concrete guides to assume the processes of control (and planning). This situation forced each unit to establish their own methods, control instruments, indicators and information without any knowledge or coordination with other units.

The promotion activities of the SME should be continued in the other health departments; the document should be published and distributed to all health professionals in those departments; the promotion and distribution activities should be complemented with training activities using the material prepared for the test in San Miguel.

The central level of MSPAS should assume the coordination efforts that are required to bring together the different central units and the departmental and local level forces, to select some methodologies to unify positions related to the planning, and to control and administer resources, while continuing its decentralization efforts and strengthening of the health departments.

At the same time, the departmental levels should support and assist the local levels and the health establishments in their area in the development of the SME.

4.5.2.3 Research and Studies Conducted

The APSISA project technical assistance in the area of research was carried out from October 1991 to September 1993. However, the principal studies mentioned in the Terms of Reference of the project were conducted during different periods of the project responding to specific needs and requests from MSPAS that surfaced during the development of the different components of the project.

RESULTS

With the support of the project, the following results were achieved:

Eighty persons trained in Operations Research.

Research Committees created in the health regions with support from the monitoring and evaluation project staff.

Thirty four operations research projects conducted in vital areas such as: acute diarrheal infection; acute respiratory infection, malnutrition, immunizations and environmental sanitation.

Study of the MSPAS health services cost.

Study of the "Patronatos" of the MSPAS health establishments. This study, together with the health services cost, set the basis for the development of the Cost Recovery System.

Study of the prescription and use of medicines to control IRA and EDA.

Study of the MSPAS Community Health Promoters and of the NGOs in El Salvador.

ACTIVITIES AND METHODS OF WORK USED

A diagnosis of the MSPAS staff's knowledge and application of operations research techniques in their investigations was conducted. As a result, three courses were designed and given in the subject. 80 professionals from the central and regional levels attended the courses.

Technical assistance was given to the Research Unit of MSPAS in the conduct of studies in the following areas: child survival, design of procedures for carrying out studies on the health condition of children 5 years of age or less and women between the ages of 15 and 44, bibliographic review, production and distribution of educational material, design and testing of research instruments, training of Promoters and Supervisors in the collection of information, preparation of computerized statistical programs for the tabulation of results, techniques for the analysis of results with the use of the computer, and report writing.

The studies of the cost of health services, "Patronatos", medicines prescriptions, and health promoters were carried out through contracts with Salvadorean firms. The APSISA project staff drafted the terms of reference for the studies, the contracting of the firms, the technical supervision of the studies, review and approval of the study results and finally the publication of the results.

PROBLEMS AND RECOMMENDATIONS

The reduction of MSPAS professional staff promoted via laws 111 of 1991 and 471 of 1995 reduced the capacity of the Research Unit to the point that it does not have the ability to comply with its basic functions of directing, coordinating, supervision and assistance in the conduct of any research in the health field. This is an easy problem to resolve. It requires the appointment of the required human resources.

The methodologies and research instruments designed during the life of the project should be made available to the professionals at the departmental and local levels. The training of these professionals in health research activities will stimulate research and the carrying out of studies that will help to understand the causes and solutions of the health problems afflicting the community.

4.5.3 Financial Planning: Cost Recovery

In the financial planning area, the efforts of the project were centered on the design, development, testing and implementation of a cost recovery system. In the design of the system the principal concern was the payment ability of the users in order to eliminate the unjustified subsidy to private health providers and patients that have adequate resources to pay for the services received. Related concerns dealt with the improvement of the quality of the services offered and the standardization of the administration of the resources generated by the system.

RESULTS

As mentioned earlier, for the development of the cost recovery system it was necessary to previously conduct two studies: the economic study of the "Patronatos" and their funds generated by special activities. The second study was the nationwide costs of health services. These two studies have been used by MSPAS to support their requests for additional funds from the GOES, to calculate the cost of the basic health basket, and to scrutinize possible alternatives to solve the financial crisis the sector suffers.

As a result of the nationwide health services cost study, a new health services tariff (price) structure was approved in May 1993 and implemented in all hospitals and health centers. This new Decree established the tariffs for hospitalized patients, for ambulatory services offered users with the ability to pay for the services, and patients with a private health insurance. With the establishment of the new tariffs, the income received for these services by the hospitals and health services increased significantly.

For the poor people a different payment schedule was designed based on a socio-economic classification of the patients, a table of quotas (contributions) by type of health establishment and socio-economic level of the patient. Also designed was a methodology for the identification of problems and for the improvement of the services as perceived by the users, an organization plan for the system, the strategy for the promotion of the system, and the supervision procedures.

The pilot project was received with interest and motivation in the seven (7) establishments used for the test, and the results were very good based on the increase in income received by the establishments, equity of the quotas, demand for services, clearness in the handling and use of the funds, and improvements in the services.

To ensure the continuity of the Cost Recovery System, the project trained all the Social Workers in the hospitals and health centers in the use of the socio-economic classification process and instruments. Also, and as a result of the pilot project, a strategy for the implementation of the system in all the health establishments was prepared.

A computerized Financial Planning Information System for the use of the Health Services Planning Directorate was designed and implemented. The system permits the users to process information on needs and availability of funds against projected costs and sources of financing. This is an excellent instrument for sectorial and institutional financial planning and programming.

ACTIVITIES AND METHODS OF WORK USED

For the economic study of the "Patronatos" and the special activities funds, the APSISA project designed the study and contracted a local firm for the collection and processing of the data. The

APSISA staff analyzed the results and prepared and submitted to MSPAS a report on conclusions and recommendations.

In the health services cost study, the following activities were conducted: design of the methodology for the estimation of costs, selection of the sample of health establishments to use in the study, contracting a local firm for the field work and the tabulation of results, analysis of the results, standardization of costs and drafting of the Tariff Decrees.

The procedure and guidelines for the handling and control of the special activities fund administered by the Health Centers were prepared and reviewed with the Ministry of Finance and the "Corte de Cuentas" of the GOES. The fund receives the income generated by the new tariffs. The procedure was enacted in May 1996.

A manual of norms and procedures for billing and collection of the health services was designed and tested in six (6) hospitals representing the different health regions. A final version of the manual was reproduced and distributed to all hospitals and health centers.

For the development of the quota (contribution) system for health services users with very little or no ability to pay, it was necessary to carry out the following activities: design, development, testing, and adjustment of the instrument for the socio-economic classification system of patients; the training of all the social workers in MSPAS in the use of the instrument, and the universal application of the instrument in all health establishments. In July 1994, as a result of different reactions on the application of the instrument that were received from a number of establishments, a meeting was held with all hospital directors to go over their experiences in the application of the instrument. At the same time, they were presented with a number of possible alternatives regarding the quotas assigned to the different socio-economic classifications. To this effect, in August 1994 the Financial Planning Unit of MSPAS collected the answers on alternative quotas from hospital directors. Moreover, the project visited the hospitals of Chalatenango, San Rafael, Bloom and Zacamil and meetings were conducted with the Committee of Social Workers composed of representatives from Bloom, Psychiatric, Rosales, Maternity and San Rafael. The meeting produced excellent recommendations that were incorporated in the instrument and for its universal application.

The design of the computerized financial information system required the identification of information on fund requirements and availability of funds, the preparation of form for the entry of the data, the definition of the flow of information, the establishment of methods for the computation of funds needs and income projections and the design of report forms. Based on the above, financial reports for the periods 1989-1994 and 1990-1995 were prepared.

During 1995, the APSISA project concentrated its efforts in the design and implementation of the Cost Recovery Pilot Study in seven (7) health establishments selected by the Minister of Health.

The tasks for the conduct of the pilot study followed the work plan established in the Financial Planning Unit and the Committee of Social Workers. This plan included the establishment of a calendar of activities for the four basic tasks: preparation of the working materials; initial visits to the seven establishments to coordinate the study; training workshops; and start of the study. Organization of a portfolio of all documents and materials of the study; meetings with staff from the Ministry of Finance to explore possible alternatives for the administration of the funds collected; follow up visits to the establishments and organization in each one of a local committee to oversee the conduct of the study.

The study was programmed to last six months. In November 1995, the results were analyzed and a report was prepared with recommendations for the nationwide implementation of the system.

PROBLEMS AND RECOMMENDATIONS

In the following pages we summarize the results of the study and additional information offered by the health establishment personnel that participated in the study:

1. **Complete and Adequate Legal Norms and Regulations:** It is important that the Cost Recovery System have a very clear legal basis, have norms and regulations for its nationwide application, regulate the billing and collection administrative processes, control the funds collected from the patients, and specify that the funds collected are to be used at the local level to improve the services provided. Of vital importance is the subscription of an agreement between the MSPAS, Ministry of Finance and the "Corte de Cuentas" supporting the legal norms and policies of the system. If the health establishments are not permitted to keep the funds generated by the system, the establishments will lose interest and may even abandon its application.
2. **Nationwide Publication:** The system should receive a great deal of publicity to ensure that all health professionals, health administrators, community leaders and the population in general understand the philosophy and scope of the system. In addition to this general publicity (radio, TV, newspaper, posters, etc.), a pamphlet with complete but simple language should be prepared for general distribution among all MSPAS employees in addition to a one page sheet to be distributed to all health services users with the basic information that they should know.
3. **Updating and or Entering into Agreements and Norms for the Care of Institutional Patients:**

The Financial Planning Unit in MSPAS should update the tariffs to charge ISSS, the Teachers Health Plan, CEL, ANTEL and others for services offered their employees and family members. Special conditions should be established for institutional patients that receive services without the proper referral form (emergency or non-emergency cases). The tariff decree of 1993 should be revised every year. However, MSPAS did not authorize its updating. If this tariff schedule is not revised yearly, the result will be that MSPAS will be subsidizing the private health institutions and insurers.

4. **Definition of Functions and Responsibilities:** A clear separation of functions and responsibilities should be established between the Social Workers and the Accounting and Finance Unit in the establishments.
5. **Additional Human Resources:** For the application of the system each establishment needs at least one Social Worker and some additional personnel in the Accounting Unit. Some of the establishments do not have the needed human resources. For now, the establishment should be authorized to contract these employees. In the long run these positions should be incorporated into the Salary Law.
6. **Appointment of Social Workers in the Financial Planning Unit of MSPAS:** During the meetings to discuss the implementation of the System, many of the participants recommended that the FP Unit should have at least one Social Worker with hospital experience for the monitoring and follow-up of the implementation and to give support to the Social Workers in the establishments.
7. **Methodology for Deferred Payment or Credit:** There will be cases when patients do not have the money to pay the quota assigned to them when they received the service or are hospitalized. A system should be established to allow the patients to receive the service on a credit basis to pay a few days later or on a payment plan. A simple accounting system is needed to record the transaction.
8. **Publication of the Collections Made and the Uses Given to the Funds:** As a means to gain acceptance of the system, each health establishment should place a poster in the waiting room and elsewhere indicating the funds obtained from the system and how they are being used to improve the health services offered.
9. **Use of the Funds:** During the meetings held for the definition and planning of the system, there was full agreement between the health professionals and the experts in health financing regarding the uses of the funds: Improve the quality of the health services, in particular those aspects perceived as important by the patients and their family; increase the days and hours of delivery of the health services; improve the waiting rooms; improve and maintain the physical condition of the establishment; improve the availability of

medical supplies, a system to identify and reward the best employees, and self-financing of the physical and human resources required by the cost recovery system.

10. **An Official MSPAS Policy of Cost Recovery:** The Ministry should define a clear policy defining the philosophy, the principles, the strategies and the goals of the system.
11. **Organization:** A coordinating committee should be established in MSPAS chaired by the Vice Minister to monitor the system.
12. **Role of the Health Services Planning Directorate:** This central unit should pay more attention to the Cost Recovery System and see that the Financial Planning Unit receive all the support needed to oversee the accounting and control aspects of the implementation of the system.

Finally it is necessary to solve the organizational problems that the establishments have indicated related to flow of patients, care processes, the adequate application of the socio-economic classification to the hospitalized patients, the efforts to collect the quotas, the entry of the payments, credit or deferred payment mechanism and the fiscal auditing of the system.

The above mentioned recommendations could be compiled in a Manual for the Application of the Cost Recovery System to be distributed to all health establishments and to the Community Health Promoters.

4.5.4 Information Systems

The MSPAS from El Salvador has one of the most complete health information systems in Latin America. The subsystems that comprise the system have been certified as operational and in compliance with information needs by different health specialists. The audits performed on the Inventory Information System have approved the computerized system developed for the handling of health supplies in all the MSPAS warehouses. International experts from the CDC, PAHO and AID/W analyzed and approved the Malaria System.

RESULTS

Thirty-two subsystems were developed and integrated into two systems: Health Statistical and Epidemiological Integrated Information Supplies System (SIEES) and Supplies Integrated Information System (SIISUM), and five stand-alone systems with the possibility of being integrated: Cost Recovery System and Ministry's Budgetary System, APSISA Project Fixed Assets and Accounting System, Malaria Epidemiological Information System, and Transportation Information System.

The SIEES covers the entire country and generates information for decision making at local, departmental and national levels. Its structure allows for the definition of planning, control, monitoring, and evaluation of each institution based on local programming and consolidated to provide departmental planning and, if desired, national planning.

At the end of the project the MSPAS Information System has 1200 direct users and 3600 indirect users in the entire country.

The APSISA Project offered training to: 1662 officials on the operation of the subsystems; operations personnel in the development of some on-site maintenance routines, based on relation problem-solution criteria; Information Office personnel on the installation and maintenance of applications in stand-alone microcomputers and in networks.

Forty-six microcomputers and six printers were repaired, and a quality control process was applied to all the equipment that were donated by the AID. Sixteen microcomputers were upgraded.

The massive utilization of the automated processes was due to MSPAS relationship with the APSISA Project work and its information development. Due to their desire to use the software developed in this and other projects to improve their work quality, the institutions requested AID donations to procure computer equipment. At the beginning of the Project, 37 institutions had 68 computers with their respective printers. With the technological experiences that were transferred by the Project, at present there are 119 units, dependencies or institutions that utilize automated information processes and have 387 computers and 292 printers installed. Of these, 81 computers and 61 printers were donated by AID under different projects.

With the technical assistance from the project, the Reference Framework was defined for the development of the National Health Information System. This framework is fundamental for the definition of the minimum normative elements that, in the systems' area, should be considered by all the health institutions to guarantee coherence and allow for the integration of a National Health Information System. It also serves to define the responsibilities of each of the Health Projects interested in working in the information systems area and to prevent the duplication of efforts and increase its work potential.

ACTIVITIES AND WORK METHODS USED

For the analysis and design of computerized systems, the Gordon Davis Methodology, proposed in his book Management Information Systems, was used. It combines structural analysis with computerized information systems' design. The following processes were developed: information needs assessment; organization of the information systems architecture; design of the computerized system, of the documents for data entry, the data flows, the processing, the reports,

the information structure, applications' programming, tests and adjustments; implementation; controlled operation, and optimization.

In some systems it was necessary to carry out parallel operational tests to verify results; in others the pilot test technique was utilized for later systems adjustments and for continuation with the generalized systems installation.

The structured programming techniques used are the ones proposed by Dijkstra in his book "Structured Programming". The applications have modular structure based on algorithms. The DOCASE structure was utilized to manage iterative cycles and for logical transfer control. Repetitive modules were normalized and included as part of the computerized programs libraries. The structured programming was also used to handle the interrelation of programs and subsystems segments.

All subsystems developed show an uniform structure: there is always a module for data capture, a processing module (if necessary), a module for online queries, a module for hard copy reports, and a module for online support. The user's manuals are organized in chapters, one chapter per each subsystem module. They show an introduction with application generalities and some initial paragraphs with the application's location in the hard drive and the instructions to start the application. The technical manuals are divided in five parts: an introduction that presents the application generalities, the menu diagram with available options, the programs and procedures tree diagram, the files' description and the source programs listing.

96% of the documentation had an original version that was later revised. The other 4% refers to subsystems that were recently developed or that underwent considerable modifications. The Morbidity, Mortality and Epidemiological Report Subsystem (BIO) underwent continuous changes and is expected to keep changing in the near future. Some manuals like SUMIN1 and SUMIN2 had three versions.

The on-the-job training technique was utilized to teach computerized system operators with or without experience in the systems areas. Modular structures based on knowledge and practice were used, also based on the modular structure of each subsystem. On-the-job training sessions were carried out until the development of knowledge and required abilities were obtained, and later reinforcing sessions were performed covering problems and related topics.

The on-the-job learning technique was also utilized to teach the analysis of the information generated by the Information System. The officials of some MSPAS areas learned to analyze the information by analyzing their own area information in working sessions.

The process of teaching-learning was developed for central as well as for old regional level personnel which were later transferred to the departmental level, and in some cases for local level

personnel with the purpose of training trainers. It was expected that these trainers could pass on their learning experiences with the local level personnel to initiate a chain reaction learning process from the departmental to the local level , with support from the central level when necessary.

In similar fashion, all the information related to the systems' functioning, process modifications, changes in the information flow, changes in the documents, etc. was circulated around the country using the chain reaction technique.

In most of the sites with microcomputer centers, all required activities were developed to obtain this objective. Physical sites that met required conditions were selected. Site improvements were designed as well as electrical installations, air conditioning, lighting and telephone facilities, and location of working areas and warehousing, etc. The site improvements were contracted; the works were supervised and necessary adjustments made; computers, electrical back-up, air conditioning equipment and furniture were procured, the works were accepted and final installations tests were carried out. Equipment was received, assembled and tested, the required changes or modifications were provided by vendors, and were installed in the sites previously defined with MSPAS.

The hard disk organization was normalized, and the location of the applications and their data, tables, starting files, etc., was determined. The system back-up copies and the extra copies were safely stored.

Also normalized were the sequences for routine on-site generalized software maintenance, establishing minimum standard routines for software maintenance by systems operators. It was necessary to establish minimum maintenance routines for hardware, to define minimum quality criteria for the repair and replacement of equipment, and to identify the repair work and the hardware components included or excluded in maintenance contracts.

For the annual hardware maintenance contracts it was necessary to establish their minimum contract clauses, the equipment included, and the MSPAS requirements related to efficiency and effectiveness of maintenance actions.

PROBLEMS AND RECOMMENDATIONS

The training by on-site trainers was carried out with adequate results at the regional and local levels, but it was not possible in the health statistics unit at the central level.

The information generated by the Information System has been extensively utilized at the departmental and local levels. At the national level the information is only utilized by some areas for decision making.

In the cases where activities were coordinated with Cooperative Agencies the results were excellent. The most relevant example is the Vaccination Subsystem that was developed under a joint effort between PAHO and APSISA 's technical assistance.

The following are recommendations for the continuous improvement of MSPAS information systems.

1. It is necessary to establish a preventive maintenance contract for hardware complementary equipment: lighting, air conditioning, electricity and communications. MSPAS should implement a replacement program for spare parts for this equipment: air conditioning filters, incandescent and fluorescent lamps and starters, and batteries for the UPS.

MSPAS has at least two options to provide this preventive and corrective maintenance: outside contracting and/or internal maintenance. MSPAS experience in hardware maintenance is satisfactory and serves as a base to extend the maintenance services contract to the complementary equipment. On the other hand, the strengthening of the maintenance units already organized in the MSPAS is a possibility. This option will be successful if the following conditions are met: the required amount of trained technical personnel; availability of spare parts, availability of tools and controls for their utilization; availability of a small amount of loaning equipment for temporary replacement of equipment in repair.

2. The MSPAS Information Unit has a group of personnel dedicated to support processes. This personnel is saturated with applications maintenance work. Due to the increase in the number of micro-centers in a short period of time, they will not be able to help with this function. It is necessary to strengthen this group to provide software maintenance exclusively in high complex problems. The normal support should be decentralized to the departments. APSISA submitted a proposal for the organization of a National Support System, but to this moment this system has not been organized.

It is important to realize that modern support techniques via telephone could be an effective solution for the technical support problem at the Information Systems Office. If this support technique could be institutionalized, adjusting some programs, installing some diagnostic programs and maintaining on-site the necessary back-up copies, 80 % of the visits to the installations for software maintenance could be eliminated.

3. It is necessary to contract information systems professionals that could provide better solutions than the ones actually provided to application maintenance problems. This personnel should be trained to manage and provide maintenance to MSPAS systems, including manual and automated systems analysis and design, third and fourth generation programming languages, operating systems, networks and communications, hardware, and systems auditing.

4. It is necessary to continue with the updating and improvement of the subsystems developed by the APSISA Project. It is suggested that the recommendations in the final report prepared by the management information systems specialist be followed.

5. A continuing education program should exist for systems operators, direct and indirect systems users, and general MSPAS personnel. This program is necessary considering the two factors that are continuously affecting the systems performance: the internal mobility of the personnel and the migration to other entities, specially to private and social security sectors.

Training should be directed towards the general knowledge of the computer, the use of basic tools, computer environments (networks, multiuser, communications), the knowledge of MSPAS systems and the utilization of the information generated by these systems.

6. The MSPAS computer networks project should continue. This arrangement of the available hardware is basic to obtain the necessary information, in a timely manner, and in the required place. The MSPAS network will handle all the applications that could be installed. It will allow for an increment in the number of critical users who will collaborate in the improvement of the quality and timely availability of the information. This will permit MSPAS top level staff to have the required information to develop effective management with formal bases for decision making.

7. It is difficult for MSPAS, with its limited resources, to continue with software development. The maximum that could be obtained are simple applications and minor changes to the existing systems. The redesign of existing systems or the development of new systems are not recommended. If MSPAS needs new systems, they should be contracted or supported by a national or international institution.

8. It is necessary to improve the facilities installed for the systems to be self-supported with the necessary capabilities to allow the operator to provide the required maintenance.

9. MSPAS has not yet established the information system resources required for its development, applications needs and their characteristics, and actual and future costs. The inadequate program-computer-efficiency relationship has generated the appearance of sophisticated computers to manage simple tasks and unnecessary equipment not utilized, and the costs derived from their use are increasing astronomically. A computer cost is not only the cost of its acquisition, but there are other costs involved like furniture, physical space, supplies, personnel for its operation, training and personnel update, electricity consumption, etc. MSPAS cannot start cancelling service contracts with the idea of providing its own maintenance service.

10. The possibility to migrate to higher productivity tools is possible by utilizing interface transferring or coding translators if the development of the application continues to be under a

DBF type environment. For the moment, productivity problems inherent to the tool utilized in software development are not observed, which shows that it is possible to maintain this environment for the moment by merely updating the data base management system version. For example, at this moment the professional version of FOXPRO could be used, since this version provides better characteristics for the normalization processes that is an essential condition for integrated systems.

The migration to higher productivity data base management systems will require the retraining of all the personnel involved in the National Health Information System and the warranty of technical support from the local market, These are important considerations to prevent the loss of the conversion effort, reduce productivity, and affect its development. Approximately 30% of the available hardware will require upgrade or replacement. This cost should be considered in the final decision. Considering the MSPAS personnel training conditions, it will be essential to contract for the software maintenance. This cost will increase significantly the system's operational costs.

11. During 1992 an inventory of the equipment status was initiated that allowed for the differentiation of two groups of computer equipment and peripherals; the first, equipment in good physical and technological conditions and the second equipment with inadequate performance that could have two conditions: first, equipment for retirement due to being obsolete or expensive to repair; second, equipment that could be repaired or upgraded. For the first group it should be determined if it is worthwhile to replace them or just remove them without replacement. For the second group, the maintenance costs should be compared with the cost of new equipment. In cases like this, the equipment can be replaced but removing the old equipment to avoid any increment of the functioning costs already described.

12. A fundamental condition exists for an information system to function effectively. The physical system that it supports should function in stable conditions. This stability is achieved through the short, medium and long term planning processes, to the definition of the organization, normalization of procedures and tasks. The physical change is not necessarily good or bad, but the continuous assimilation of changes in the computerized systems are impossible. To summarize, the system can not respond daily to new requirements not considered during its design. It is necessary that MSPAS stabilizes its conditions to achieve satisfactory computerized systems. Even with accelerated but programmed changes, a computerized system can function satisfactorily.

13. It is urgent that the MSPAS decides on the structure and organization of the National Health Information System. As mentioned, it is necessary that MSPAS and other subsectors institutions have a clear understanding of the minimum requirements that the information system should comply with. What reports the system should generate as inputs to other institutions or subsectors?. What information will be received from other institutions and subsectors? What

minimum characteristics the equipment and programs should have to continue to be integrated to the National Health Information System? Which are the minimum data and basic instruments for data collection needed? If the study for the definition of these norms is not rapidly conducted, the institutions with a higher capacity to develop independently will do it, making difficult the possibility integration to the point of having to disregard the integration idea due to technological problems and to costs that will be as high as the already developed systems.

14. It is necessary to eliminate the mechanical activities that are being developed at the central level. The central level should be basically dedicated to the normative function. In this regard, the MSPAS should urgently eliminate all the data entry activities.

It is urgent to comply with the MSPAS Minister's order to decentralize the elaboration of the payroll. This process should be developed at the departmental and local levels. It is urgent to remove the WANG minicomputer that is only utilized to generate the payroll. A fixed preventive maintenance cost is paid for this equipment, unnecessary at this moment, since the departmental level and the Personnel Office have the required infrastructure to assume the responsibility of the personnel computerized system.

It is urgent to establish the norms that will govern the systematization development at the departmental and local levels. At this moment, local developments are emerging with important differences when compared to the national tendency, and as soon as they become more specialized, greater incompatibility will result. The norms should include the installation's general structures, the minimum components required, the structural modules to be developed, the information to be shared with the other levels, and the structure of the communications modules. The responsibility of each institution functional area in the system's processes should be also defined, as well as time schedules for every activity and the structure of the manual and computerized information flows.

4.6 Component IV: Assistance to the National Reconstruction

On May 6, 1991 the Governments of the United States and El Salvador signed an amendment to the APSISA Project Agreement to support the Public Health activities included in the GOES National Reconstruction Plan (NRP in Spanish). The amendment assigned additional funds to cover the costs incurred in the reopening of the health establishments and the extension of primary health services to the zones affected by the war. The amendment added a fourth component (Component IV) to the project and authorized additional resources of the project for the following activities to be carried out in the health establishments of the affected zones and the communities included in the NRP: procurement and distribution of pharmacos and medical supplies, equipment, and improvement of potable water supply and drainage.

Based on the Terms of Reference of the Amendment, the project prepared a plan to carry out the above mentioned activities. The activities were incorporated in the following project areas: Medicines and Medical Supplies, Maintenance of Biomedical Equipment, Potable Water Systems and Drainage of Used Waters, Community Health and Malaria Control.

With the help of the project, 50 health establishments that were closed or abandoned during the conflict were reopened. The 122 municipalities included in the NRP were visited and a survey was conducted to identify the health condition in the municipality, health risk factors, population census, and demand and supply of health services. In the diagnosis, all health establishments (MSPAS, Religious Organizations, NGOs both local and international) were considered including personnel, equipment, supplies, funding, as well as the physical condition of the facility, water supply, telephone, transportation, etc.

Based on the results of the survey and the diagnosis, priorities and responsibilities of each organization were defined to expedite the reestablishment of health services. The APSISA project assumed the responsibility to extend the services to all the MSPAS health facilities in the given areas and to further extend the health services to the rural areas with the assistance of community health promoters and Malaria Volunteers.

4.6.1 Supply of Medicines and Medical Supplies

127 of the 127 health establishments existing in the 127 municipalities were incorporated into the Supply System of MSPAS. Only one establishment, the Health Post located in the Las Marias community (guerrilla camp during the conflict) of the Chinameca Municipality did not accept to incorporate. They did not agree to fill the forms that the system required for control. The post receives supplies through another AID sponsored program, PROSAMI.

The APSISA project sponsored the procurement of medicines and medical supplies through December 1994. In January 1995, MSPAS took over the responsibility of financing the procurement using GOES funds.

In April 1993, the APSISA Monitors conducted an evaluation of the establishments to determine the level of medical supplies in each one. The result was that the supply level was 76%. After that, the level of supply reached the same level as for the rest of the country.

4.6.2 Maintenance of Biomedical Equipment

The project conducted an inventory of the existing biomedical equipment in the 21 clinical laboratories located in the NRP area. The condition and remaining useful life for each equipment was determined. A plan to replace obsolete equipment, repair useful equipment and to procure new equipment was prepared. AID financed the procurement and repair of the equipment.

Laboratory personnel as well as personnel in the Biomedical Maintenance Unit were trained in the maintenance and calibration of the equipment. As a result of monitoring visits conducted in the 21 laboratories to verify their level of operations, it was found that some laboratories had electric power problems and in others it was found that the personnel needed additional training in the operation of the equipment. The power problems were corrected and a retraining program was conducted.

The physical facilities of the laboratories of the Health Unit in Apopa, Sitio del Niño and Berlin were improved using project funds.

4.6.3 Potable Water Systems and Drainage of Used Waters

The water and drainage system of 67 establishments in the NRP area, including the health centers of Suchitoto and Nueva Concepción, were built or improved, thereby completing this activity in all the NRP area.

A routine maintenance procedures manual together with basic tools and training was offered to personnel from the establishments to ensure the maintenance of the equipment.

4.6.4 Community Health

At the start of activities of Component IV, there were 255 Community Health Promoters operating in the NRP area. The APSISA project was able to incorporate another 229 Promoters to the area for a total of 484 serving approximately 605,000 persons in the rural areas.

4.6.5 Malaria

A plan to incorporate and reestablish malaria control activities in the area was prepared and a program to recruit Malaria Volunteers was put into effect with good results. This permitted the prompt diagnosis of cases and their treatment. The control of infected areas was also resumed to prevent the spread of cases. 197 Malaria Volunteers were recruited to serve in the areas of more rapid population growth (families returning to the area) and with the highest incidence of reported cases.

5. LOGICAL FRAMEWORK OF THE PROJECT: STATUS OF THE PROJECT AS AUGUST 28, 1996

In sections 3.1 and 3.2, we presented the degree of goal compliance and the purpose of the project. In this section we present the established indicators to measure results.

Indicators of Results	Status as of 08/28/96
-----------------------	-----------------------

<p>1. Improvements in the procurement and distribution of medicines and management systems.</p> <p>1.1. Medical Supplies Management Information System and management subsystems operating at the central and regional levels</p> <p>1.2 An increase of 20% of the Cuadro Básico medicines distributed to the Health Units, Posts and the Community Health Promoters.</p> <p>2. Improvement in the Biomedical Equipment Maintenance System</p> <p>2.1 The SIG subsystem including inventories, established and in operation.</p> <p>2.2 Standardization Policies Established.</p> <p>2.3 Two new regional level biomedical maintenance shops established and in operation.</p> <p>2.4 In-service training to 100 biomedical laboratory technicians (originally 60).</p> <p>2.5 The biomedical equipment under a routine periodic maintenance program.</p> <p>2.6 100 laboratory personnel and health technicians trained in preventive maintenance of the equipment.</p> <p>3. Improvement in the use and operation of the cost control system for the operation of vehicles.</p> <p>3.1 Establishment of the use of procedures for cost control and monitoring of vehicles.</p> <p>3.2 Establishment and use by all units of the vehicles maintenance program.</p> <p>3.3 30 motor vehicles maintenance mechanics trained.</p> <p>4. The primary health services establishments have adequate potable water supply equipment and drainage systems.</p> <p>4.1 Ninety percent (90%) of the establishments have adequate systems.</p> <p>4.2 Routine maintenance program for the systems, established and in operation.</p>	<p>1.1 The Medical Supplies Management Information System is in operation at the Central level as well as in the five regional warehouses. Also in operation at the regional level are the subsystems for: Pharmacopeia (Cuadro Básico), Inventories, Management information on medical supplies and distribution. At the central level the above subsystems are in operation plus the ones for procurement needs programming, procurement, list and qualifications of Suppliers, and receiving of supplies.</p> <p>1.2 The level of medical supplies in the primary level establishments increased from 57% in November 1991 to 81% in August 1996.</p> <p>2.1 A data base of updated information on the laboratory in equipment Health Units and Posts is available.</p> <p>2.2 The clinical laboratory equipment in the Health Units and Posts standardized.</p> <p>2.3 The two new regional (Región Paracentral y Occidental) biomedical equipment maintenance shops built, equipped, staffed and in operation.</p> <p>2.4 233 persons of the health units and posts trained in the use and maintenance of the biomedical laboratory equipment.</p> <p>2.5 All the Health Units and Posts following the routine maintenance program for the equipment.</p> <p>2.6 229 professionals, laboratory technicians and supervisors trained in preventive maintenance measures.</p> <p>3.1 The vehicle cost control system is operational.</p> <p>3.2 The motor vehicles routine maintenance program established and used by all chauffeurs.</p> <p>3.3 54 mechanics trained in motor maintenance.</p> <p>4.1 The systems in 124 priority establishments improved and in operation.</p> <p>4.2 Systems routine maintenance program designed and 217 persons from the establishments trained in its application.</p>
--	---

<p>5. Clinical laboratories improved and in operation in all existing Health centers</p> <p>5.1 Ninety (90) health units have clinical laboratory in operation.</p> <p>6. Decrease in Malaria incidence rate by the prompt identification of cases and residual fumigation.</p> <p>6.1 Increase by 10% of the blood samples taken at the health establishments</p> <p>6.2 At least 90% of the houses selected for residual fumigation are fumigated in each of the 3 cycles of fumigation.</p> <p>7. Procedures and operational manuals for the administration of health establishments, including treatment norms and prescription of medicines guides, prepared and distributed to all health establishment levels.</p> <p>7.1 Manuals developed for all health service level establishments, including revised MSPAS forms, standardized treatments and medicines prescription guides, lists of medicines and medical supplies for each establishment, inventory control guides, registration books and reports procedures.</p> <p>8. A training program designed and conducted for staff personnel and supervisors of the basic health services.</p> <p>8.1 Two thousand (2000) MSPAS staff (Doctors, Nurses, Nurse Aids and Community Health Promoters) were trained in Medical Emergencies Services.</p> <p>9. Computerized Health Management System with ten (10) subsystems designed and in operation.</p> <p>9.1 Forty five (45) new PCs installed and working.</p> <p>9.2 The software for the 10 subsystems developed and in use.</p> <p>10. MSPAS staff trained in the use of PCs and in the application of the Management Information System.</p> <p>10.1 Two hundred (200) MSPAS staff (originally 79 were to receive training) trained in the operation of the microcenters and in</p>	<p>5.1 All existing clinical laboratories (56) were improved and are in operation.</p> <p>6.1 Since January 1995, the health establishments increased their participation in the diagnosis and treatment of cases by 131% . However, most of the blood samples are taken by the 3010 Malaria Volunteer Collaborators.</p> <p>6.2 During the period 1991 - 1995, the residual fumigation of programmed houses activity was 90% completed.</p> <p>7.1 Manuals prepared and distributed for: Selection of medicines and medical supplies from the Pharmacopeia (Basic List of Medicines and Medical Supplies), Medicines Therapeutic Guide, Prescription guide for out-patient treatment; acceptance, reception control and distribution of donated medicines; return and transfer of medicines and medical supplies, norms for the departmental supplies committees, preparation of inventories of medicines and medical supplies. Also the project prepared and distributed the manuals of organization and operation of all the systems and programs developed by the project.</p> <p>8.1 Four (4) Doctors received special training in Medical Emergencies in the School of Medicine of the University of Puerto Rico. In El Salvador, 40 Doctors and Nurses were trained to conduct training in Medical Emergencies. 2239 Doctors, Nurses, Nurse Aids were trained in Medical Emergencies. 33 Ambulance Chauffeurs were trained in First Aid Techniques.</p> <p>9.1 Thirty four (34) new PCs procured and 16 upgraded.</p> <p>9.2 Thirty two (32) subsystems were developed that were integrated into two systems and five independent systems that in the future can be integrated to the network.</p> <p>10.1 One thousand six hundred and sixty two (1662) persons trained in the operation of the microcenters, the subsystems and in basic programming.</p>
---	--

<p>12. Key staff of MSPAS trained in decision making and supervision in the area of policy and program planning.</p>	
<p>12.1 One hundred (100) persons (61 originally) trained in health program planning, administration and applied research.</p>	<p>12.1 One hundred and twenty three (123) persons trained in health planning process.</p>
	<p>74 persons trained in operations research.</p>
	<p>80 persons trained in strategic planning and management.</p>
<p>12.2 Cost Recovery System in operation.</p>	<p>12.2 A tariffs decree approved and implemented in 15 hospitals and 15 Health Centers.</p>
	<p>Quotas system for the health general services users developed, tested and implemented in seven (7) health establishments.</p>
	<p>The strategy for the national implementation of the health general services users prepared.</p>

When the Project's Terms of Reference are compared against the activities carried out and the results obtained, it can be concluded that the APSISA project achieved, and in the majority of the cases surpassed, the objectives established in the Agreement between AID and GOES and its different amendments. In the development of the different components and areas of the project, the technical assistance worked with in an integral approach that permitted maximizing the results to MSPAS as the health institution and the Salvadorean community as the receptor and final beneficiary of the health services.

6. PROJECT PERSONNEL

6.1 Long Term Personnel

Dr. Eusebio del Cid	Chief of Party Health Planner Advisor
Eng. Carlos A. Castaño	Chief of Party Logistics Advisor
Lic. Steven Orr	Logistics Assistant
Lic. César Abarca	Warehouse Advisor
Eng. Francisco Velasco	Procurement Advisor
Eng. Armando Santamaría	Warehouse Advisor
Lic. Mauricio Guevara	Health Monitor
Lic. Rosa María de Ibarra	Health Monitor
Lic. Mauricio Merino	Health Monitor
Lic. Silvia de Castañeda	Health Monitor
Lic. Angela de Mendoza	Health Monitor
Eng. Oswaldo Ramírez	Potable Water and Sewage Advisor
Dr. Magda Torres Jusino	Maternal Child Advisor
Dr. Gonzálo Echeverry	Family Planner Advisor
Dr. Mauricio Sauerbrey	Malaria Advisor
Dr. Carlos Muñoz	Community Health and Health Education Advisor

Dr. Federico Rocuts	Community Health and Research Advisor
Dr. Carlos Castro	Health Planner Advisor
Dr. Ricardo Martínez	Management Information Systems Advisor
Eng. Mario Cevallos	Programmer
Lic. Walter Turcios	Programmer
Mr. Manuel Andrade	Programmer
Mr. José Tomás Marengo	Programmer
Lic. Margarita Palomo de Lau	Administrative Officer

6.2 Short Term Personnel

Lic. Carlos Pereira	Transportation Advisor
Eng. Juan F. Bustillo	Biomedical Equipment Maintenance Advisor
Dr. David Lee	Clinical Pharmacology Advisor
Dr. Alvin Chaves	Clinical Pharmacology Advisor
Dr. Ingrid Hernández	Training Advisor
Dr. Phillips Auttote	Training Advisor
Dr. Juan Nazario	Medical Emergencies Advisor
Mr. Francisco Lozada	Medical Emergencies Advisor
Dr. Gilberto Rodríguez	Medical Emergencies Advisor
Dr. Rodrigo Bustamente	Health Planner Advisor
Dr. Luis Carlos Gómez	Health Services Financial Advisor

Dr. John Fielder	Health Services Financial Advisor
Dr. Héctor Maysonet	Health Services Financial Advisor
Dr. Víctor P. Santiago	Health Services Financial Advisor
Lic. Julio Téllez	Financial Administration Advisor

A N N E X

ANNEX 1

List of documents produced under the project

LISTA DE DOCUMENTOS CLASIFICADOS POR COMPONENTES Y AREAS
DEL PROYECTO APSISA

PAG.

1. APOYO LOGISTICO	1
1.2 TRANSPORTE Y MANTENIMIENTO	4
1.3 MANTENIMIENTO DE EQUIPO BIOMEDICO.	5
1.4 SISTEMAS DE AGUA POTABLE Y DRENAJE DE AGUAS SERVIDAS EN UNIDADES Y PUESTOS DE SALUD.	5
2. MEJORAMIENTO DE LA ENTREGA DE SERVICIOS BASICOS DE SALUD	7
2.1 MATERNO INFANTIL	7
2.2 PLANIFICACION FAMILIAR	7
2.3 SALUD COMUNITARIA	7
2.4 MALARIA	7
2.5 ENFERMERIA	8
3. FORTALECIMIENTO DE LA PLANIFICACION Y MANEJO DE PROGRAMAS	8
3.1 PLANIFICACION DE LOS SERVICIOS DE SALUD	8
3.2 INVESTIGACIONES Y ESTUDIOS	10
3.3 PLANIFICACION FINANCIERA: RECUPERACION DE COSTOS	11
3.4 INFORMATICA	13

1. APOYO LOGISTICO

1.1 SISTEMA DE SUMINISTRO DE MEDICAMENTOS E INSUMOS MEDICOS

Fortalecimiento de la Sección Científico-Técnica de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. David Lee. Febrero de 1992.

Fortalecimiento del Componente Científico-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. David Lee. Septiembre de 1992.

Fortalecimiento del Componente Científico-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. David Lee. Marzo de 1993.

Fortalecimiento del Componente Científico-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. David Lee. Septiembre de 1993.

Fortalecimiento del Componente Científico-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. Albin Chaves. Marzo de 1994.

Fortalecimiento del Componente Científico-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. Albin Chaves. Septiembre de 1994.

Cuadro Básico de Medicamentos. Sexta Versión. Abril de 1993.

Cuadro Básico de Insumos Médicos. Segunda Versión. Abril de 1993.

Formulario Terapéutico de Medicamentos. Segunda Versión. Abril de 1993.

Análisis de Necesidades y Recursos Disponibles para la Adquisición de Medicamentos e Insumos Médicos. Ing. Carlos Castaño. Febrero de 1992.

Normas para la Aceptación de Donativos de Medicamentos, Insumos Médicos y Equipo Médico Quirúrgico. Febrero de 1993.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud. Lic. Angela de Mendoza, Lic. Silvia de Castaneda, Lic. Mauricio Guevara. Diciembre de 1991.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud. Lic. Mauricio Guevara, Lic. Silvia de Castaneda y Lic. Angela de Mendoza. Mayo de 1992.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud. Lic. Mauricio Guevara y Lic. Silvia de Castaneda. Noviembre de 1992.

Informe de Monitoría de Medicamentos para el cólera en Unidades y Puestos de Salud. Lic. Silvia de Castaneda y Lic. Mauricio Guevara. Enero de 1993.

Informe de Monitoreo de Productos de Planificación Familiar en Puestos y Unidades de Salud. Lic. Mauricio Guevara y Lic. Silvia de Castaneda. Enero de 1993.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud. Lic. Silvia de Castaneda, Lic. Rosa María de Ibarra y Lic. Mauricio Guevara. Mayo de 1993.

Manual de Normas y Procedimientos para Transferencia de Medicamentos e Insumos Médicos. Octubre de 1993.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud comprendidos en el Plan de Reconstrucción Nacional. Lic. Rosa María de Ibarra, Lic. Silvia de Castaneda y Lic. Mauricio Guevara. Diciembre de 1993.

Informe de Monitoreo de Productos de Planificación Familiar en Puestos y Unidades de Salud Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara, Lic. Silvia de Castaneda y Lic. Rosa María de Ibarra. Diciembre de 1993.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud comprendidos en el Plan de Reconstrucción Nacional. Lic. Rosa María de Ibarra, Lic. Silvia de Castaneda y Lic. Mauricio Guevara. Junio de 1994.

Informe de Monitoreo de Productos de Planificación Familiar en Puestos y Unidades de salud comprendidos en el Plan de Reconstrucción Nacional. Junio de 1994

Informe de Monitoreo de Disponibilidad de Medicamentos e Insumos Médicos de Promotores de Salud Comunitaria Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara, Lic. Silvia de Castaneda y Lic. Rosa María de Ibarra. Junio de 1994.

Informe de Monitoreo de Productos de Planificación Familiar en Puestos y Unidades de Salud Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara, Lic. Rosa María de Ibarra. Noviembre de 1994.

Informe de Monitoreo de Disponibilidad de Medicamentos e Insumos Médicos de Promotores de Salud Comunitaria Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara y Lic. Rosa María de Ibarra. Noviembre de 1994.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara y Lic. Rosa María de Ibarra. Noviembre de 1994.

Informe de Fortalecimiento del Componente-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. Albin Chaves Matamoros. Junio de 1995.

Fortalecimiento del Componente Científico-Técnico de la Unidad Técnica de Medicamentos e Insumos Médicos. Dr. Albin Chaves Matamoros. Junio de 1995.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara, Lic. Mauricio Merino y Lic. Rosa María de Ibarra. Abril de 1995.

Informe de Monitoreo de Medicamentos en Puestos y Unidades de Salud Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara, Lic. Mauricio Merino y Lic. Rosa María de Ibarra. Septiembre de 1995.

Informe de Monitoreo de Productos de Planificación Familiar en Puestos y Unidades de Salud Comprendidos en el Plan de Reconstrucción Nacional. Lic. Mauricio Guevara, Lic. Mauricio Merino y Lic. Rosa María de Ibarra. Septiembre de 1995.

Informe Final de Consultoría en Adquisiciones y Almacenes. Lic. César Abarca Peña. Septiembre de 1995.

Manual de Organización del Departamento de Adquisiciones. Ing. Francisco Velasco. Enero de 1993.

Manual de Organización Tipo para los Departamentos de Suministros Regionales. Primera Versión. Ing. Francisco Velasco. Abril de 1993.

Subsistema de Control de Asignaciones Presupuestarias para la Adquisición de Suministros (Documento para Discusión), Segunda Versión. Ing. Francisco Velasco. Julio de 1992.

Subsistema de Control de Garantías. (Documento para Discusión), Primera Versión. Ing. Francisco Velasco. Marzo de 1992.

Región Paracentral, Proyecto de Remodelación del Sistema de Almacenamiento. Ing. Armando Santamaría. Febrero de 1992.

Informe de Oportunidades de Mejoramiento del Sistema de Almacenamiento Central por Ejecutarse con fondos GOES/OMSAC. Agosto de 1992.

Informe de los Logros Obtenidos en el Sistema de Almacenamiento Regional. Ing. Armando Santamaría. Septiembre de 1992.

Plan de Capacitación y Adiestramiento para el uso de los Sistemas Computarizados en el Area de Adquisiciones. Ing. Francisco Velasco. Marzo de 1992.

Manual Administrativo de los Almacenes Regionales del MSPAS. Ing. Francisco Velasco, Ing. Carlos Castaño, Lic. César Abarca. Noviembre de 1993.

Subsistema de Recepción de Productos en el Almacén Central El Matazano. 1era. Versión. Lic. César Abarca Peña. Diciembre de 1993.

Cuadro Básico de Suministros Generales. 1era. Versión. Diciembre de 1993.

Procedimiento para el Retiro de Mercadería de las Aduanas. Lic. César Abarca. Enero de 1994.

Manual Administrativo para los Almacenes Regionales del MSPAS. Lic. César Abarca. Enero de 1994.

Manual para el Mantenimiento preventivo de las instalaciones físicas y programas de seguridad de los Almacenes regionales del MSPAS. Lic. Cesar Abarca, Ing. Carlos Castaño. Junio de 1994.

Manual de Normas de los Comités Regionales de Suministros Borrador para Análisis y Ajuste. Lic. Mauricio Guevara, Ing. Carlos Castaño. Octubre de 1994.

Subsistema de Calificación de Proveedores, Ing. Carlos Castaño, Lic. César Abarca. Septiembre de 1994.

Manual de Operación del Sistema de Registro de Proveedores. Ing. Francisco Velasco, Ing. Carlos Castaño, Lic. César Abarca Peña. Febrero de 1994.

Anteproyecto Ley de Suministros del Ministerio de Salud Pública y Asistencia Social. Ing. Francisco Velasco, Lic. César Abarca, Ing. Carlos Castaño. Abril de 1995.

Subsistema de Seguimiento de Compras. Ing. Francisco Velasco, Dr. Ricardo Martínez Rozo, Lic. César Abarca Peña, Ing. Carlos Castaño. Junio de 1995.

Subsistema de Seguimiento de Compras. Ing. Francisco Velasco, Dr. Ricardo Martínez Rozo, Lic. César Abarca Peña, Ing. Carlos Castaño. Junio de 1995.

1.2 TRANSPORTE Y MANTENIMIENTO

Transporte y Mantenimiento. Lic. Carlos Pereira. Abril de 1992.

Transporte y Mantenimiento. Lic. Carlos Pereira. Julio de 1992.

Transporte y Mantenimiento. Lic. Carlos Pereira. Febrero de 1993.

Transporte y Mantenimiento. Lic. Carlos Pereira. Septiembre de 1993.

Transporte y Mantenimiento. Lic. Carlos Pereira. Marzo de 1994.

Transporte y Mantenimiento. Lic. Carlos Pereira. Septiembre de 1994.

Transporte y Mantenimiento. Lic. Carlos Pereira. Junio de 1995

1.3 MANTENIMIENTO DE EQUIPO BIOMEDICO.

Informe de Asesoría para el Mantenimiento de Equipo Biomédico y de Laboratorio de las Unidades de Salud de El Salvador. Ing. Francisco Bustillo. Febrero de 1992.

Informe de Asesoría para el Mantenimiento de Equipo Biomédico y de Laboratorio de las Unidades de Salud de El Salvador. Ing. Francisco Bustillo. Octubre de 1992.

Asesoría para el Mantenimiento del Equipo Biomédico y de Laboratorio de las Unidades de Salud de El Salvador. Ing. Francisco Bustillo. Marzo de 1993.

Asesoría para el Mantenimiento del Equipo Biomédico y de Laboratorio de las Unidades de Salud de El Salvador. Ing. Francisco Bustillo. Julio de 1994.

Asesoría para el Mantenimiento del Equipo Biomédico y de Laboratorio de las Unidades de Salud de El Salvador. Ing. Francisco Bustillo. Septiembre de 1994.

Asesoría para el Mantenimiento del Equipo Biomédico y de Laboratorio de las Unidades de Salud de El Salvador. Ing. Francisco Bustillo. Julio de 1993.

1.4 SISTEMAS DE AGUA POTABLE Y DRENAJE DE AGUAS SERVIDAS EN UNIDADES Y PUESTOS DE SALUD

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 04.** Ing. Oswaldo Ramírez. Diciembre de 1991.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 05.** Ing. Oswaldo Ramírez. Junio de 1992.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 06.** Ing. Oswaldo Ramírez. Junio de 1992.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 07.** Ing. Oswaldo Ramírez. Octubre de 1992.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 08.** Ing. Oswaldo Ramírez. Noviembre de 1992.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 09.** Ing. Oswaldo Ramírez. Febrero de 1993.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 10.** Ing. Oswaldo Ramírez. Marzo de 1993.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 11.** Ing. Oswaldo Ramírez. Julio de 1993.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 12.** Ing. Oswaldo Ramírez. Julio de 1993.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 13.** Ing. Oswaldo Ramírez. Enero de 1994.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 14.** Ing. Oswaldo Ramírez. Febrero de 1994.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 15.** Ing. Oswaldo Ramírez. Mayo de 1994.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 16.** Ing. Oswaldo Ramírez. Mayo de 1994.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 8 (Finalización de Obra)**. Ing. Oswaldo Ramírez. Septiembre de 1994.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 17**. Ing. Oswaldo Ramírez. Enero, 1995.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 18**. Ing. Oswaldo Ramírez. Enero, 1995.

Mejoras a los Sistemas de Abastecimiento de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. **Grupo 19**. Ing. Oswaldo Ramírez. Enero, 1995.

Informe Final Mejora a los Sistemas de Agua Potable y Drenaje de Aguas Servidas en Unidades y Puestos de Salud. Ing. Oswaldo Ramírez. Septiembre, 1995.

2. MEJORAMIENTO DE LA ENTREGA DE SERVICIOS BASICOS DE SALUD

2.1 MATERNO INFANTIL

Guía para el desarrollo de un Programa de Capacitación. Dra. Magda Torres Jusino. Mayo de 1996.

Informe Final de la Consultoría realizada en el Area Materno Infantil, en el Ministerio de Salud de El Salvador, del 1 de enero de 1995 al 30 de Junio de 1996. Dra. Magda Torres Jusino. Junio de 1996.

2.2 PLANIFICACION FAMILIAR

Programa de Planificación Familiar para el Ministerio de Salud Pública y Asistencia Social de El Salvador. Propuesta Preliminar. Dr. Gonzalo Echeverry. Abril de 1996.

Informe Final de la Consultoría realizada en el Area de Planificación Familiar en el Ministerio de Salud de El Salvador del 16 de Abril de 1995 al 28 de Agosto de 1996. Dr. Gonzalo Echeverry Parra. Agosto de 1996.

2.3 SALUD COMUNITARIA

Módulos del Curso Básico de Promotores de Salud. MSPAS/APSISA. Dr. Federico Rocuts. 1992.

Guía Metodológica para Cursos Básicos y Educación Continua de Promotores de Salud. MSPAS/APSISA. 1993.

Manual de Procedimientos del Promotor de Salud. Documento de Trabajo. Dr. Carlos Muñoz Retana. Diciembre de 1995.

Perfil Ocupacional Recomendado para el Promotor de Salud. Documento de Trabajo. Noviembre de 1995.

2.4 MALARIA

Consulta Externa al Programa de Prevención y Control de la Malaria de El Salvador. Julio de 1992.

Consulta sobre la Vigilancia Epidemiológica del Programa de Control de la Malaria de El Salvador. Dr. Trenton K. Ruebush. Mayo de 1993.

Informe Final al Componente de Malaria. Octubre 1991-Septiembre 1995. Dr. Mauricio Sauerbrey. Septiembre de 1995.

Reporte Final. Evaluación del Sistema de Vigilancia de Malaria en El Salvador. Dr. Mauricio Sauerbrey, Dra. Monica Parise, Dr. Trenton K. Ruebush. Septiembre de 1994.

2.5 ENFERMERIA

Informe sobre la asesoría prestada a la Unidad de Enfermería. Lic. Phyllis Autotte. Marzo de 1992.

Utilización del Tiempo del Personal de Enfermería en Diferentes Niveles de Atención. Dr. Ingrid Hernández. Noviembre de 1992.

Asistencia Técnica a la Unidad de Enfermería del Nivel Central. Dra. Ingrid Hernández. Diciembre de 1992.

Niveles de Riesgo para la Atención de Enfermería. Dra. Ingrid Hernández. Diciembre de 1992.

Niveles de Riesgo para la Atención de Enfermería. Manual Guía. Dra. Ingrid Hernández. Diciembre de 1992.

Utilización del Tiempo del Personal de Enfermería en Diferentes Niveles de Atención. Dra. Ingrid Hernández. Noviembre de 1992.

3. FORTALECIMIENTO DE LA PLANIFICACION Y MANEJO DE PROGRAMAS

3.1 PLANIFICACION DE LOS SERVICIOS DE SALUD

Asistencia Técnica a la Dirección de Planificación. Dr. Rodrigo Bustamante. Septiembre de 1992.

Informe de Consultoría, Asesoría a la Unidad de Planificación del MSPAS. Dr. Rodrigo Bustamante. Diciembre de 1992.

Informe de Consultoría. Asistencia Técnica a la Dirección de Planificación . Dr. Rodrigo Bustamante. Marzo de 1993.

Asistencia Técnica a la Dirección de Planificación. Dr. Rodrigo Bustamante. Junio de 1993.

Asistencia Técnica a la Dirección de Planificación 16 de Agosto al 31 de Septiembre de 1993. Dr. Rodrigo Bustamante. Septiembre de 1993.

Asistencia Técnica a la Dirección de Planificación. Informe de visita Noviembre 15 a Diciembre 11 de 1993. Dr. Carlos Eduardo Castro Hoyos. Diciembre de 1993.

Plan Anual Operativo 1995. Dr. Carlos E. Castro Hoyos. Marzo de 1994.

Asistencia Técnica a la Dirección de Planificación Mayo 17- Junio 10, 1994. Dr. Carlos Castro Hoyos. Junio de 1994.

Informe de Consultoría al Ministerio de Salud Pública y Asistencia Social. Dra. Laura Ramírez, Dra. Irasema Guerrero y Dr. Enrique Colar. Mayo de 1995.

Material Bibliográfico para la Formación de Gestores de la Política de Salud. Dr. Carlos Castro Hoyos. Octubre de 1995.

Material Educativo para Seminario sobre Formulación de Estrategias Profundización en Gerencia Estratégica. Noviembre y Diciembre de 1995. Dr. Carlos Castro Hoyos. Noviembre de 1995.

Material Educativo para Seminario sobre Información para la Toma de Decisiones Profundización en Gerencia Estratégica. Dr. Carlos Castro Hoyos. Noviembre de 1995.

Material Educativo para Seminario sobre Herramientas de control de Gestión Profundización en Gerencia Estratégica. Dr. Carlos Castro Hoyos, Dr. Edgar Martínez. Noviembre de 1995.

Material Educativo para la Capacitación en Planificación y Gestión Estratégicas. Ciclo I (30, 31 de agosto, 1 de septiembre). Dr. Carlos Castro Hoyos, Dr. Edgar Martínez. Agosto de 1995.

Material Educativo para la Capacitación en Planificación y Gestión Estratégicas. Ciclo II (27, 28 y 29 de Septiembre). Dr. Carlos Castro Hoyos, Dr. Edgar Martínez. Septiembre de 1995.

Material Educativo para la Capacitación en Planificación y Gestión Estratégicas. Ciclo III (8, 9 y 10 de Noviembre). Dr. Carlos Castro Hoyos, Dr. Edgar Martínez. Noviembre de 1995.

Material Educativo para la Capacitación en Planificación y Gestión Estratégicas. Ciclo IV. (29 y 30 de noviembre). Dr. Carlos Castro Hoyos, Dr. Edgar Martínez. Noviembre de 1995.

Informe Final de la Consultoría al Area de Planificación de Servicios de Salud realizada del 1 de Enero de 1995 al 30 de Junio de 1996. Dr. Carlos Castro Hoyos. Junio de 1996.

Programación Anual Operativa. Dr. Carlos Castro Hoyos. Junio de 1996

Reforma Sectorial. Dr. Carlos Castro Hoyos. Junio de 1996.

Planificación Sectorial. Dr. Carlos Castro Hoyos. Junio de 1996.

Capacitación y Asistencia Técnica en Gerencia y Planificación Estratégica. Dr. Carlos Castro Hoyos. Junio de 1996.

Sistema de Monitoreo y Evaluación. Dr. Carlos Castro Hoyos. Junio de 1996.

Sistema de Referencia de Pacientes. Dr. Carlos Castro Hoyos. Junio de 1996.

3.2 INVESTIGACIONES Y ESTUDIOS

Determinación de los Costos de los Servicios del MSPAS. Dr. Luis Carlos Gómez. Marzo de 1992.

El Costo de los Servicios del Ministerio de Salud de El Salvador. Vol. I. Métodos y Resultados Principales. Dr. Luis C. Gómez. Julio de 1992.

El Costo de los Servicios del Ministerio de Salud de El Salvador. Vol. II. Detalles Metodológicos y de Resultados. Dr. Luis C. Gómez. Julio de 1992.

El Costo de los Servicios del Ministerio de Salud de El Salvador. Vol. III. Matrices 1A,1B,1C y 2 Elaboradas por IPM Ajustadas por Clapp & Mayne, Inc.. Dr. Luis Carlos Gómez. Julio de 1992.

Factores que condicionan la no Planificación Familiar en el Area Geográfica de Influencia de la Unidad de Salud de Tacachico. Noviembre de 1993.

Factores que condicionan la no Planificación Familiar en el Area Geográfica de Influencia de la Unidad de Salud de Quezaltepeque. Mayo de 1993.

Causas que Determinan la Baja Cobertura de los Controles Postparto. 1993.

Causas que Determinan las Baja Cobertura en Asistencia Prenatal y Puerperal en Dos Comunidades que cuentan con Promotor de Salud. 1993

Servicios de Planificación Familiar en el Area Rural del Area Geográfica de Berlín, Usulután. 1993.

Vigilancia Nutricional del Niño Menor de Cinco Años Inscrito en el Programa E.N.A.M.I. Región Oriental. 1993.

Vigilancia Nutricional del Niño Menor de Cinco Años Inscrito en el Programa E.N.A.M.I. Región Oriental. 1993.

Vigilancia Nutricional del Niño Menor de Cinco Años Inscrito en el Programa E.N.A.M.I. Región Oriental. 1993.

Material Educativo sobre investigación operativa en Salud Comunitaria. Dr. Federico K. Rocuts. 1993.

Módulos de Investigación operativa en Salud Comunitaria. Dr. Federico Rocuts. 1993.

Causas que determinan la Baja obertura de los Controles Postparto. Dr. Wilfredo Quezada, Dr. Federico Rocuts. 1993 .

Informe Final de la Asistencia Técnica a las áreas de Investigación y Salud Comunitaria. Dr. F. Rocuts. Septiembre de 1993.

Causas que determinan las bajas coberturas en Asistencia Prenatal y Puerperal en dos comunidades que cuentan con promotor de salud, Dr. F.Rocuts. 1993.

Prescripción y Utilización de Medicamentos en Infección Respiratoria Aguda (IRA) y Enfermedad Diarréica Aguda (EDA).Consultoría e Investigaciones en Servicios de Salud. Mayo de 1993.

Revisión y Evaluación de Promotores de Salud Comunitaria: Ministerio de Salud Pública y Asistencia Social MSPAS y Organizaciones No Gubernamentales (ONG's). Informe Final Tomo "A". IPM. Septiembre de 1995.

Revisión y Evaluación de Promotores de Salud Comunitaria: Ministerio de Salud Pública y Asistencia Social MSPAS y Organizaciones No Gubernamentales (ONG's). Informe Final Tomo "B". IPM. Septiembre de 1995.

3.3 PLANIFICACION FINANCIERA: RECUPERACION DE COSTOS

Financiamiento y Desempeño del MSPAS - Resumen Ejecutivo - Apéndices 1 y 2. Dr. John Fiedler. Noviembre de 1991.

A Financial Analysis of the El Salvador Ministry of Health's User Fee Systems. Dr. John Fiedler. Junio de 1992.

Análisis Financiero de los Sistemas de las Cuotas de los Usuarios del Ministerio de Salud Pública y Asistencia Social de El Salvador. Dr. John Fiedler. Julio de 1992.

Sistema de Recuperación de Costos. Presente y Futuro. Ing. Carlos Castaño. Agosto de 1992.

Fortalecimiento Financiero Institucional. Recuperación de Costos una alternativa. Ing. Carlos Castaño. Septiembre de 1992.

El Sistema de Tarifas y Cuotas de Recuperación de los Costos de los Servicios. Primer Borrador. Dr. Luis Carlos Gómez. Octubre de 1992.

Hallazgos, Conclusiones y Recomendaciones para la Implantación de un sistema Uniforme de Clasificación Socio-Económica de la Población Salvadoreña Usuaría de los Servicios de Salud del MSPAS. Dr. H. Maysonet. Diciembre de 1992.

Manual Administrativo para Recuperación de Costos de los Servicios de Salud del MSPAS. (Borrador Preliminar). Lic. Victor P. Santiago. Marzo de 1993.

Diagnóstico de los Sistemas de Recuperación de Costos vigentes en el país. Lic. Victor Santiago. Marzo de 1993.

La Gerencia Financiera del MSPAS. Dr. Luis Carlos Gómez. Julio de 1996.

Lineamientos para la Planificación Financiera del MSPAS. Dr. Luis Carlos Gómez. Julio de 1992.

Informe de Consultoría a la Unidad de Planificación Financiera. Dr. Luis Carlos Gómez. Octubre de 1993.

Informe de Consultoría Prestada a la Unidad de Planificación Financiera del MSPAS. Dr. Luis Carlos Gómez. Diciembre de 1993.

Culminación de la Investigación sobre el Instrumento de Clasificación Socio-Económica de los usuarios del servicio de Salud. El sistema de información de Planificación Financiera del MSPAS. Dr. Luis Carlos Gómez. Marzo 1994.

Apoyo al desarrollo e implementación del Sistema de Recuperación de costos. Lic. Julio César Tellez Mora. Mayo de 1994.

Fortalecimiento Financiero del Ministerio de Salud. Dr. Luis Carlos Gómez. Septiembre de 1994.

El Diseño e Implementación del Proyecto Piloto sobre el Sistema de Cuotas de Usuarios de los Servicios Generales del MSPAS. Dr. Luis Carlos Gómez. Marzo de 1995.

Informe de Asesoría, Metodología de Formulación Presupuestaria. Lic. Julio César Téllez Mora. Abril de 1995.

Informe de Consultoría a la Dirección de Planificación. Dr. Luis Carlos Gómez. Mayo de 1995.

Informe de Consultoría a la Dirección de Planificación. Seguimiento al Proyecto Piloto sobre el Sistema de Cuotas de Usuarios de los Servicios Generales de Salud. Dr. Luis Carlos Gómez. Julio de 1995.

Informe de Consultoría a la Dirección de Planificación del 6 al 30 de noviembre de 1995. Evaluación del Proyecto Piloto sobre el Sistema de Cuotas de Usuarios de los Servicios Generales de Salud. Dr. Luis Carlos Gómez. Noviembre de 1995.

3.4 INFORMATICA

Propuesta de Reestructuración de la Oficina de Estadísticas del MSPAS, (Borrador de Trabajo). Febrero de 1993.

Documentación Técnica del Subsistema Informe Estadístico Mensual Automatizado. IEMA. Manual Técnico. Volumen 2. Programas de Captura y Procesamiento. Dr. Ricardo Martínez Roza, Lic. Walter Turcios. Diciembre de 1994.

Documentación Técnica del Subsistema de Información Gerencial. GERENCIA.
Manual Técnico. Versión Final. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios.
Enero de 1996.

Documentación Técnica del Subsistema de Información Gerencial GERENCIA.
Manual de Usuario. Versión Final. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios
Noubleau. Enero de 1996.

Documentación Técnica del Subsistema de Información de Vacunación VAC. Manual
Técnico. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Febrero de
1996.

Documentación Técnica del Subsistema de Información de Vacunación VAC. Manual
Usuario. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Febrero de
1996.

Documentación Técnica del Subsistema de Información de Registros Diarios RD.
Manual Técnico, Volumen I. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario
Cevallos. Febrero de 1996.

Documentación Técnica del Subsistema de Información de Registros Diarios RD.
Manual Técnico Volumen II. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario
Cevallos. Febrero de 1996.

Documentación Técnica del Subsistema de Información de Registros Diarios RD.
Manual Técnico Volumen III. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario
Cevallos. Febrero de 1996.

Documentación Técnica del Subsistema de Información de Registros Diarios RD.
Manual de Usuario. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos.
Febrero de 1996.

Manual de Usuario del Sistema Integrado de Información Estadística y Epidemiológica
SIEES. Subsistema de Morbilidad, Mortalidad y Epidemiología, BIO. Mayo de 1993.

Manual de Usuario del Sistema Integrado de Información Estadística y Epidemiológica
SIEES. Subsistema de Vacunación.

Manual de Usuario del Sistema Integrado de Información Estadística y Epidemiológica SIEES. Subsistema de Actividades Asistenciales, AA. Mayo de 1993.

Documentación Técnica del Sistema Informe Estadístico Mensual Automatizado. IEMA. Manual Técnico. Volumen I. Versión Final. Dr. Ricardo Martínez, Lic. Walter Turcios. Febrero de 1996.

Documentación Técnica del Sistema Informe Estadístico Mensual Automatizado. IEMA. Manual Técnico. Volumen II. Versión Final. Dr. Ricardo Martínez, Lic. Walter Turcios. Febrero de 1996.

Documentación Técnica del Sistema Informe Estadístico Mensual Automatizado. IEMA. Manual Técnico. Volumen III. Versión Final. Dr. Ricardo Martínez, Lic. Walter Turcios. Febrero de 1996.

Documentación Técnica del Sistema Informe Estadístico Mensual Automatizado. IEMA. Manual de Usuario. Versión Final. Dr. Ricardo Martínez, Lic. Walter Turcios. Febrero de 1996.

Documentación Técnica del Subsistema de Información de Malaria. MALARIA. Manual Técnico. Versión Final. Dr. Ricardo Martínez Rozo. Ing. Mario Cevallos. Agosto de 1995.

Documentación Técnica del Subsistema de Información de Malaria. MALARIA. Manual del Usuario. Versión Final. Dr. Ricardo Martínez Rozo. Ing. Mario Cevallos. Agosto de 1995.

Documentación Técnica del Subsistema de Información de Morbilidad, Mortalidad e Informe Epidemiológico. BIO. Manual Técnico. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Abril de 1996.

Documentación Técnica del Subsistema de Información de Morbilidad, Mortalidad e Informe Epidemiológico. BIO. Manual del Usuario. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Abril de 1996.

Programa Nacional de Capacitación en Informática para el Sector Salud. Dr. Ricardo Martínez. Febrero de 1992.

Sistema Nacional de Soporte de Software Borrador de Trabajo. Dr. Ricardo Martínez, Febrero de 1992.

Organización de las oficinas regionales de informática. Dr. Ricardo Martínez. Septiembre de 1992.

Guía para el Diligenciamiento de los Formularios de Actividades de Laboratorio. Septiembre de 1992.

Adquisición de Equipos de Cómputo para el Proyecto APSISA. Abril de 1992.

Manual de usuario del Sistema Integrado de Suministros, SUMIN1. Subsistema de Inventario, INVENT. Ing. Carlos Castaño, Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Septiembre de 1994.

Manual de Usuario del Sistema Integrado de Suministros, SUMIN1. Subsistema de Información Gerencial de Suministros, SIGS. Ing. Carlos Castaño, Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Septiembre de 1994.

Documentación Técnica del Subsistema Control de Asignación Presupuestarias. PRESUP. Manual de Usuario. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios. Octubre de 1995.

Documentación Técnica del Subsistema Calificación de Proveedores. CALIF. Manual Técnico. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios Noubleau. Agosto de 1995.

Documentación Técnica del Subsistema de Seguimiento de Compras. SEGUIM. Manual Técnico. Dr. Ricardo Martínez, Lic. Walter Turcios Noubleau. Agosto de 1995.

Documentación Técnica del Subsistema de Control de Asignaciones Presupuestarias. PRESUP. Manual Técnico. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios Noubleau. Octubre de 1995.

Documentación Técnica del Sistema Integrado de Suministros. SUMIN1. Subsistema de Inventarios. Manual Técnico. Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Septiembre de 1994.

Documentación Técnica del Sistema Integrado de Suministros. SUMIN1. Subsistema de Distribución. Manual Técnico. Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Septiembre de 1994.

Documentación Técnica del Sistema Integrado de Suministros. SUMIN1. Subsistema de Información Gerencial de Suministros. Manual Técnico. Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Septiembre de 1994.

Documentación Técnica del Subsistema de Información de Programación de Compras, PROGRAMA. Manual de Usuario. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Febrero de 1996.

Documentación Técnica del Subsistema de Información de Compras, GARANTIA. Manual Técnico. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Febrero de 1996.

Documentación Técnica del Subsistema de Información de Compras GARANTIA. Manual Usuario. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Febrero de 1996.

Documentación Técnica del Subsistema de Cuadros CUADROS. Manual Técnico. Versión Final. Dr. Ricardo Martínez, Sr. Manuel Andrade. Marzo de 1996.

Documentación Técnica del Subsistema de Cuadros CUADROS. Manual de Usuario. Versión Final. Dr. Ricardo Martínez, Sr. Manuel Andrade. Marzo de 1996.

Documentación Técnica del Subsistema Seguimiento de Compras SEGUIM. Manual del Usuario. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios Noubleau. Octubre de 1995.

Documentación Técnica del Subsistema Integrado de Suministros SUMIN1. Subsistema de Distribución DISTRIB. Manual del Usuario. Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade, Ing. Carlos Castaño. Septiembre de 1994.

Documentación Técnica del Subsistema de Información de Programación de Compras, PROGRAMA. Manual Técnico. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Abril de 1996.

Documentación Técnica del Subsistema de Información de Programación de Compras. PROGRAMA. Manual del usuario. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Abril de 1996.

Documentación Técnica del Subsistema Calificación de Proveedores. CALIF. Manual del Usuario. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios Noubleau. Agosto de 1995.

Documentación Técnica del Sistema Integrado de Suministros. SUMIN2. Subsistema de Recepción. Manual del Usuario. Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Mayo de 1996.

Documentación Técnica del Sistema Integrado de Suministros. SUMIN2. Subsistema de Recepción, Manual Técnico. Dr. Ricardo Martínez Rozo, Sr. Manuel Andrade. Mayo de 1996.

Documentación Técnica del Subsistema de Información de Transportes. TRANSPORTES. Manual Técnico. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Agosto de 1995.

Documentación Técnica del Subsistema de Información de Transportes. TRANS. Manual del Usuario. 3a. Edición. Versión Final. Dr. Ricardo Martínez Rozo, Ing. Mario Cevallos. Octubre de 1995.

Documentación Técnica del Sistema de Control del Activo Fijo. PROAC. Manual Técnico. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios Noubleau. Abril de 1996.

Documentación Técnica del Sistema de Control del Activo Fijo. PROAC. Manual del Usuario. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios Noubleau. Abril de 1996.

Documentación Técnica del Sistema de Contabilidad CONTAB. Manual Técnico. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios. Mayo de 1996

Documentación Técnica del Sistema de Contabilidad CONTAB. Manual del Usuario. Dr. Ricardo Martínez Rozo, Lic. Walter Turcios. Mayo de 1996

Informe final de la consultoría realizada en el área de Sistemas de Información en el Ministerio de Salud de El Salvador del 16 de Noviembre de 1991 al 31 de Mayo de 1996. Dr. Ricardo Martínez Roza. Mayo de 1996.

4. PROYECTO APOYO A LA SALUD REPRODUCTIVA Y POBLACION: SUBCONTRATO CON THE FUTURES GROUP

Manual del Usuario para el Sistema Geográfico de Información de Salud Reproductiva en El Salvador. Versión 1.0, Febrero de 1995. (Incluye Diskette).

FESAL: 93, Encuesta Nacional de Salud Familiar. 1993.

Decentralización en el Sector Salud. Informe Mensual. Ana Elena Escalante. Diciembre 15, 1994.

EASEVAL: Programa Informático para fácil análisis de datos de las DHS con fines de evaluación, guía del usuario. John Stover, Naomi Rutenberg, Robert KcKinnon, Jeffrey Hummel. Febrero de 1994.

Salud Materno Infantil y Planificación Familiar en El Salvador. **Región Occidental**, Febrero de 1995.

Salud Materno Infantil y Planificación Familiar en El Salvador. **Región Paracentral**, Febrero de 1995.

Salud Materno Infantil y Planificación Familiar en El Salvador. **Región Metropolitana**, Febrero de 1995.

Salud Materno Infantil y Planificación Familiar en El Salvador. **Región Central**, Febrero de 1995.

Salud Materno Infantil y Planificación Familiar en El Salvador. **Región Oriental**, Febrero de 1995.

TARGET, Proyecciones Del Uso De Anticonceptivos. Documento de Trabajo. Asociación Demográfica Salvadoreña y The Future Group International. Enero de 1995.

Manual de Usuario para el Sistema Geográfico de Información de Salud Reproductiva en El Salvador, Versión 1.0. Febrero de 1995.

Taller de Introducción al SPSS en Windows. Material de Apoyo. Agosto de 1995.

Taller Técnicas de Evaluación y Estimulación de Indicadores Demográficos, material de Apoyo. Octubre de 1995.

Taller de Proyecciones de Población. Material de Apoyo. Mayo, 1996.

Manual de Usuario para el Sistema Geográfico de Información de Salud para el Sector de Salud. Elizabeth Ruben. Julio de 1996.

Aspectos Socio-Demográficos de la Salud Materno Infantil en El Salvador. Dra. Sharon Kirmeyer. Julio 1996

Salud Materno-Infantil y Planificación Familiar, Departamento de Santa Ana. TFGI y RTI. Julio de 1996.

Pérfiles Poblacionales Departamento de Cabañas. Julio de 1996.

Pérfiles Poblacionales Departamento de Cuscatlán. Julio de 1996.

Pérfiles Poblacionales Departamento de San Miguel. Julio de 1996.

Pérfiles Poblacionales Departamento de La Paz. Julio de 1996.

Pérfiles Poblacionales Departamento de La Libertad. Julio de 1996.

Pérfiles Poblacionales Departamento de Santa Ana. Julio de 1996.

Pérfiles Poblacionales Departamento de San Salvador. Julio de 1996.

NTARGET: Modelo para la Proyección de los Requerimientos y Costos de Planificación Familiar, guía del usuario. Patricia Mostajo. Julio de 1996.

Plan Nacional de Acción en Población de El Salvador. Análisis y Propuestas para su Actualización. Documento de Trabajo. Julio de 1996.

ANNEX II

**Reproductive Health and Population Assistance Project:
Subcontract with the Futures Group International**

This project was financed with APSISA project funds and conducted by The Futures Group International, under a sub-contract with Clapp and Mayne, Inc.

Clapp and Mayne, Inc.

PROYECTO DE APOYO A LA SALUD REPRODUCTIVA Y POBLACION

The Futures Group International

y

Research Triangle Institute

Julio de 1994 - Julio de 1996

A solicitud de USAID/San Salvador y bajo un subcontrato con Clapp y Mayne, The Futures Group International (TFGI) and Research Triangle Institute (RTI) implementaron un programa de asistencia técnica en las áreas de salud reproductiva y población en diferentes instituciones gubernamentales y no gubernamentales de El Salvador. Durante los dos años del proyecto, se desarrollaron sistemas de información para apoyo en la toma de decisiones, modelos para la evaluación de alternativas programáticas, análisis de información secundaria para la identificación de problemas prioritarios y discusión de soluciones, elaboración de presentaciones gráficas para llamar la atención sobre la situación de salud y población y fortalecimiento de la capacidad institucional en el uso de las diferentes herramientas que posibilitan la toma de decisiones sobre la base de un uso adecuado de la información. Las contrapartes de las diferentes actividades que comprendió el proyecto fueron el Ministerio de Salud Pública y Asistencia Social, el Ministerio de Planificación (después Ministerio de Coordinación del Desarrollo Económico y Social), la Oficina del Presidencia, la Dirección General de Estadística y Censos (DIGESTYC) y la Asociación Demográfica Salvadoreña (ADS).

I. ACTIVIDADES Y MÉTODOS DE TRABAJO

Fase 1 (18 de Julio de 1994 - 28 Febrero 1995)

Fortalecimiento de las capacidades en materia de política de población (TFGI y RTI)

Esta actividad se desarrolló durante toda la primera fase del proyecto, tuvo como propósito hacer un análisis de las diferentes instituciones involucradas en la formulación, ejecución y evaluación de las políticas de población, a fin de recomendar a cuáles instituciones USAID podría orientar sus recursos para fortalecimiento de las capacidades en materia de política de población.

El momento en que se inició esta actividad era desde el punto de vista técnico, muy propicio en El Salvador, pues existía una Comisión Nacional de Población (CONAPO), cuyo Comité Técnico (COTEPO) funcionaba en el (ex) Ministerio de Planificación. Esta Comisión había formulado el año anterior la Política Nacional de Población, en la necesidad de reorientar la anterior política de 1974 en vista de los cambios demográficos que el país había experimentado como resultado de los años de guerra, y como parte de los cambios que requería el proceso de pacificación. Esta misma Comisión había estado encargada de formular la posición del país

para la Conferencia Internacional sobre Población y Desarrollo (CIPD) realizada en El Cairo, la cual figura en el Plan Nacional de Acción en Población.

Desde el punto de vista político la situación no era muy favorable por las declaraciones públicas en contra de ciertos aspectos de la CIPD que fueron formuladas por altas autoridades del gobierno. De otro lado, se inicia un proceso de reformas a nivel del sector público que tornaba inestable cualquier tipo de institucionalidad, y que hacían que cualquier tipo de fortalecimiento dirigido a instituciones del sector público pudiese terminar en un esfuerzo poco rentable.

El proyecto realizó visitas, recogió opiniones y promovió discusiones en diferentes instituciones públicas y privadas -Ministerios, Comisiones, entidades académicas y ONGs-. Se analizaron las fortalezas y debilidades observadas en las diferentes instituciones y se recomendó fortalecer a la Dirección de Población y Políticas Sociales (DPPS) del Ministerio de Planificación, sin descuidar el apoyo a otras instituciones vinculadas con la política de población, como el Ministerio de Salud Pública y Asistencia Social (MSPAS), la Dirección de Estadística y Censos (DIGESTYC) y la Asociación Demográfica Salvadoreña (ADS).

Como parte de esta recomendación se elaboró un plan de trabajo que incluía actividades de fortalecimiento a la DPPS y que promovía además la participación de otras instituciones que se beneficiarían a través de actividades de capacitación y la reactivación de una instancia para la discusión de un Plan de Acción en Población actualizado.

La DPPS continuaría las actividades del COTEPO que fue disuelto a fines del 94, y promovería la reactivación de la CONAPO. Entraba como directora de COTEPO una profesional de elevado nivel técnico y además se quedaban varios de los funcionarios anteriores del COTEPO.

De otro lado, como parte de esta actividad se entregaron a USAID y Clapp & Mayne 5 reportes sobre políticas relacionadas con la población, salud, educación, preparados por Multipros Consultores.

Asistencia al Ministerio de Salud en la evaluación de la situación actual de salud reproductiva y planificación familiar en El Salvador

Esta actividad se desarrolló durante toda la primera fase del proyecto, y dado el interés generado continuó también durante la segunda fase. Comprendió el análisis de los diferentes datos sobre salud reproductiva y población que permitiesen hacer una evaluación de la situación del país y sus regiones, resaltando los problemas más importantes a nivel nacional y de cada región. El análisis se basó en los datos de la Encuesta Nacional de Salud Familiar de El Salvador (FESAL), realizada por la Asociación Demográfica Salvadoreña (ADS) en 1993. Esta encuesta permite tener datos confiables sobre fecundidad, planificación familiar y salud de la madre y el niño, a partir de una muestra nacional y que es representativa a nivel de las cinco grandes regiones del país.

1. Presentación gráfica sobre la situación general de salud y población en El Salvador (TFGI)

Esta presentación sobre la situación de salud y población en El Salvador, comprende un análisis muy riguroso acerca de la fecundidad, mortalidad infantil, uso de anticonceptivos, atención de la madre y el niño, sus diferenciales urbano-rural y las asociaciones más importantes con las condiciones de vida en general. Presenta los logros más importantes en materia de salud reproductiva y salud infantil, así como las necesidades más urgentes especialmente en lo que se refiere a planificación familiar. Comprende 68 láminas desarrolladas en Power Point, que fueron presentadas y discutidas en diversas instituciones.

Los productos específicos fueron:

- 1 diskette conteniendo la presentación, entregados a USAID, Clapp & Mayne y ADS
- 1 conjunto de diapositivas a color, entregados a Clapp & Mayne y USAID
- 1 conjunto de transparencias a color, entregado a Clapp & Mayne
- 25 copias del documento, entregadas a USAID, Clapp & Mayne, Ministerio de Salud Pública y Asistencia Social, (ex) Ministerio de Planificación (después Ministerio de Coordinación del Desarrollo Económico y Social) y ADS

2. Presentación gráfica sobre análisis comparativo de salud y población en las 5 regiones del país (RTI)

A solicitud del Ministerio de Salud, Dr. Eduardo Interiano, se realizó el análisis de los datos de salud reproductiva y planificación familiar de las cinco regiones de salud de El Salvador utilizando los datos de la encuesta FESAL 93. Se prepararon cinco presentaciones gráficas, una por cada región, cubriendo las características generales de la región, las tendencias de nupcialidad y fecundidad, el uso de métodos anticonceptivos, la situación de salud reproductiva, las características de la mortalidad infantil y la necesidad no satisfecha de planificación familiar.

Estas presentaciones fueron muy bien recibidas por el Ministro, la Vice Ministra y otras autoridades del Ministerio de Salud Pública. Motivaron la discusión acerca de la situación de salud reproductiva y planificación familiar en las diferentes regiones del país. Los gráficos comparativos resaltan las diferencias en las condiciones de salud entre las cinco regiones.

Los productos específicos fueron:

- 5 diskettes conteniendo las 5 presentaciones gráficas, entregadas a Clapp & Mayne y MSPAS
- 3 copias impresas de cada region, entregadas a Clapp & Mayne, MSPAS y USAID
- 1 juego de diapositivas de cada region, entregados a Clapp & Mayne

Asistencia al Ministerio de Salud en el desarrollo de un plan coherente para la privatización de los programas de planificación familiar en El Salvador

Esta actividad se desarrolló durante toda la primera fase del proyecto y tuvo como propósito apoyar el análisis de las condiciones relacionadas con un supuesto proceso de privatización de los servicios de planificación familiar en el país. Comprendió el análisis de la distribución de recursos públicos y privados disponibles para la entrega de servicios de planificación familiar, así como el análisis de diferentes escenarios de entrega de servicios por instituciones del sector público y privado.

1. Desarrollo de la primera versión del Sistema Geográfico de Información (RTI)

En una reunión con el Dr. Isuzi, Director de la Asociación Demográfica Salvadoreña (ADS), él informó que el Ministerio de Salud tenía en mente la privatización de todos los servicios de planificación familiar del país. Expresó su preocupación de que ADS no estuviese en condiciones de asumir este proceso sin un análisis cuidadoso de los recursos disponibles y los mecanismos de implementación de esta política.

Sobre la base de esta inquietud, RTI sugirió el desarrollo de un Sistema de Información Geográfica (SIG) para el sector salud en El Salvador. El SIG tendría tres ejes principales: temático, de indicadores y de recursos humanos y de infraestructura. Esta información correspondiente a todos los subsectores de salud: Ministerio de Salud Pública, Instituto Salvadoreño de Seguridad Social (ISSS), ADS y otras ONGs de salud, sería mapeada en forma computarizada. Resultaría en una herramienta muy útil para: (a) el análisis de la distribución espacial de los recursos de salud, (b) la identificación de necesidades a partir del análisis espacial de los recursos, y c) el desarrollo de una estrategia de privatización a partir de la comparación de recursos de los sectores público y privado.

Se desarrolló una primera versión del SIG para el sector salud, tomando las regiones de salud como unidad geográfica de análisis. Posteriormente, a solicitud del Ministerio de Salud, se desarrolló una segunda versión del sistema, utilizando como unidad de análisis los Departamentos, los cuales permiten una mejor visión de la política de descentralización del sector (ver descripción en Fase II).

Los productos específicos de esta actividad fueron:

- 1 diskette conteniendo la aplicación, entregado a USAID, C&M, ADS, DPPS y MSPAS
- 1 curso de adiestramiento en el uso del SIG dirigido a los técnicos de USAID, ADS, y MSPAS
- 1 manual del usuario, entregado a USAID, C&M, ADS, DPPS y MSPAS

2. Aplicación del modelo TARGCOST (TFGI)

Esta actividad consistió en el diseño de diferentes escenarios de entrega de servicios de planificación familiar, que simulasen la transferencia de actividades desde el sector público (MSPAS) al sector privado (ADS). En la elaboración de escenarios se contó con la participación activa del personal directivo y técnico de ADS. Tres escenarios fueron definidos

con el objeto de estimar el número de usuarias nuevas y subsecuentes e insumos anticonceptivos para el período 1993-2003, asumiendo una meta de satisfacción de necesidades de la población en riesgo. Los escenarios asumieron que ADS podría ser capaz de entregar todos los métodos temporales que provee el Ministerio, simulando una transferencia gradual por regiones.

Se realizó una presentación computarizada de los resultados de las diferentes simulaciones a la Junta Directiva de ADS, quienes aportaron con recomendaciones para la redacción del informe final. Asimismo, el personal técnico de ADS fue capacitado en el manejo del modelo TARGCOST.

Los productos específicos de esta actividad fueron:

- 1 informe con la descripción de las simulaciones, resultados de la aplicación y discusión de las implicancias políticas de un proceso de transferencia. Este informe fue entregado a USAID, Clapp & Mayne y ADS.
- 1 curso de entrenamiento en el manejo del modelo TARGCOST dirigido a los técnicos de ADS. Además se entregaron copias del manual y el programa a USAID, Clapp & Mayne y ADS.

Apoyo a la misión de USAID y el Ministerio de Salud en la orientación de las preguntas sobre población y planificación familiar presentadas por CNN (TFGI)

Esta actividad consistió en un apoyo directo a la Misión de USAID que se realizó durante los primeros meses del proyecto. El producto de esta actividad fue un cuestionario de preguntas resueltas que fue entregado a la Misión.

Desarrollo de una herramienta para acceder fácilmente a los datos de la FESAL 93 (TFGI)

Esta actividad fue desarrollada en los últimos meses del proyecto con el propósito facilitar a diferentes tipos de usuarios el acceso a los datos de FESAL. Hasta ese momento, un usuario interesado debía recurrir a los tabulados impresos o solicitarlos a ADS, con los costos de tiempo y recursos que ello representaba. Con dicha finalidad se trabajó en la adecuación del programa EASEVAL a las características de la Encuesta Nacional de Salud Familiar de El Salvador (FESAL 93). El EASEVAL es un software que permite obtener tabulaciones e indicadores de las encuestas tipo DHS, mediante instrucciones muy sencillas que pueden ser manejadas con facilidad por personas que tienen a su cargo la toma de decisiones sobre política de población y salud reproductiva, sin necesidad de tener ningún conocimiento de computación. Los productos específicos de esta actividad, entregados a USAID, Clapp & Mayne, DPPS y ADS, fueron:

- 1 software para la obtención de tabulados e indicadores de FESAL 93, con manual para el usuario y diccionario de variables (diskettes y documentación)
- 1 curso de entrenamiento en el manejo de EASEVAL dirigido a los técnicos de ADS.

Fase 2 (01 Marzo de 1995 - 31 Julio 1996)

En marzo de 1995 se aprobó la segunda fase de este contrato, como una extensión de la primera fase, con lo cual se programó la continuación de ciertas actividades y se diseñó otras nuevas, involucrando como contrapartes a la Presidencia, al Ministerio de Salud Pública y Asistencia Social, a la Dirección de Población y Políticas Sociales (DPPS) del Ministerio de Planificación, a la Dirección de Estadística y Censos (DIGESTYC) y a la Asociación Demográfica Salvadoreña (ADS).

El diseño del plan de trabajo para la segunda fase del proyecto se basó en los resultados de la fase anterior y en las solicitudes formuladas por las diferentes instituciones involucradas. Este plan fue discutido y formulado durante el mes de Marzo de 95. En él se consideró el pedido de asistencia técnica de la la Presidencia para el diseño e implementación de un Sistema Ejecutivo de Información en las áreas de población y salud reproductiva, el cual finalmente no llegó a concretarse.

La DPPS, de otro lado solicitó apoyo (1) para la actualización del Plan de Acción en Población y la formulación de una metodología para el seguimiento y evaluación de dicho plan, así como la incorporación del componente de población en el Plan Quinquenal de Desarrollo; (2) en el área de procesamiento de datos de censos y encuestas de hogares para contar con información que apoye el análisis de políticas; (3) para la elaboración de proyecciones de población a nivel nacional y departamental; y (4) capacitación del personal en el manejo de instrumentos para análisis de datos y presentaciones.

Igualmente se recogió el interés del Ministerio de Salud para el desarrollo de sus sistemas de información en apoyo a las políticas de descentralización y privatización en el área de salud reproductiva. Ello comprendió el análisis y presentación de datos sobre salud reproductiva, el desarrollo de un sistema de información geográfica y la implementación de un modelo de planificación familiar, todo a nivel departamental. Con ADS se efectuaron actividades similares a las del MSPAS, y además se promovió su participación en el programa de capacitación que se desarrollaría con la DPPS.

Todas las actividades propuestas estaban relacionados y en todas participaron más de una institución. Los resultados de unas actividades fueron insumos para otras, y las capacitaciones permitieron una efectiva participación del personal de las diferentes instituciones comprometidas. La DPPS del Ministerio de Planificación fue en un inicio la institución que coordinó el desarrollo de todas las actividades y la responsable de tomar los diferentes resultados como insumos para la formulación del Plan de Acción en Población del país.

Desarrollo del modelo TARGET a nivel departamental (TFGI)

Esta actividad se desarrolló durante los últimos meses del proyecto. Comprendió la recolección de datos sobre planificación familiar tomando como base alguna información de la FESAL 93 y las estadísticas de servicios del Ministerio de Salud Pública correspondientes al año 94. Con estos datos se construyó un modelo que muestra proyecciones tendenciales de

usuarias nuevas y continuadoras y requerimientos de planificación familiar, por departamento entre 1995 y el 2005. El modelo empleado es una variante del TARGET que corre en el ambiente de programación HOST. HOST es un software de programación y manejo de modelos desarrollado por RTI sumamente útil para trabajar simultáneamente a nivel subnacional.

Los productos específicos de esta actividad fueron:

- 1 manual del usuario, entregado a Clapp & Mayne, USAID y la Dirección de Salud Reproductiva del Ministerio de Salud Pública
- 1 diskette con la aplicación del modelo a nivel departamental, insumos y resultados, entregado a Clapp & Mayne, USAID y la Dirección de Salud Reproductiva del Ministerio de Salud
- Entrenamiento de funcionarios de la Dirección de Salud Reproductiva y la Oficina de Estadísticas del Ministerio de Salud

Desarrollo de un Sistema de Información Geográfica (RTI)

En la Fase II del proyecto se desagregó la información hasta el nivel departamental. Esto significó: 1) añadir la opción que permite seleccionar departamentos o zonas específicas (al interior de la Capital), y 2) agregar un mapa por Municipios a fin de ver la infraestructura, recursos humanos y población dentro de los límites municipales, aumentando la capacidad visual de los mapas y los datos por Región, Departamento y Municipio. También se mejoró la capacidad de ayuda interactiva, se aumentaron funciones como la opción de colocar los nombres de los Municipios y los Departamentos, se mejoraron las posibilidades de impresión y se agregaron las organizaciones no gubernamentales del consorcio de planificación familiar y salud reproductiva, Proyecto de Salud Materna y Supervivencia Infantil (PROSAMI). Durante la Fase I, se encontró que para el Ministerio de Salud Pública y el Instituto de Seguridad Social era imposible extraer los servicios de planificación familiar y salud reproductiva, por cuanto se encontraban integrados a los servicios generales de salud.

En la Fase II se mejoró enormemente la utilidad de esta herramienta. El resultado final es un SIG fácil de usar, que permite el análisis espacial de todos los servicios de salud que ofrecen las cuatro instituciones de salud reproductiva y planificación familiar más grandes del país. Un analista puede examinar los indicadores y estadísticas de una sola institución o comparar los datos entre diferentes instituciones. También tiene la posibilidad de examinar las relaciones entre las tres variables: población, recursos humanos e infraestructura, creando indicadores como el número de médicos por habitante. Esta herramienta también puede ser usada para mejorar la coordinación entre las diferentes instituciones involucradas. Mediante el empleo de esta herramienta, los administradores y tomadores de decisión pueden estar informados de la situación de salud del país a fin de plantear políticas para mejorarlas.

Los productos específicos de esta actividad fueron:

- 1 diskette con el SIG, entregados a USAID, C&M, y MSPAS

- 1 manual del usuario, entregados a USAID, C&M, y MSPAS
- 1 curso de entrenamiento en el manejo del SIG dirigido a los técnicos del Sección de Informatica y Estadística de MSPAS (Febrero 1996)
- 2 cursos de entrenamiento en el manejo del SIG dirigido a los técnicos del MSPAS (Julio 1996)
- 1 curso de entrenamiento en introducción a la programación de mapas dirigido a los técnicos del MSPAS (Julio 1996)

Situación de la Salud Reproductiva en El Salvador (RTI)

Cuando el Ministerio de Salud Pública cambió el enfoque de atención de salud desde Regiones a Departamentos, se sugirió replicar con datos de los 14 Departamentos el análisis gráfico sobre planificación familiar y salud reproductiva realizado a nivel de las 5 regiones de salud. Con este propósito se efectuó un análisis exhaustivo de la FESAL 93 a nivel departamental. En algunos casos no fue posible estimar los indicadores debido al tamaño de la muestra, en otros, se emplearon técnicas analíticas especiales para derivar los indicadores a nivel departamental.

La primera presentación gráfica realizada sobre el Departamento de Santa Ana fue presentada al Ministro y a la Vice Ministra de Salud. Sorpresivamente, el Ministro reaccionó negativamente a esta presentación, señalando que los datos de la FESAL 93 estaban errados, y que cualquier análisis a partir de éstos era totalmente inútil. Debido a esta reacción, se decidió no efectuar las otras 13 presentaciones gráficas previstas.

Los productos específicos de esta actividad fueron:

- 1 diskette con la presentación de Santa Ana, entregado a MSPAS y Clapp & Mayne
- 2 copias impresas de la presentación, entregadas a MSPAS y Clapp & Mayne

Proyecciones de Población (TFGI)

Esta actividad se coordinó durante la segunda fase del proyecto con el propósito de apoyar a DIGESTYC en la elaboración de proyecciones nacionales, departamentales y municipales de población, por sexo y edades. Este tipo de información es de gran utilidad para el planeamiento de las actividades de salud reproductiva del Ministerio de Salud Pública pues proporciona proyecciones de las poblaciones objetivo, a partir de las cuales se programa la asignación de recursos del sector.

Como parte de esta actividad se realizó un curso de proyecciones de población, utilizando el modelo NPROJ que corre en el ambiente de programación HOST. En este curso participaron funcionarios de la Oficina de Estadísticas del Ministerio de Salud y de la DIGESTYC.

El otro componente de esta actividad no se pudo concretar porque en un intento por coordinar con DIGESTYC y las otras agencias cooperantes que le brindan asistencia técnica, no se pudo contar con los datos de insumo para la proyección. Igualmente, el contenido de los perfiles

poblacionales que debía incluir los resultados de las proyecciones de población, tuvo que ser modificado ante la falta de estos datos.

Los productos específicos de esta actividad fueron:

- 1 curso de proyecciones de población y manejo del modelo NPROJ desarrollado en Mayo de 1996 durante 5 días en las aulas de computación de la Universidad Politécnica, contó con la participación de 11 personas. El material de este curso fue entregado a Clapp & Mayne
- 180 reproducciones de la serie *Perfiles de Población* que comprende 14 volúmenes, uno por departamento. Se envió una copia de esta serie a Clapp & Mayne y USAID. Se está enviando las reproducciones a la Oficina de Estadísticas del Ministerio de Salud

Capacitación de Personal

1. Taller de capacitación en el manejo de SPSS para Windows (TFGI)

El propósito de este curso fue fortalecer la capacidad de análisis de datos estadísticos procedentes de encuestas y bases censales a fin de promover su utilización en el proceso de toma de decisiones y formulación de políticas. Se realizó en Agosto de 1995 en las aulas de computación de la Universidad Politécnica y tuvo una duración de 5 días. Fue convocado por la DPPS del Ministerio de Planificación, y contó con la participación de 10 personas, provenientes de la DPPS, de la Presidencia, del Ministerio de Salud y de ADS. El material de este curso, manuales y ejercicios, fue entregado a Clapp & Mayne. Se entregó a las instituciones participantes el paquete de computación utilizado durante el curso.

2. Taller de capacitación en la evaluación y análisis de datos demográficos (TFGI)

Este curso tuvo el mismo objetivo de fortalecer la capacidad de análisis de datos estadísticos, especialmente los relacionados con población, así como la construcción de indicadores demográficos. Se realizó en Octubre de 1995 en las aulas de computación de la Universidad Politécnica y tuvo una duración de 5 días. Fue convocado por la DPPS del Ministerio de Planificación, y contó con la participación de 7 personas, provenientes de la DPPS, de la DIGESTYC, del Ministerio de Salud y de ADS. En este curso se utilizó software de TFGI, Bureau of Census y Naciones Unidas, copia de los cuales se entregó a los participantes. El material de este curso, manuales y ejercicios, fue entregado a Clapp & Mayne.

3. Talleres de capacitación en el desarrollo de presentaciones gráficas (RTI)

El consultor de RTI, Roberto Nuñez entrenó a 15 personas de cinco instituciones en el "Desarrollo de Presentaciones Gráficas usando Microsoft PowerPoint™." El curso, de cinco días de duración -4 a 5 horas cada mañana- fue realizado en las aulas de computación de la Universidad Politécnica en Abril de 1995. Los participantes fueron funcionarios del Ministerio de Planificación, Ministerio de Salud, Oficina de la Presidencia, DIGESTYC y ADS. Los

participantes adquirieron conocimientos básicos del sistema operativo Windows, del paquete de presentaciones PowerPoint™ y técnicas de presentación y uso de computadoras.

El segundo curso sobre presentaciones gráficas se realizó en Julio de 1995. La consultora de RTI, Lic. María Claudia De Valdenebro, enseñó el uso de PowerPoint® para técnicas avanzadas de diseño y presentación a 10 personas de cinco instituciones. Las clases durante cinco días -4 a 5 horas cada mañana- fueron realizadas en las aulas de computación de la Universidad Politécnica. Los temas incluyeron el desarrollo de gráficos, diseño y técnicas de presentación. Los participantes fueron funcionarios del Ministerio de Coordinación del Desarrollo (ex MIPLAN), Ministerio de Salud, Oficina de la Presidencia, DIGESTYC y ADS. Los participantes eligieron un tema de interés y trabajaron durante la semana una presentación gráfica que fue mostrada en clase durante el último día. Además de las clases programadas, De Valdenebro guió de manera individual a los alumnos durante la preparación de sus presentaciones, fortaleciendo las áreas específicas que requería cada participante.

El tercer curso de esta serie se realizó en Julio de 1996. El objetivo final de este entrenamiento fue desarrollar una presentación en pantalla basada en el material que los participantes usarían en sus centros de trabajo. Para lograr este propósito, algunos de los participantes trabajaron voluntariamente en las tardes. Su interés les permitió desarrollar habilidades avanzadas en el uso del software, particularmente en el desarrollo de gráficos, trabajo con plantillas y la preparación de las presentaciones en pantalla. Los participantes también aprendieron a interactuar con otro software, como es Word 7.0. Esta habilidad les ayudará a preparar mejores folletos, informes y cualquier otra publicación hecha en Power Point y trasladada a Word. En este caso, ellos podrán usar sus habilidades para hacer impresiones a color o en blanco y negro.

El trabajo de los participantes durante el tercer taller, la evaluación que hicieron del mismo y su presentación final mostró no sólo que aprovecharon bien el entrenamiento, sino sobre todo, que podrán continuar usando el software en su trabajo cotidiano. Ellos encontraron que el Power Point es muy útil para las diferentes tareas que realizan, especialmente para aquellos que continuamente tienen que presentar resultados o incorporar nuevas tendencias en el trabajo. Sin ninguna duda, ellos estarán en condiciones de preparar presentaciones en pantalla y en diapositivas.

Además de los tres cursos en manejo de presentaciones, se trabajó con la Oficina de Estadística del Ministerio de Salud en la preparación del "Anuario de Estadísticas de Salud de El Salvador" para su impresión. Esta publicación reúne toda la información estadística de 1995 y el primer semestre de 1996, por departamentos. Contiene cinco capítulos y aproximadamente 120 páginas, de las cuales 20 son a color.

Políticas de Población y Desarrollo (TFGI)

A mediados de 1995, se estableció un primer contacto con la Directora del Departamento de Políticas de Población y Políticas Sociales (DPPS) del Ministerio de Planificación y Coordinación (MIPLAN). El propósito de este intercambio fue identificar posibles líneas de

acción y colaboración para proveer asistencia técnica a MIPLAN en el área de política de población. Como resultado se identificó la necesidad de revisar y actualizar el Plan Nacional de Acción en Población de 1993 -PNAP-.

La DPPS identificó y estableció una serie de lineamientos estratégicos que debían cumplirse en el proceso de revisión y readecuación del PNAP. Estos fueron: a) debe reflejar los objetivos de la Política Nacional de Población de 1993; b) sus componentes deben ser aquellos en los cuales el Ministerio de Planificación pueda realmente ejercer una función coordinadora y de seguimiento; c) no es necesario que incluya todos los componentes de la Política Nacional de Población, la cual abarca casi todas las áreas del Plan Nacional de Desarrollo Económico y Social; d) el PNAP debe ser específico de los problemas demográficos, especialmente aquellos relacionados con la salud reproductiva, la fecundidad, la mortalidad y la migración interna e internacional. De esta manera el PNAP sería complemento de la Plan Nacional de Desarrollo Económico y Social, mediante el enfoque de los aspectos demográficos, los cuales no estaban contenidos en el último.

Paralelamente, la DPPS se encontraba impulsando la reactivación de la Comisión Nacional de Población -CONAPO-, órgano rector de las políticas de población y del Comité Técnico de Población -COTEPO-, ente asesor y normativo de la Política Nacional de Población-. Ambos habían estado inactivos por algún tiempo y dado que su coordinación era competencia de MIPLAN, la DPPS asumió este rol. Como estrategia se planteó que la actualización del PNAP, permitiría fortalecer ese proceso, debido a la activa participación que debían tener CONAPO y COTEPO en este proceso, junto a la DPPS y con la asistencia técnica de RAPID IV. Se definió un programa inicial de trabajo con la DPPS y se procedió con los análisis preliminares y pertinentes que permitieran hacer una primera propuesta de revisión a CONAPO y COTEPO.

Sin embargo, este componente no estuvo exento al efecto de los eventos políticos y otros ajenos al proyecto. A finales de 1995, por reestructuración del Gobierno, el Ministerio de Planificación fue cerrado y desapareció la Dirección de Políticas de Población y Sociales (DPPS) y con ello la contraparte principal de este componente de políticas de población. A esta situación se sumó la orden que emitiera el Ministro de Salud de suspender todo tipo de actividad del Proyecto RAPID IV, obviamente por razones ajenas al proyecto.

El esfuerzo por reactivar CONAPO y COTEPO quedó a la deriva y ninguna otra instancia gubernamental competente en el tema de población, retomó la responsabilidad de coordinar a estos grupos, situación que hasta la fecha no se ha dado. En relación con la actualización del PNAP, esta no llegó a su fase final porque sin la participación y concertación de los órganos antes mencionados, como rectores y asesores de la Política Nacional de Población en El Salvador, no sería válido el ejercicio.

Asimismo existió alguna iniciativa de reenfocar el trabajo hacia el tema de política nacional de salud reproductiva, no obstante las restricciones impuestas por el Ministro de Salud, no permitieron que esta idea se transformara en realidad, a pesar de existir un interés genuino en los niveles programáticos del Ministerio de Salud.

Dentro de este contexto, el análisis y la propuesta que se realizaron conforman un documento de trabajo. Tiene como propósito avanzar y contribuir en el proceso de revisión y reformulación del PNAP de El Salvador. Mediante la elaboración de este marco de referencia, se cuenta con la base para las acciones futuras de CONAPO y COTEPO.

El producto específico de esta actividad fue:

- Borrador de una propuesta para la revisión del Plan Nacional de Acción en Población entregado al Ing. Carlos Castaño, C&M.

Sistema Ejecutivo de Información para la Presidencia (RTI)

Esta actividad fue cancelada debido a la falta de interés de parte de la Oficina de la Presidencia (ver la discusión acerca de problemas y demoras en la parte II del presente informe).

Interfase para el Censo de Población (RTI)

Durante muchos años, uno de los mayores problemas en los países en desarrollo fue la falta de información. Actualmente, este ya no es un problema pues en muchos, sino en todos los países, la disponibilidad de información es significativa. El problema actual es el poco uso que se le da a los datos, especialmente en los altos niveles de decisión. Dos consecuencias paradójicas son que: a) el retorno (uso de datos para una toma de decisiones informada) de la considerable inversión de recursos para recoger datos es muy pequeño, y que b) las decisiones claves de política usualmente se efectúan sin un buen conocimiento del problema y las posibles alternativas que resultan del uso inteligente de información de buena calidad.

Una solución a este dilema ha sido el desarrollo de Sistemas Ejecutivos de Información (SEI). Un SEI es un programa de computación conectado a una o más bases de datos cuyos usuarios son tomadores de decisión de alto y medio nivel. Un SEI tiene las siguientes características: a) es muy fácil de usar, es decir, puede ser usado por personas sin ningún conocimiento de computación, y b) sirve como un filtro de la información contenida en la(s) base(s) de datos, permitiendo a los tomadores de decisión encontrar sin dificultad la información que necesitan.

A solicitud de la Dirección General de Estadística y Censos (DIGESTYC), se decidió desarrollar un SEI con el Censo de Población y Vivienda de 1992. Todas las tablas del censo fueron procesadas a nivel nacional, departamental y municipal, y luego convertidas al estándar HTML para Internet. Asimismo, fueron diseñados gráficos que acompañen a las tablas, y también convertidos al estándar HTML. Esta base de datos y el SEI fueron almacenados en un CD-ROM.

El SEI se inicia con un mapa de El Salvador y sus 14 Departamentos. El usuario señala fuera del mapa para obtener resultados a nivel nacional y sobre un Departamento si desea resultados para dicho Departamento. El mapa del Departamento señalado, con todos sus Municipios, aparece en pantalla. Señalando fuera del mapa departamental, se obtiene tablas y gráficos del Departamento, y señalando a un Municipio se obtiene datos para el referido Municipio. Las opciones son tablas o gráficos, y en cada caso aparece una lista de tablas o gráficos ordenados por tema. Señalando

cualquiera de ellos, los resultados aparecen en pantalla. Todas las tablas o gráficos pueden ser impresos y enviados automáticamente por Internet, lo que los hace accesible al mundo entero. Los resultados pueden también ser generados a nivel urbano o rural de las diferentes divisiones geográficas.

El SEI tiene varias ventajas, empezando porque su distribución es fácil y de muy bajo costo. Producidos en cantidad, el costo de un CD-ROM es menos de cinco dólares, y los requerimientos de computación son: una computadora 386 como mínimo, una disketera para CD-ROM, Windows 3.1 y acceso a Web. Segundo, sus resultados pueden ser enviados automáticamente por Internet, con una consiguiente expansión de usuarios potenciales. Tercero, esta herramienta va a permitir un significativo incremento del uso de datos censales. Cuarto, la posibilidad de generar datos a nivel Municipal permite acceder a información clave en países con sistemas administrativos descentralizados. Quinto, es más conveniente solicitar la tabla que uno necesita en vez de buscarla en los 15 volúmenes censales publicados. Sexto, es mucho más fácil agregar nuevas tablas bajo este formato, que agregarlas a los informes ya publicados.

Los productos específicos de esta actividad fueron:

- 1 manual del usuario y descripción técnica, entregado a DIGESTYC y C&M
- 1 capacitación introductoria al SEI realizada en DIGESTYC, Julio 1996
- 1 CD-ROM con la aplicación, entregado a DIGESTYC, USAID y C&M

II. PROBLEMAS Y TARDANZAS DURANTE LA IMPLEMENTACIÓN DEL PROYECTO

El proyecto tuvo que enfrentar diversos problemas durante su implementación. Durante la primera fase, la oficina de la Presidencia de la República manifestó su interés en el proyecto, específicamente para el diseño e implementación de un Sistema Ejecutivo de Información en las áreas de población y salud reproductiva. Este sistema tendría dos aplicaciones: herramienta de política para el proceso de descentralización y modernización del Estado y herramienta de evaluación para el monitoreo de las metas de población y salud reproductiva del Plan Quinquenal de Desarrollo. Se sostuvo varias reuniones con el Sr. Benjamín Sestoni, Secretario de la Presidencia, pero el interés manifiesto nunca se formalizó a través de un pedido de asistencia. Como resultado, el desarrollo de un Sistema Ejecutivo de Información en población y salud, fue eliminado en el mes de Mayo por falta de interés de quienes inicialmente solicitaron este apoyo.

En Junio de 1995 se dieron algunos cambios en la DPPS, específicamente el cambio de nombre del Ministerio de Planificación por el de Ministerio de Coordinación del Desarrollo Económico y Social. Este cambio aparentemente no afectaría las actividades del proyecto ya iniciadas, pues se mantendría la DPSS, la jefatura y las funciones que hasta la fecha tenía a su cargo. Sin embargo en Noviembre ya se sabía de la disolución de este nuevo Ministerio y la posible reubicación de la DPPS en algún otro organismo, probablemente la Presidencia, con poca precisión acerca de las funciones que tendría a su cargo.

Consecuentemente, una de las actividades que tuvo una seria interrupción fue la que se refiere al Plan de Acción en Población, pues prácticamente en Diciembre se truncó cualquier posibilidad de continuar trabajando con la DPPS, pues ya no existía como entidad. Así se estudió la posibilidad de trasladar este esfuerzo al desarrollo de un plan de Salud Reproductiva; sin embargo fue muy difícil contactar con una posible contraparte como sería la Dirección de Salud Reproductiva del Ministerio de Salud Pública. Durante los primeros meses de 1996 ocurrieron importantes cambios en la Oficina de Salud Reproductiva, pues se dió una reducción de personal en 70% y no tuvo Director durante los primeros meses del año. Este inconveniente además redundó en el atraso de la discusión de las aplicaciones del modelo TARGET a nivel regional y no permitió la discusión acerca del programa de salud reproductiva. Es recién en Mayo del 96 que se cuenta con la autorización de la Vice Ministra de Salud, a través del Director de Epidemiología para iniciar un contacto con la Directora de Salud Reproductiva.

Un hecho no relacionado con el proyecto originó en Noviembre del 95 una suspensión de actividades por orden del Ministro de Salud Pública. La preocupación del Ministro era que el proyecto pudiera dirigir la mayor parte de sus esfuerzos a apoyar al Ministerio, especialmente en las áreas de estadísticas e informática, y que se interrumpiese cualquier apoyo a otras instituciones especialmente la DPPS y ADS. Como resultado de esta interrupción, los meses de Diciembre, Enero y Febrero se dedicaron a la elaboración de un plan de trabajo que pudiese satisfacer los requerimientos del Ministro de Salud, quien delegó cualquier decisión a su Vice-Ministra.

En Febrero de 1996 se contaba ya con un Plan de Actividades reformulado de acuerdo al cual se continuó trabajando en algunas de las actividades. El avance de las actividades con el Ministerio de Salud encontró muchos obstáculos, pues la Vice-Ministra tenía que autorizar la reunión con cualquier funcionario y éstos tomaban sus decisiones sólo después de consultar con ella. En diversas ocasiones, el diseño de una actividad del proyecto previamente acordada con algún funcionario del Ministerio de Salud tuvo que ser totalmente cambiada o revisada desde su inicio después de que dicho funcionario fuera reemplazado por otra persona.

Después de mucho trabajo, el proyecto consiguió el fuerte apoyo del Dr. Rafael Garcia Castro, asesor del Ministro y encargado del Grupo Reforma de Salud. Con la reasignación del Dr. Castro, el proyecto perdió durante un tiempo el apoyo que contaba al interior del Ministerio. La disolución del Grupo Reforma resultó en que el equipo de computación adquirido y entregado a dicha instancia pasase a otras áreas del Ministerio con las cuales el proyecto no tenía ninguna relación.

En relación a la actividad sobre Proyecciones de Población, que también se iba ejecutar con la DPPS y DIGESTYC, se encontró a mediados del año 95 que otra agencia cooperante estaba realizando una actividad similar, con lo cual se tuvo que modificar algunos de los productos formulados bajo esta actividad, concentrándose en lo que es capacitación, manejo de modelos especializados, análisis de hipótesis y desagregación de las proyecciones ya elaboradas. Sin embargo, parte de esta trabajo no se pudo concretar porque DIGESTYC rechazó los resultados de las proyecciones realizadas por la otra agencia cooperante e inició un nuevo trabajo de proyecciones con UNFPA/CELADE y a la fecha de culminación del presente proyecto, aún no han elaborado los insumos para la proyección, con lo cual no se puede hacer la desagregación por municipios planteada. Otro producto de este proyecto, los perfiles poblacionales, se basaba en parte en las proyecciones de población, ante la ausencia de las cuales su contenido se vería limitado a un análisis de datos retrospectivos.

Todos los problemas mencionados afectaron de algún modo los alcances originales del plan del trabajo. Ello pudo ser posteriormente superado acomodando las actividades a los continuos cambios políticos de uno u otro Ministerio, pero a un costo significativo de tiempo, el mismo que se tradujo en demoras en la entrega de los diferentes productos ofrecidos por el proyecto.

III. RECOMENDACIONES PARA SEGUIMIENTO

Una vez iniciado el proyecto, el Gobierno de El Salvador (GOES) implementó una serie de medidas que tuvieron importantes consecuencias para el proyecto. El Ministerio de Planificación fue disuelto y la Unidad de Población, entidad encargada de análisis de políticas de población, dejó de existir. En este momento no existe una entidad gubernamental con el claro mandato de ser responsable de hacer análisis de políticas de población.

El Ministerio de Salud Pública no está apoyando completamente un programa de salud reproductiva y planificación familiar. Esto, a pesar de que en El Salvador los niveles de fecundidad aún son elevados, y más aún, pueden recuperarse como consecuencia del proceso de pacificación y la migración de retorno que favorecen el reencuentro y la estabilidad familiar. En un país territorialmente pequeño, una tasa de crecimiento elevada, puede obstaculizar los esfuerzos de modernización de una economía primario-exportadora con bajos índices de industrialización.

Es necesario iniciar acciones tendientes a formular una política de población acorde con las nuevas condiciones del país; política que debe ser cuidadosamente implementada y monitoreada durante su ejecución. Las instancias gubernamentales y no gubernamentales requieren apoyo en la formulación y monitoreo de estas políticas, así como fortalecimiento de la capacidad institucional para la toma de decisiones sobre la base de un uso adecuado de la información. El desarrollo de sistemas de información para la toma de decisiones, modelos para la evaluación de alternativas programáticas y análisis de información secundaria para la identificación de problemas prioritarios de salud y población siguen siendo las áreas que son necesario fortalecer en El Salvador. Más aún frente a los procesos de modernización del Estado y descentralización, que aunque avanzan muy lentamente, condicionaran un nuevo perfil de la sociedad con nuevas demandas en salud reproductiva y población.

IV. LISTA DE INFORMES, DOCUMENTOS Y GUIAS PRODUCIDOS DURANTE EL PROYECTO

- “Salud Materno-Infantil y Planificación Familiar en El Salvador” Setiembre 1994
- “Proyecciones del Uso de Anticonceptivos en El Salvador 1993-2003” Enero 1995
- “Salud Materno-Infantil y Planificación Familiar en la Región Oriental” Octubre 1995
- “Salud Materno-Infantil y Planificación Familiar en la Región Occidental” Octubre 1995
- “Salud Materno-Infantil y Planificación Familiar en la Región Central” Octubre 1995
- “Salud Materno-Infantil y Planificación Familiar en la Región Paracentral” Octubre 1995
- “Salud Materno-Infantil y Planificación Familiar en la Región Metropolitana” Octubre 1995
- “Sistema Geográfico de Información para el Sector Salud en El Salvador - Manual del Usuario” Febrero 1996
- “Salud Materno-Infantil y Planificación Familiar en el Departamento de Santa Ana” Abril 1996
- “Interfase Computarizada para el Censo de Población y Vivienda de 1992 - Manual del Usuario y Descripción Técnica” Julio 1996
- “NTARGET: Modelo para la Proyección de los Requerimientos de Planificación Familiar a nivel Regional - Guía del Usuario” Julio 1996
- “Perfiles Poblacionales - Departamento Ahuachapán” Julio 1996
- “Perfiles Poblacionales - Departamento Santa Ana” Julio 1996
- “Perfiles Poblacionales - Departamento Sonsonate” Julio 1996
- “Perfiles Poblacionales - Departamento Chalatenango” Julio 1996
- “Perfiles Poblacionales - Departamento La Libertad” Julio 1996
- “Perfiles Poblacionales - Departamento San Salvador” Julio 1996
- “Perfiles Poblacionales - Departamento Cuscatlán” Julio 1996
- “Perfiles Poblacionales - Departamento La Paz” Julio 1996
- “Perfiles Poblacionales - Departamento Cabañas” Julio 1996
- “Perfiles Poblacionales - Departamento San Vicente” Julio 1996
- “Perfiles Poblacionales - Departamento Usulután” Julio 1996
- “Perfiles Poblacionales - Departamento San Miguel” Julio 1996
- “Perfiles Poblacionales - Departamento Morazán” Julio 1996
- “Perfiles Poblacionales - Departamento La Unión” Julio 1996

V. RESUMEN DE ACTIVIDADES REALIZADAS Y COMPARACIÓN CON EL PLAN DE TRABAJO ORIGINAL

Ver cuadros adjuntos.

FASE I ACTIVIDADES Y PRODUCTOS	CAMBIOS O MODIFICACIONES	SITUACION DE LOS PRODUCTOS	RESPONSABLE
1. Presentación gráfica sobre la situación de salud y población en El Salvador - presentación computarizada - 1 juego de diapositivas (2) - 1 juego de transparencias - 25 copias del documento	- sin cambios - sin cambios - sin cambios - sin cambios	- concluido - concluido - concluido - concluido	TFGI
2. Presentación gráfica sobre situación de salud y población en 5 Regiones de Salud - presentación computarizada - 1 juego de diapositivas - 1 juego de transparencias - 25 copias del documento	- sin cambios - sin cambios - copias a color - sin cambios	- concluido - concluido - concluido - concluido	RTI
3. Presentación de insumos para responder cuestionario de CNN - informe explicativo, tablas y gráficos	- sin cambios	- concluido	TFGI
4. Aplicación de TARGCOST para hacer simulación sobre privatización de servicios de planificación familiar - informe explicativo, tablas y gráficos, discusión de resultados y consecuencias de política	- sin cambios	- concluido	TFGI
5. Desarrollo de la primera versión del SIG - digitación de mapa del país y cinco regiones - preparación de bases de datos - informe con ejemplos de aplicaciones - seminario sobre uso de SIG (y manual del usuario)	- sin cambios - sin cambios - sin cambios - sin cambios	- concluido - concluido - concluido - concluido	RTI

137

FASE I ACTIVIDADES Y PRODUCTOS	CAMBIOS O MODIFICACIONES	SITUACION DE LOS PRODUCTOS	RESPONSABLE
6. Adaptación de EASEVAL para la FESAL 93 - diskette con software adaptado a FESAL 93 - manual del usuario	- sin cambios - sin cambios	- concluido - concluido	TFGI

FASE II ACTIVIDADES Y PRODUCTOS (según Contrato Mayo 1995)	MODIFICACIONES (plan de trabajo aprobado por AID y C&M, 2/96)	SITUACION DE LOS PRODUCTOS	RESPONSABLE
1. Desarrollo del modelo TARGET a nivel departamental - aplicación del modelo TARGET a nivel departamental - entrenamiento en el uso del modelo - manual del usuario	- sin cambios - sin cambios - sin cambios	- concluido - concluido - concluido	TFGI
2. Desarrollo del Sistema de Información Geográfica Information System - SIG a nivel departamental (y municipal) - entrenamiento en el uso del SIG - manual del usuario	- sin cambios - sin cambios - sin cambios	- concluido - concluido - concluido	RTI
3. Situación de la Salud Reproductiva en El Salvador - 14 (o menos) presentaciones gráficas, por departamento - 3 copias a color de cada presentación - 1 juego de diapositivas de cada presentación - capacitación en técnicas de presentación	- presentación del departamento de Santa Ana, datos de los otros 13 departamentos - sin cambios - sin cambios - capacitación en el uso de Powerpoint para presentaciones	- concluido presentación gráfica departamento Santa Ana - concluido - concluido - concluido	RTI

FASE II ACTIVIDADES Y PRODUCTOS (según Contrato Mayo 1995)	MODIFICACIONES (plan de trabajo aprobado por AID y C&M, 2/96)	SITUACION DE LOS PRODUCTOS	RESPONSABLE
4. Proyecciones de Población - proyecciones departamentales consistentes con las proyecciones nacionales en modelo computarizado - taller de métodos y análisis de proyecciones de población, y uso del model NPROJ - 14 perfiles departamentales basados en las proyecciones de población	- proyecciones de población por edades y años calendario simples - sin cambios - sin cambios	- adaptación de modelo NPROJ para proyecciones departamentales - no se efectuó la aplicación - concluido - concluido - no se usaron proyecciones de población	TFGI TFGI TFGI
5. Capacitación de Personal Profesional - 2 talleres en el uso del paquete PowerPoint - 1 taller sobre diseño de presentaciones gráficas - 1 taller sobre comunicación de temas de política usando presentaciones gráficas - 2 talleres sobre uso de paquetes estadísticos (SPSS) y evaluación y análisis de datos demográficos	- sin cambios - ver en el acápite 3 - taller sobre uso de estadísticas vitales - sin cambios	- concluido - ver en el acápite 3 - cancelado - concluido	RTI RTI TFGI
6. Population and Development Policies - informe técnico de las relaciones entre las metas de población y desarrollo del Plan Quinquenal de Desarrollo, resumen ejecutivo, presentación gráfica - actualización del Plan de Acción en Población y presentación a funcionarios de alto nivel	- borrador del Plan Quinquenal incorporando aspectos de población - borrador del Plan de Acción en Población y de los indicadores para monitorear el progreso del Plan - asistencia técnica en el área de salud reproductiva	- concluido - concluido - cancelado	TFGI

FASE II ACTIVIDADES Y PRODUCTOS (según Contrato Mayo 1995)	MODIFICACIONES (plan de trabajo aprobado por AID y C&M, 2/96)	SITUACION DE LOS PRODUCTOS	RESPONSABLE
7. Sistema Ejecutivo de Información para la Presidencia - desarrollo de un SEI para la Presidencia - capacitación en el uso del SEI	- cancelado	- cancelado	RTI
8. Interfase para el Censo de Población y Vivienda - desarrollo de una interfase para el Censo con DIGESTYC - entrenamiento y documentación de la interfase	- sin cambios - sin cambios	- concluido - concluido	RTI

chl