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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

DOMINICAN REPUBLIC

PROJECT PAPER

HEALTH SYSTEMS MANAGEMENT

AID/LAC/P-170

Loan Number:517-U-047
Project Number:517-0153

UNCLASSIFIED

RECORD COPY

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE

3

COUNTRY/ENTITY
 Dominican Republic

3. PROJECT NUMBER

517-0153

4. BUREAU/OFFICE

Latin America and the Caribbean

5. PROJECT TITLE (maximum 40 characters)

Health Systems Management

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY *
 04 30 89

7. ESTIMATED DATE OF OBLIGATION

(Under "B" below, enter 1, 2, 3, or 4)

A. Initial FY 84

B. Quarter

C. Final FY 87

8. COSTS (\$000 OR EQUIVALENT \$) =

A. FUNDING SOURCE	FIRST FY 84			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AD Appropriated Total						
(Grant)	(578)	(-)	(578)	(3968)	(32)	(4000)
(Loan)	(583)	(-)	(583)	(3533)	(467)	(4000)
Other						
1. U.S.						
2. Host Country		289	289		3000	3000
Other Donor(s)						
TOTALS	1161	289	1450	7501	3499	11000

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) HE	584	2000	2000	0	0	500	4000	4000	4000
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

510 | 520 | 544 | 550 | 562 | 569

11. SECONDARY PURPOSE CODE

510

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code BR TNG
 B. Amount 100% 50%

13. PROJECT PURPOSE (maximum 480 characters)

To improve SESPAS management systems and concurrently to develop the capacity within SESPAS to administer and manage health services.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
 01 85 02 87 02 88

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment)

17. APPROVED BY

Signature
 Title

Philip R. Schwab
 Mission Director

Date Signed

MM DD YY
 12 7 89

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

*or five years after initial CP's have been met.

PROJECT AUTHORIZATION

NAME OF COUNTRY : DOMINICAN REPUBLIC
NAME OF PROJECT : HEALTH SYSTEMS MANAGEMENT
NUMBER OF PROJECT : 517-0153
NUMBER OF LOAN : 517-U-047

1. Pursuant to Section 104 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Health Systems Management Project for the Dominican Republic involving planned obligations of not to exceed \$4,000,000 in loan funds and \$4,000,000 in grant funds, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the Project. The planned life of the Project is 5 years.
2. The Project consists of technical and commodity assistance to the Secretariat of State for Public Health and Social Assistance (SESPAS) for the improvement of health management systems including finance, logistics, supervision, personnel, maintenance, information and planning, and shall include as components the development of an in-house training capability and technology transfer to increase the capability of SESPAS to deal with several priority communicable diseases.
3. The Project Agreement which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D.

regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

a. Interest Rate and Terms of Repayment

The Cooperating Country shall repay the Loan to A.I.D. in U.S. Dollars within twenty-five (25) years from the date of first disbursement of the Loan, including a grace period of not to exceed ten (10) years. The Cooperating Country shall pay to A.I.D. in U.S. Dollars interest from the date of first disbursement of the Loan at the rate of (a) two percent (2%) per annum during the first ten (10) years, and (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

b. Source and Origin of Commodities, Nationality of Services - Grant Funded

Commodities financed by A.I.D. under the grant-funded portion of the Project shall have their source and origin in the United States or the Dominican Republic, except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have the United States or the Dominican Republic as their place of nationality, except as A.I.D. may otherwise agree in writing.

Ocean shipping, financed by A.I.D. under the grant-funded portion of the Project, shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States.

c. Source and Origin of Commodities, Nationality of Services -
Loan Funded

Commodities financed by A.I.D. under the loan-funded portion of the Project shall have their source and origin in countries included in A.I.D. Code 941 and the Dominican Republic, except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have countries included in A.I.D. Code 941 and the Dominican Republic as their place of nationality, except as A.I.D. may otherwise agree in writing.

Ocean shipping, financed by A.I.D. under the loan-funded portion of the Project, shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of countries included in A.I.D. Code 941 and the Dominican Republic.

d. Conditions Precedent

(1) First Disbursement. Prior to the first disbursement of any funds under the Project, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Cooperating Country will, except as the Parties may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) An opinion of the legal advisor to the Cooperating Country that the Agreement has been duly authorized and/or ratified by, and executed on behalf of, the Cooperating Country and that it constitutes a valid and legally binding obligation of the Cooperating Country in accordance with all of its terms; and

(b) A statement of the name of the person who will represent the Cooperating Country and of any additional representatives, together with a specimen signature of each person specified in such statement.

(2) Management Systems Improvement Component. Prior to the first disbursement, or the issuance by A.I.D. of documentation pursuant to which disbursement will be made to finance the Management Systems Improvement Component of the Project, the Cooperating Country shall, except as A.I.D. may otherwise agree in writing, furnish, in form and substance satisfactory to A.I.D., evidence of:

(a) Availability of adequate office space and facilities in SESPAS' central building to accommodate Project personnel for the life of the Project.

(b) Appointment of a Coordinator for this Project component and of the counterparts necessary to carry out the technical assistance to be provided through the Project in the areas of personnel, training and supervision, logistics, maintenance, financial management, and information systems.

(3) Disease Control Component. Prior to the first disbursement, or the issuance by A.I.D. of documentation pursuant to which disbursement will be made to finance the Disease Control Component of the Project, the Cooperating Country shall, except as A.I.D. may otherwise agree in writing, furnish, in form and substance satisfactory to A.I.D., evidence of:

(a) An agreement by the Secretary of Agriculture authorizing Project activities to be developed in the National Veterinary Laboratory of the Secretariat of State for Agriculture (SEA); and

(b) Appointment of the necessary personnel for the Schistosomiasis Control Unit and SESPAS laboratories, as required to carry out Project activities.

e. Covenants

The Cooperating Country shall, except as A.I.D. may otherwise agree in writing, covenant as follows:

(1) A Study of Alternative Financing. The Cooperating Country shall, except as A.I.D. may otherwise agree in writing, complete, in form and substance acceptable to A.I.D., a study of alternative methods of financing health services.

15 /

Philip R. Schwab, Director
USAID/DOMINICAN REPUBLIC

1:7/84

DATE

HEALTH SYSTEMS MANAGEMENT
DOMINICAN REPUBLIC

PROJECT PAPER
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I. PROJECT SUMMARY AND RECOMMENDATIONS

A. Recommendations

USAID/DR recommends that a loan in the amount of \$4 million and a grant in the amount of \$4 million be authorized to the Government of the Dominican Republic to support the project herein described. The loan will be repaid over twenty-five years, including a ten-year grace period with interest at 2% during the grace period and 3% thereafter.

B. Borrower and Implementing Agency

The Borrower will be the Government of the Dominican Republic. The implementing agency will be the Secretariat of State for Public Health and Social Assistance (SESPAS).

C. Summary Project Description

The population of the Dominican Republic suffers from health problems that afflict most third world populations; that is, high preventable infant and child mortality and birth rates and high rates of gastro-intestinal illness and communicable diseases. Unlike many third world countries, however, the Dominican Republic has a primary health care infrastructure, personnel and facilities, that effectively "covers" the rural population.

An evaluation of the rural Basic Health Service (SBS) conducted in May 1983, determined that the rural population is not receiving all the primary health care services required for improved health. Ironically, the population has access to an infrastructure but is not being covered with services. The conclusion is that the productivity of the infrastructure is very low relative to its service delivery capacity and to the needs of the population.

The Health Systems Management Project proposes to address the problem of low productivity in the health infrastructure through improved management systems and in-house training capability. This will dramatically strengthen the SBS and consolidate the benefits of earlier USAID efforts. While management systems and training will be the major areas of focus, the Project also contains a small technology transfer component to assist SESPAS develop its capability to combat several important communicable diseases.

The goal of the Project is to increase the quantity and quality of primary health care services delivered by SESPAS. The Project purpose is to improve SESPAS management systems and concurrently to develop the capacity of SESPAS to administer and manage health services.

Specifically, the Project will provide SESPAS with a multi-disciplinary team of five long-term advisors. The team will possess expertise in personnel management, supervision systems, financial management, health planning, logistics, maintenance systems, information systems, program evaluation and training. It will have as counterparts two key SESPAS sub-secretariats, Planning and Administration, and will be supported by short-term technical assistance in specialized skill areas.

The project implementation has been divided into five phases. The first phase will start with a management system baseline survey and the development of a detailed work plan. During Phase II, priority interventions identified previously will be initiated in an effort to correct the most damaging deficiencies in the management support systems. Phase III will coincide with the Dominican electoral process and will be devoted to the development of policy papers and case studies that describe and suggest potential courses of action and policy alternatives. This will be followed during Phase IV, with interventions designed to encourage structural adjustments in the management support systems. The final phase will be a short but critical period of assessment and planning for the post project era prior to the departure of the long-term TA. A strong evaluation and monitoring component has been built into the project to provide continuous assessment by experts not directly involved in project implementation and allow ample opportunity for mid-course correction. An in-depth evaluation has been scheduled during the fourth year of project implementation.

D. Summary Project Inputs

Item	(\$000)		GODR	Total
	A. I. D.			
	Loan	Grant		
Technical Assistance	1,800	3,400	432	5,632
Management Interventions	-	-	1,212	1,212
Skills Training	-	-	488	488
Evaluation	-	200	-	200
Participant Training	300	-	107	407
Disease Control	250	-	470	720
Feasibility Study	150	-	-	150
Equipment	285	-	-	285
Contingencies	295	400	270	965
Inflation	<u>920</u>	<u>-</u>	<u>82</u>	<u>1,002</u>
Total	<u>4,000</u>	<u>4,000</u>	<u>3,061</u>	<u>11,061</u>

E. Summary Findings

The project committee has reviewed all aspects of the proposed Health Systems Management Project and finds that it is technically, socially, economically and financially sound and consistent with the development objectives of the GODR and of the USAID. It has also been determined that the Secretariat of State for Public Health and Social Assistance is institutionally capable of administering the project and disbursing the funds committed within the planned five-year implementation period.

F. Project Development Committee

Oscar Rivera	:	Health and Nutrition Officer
Debra De Witt	:	Capital Resources Development
John Thomas	:	Health and Nutrition Office
Steve Miller	:	Capital Resources Development
Henry Welhouse	:	Program Office
Cecile Adams	:	Controller's Office
Steve Liapis	:	Controller
Larry T. Armstrong	:	Capital Resources Development Officer
Rudy Ellert-Beck	:	Deputy Program Officer
Rose Veith	:	Program Officer
Ronald F. Venezia	:	Deputy Director

II. HEALTH STATUS IN THE DOMINICAN REPUBLIC

According to the sixth national census completed in 1981, the population of the Dominican Republic was 5,647,977, an increase of 1,638,519 (40.9%) over the number 4,009,458 by the census of 1970. The population growth rate for the period 1970-81 was 2.92, only minimally reduced from the rate of 2.96 for the period 1960-70. As a result, the country continues to have a high dependency ratio with 43.1% of the total population under 15 years and 50.3% under 18 years.

There has also been an accelerating trend toward urban concentration. The national census found a 52/48 rural/urban distribution in 1981 compared to about 40/60 split in 1970. Much of this urban growth has been in marginal peri-urban areas.

Current life expectancy is estimated to be 62.6 years. The crude death rate, based on reported deaths, was estimated to be 5 per 1000 in 1980. The current infant mortality rate varies depending on the source of information with figures ranging anywhere from 30.5 to 100 per 1000 live births. Mortality in the 1-4 year age group was officially estimated as 3.2 per 1000 in 1980, while similar estimates for the maternal death rate was 1.66 per 1000 live births. All official figures appear to have been significantly biased by under-reporting.

Similarly, it is difficult to analyze mortality by cause of death. Official statistics reported in 1979 showed enteritis and other diarrheic diseases as the major cause of death, while avitaminosis and other nutritional deficiencies were ranked fourth. Neither of these health problems was listed by SESPAS among the ten leading causes of death in 1980 indicating, perhaps, qualitative as well as quantitative deficiencies in the data. In 1981, gastroenteritis ranked first among mandatorily reported diseases with an incidence of 1,919 reported cases per 100,000 population, indicating the continued significance of this condition.

Nutritional investigations carried out in 1981 calculated an overall malnutrition rate of 44%, with concentrations of 50-70% in the peri-urban areas of Santo Domingo and up to 60% in some rural areas. These malnutrition rates are commonly quoted to support the contention that nutrition is the number one health problem. It should be noted, however, that the great majority of these malnourished children fall into the "first degree" category according to the Gómez classification system. Regional figures for children with second and third degree malnutrition vary between 12 and 20%. These figures deserve the same skepticism that applies to other health status information in the Dominican Republic. Therefore, although nutritional problems, while present, are serious and deserving of priority attention, other related health problems, such as diarrheic diseases, may be no less significant.

Morbidity due to reportable diseases in 1981 showed water-transmitted disease, venereal disease and communicable diseases preventable by vaccination among the most frequently reported. The latter is not surprising in light of the low immunization coverage rates. (1982 coverage figures for the 1-4 age-group were 38.4% for polio, 24.9% for D.P.T., 16.4% for BCG and 23.4% for measles; only 34.4% of pregnant women were vaccinated against tetanus.)

The crude birth rate has been declining slowly. During the period 1970 through 1972, the rate averaged 40 births per 1000 population. During the period 1978 through 1980, the rate averaged just under 36, a decline of slightly more than 10%. Although the rate may have declined slightly since 1980, it is still high. Furthermore, Dr. Antonio Ugalde ^{1/}, in his report of 30 March, 1983, reports a high rate of abortions in the rural communities included in his study, suggesting that pregnancy rates are still higher than desired by the population.

Schistosomiasis is a disease that is transmitted through a snail host which lives in fresh-water habitats and which has been identified in various parts of the country. The disease has been diagnosed and is considered endemic in four eastern provinces. In addition, the disease appears to be spreading beyond its original endemic focus. In 1980, the AID funded Schistosomiasis Assessment Team conducted a survey of randomly selected households in three localities in the eastern part of the country: Hato Mayor, Paso Cibao, and El Seibo. Positive specimens were found from all three localities, although only one case had a relatively high egg count.

Malaria was virtually controlled in 1968 when only 21 cases were documented after laboratory examination of 655,202 samples (a positive slide index of .003%). There was an average of several hundred confirmed cases per year during the early and mid seventies. Thereafter, the annual average climbed sharply until it reached 4,000 during the period 1980 through 1982. In 1982, there were 4,598 confirmed cases out of 239,195 laboratory examinations (a positive slide index of 1.92%).

The Aedes aegypti mosquito, carrier of both yellow fever and dengue fever, is widely distributed in the Dominican Republic. Dengue is endemic, occasionally flaring up into serious epidemics. Dengue cases from the Dominican Republic are currently being identified by the Center for Disease Control (CDC), Puerto Rico. Meanwhile, eastern equine and St. Louis encephalitis have been identified in migratory and sentinel birds in the Dominican Republic. The incidence of all four of these viral diseases is unknown, and the ability to confirm presumptive clinical diagnoses by laboratory testing has not yet been developed.

^{1/} Dr. Ugalde is carrying out the USAID financed preliminary study of Primary Health Care Insurance. (See Annex C-1 for details.)

III. BACKGROUND

A. Principal AID-Funded Health Sector Interventions

The USAID's current focus in health began with funding of the Dominican Health Sector Assessment. The Health Sector Assessment, completed in 1975, identified the precarious state of health of the Dominican population, concluding that the key to improving this situation would be a simultaneous attack on three fundamental, interlinked problems: malnutrition, excess and unwanted fertility, and common communicable diseases. The Sector Assessment recommended a multi-sectoral approach which focused on achieving the objectives of better diet, greater availability of family planning services, better environmental sanitation and better health services. AID, responding to these objectives assisted SESPAS through Health Sector Loans I and II.

1. Health Sector I

Health Sector I, authorized in 1975 for \$4.8 million, consisted of three components, (a) a low-cost health delivery system, (b) nutrition and (c) administrative reform at SESPAS. AID's experience with each of these components is described below:

a. Low-Cost Health Delivery System (SBS)

The goals of the SBS program were to reduce mortality in infants and pre-school children (age group 1-4 years) and to reduce fertility. The SBS in rural areas was to deliver primary health care to communities with less than 2,000 (later increased to 5,000) inhabitants where no other modern health services existed. One health promoter was to be trained for every 400-500 inhabitants and was to be supervised by an auxiliary nurse. A pilot urban element was to provide a similar package of services to selected groups of the urban poor, on a trial basis. An initial evaluation of the urban element found very high rates of attrition among promoters and suggested that it was duplicating existing services. The urban component was, therefore, terminated after a short trial period.

Starting with 867 promoters in 1976 the rural SBS was considered fully operational by August 1981 with 5,400 promoters and an estimated coverage of 2,160,000 rural people. Although there has been a slight promoter attrition (10%) the program has met the population coverage target set in 1975. The SBS infrastructure currently consists

of 5,200 promoters, 529 promoter supervisors, 31 area supervisors, 7 regional supervisors and a central office under the Directorate General of Rural Health.

Each promoter is responsible for delivering a package of primary health care services to about 80 households including immunizations, health education, personal hygiene, basic sanitation measures, child growth monitoring, vital statistics reporting, a few simple curative interventions, family planning and referral of more complex problems including pregnancies.

The 1975 Health Sector Assessment doubted the administrative capability of SESPAS to support SBS. As a temporary measure, pending SBS's eventual incorporation into a reformed and managerially strengthened SESPAS, the SBS was under the supervision of the Loan Coordinator. In 1979, it was transferred to the General Directorate of Rural Health of SESPAS.

b. Nutrition

The Health Sector Assessment noted that, in the area of nutrition, there was "no consensus as to the nature of the problem, nor has much attention been given to the long-range problem of food and nutrition. There is only limited capacity to plan a national nutrition program." It further noted that a "greatly increased national concern for improving nutrition will have to occur before significant improvement in nutrition can be expected."

The nutrition component of Health Sector I was designed to address this situation and had four principal objectives: to develop an Office of Nutrition Coordination (ONC) within the Secretariat of Agriculture, to initiate a national nutrition education and awareness program, to establish a rural nutrition recuperation program and to develop a food supplement program.

Health Sector I encountered both success and failure in its attempt to address the nutrition problem. ONC was established with the hope that it would become a focus for central policy formulation and coordination. It suffered from neglect under the Secretariat of Agriculture and was moved to SESPAS where it fared little better. The policy role it was envisioned to play had been previously mandated by law to the Office of National Planning within the Technical Secretariat of the Presidency. ONC has demonstrated little ability to coordinate its program activity with other organizations with roles in nutrition. The national nutrition education and awareness program achieved some of its goals through a series of nutrition seminars, a nationwide radio campaign, and through the educational and promotional efforts of SBS

promoters to encourage changes in dietary habits. The rural nutrition recuperation program established a few centers but were used only as training centers for promoters; the food supplement feasibility study proved that a major program would not be cost-effective.

c. Administrative Reform

In its initial analysis, the Health Sector Assessment stated that "the public administrative and organizational capacity to mount a substantial health development effort is a matter for attention. The Secretariat of Health lacks the skilled manpower, the planning capability and the administrative efficiency for any extensive expansion of functions or coverage."

Health Sector I responded with a major administrative reform component containing six principal objectives: (1) to develop within SESPAS a Technical Office for Administrative Reform (OTRA) with a director responsible to the Secretary of Health, but operating with advice from a coordinating committee; (2) to establish a Human Resources Division that would develop a program of human resource investment and training and initiate a reorganization of SESPAS' personnel system; (3) to strengthen the Planning Division in planning, programming and evaluation; (4) to improve the information systems with special emphasis on bio-statistics and financial monitoring; (5) to establish a hospital administrator position within the Hospital Directorate; and (6) to incorporate various disparate elements of SESPAS into functioning units for maintenance, transport and supply.

The administrative reform effort was an ambitious venture with recognized risks, but the fact that its basic elements had been proposed by the Dominican Health Sector Assessment Team was felt to increase its chances of success, even though a change of the proposed magnitude would ultimately threaten many officials comfortable with the status quo.

The Technical Office for Administrative Reform (OTRA) was established within the Secretariat and was directly responsible to the Secretary. The Coordinating Committee, however, came to be viewed as a bottleneck and was dissolved. The technical assistance would be contracted and coordinated by OTRA. The Pan American Health Organization (PAHO) was selected to prepare the terms of reference for a contract with a management firm to implement the Administrative Reform component.

By the time PAHO presented its report to the Government OTRA's situation was precarious. In PAHO's view, sufficient human and technical resources had not been allocated to OTRA. It was

viewed as ad hoc in that its origin and sustenance derived from bilateral loan funds making it distinct from the rest of SESPAS. Finally and most significantly, OTRA was not receiving the political support required for a program which directly threatened the interests of functionaries and programs that were established and part of the formal structure of the Secretariat.

The situation continued to deteriorate. Problems had arisen with the technical assistance contractor, some of which seem to have been as much a question of style as substance. This was viewed by the government which took office in 1978 as an inherited situation. Finally, a stage was reached when the Secretariat felt the technical assistance contractor was no longer an effective agent for change and the contract was not renewed. Unfortunately, this took place just as the contractor was to have moved from the analytical to the implementation phase. As a result, SESPAS found itself with three large volumes of analysis and no assistance to begin implementation.

This is not to imply that nothing happened. Many of the structural and organizational reforms envisioned by Health Sector I and recommended by the technical assistance contractor have, in fact, been accomplished. However, outstanding work in several management areas needs to be undertaken.

2. Health Sector II

Health Sector II, an \$8 million loan authorized in November 1978, was designed as an expansion of the program started under Health Sector I. The purposes of the project are (1) to expand the SBS program to an additional 100 rural communities with an estimated total population of 200,000; (2) to upgrade 100 rural clinics and 20 small hospitals through staff training and provision of equipment; and (3) to provide potable water, sewage disposal and health education services to approximately 160,000 rural people served by the SBS.

Health Sector II successfully achieved the first two purposes, but implementation problems have delayed the achievement of the third. These problems included flaws in the design and quality control of the locally manufactured hand pumps, defective manufacture of latrines, inadequate maintenance for the water systems, and insufficient local drilling capacity.

In response, SESPAS requested assistance from USAID/DR. Technical assistance was obtained through ST/H/WS, the WASH Project and the Georgia Institute of Technology. They have provided assistance to develop better pump inspection procedures, to assist in an assessment of

the performance of the installed pumps (including the modified model) and to develop special training courses for the community organizers in latrine construction/installation, health education, pump maintenance and repair.

Also, SESPAS has signed an agreement with the National Institute for Potable Water (INAPA) to undertake well drilling activities and supervision of the private sector contractors. This agreement should result in improved well drilling performance.

To date, 1410 pumps (of a total of 2,050 initially contracted) have been delivered to SESPAS and, of these, 975 have been installed, all relying on community participation to some extent. In addition, 10 gravity flow systems are in operation. 15,304 latrines have been delivered to SESPAS, of which 6,554 have been installed. No new latrines will be manufactured until those already received have been installed.

The health education unit has been staffed and trained with members of this unit now actively working in many communities. The result is that community contributions to the maintenance fund are increasing as well as the general level of community participation. After health educators receive training in pump maintenance, they are in turn training community members.

Finally, the USAID has approved a request from the Secretariat of Health for the reprogramming of loan and counterpart funds in order to allocate funds responding to the operational reality of the program. 105,000 more feet will be drilled, representing approximately 1,200 additional wells, bringing the total to 2,200 wells serving approximately 132,000 rural people. In order to carry out the remaining activities, the PACD has been extended to November, 1985. The USAID anticipates that this element of HSL II will be successfully completed at this time.

3. Other AID Health Related Activities

AID is currently involved in a number of activities in support of our health sector strategy. Among these are the PL-480 Title II program, a nutrition education OPG, a population research and study program and a training program for health workers in eye disease identification. The USAID is also pursuing new initiatives with the private sector in health care delivery and studies of alternative financing mechanisms. (See Annex C.1 for details.)

B. Summary of Other Major Donor Activities and Donor Coordination

The most significant development in this area has been the recognition, on the part of all major donor agencies, of the need to more closely plan and coordinate their efforts. With strong support from USAID/DR and in conjunction with SESPAS, the United Nations Development Program (UNDP) has taken the lead and has established a forum for ongoing dialogue among the various donor agencies. It is encouraging to note that this dialogue has resulted in the recognition and significance of recurring costs of development programs. The recognition and commitment to work in concert is an extremely positive development.

Multilateral agencies and other donors have funded numerous activities in the health sector. The Inter-American Development Bank (IDB) has participated in major rural water and sewage system projects. Both IDB and the World Bank are participating in major investments in rural clinics and hospital infrastructure. The World Health Organization/Pan American Health Organization (WHO/PAHO) has provided a wide range of technical assistance for malaria, tuberculosis and nutrition and training for physicians, nurses, dentists, and sanitation engineers. Other United Nations programs have provided assistance for rural aqueduct construction, latrine construction, and family planning.

PAHO, under its ongoing program of technical assistance is implementing a program of short-term TA in several management areas such as information systems, maintenance, procurement, supply, and transport. During the intensive review of the Health Systems Management Project, every effort was made to coordinate the use of AID and PAHO resources to avoid duplication of effort. PAHO and AID's recommended interventions will complement each other. The PAHO provided TA will work in conjunction with SESPAS counterparts and the long-term TA under this project.

Finally, USAID/DR, UNICEF and PAHO have been discussing details for the preparation of a joint venture in a nationwide diarrhea control program. AID and PAHO will provide technical assistance while UNICEF will provide funds for the development of educational materials and the procurement of oral rehydration salts.

IV. THE PROBLEM

In an attempt to assess the current state of health care delivery in the Dominican Republic the USAID undertook an evaluation of the SBS system. This evaluation led to the general conclusion that a rural primary health care delivery infrastructure did, in fact, exist and function in the Dominican Republic. But there was a major flaw, the efficiency of the administrative and managerial support systems currently in place to sustain the SBS. This led the USAID and the GODR counterparts to pursue further analysis of the current role and functioning of SESPAS as a whole. The following section contains a summary analysis of the problems found at all levels within SESPAS. The first section describes the results of the recent SBS evaluation; the second briefly describes problems in hospitals and other health care facilities. The third and final section, which serves as an institutional analysis, goes into the problems discovered within the central level of SESPAS. It is appropriate that this final section be included as part of the problem statement in that the major objective of this project is the resolution of existing bottlenecks in administrative and management support systems that impede the delivery of health care services to the SESPAS target beneficiary, the great majority of Dominicans who are poor.

A. The SBS Evaluation

A May 1983 evaluation of the SBS system was designed to be an overall assessment of the current status of the system and to make recommendations for consolidating, expanding and upgrading the SBS.* On the whole, the SBS infrastructure was found to be in place. The evaluators felt that continuing budgetary support, in the form of monthly payments to promoters, had played a key role in keeping promoter attrition rates at exceptionally low levels and that it indicated a real commitment on the part of SESPAS to the rural sector. However, the evaluation found that other forms of support essential to the delivery of primary health care were not reaching the rural providers.

The evaluation revealed that, though there are some 5,200 promoters, a variety of factors have led to a reduction in the scope of their work. In many cases, they function strictly as vaccinators and distributors of birth control devices. The combination of lax record keeping and unstructured supervision did little to ensure service delivery. Though some promoters continue to provide a range of services including health and nutrition education, they appear to be individually inspired rather than properly supported members of a coherent system. The evaluators encountered promoters without report forms, cotton or alcohol, and who had not received vaccines for months. Nutrition surveillance was rarely taking place, and, since promoters are no longer supplied with simple medications such as aspirin and cough medicine, they were finding a less receptive audience for their educational messages. Promoters generally received little or no continuing education.

* (See project files for complete evaluation report).

The evaluators found that rural clinics similarly suffered from a lack of supplies and under-utilization. These clinics are staffed by pasantes, physicians doing the one year of rural service required before they can practice medicine in the Dominican Republic. Most pasantes come from urban areas and receive no orientation to the problems they encounter in rural communities. Outreach appeared to be practically non-existent, as were efforts at community organization and education. Trained in hospital-based services, the pasantes at the rural clinics were generally frustrated, both by the limited range of interventions in which they were involved, and by the limited resources available.

The supervisors, who theoretically bridge the gap between the promoters and the rural clinic, appeared to be the weakest link in the support chain. Many of the supervisors, recruits from the pool of unemployed rural high school graduates, received training in neither health nor supervision. Theoretically serving in the clinics during the morning and in the field supervising promoters during the afternoon, many apparently did little of either. Largely unsupervised themselves, they had grown bored with the repetitive nature of their clinic duties, and with little in the way of training and material support, they were not motivated to perform their supervisory function.

The evaluators attempted to trace the roots of the observed problems through the system, starting with the rural clinic and proceeding through the sub-center, area and regional levels to the central offices of the SBS and of SESPAS. Among the causes of low productivity and underutilization throughout the system the evaluators found the following: (1) lack of planning, management and supervisory skills at all levels, (2) lack of basic skills required for effective job performance, (3) insufficient and inadequate information for informed decision making, and (4) lack of coherent logistics and maintenance systems.

The deficiencies suggest that the problems being encountered at the rural level are due, not to inappropriate priorities, but rather, to the inability of SESPAS to effectively identify and respond to SBS needs. It does not appear that either an improvement in promoter effectiveness or an expansion of their current limited role can be achieved before the support capability and capacity of SESPAS is enhanced.

B. Observations on Hospital Based Services

SESPAS operates just over 100 health facilities with beds. Just over half of these facilities are categorized as sub-centers with 6 to 40 beds. Some are old run-down facilities, while others are new well-equipped institutions which were recently constructed with a IBRD loan. Above the sub-centers come, in order of increasing average size, local hospitals (8), area hospitals (18), regional hospitals (8) and national hospitals (13). These facilities, too, range widely in size and general conditions. The total number of beds under SESPAS management is nearly 7,500.

The SESPAS hospital infrastructure suffers the same problems as the rural clinics discussed earlier. Occupancy rates are very low in the smaller facilities, at sub-centers and local hospitals empty beds are generally in the majority. At these same facilities, operating rooms frequently go long periods between use. While the absolute number of outpatients may be relatively large, the number is small relative to the number of staff at the facility. In brief, under-utilization is severe, chronic and widespread, except at a few institutions at the regional and national levels.

The reasons for this under-utilization are similar to those encountered in the SBS. Logistic support is minimal. One sub-center visited had posted a notice to outpatients saying that all pharmaceuticals were reserved for inpatients. Personnel at another sub-center complained that it had taken them two months to get the X-ray unit repaired. The total financial allocation for all operating costs other than salaries was less than U.S. \$5.00 per bed per day! Finally, while "supervision" may occur with some regularity, it does not appear to be any better focused than is promoter supervision.

The deficiencies observed at the hospital level appear to have the same origin as the deficiencies noted by the SBS evaluation, that is, inadequate ability on the part of SESPAS to effectively identify and respond to needs at the health service facility.

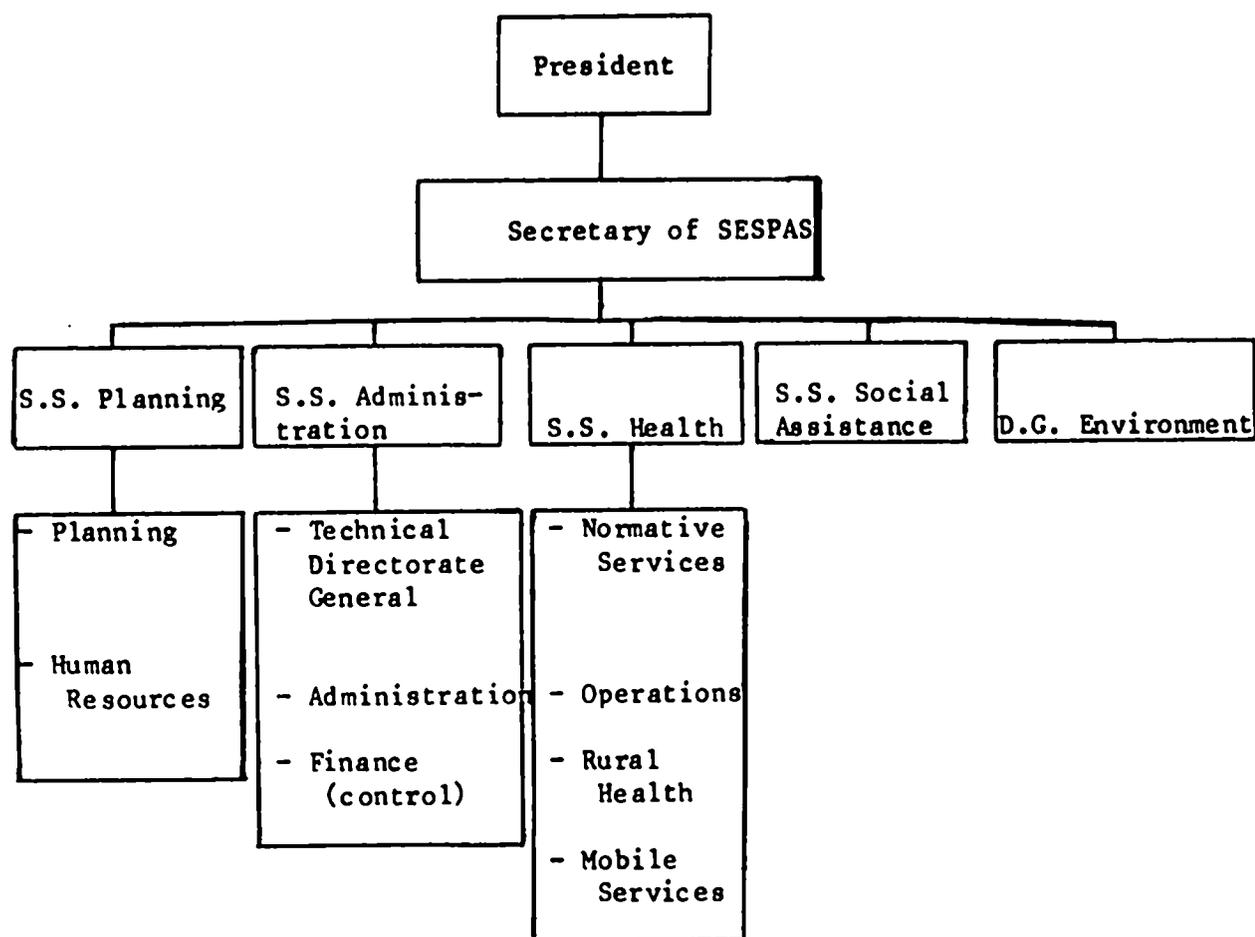
C. Summary Assessment of SESPAS Management Support Systems and Training Capacity

The previous two sections have briefly summarized the problems observed at the health service delivery points, i.e. promoters, rural clinics and hospitals. Support services from the central Secretariat were found to be lacking or, in some cases, non existent. The USAID has now undertaken an in-depth review of the institutional capacity of SESPAS to provide management support systems, the results of which are summarized below.

1. SESPAS Organizational Structure

A summarized organogram of SESPAS is provided below. As shown, the Secretary of Health and Social Assistance reports directly to the President of the Republic. Four Sub-Secretaries and one Director General report to the Secretary. The centralized management support functions are the responsibility of the Sub-Secretary for Administration and the Sub-Secretary for Planning. These two Sub-Secretariats support the health delivery establishments (promoters, rural clinics, sub-centers and hospitals) which are under the Sub-Secretary for Health.

Diagram 1: SESPAS Organizational Context



The Sub-Secretariat for Planning has important responsibilities for four of the management systems: information (health), planning, training and finance (planning). Responsibility for finance and information are shared with the Sub-Secretariat for Administration. However, as shall be described, lines of responsibility are not clearly delineated. (See Annex C.2 for detailed organograms of these SESPAS Sub-Secretariats).

Within the Planning Sub-Secretariat a couple of things are noteworthy. First, the budget function is at a relatively low level (a department within the Division of Planning) in the organizational framework. Its role is limited to the preparation of the budget document for presentation to the Dominican Congress. The Budget Department has little or no responsibility for overseeing its execution. The role of the Division of Statistics is limited to the collection of health information and does not have responsibility for management information. Finally, the General Directorate for Human Resources, created in 1983 to service personnel development needs of SESPAS, has not assumed a leadership role. CENADES, the National Center for Documentation and Education in Health, currently organizes most of the training done by SESPAS. It functions in a semi-autonomous manner with little coordination with the Directorate General of Human Resources.

The Sub-Secretariat for Administration is responsible for day-to-day operations. This Sub-Secretariat has important responsibility for management information, personnel, logistics, maintenance and finance (control).

Within the Subsecretariat of Administration, the Computer Center is intended to support the data analysis needs of the whole Secretariat, including the needs of the Statistics Division and the Budget Department in the Sub-Secretariat of Planning. The Directorate General of Finance was recently created out of a Division formerly under the General Directorate of Technical Affairs. However, no divisions have yet been created under the new Directorate of Finance.

2. The SESPAS Budget

To understand SESPAS' management systems it is also important to have an understanding of the magnitude of the human, material and financial resources at SESPAS' disposal. The SESPAS budget comprises approximately 11% of the GODR national budget, a relatively high budgetary level. Of a total allocation of 113 million pesos, approximately 87 million are devoted to capital expenditures, of which about 50% originates from foreign sources. The expenditure rate from the capital budget is usually about 40% because of frequent lack of GODR budgetary resources and frequent procedural delays in the use of foreign funds. Actual expenditures for health are higher than indicated by the budget. For example, SESPAS recently carried out a highly successful polio immunization campaign which is believed by some to have cost 3-6 million pesos, much of which was financed out of allocations by the Presidency and not out of the SESPAS operating budget. The operating budget amounts to 15 pesos per person per year.

3. Management Systems

With the above background in place one can discuss briefly the present situation within the major SESPAS management systems. The principal elements of this system are: financial management, personnel, training and supervision, logistics and supply, information systems and planning.

a. Financial Management: The effectiveness with which SESPAS uses its financial resources cannot be readily evaluated. It is clear, however, that unit costs per service are much higher than optimal as hospital occupancy and rural clinic visit rates are very low. Furthermore, there has been a tendency over the last 4 years for personnel expenditures to increase as a percentage of total expenditures, suggesting that SESPAS personnel have smaller quantities of material resources with which to work (see Financial Analysis). Rough projections of future financial requirements, based on the estimated operating costs of current development projects, suggest a worsening situation.

An evaluation of the financial management system of SESPAS suggests the reasons for current and projected future financial problems. First, there is little or no forward financial planning. Although estimates of operating costs are required by the GODR Budget Office for all capital projects, this information was left out of a recently approved \$20 million loan. Second, there is little or no analysis of cost-effectiveness and no routine monitoring of unit costs for services. Budget preparation is based on "modified incrementalism," i.e. the budget grows as required by new programs or facilities but it is not based on need. Financial control is effected for accountability purposes only and not for program evaluation. In effect, there is little financial management at SESPAS.

b. Personnel Management: Salaries consume more than 60% of SESPAS recurring budget. Personnel management, however, is at the same stage of development as financial management; i.e., salaries are paid and personnel records are maintained by the Personnel Division for accounting purposes only. Some administrative activities are undertaken at the micro-level. Managerial analysis of aggregate information, manpower analysis and planning at the macro-level, is not undertaken. Personnel management norms and procedures have either not been developed or implemented, although certain administrative procedures are followed.

Further, the Secretariat does not fully control its personnel recruiting process. Many people at SESPAS, as in other GODR secretariats, are hired by the Office of the President in which case political considerations play a major role. The skill requirements for the job and the skills possessed by the applicant are not systematically applied criteria when new personnel are hired even if directly through SESPAS.

c. Training and Supervision: When skills are deficient and recruiting procedures are inadequate to fill jobs with qualified people, training is a possible response. As noted above, the Secretariat created a Division of Human Resources in 1983 to work with training and personnel needs. Progress has been slow, however. CENADES has the greatest share of the Secretariat's training and management training skills. The recent, highly successful polio immunization campaign required a coordinated, large-scale training effort, which involved a careful statement of objectives, detailed task analysis for all personnel (including nearly 18,000 vaccinators and 1,800 supervisors), closely directed training, and supervision of the campaign. CENADES coordinated this effort.

The challenge confronting the Secretariat is to adapt and apply the CENADES training and supervision model to the performance of other management areas and health services. At present, however, the capacity does not exist to systematically address skill deficiencies throughout SESPAS. In particular, norms and procedures do not exist to enable SESPAS to effectively manage and coordinate training efforts, which include current activities under CENADES, the Division of Human Resources, the Normative Division of the Health Sub-Secretariat and the Administration Sub-Secretariat.

Another problem area in the management of human resources is the lack of systematic task-oriented supervision. Once jobs have been defined in terms of responsibility (tasks) and required skills and filled with personnel possessing the skills, follow-up is required to assure that the tasks are performed. In this sense, supervision can hardly be said to exist in SESPAS. Although responsibility for supervision in SESPAS must be diffuse (i.e., each person being supervised by the person above in the chain of command), responsibility for the development of standard norms and procedures for supervision should not be. Nevertheless, there is no unit charged with the overall responsibility for the development of supervisory systems.

d. Logistics and Supply: Deficiencies in the management of material resources were also noted by the SBS evaluation and have recently attracted media attention at the hospital level. Building and equipment maintenance are wide-spread and chronic problems. Current efforts, though laudable, are best characterized as limited and ad hoc. Preventive maintenance does not exist on a systematic basis. The capacity for equipment repair is not sufficient to meet demand, particularly given the inflated rate of breakdowns caused by the lack of preventive maintenance. Overhaul maintenance, the rebuilding and major repair of equipment, is an area which has seen considerable other-donor investment in plant and equipment but which has not itself been maintained.

The SESPAS Maintenance Division operates under difficult constraints. Many of its personnel lack appropriate skills. Its operating budget is almost entirely used for salaries (90%). Spare parts are purchased individually using funds from the hospital where the equipment is located. When it appeared that equipment breakdowns might force the closure of several hospitals in Santo Domingo, SESPAS created an Emergency Maintenance Committee, which mobilized the existing skilled personnel in the Maintenance Division and effected many repairs. However, efforts to develop a long-term maintenance capacity have faltered. A revolving fund of 15,000 pesos was financed for spare parts, but may fail because of inadequate planning and management. As in the case of the other management systems discussed, the maintenance efforts were undertaken without the guidance of operating norms and procedures and without an adequate data base for planning.

The other half of the material resource management function is logistics, consisting of procurement, storage and distribution of consumable supplies (e.g., medicines) and durable equipment (e.g., X-ray machines). Responsibility for this function is split between the Division of Purchases and Supplies in the Sub-Secretariat for Administration and the individual hospitals, which are authorized monthly allowances (50% for medicines, 30% for supplies, etc.) Purchasing is characterized by monthly or bimonthly small volume purchases and high unit costs. Regulations and procedures for this type of procurement exist, but effective systematic control has not been achieved. Warehousing and storage is not taken into account at present, as volumes are low and deliveries are made soon after receipt of the goods.

The SESPAS response to supply and logistics problems has tended to be ad hoc. In August 1983, a major, centrally purchased distribution of supplies was made to all hospitals and very substantial savings in unit costs were reported. Distribution was achieved with the cooperation of the Dominican Armed Forces, an example of unusual intersectoral cooperation and a warning sign that the intervention (improved logistics) may be difficult to maintain. Logistics, like maintenance, suffers from a lack of operating norms and procedures against which management can and should assess performance. Consumption rates are not known. Stock-outs are not reported. Costs are recorded, but cost evaluations do not enter the budgetary process.

e. Management Information Systems: A major deficiency common to all SESPAS management systems is the lack of an adequate management information system (MIS). The MIS should consist of performance norms and operating procedures that define the individual management systems, including data collection requirements and data analysis needs, by which performances can be evaluated.

SESPAS is investing over \$250,000 in new computer equipment with the wide-spread belief among senior SESPAS managers that data processing is the missing ingredient in the MIS and that the

computer will resolve the problem. This belief is mistaken, however, as the data needs and requirements cannot be readily identified by the managers themselves. The problem lies in the general lack of standard performance norms and operating procedures without which information requirements cannot be systematically defined. If the information requirements (computer output) cannot be defined, neither can the data requirements (computer input).

At present, SESPAS is undertaking some preliminary information systems development work, but it is an effort designed to support a particular manager's current priority information need. It is also uncoordinated. Both the Personnel and Human Resources Division are trying to collect the same data. Furthermore, the data collection system is not efficiently designed. For example, vehicles have been assigned code numbers without reference to their registration numbers creating additional retrieval requirements. In brief, there appears to be some danger that the computer, far from supporting the development of an effective MIS, may amplify the current problems of SESPAS.

In addition to supporting the individual resource management systems, the MIS should support the coordination of these systems. For example, maintenance requirements (i.e., spare parts, specialized training, etc.) are not criteria in equipment purchase. The Division of Purchases and Supplies has responsibility for buying and delivering the equipment, after which it becomes the responsibility of the Maintenance Division. There is a similar lack of feedback and mutually supportive information flow between the Department of the Budget in the Planning Sub-Secretariat and the General Directorate of Finance in the Administration Sub-Secretariat. Finally, there is little information produced on overall SESPAS performance in terms of health services delivered. Current management agrees that previously developed indicators are neither useful nor reliable.

f. Planning: A MIS is an essential day-to-day management tool. It is also the prerequisite for effective planning. Based on current status and projected resource availability, the objective of planning is to propose future allocations of resources that will cost-effectively address current and projected health problems. Planning does not and cannot fulfill this objective at present. It cannot because the required data/information base, part of which is the responsibility of the Planning Sub-Secretariat, does not exist. For example, one cannot say, on the basis of objective data, collected in SESPAS whether SESPAS should invest in more promoters, more rural clinics, more hospitals or better management. (The USAID analysis says the latter. However, because of political visibility, the lack of objective information and willing other donors, the GODR is investing in more rural clinics and hospitals.)

The tables included in Annex C-3 summarize for each management area the major problems, the current SESPAS response and ways the Health System Management Project proposes to respond. The technical reports from which these analyses are derived are contained in the Health Systems Management Project files. These reports include: Financial Management, Information Systems, Maintenance Systems, Logistics, Personnel and Training and Supervision.

V. PROJECT DESCRIPTION

A. Policy and Strategy Statement

1. Relationship of Project to AID Policy

The Health Systems Management project directly supports AID policy as stated in the Health Assistance Policy Paper (December 1982) and further delineated in the Administrator's guidelines on the implementation of the health policy (State 279103). The basic objective of AID's health policy is to help developing countries become self-sufficient in providing broad access to cost-effective preventive and curative health services directed at the primary causes of mortality and morbidity in LDC's, particularly among the target populations of infants, children and women of child-bearing age. The principal aims of the health program are:

- a) increasing the cost effectiveness of health programs through improved design, management and implementation;
 - b) promoting the economic viability of health programs;
- and
- c) increasing biomedical research and field testing in support of health in LDC.

The proposed project directly supports the first goal by providing mechanisms for improved management and administration of the Secretariat of Health and indirectly supports the promotion of economic viability of health programs through increased cost effectiveness.

The policy paper identified many of the problems which have limited the effectiveness of first generation primary health care programs including deployment of health workers before adequate managerial systems are installed, shortage of personnel trained to undertake management functions, institutional inflexibility, and a full range of logistics problems. As discussed, these are the same problems that SESPAS is currently encountering in the delivery of primary health care. The Policy Paper states that AID assistance in the health sector should support:

- o technical assistance in designing effective management, supervisory, administrative, maintenance and repair, information, and logistics systems;
- o training programs in these areas in-country, where appropriate, or, where cost-effective, on a regional basis or in the U.S. for middle- and higher-level managers; and
- o training for trainers in these functions.

The Health Management Systems Project, proposes to use precisely those inputs identified by AID policy, technical assistance and training, to address a whole range of management problems (identified by both AID Policy and by the Mission's analysis of SESPAS), that currently inhibit the cost-effective delivery of primary health care in the Dominican Republic.

2. Relationship of Project to USAID Strategy

The USAID/DR's human resources development strategy recognizes that the key to achieving balanced and increased economic growth is to increase the productivity and employment of human resources. This involves the areas of education and health. The Health Systems Management Project supports the basic strategy by improving the managerial and administrative capacity of SESPAS and by providing technical skills and management training to SESPAS personnel.

The USAID/DR's strategy in the health sector is to consolidate the gains made under the previous health loans which assisted the Dominican Republic to establish a rural health care delivery system. AID's intentions are to pursue structural change and policy reforms in the broad area of health systems management. It is anticipated that the effort described below will insure lasting impact of past investments. Through direct improvements in the SESPAS management of health resources and improved delivery of services, the long-run indirect benefit will be continued and sustained improvement in the health indices for the Dominican population.

B. Project Goal, Purposes, Outputs and Inputs

1. Goal

The goal of the Health Systems Management Project is to increase the quantity and quality of SESPAS-delivered primary health care services. Project success will be indicated by achievement of coverage and service delivery targets for four critically important primary health care interventions: immunization coverage, Oral Rehydration Salts consumption, contraceptive prevalence and child growth monitoring. Current coverage/service delivery figures are not accurately known at this time. Both current figures and target levels will be assessed during initial project implementation.

2. Purpose

The purpose of the Health Systems Management Project is to improve SESPAS management systems and concurrently to develop the capacity within SESPAS to administer and manage health services. Related to this major purpose, the Health Systems Management project will also

assist SESPAS to deal effectively with three identified priority diseases: schistosomiasis, dengue and yellow fever. This component will be carried out with the assistance of the Center for Disease Control.

a. Management Systems Improvement

As discussed previously, there are major deficiencies in all the major management systems including finance, logistics, information, supervision, personnel, maintenance and planning. These seven management systems will be the focus of project implementation. The Health Systems Management Project is based on the hypothesis that improved management support will result in increased delivery of better health care services.

The project will support the development of a SESPAS management information system (MIS). This will support the individual management systems and enable effective coordination among those systems. It will also provide regular information on the overall performance of SESPAS. Improved management and service information will also facilitate improved planning and policy-making. The current scarcity of reliable information inhibits the inclusion of management considerations in these processes. For example, at present, recurring costs are not a serious consideration in the approval process for most development projects.

Achievement of improved management system performance will be indicated by improvements in certain key indicators; composite performance indices for each management system will be developed. Baseline information on management system performance will be provided by a project-sponsored baseline survey at each of the major service delivery levels during Phase I of implementation. (See Project Implementation Plan.) The project-developed MIS is expected to adequately document management system performance by the end of the Project.

The major activities under the improved management systems component will revolve around the analyses of problems in particular management areas through case studies, surveys and operations research and then the initiation of systematic, procedural solutions. A key tangible output associated with improved management systems performance will be the documentation and implementation of operations and procedures handbooks for each management system: finance, maintenance, logistics, personnel, supervision, information and planning. The handbooks will include standard operating procedures, record keeping and reporting requirements, and performance norms and indices. Management systems handbooks will contain modules for each level in the health system, e.g., rural clinics, sub-centers, etc., as appropriate. They will indicate, in detail, how each major category of

personnel is expected to interface with the system. They will form the basis on which administrative skills training will be designed (see below).

Routine reports which will be fed into the SESPAS decision-making process will be another major output of the Project. Their frequency and context, will be specified during implementation. The Project will also produce a variety of non-routine documentation related to management systems improvement. This documentation will include the management systems baseline and follow-up survey reports, a household survey report on health related expenditure, operations research studies, policy papers and at least two dozen management case studies based on SESPAS experience.

b. Management and Administrative Skills

The improved design of SESPAS management and administrative systems must be accompanied by improved training for SESPAS personnel. As discussed previously, many SESPAS personnel have received inadequate training in the skills they require. Most have received little, if any, continuing education, and practically none have been trained in the management or administrative skills required to fulfill their responsibilities.

A major task, to be undertaken by the Project, is to assist SESPAS develop out of existing resources in the Human Resources Directorate General, CENADES and the normative and administrative divisions a feasible training program within GODR financial constraints. At the end of the project it is expected that SESPAS will have the capacity to provide continuing education and administrative skills training, based on the operations and procedures handbooks, to all who require the skills. SESPAS is also expected to be able to continue to provide management training to middle-level managers, for example, using project-developed case studies and curricula.

For management training at the senior (Director, Director-General and Sub-Secretary) level, SESPAS is expected to continue to rely on outside, not necessarily foreign, trainers. A university-level public health training program is being started in-country and the feasibility of organizing a health management program outside of SESPAS, using project-developed case studies, will be a subject for early project-supported investigation. Throughout the life of the Health Systems Management Project senior level management training will be conducted by project-provided technical assistance.

The management training and follow-up workshops, intended for SESPAS directors, regional directors, and hospital directors and administrators (middle-level) will focus on team building and leadership skills. Later seminars will focus on technical and policy level issues as SESPAS develops and implements new policies.

Administrative skills training will support the implementation of the upgraded management systems. For each management system, the skills required by each category of personnel will be identified and appropriate training modules developed and implemented. For example, promoters require reporting skills to interact with the information system, and auxiliary nurses need stock record keeping and reporting skills to interact with the logistics system.

The SBS evaluation identified the urgent need by 5,200 promoters and 350 rural clinic auxiliary nurses for continuing education. Mini-modules of two hours length, provided during the promoters monthly visit to the rural clinic, seem to be the most cost-effective approach to continuing education and to develop new skills, although this will have to be assessed on a case-by-case basis during project implementation.

Finally, the Project anticipates the provision of one- and two-year masters-level training in specialized areas which will be determined during project implementation but which may include: financial management, if SESPAS decides to implement a consumer cost-sharing policy; systems analysis, if SESPAS decides to decentralize and computerize the MIS; health and financial planning, if financial constraints continue to tighten forcing SESPAS to make difficult policy decisions; and in specialized technical areas of acute need such as epidemiology and nutrition. In candidate selection, care will be taken to guarantee that graduates return to work in appropriate positions at SESPAS.

Estimated minimum levels of training outputs are provided in the following table. The training outputs fall into two categories; trained personnel, who will be better able to perform their responsibilities after training, and training materials which SESPAS can continue to adapt and use in future training efforts.

TABLE 2
TRAINING OUTPUTS

TYPE OF TRAINING ACTIVITY OR MATERIAL	QUANTITY	NO. OF PARTICIPANTS	NO. OF DAYS DURATION
Counterpart workshops	3	15	2
Management training workshops (senior level)	4	18	12
Management training follow-up workshops (senior level)	3	18	6
Management training workshops (middle level)	12	20	6
Administrative Skills Training (middle and low level)	2	4,000	3
Continuing education (SBS field Personnel)	16	6,000	1/4
Participant training (person months)	168		
Case study teaching notes (sets)	24		
Administrative skills training modules	5		
Continuing education modules (SBS field personnel)	48		

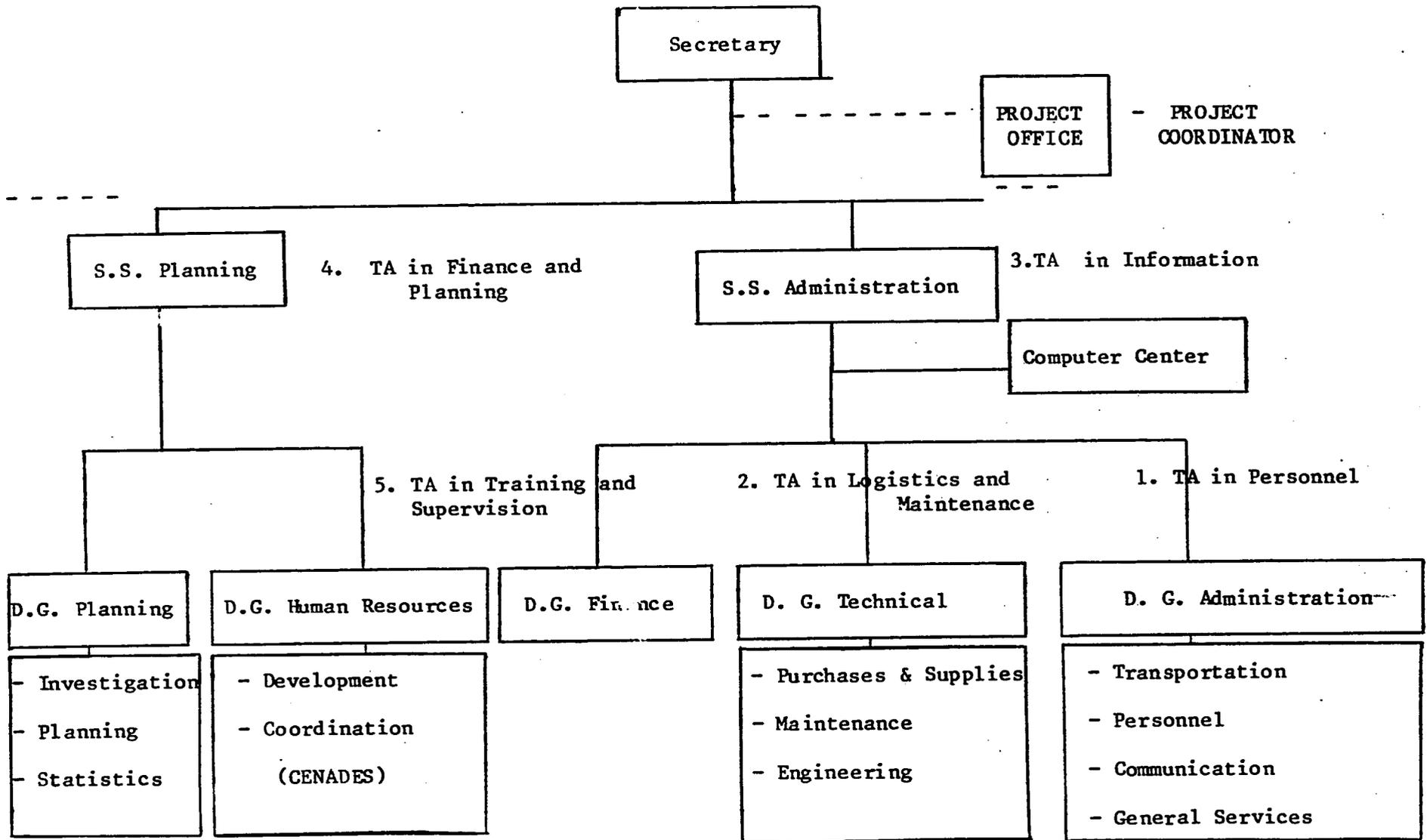
3. Technical Assistance

In order to achieve significant improvement in the design and functioning of SESPAS management support systems, SESPAS requires substantial technical assistance. Although there are a number of bright, capable people currently attempting to create better management systems at SESPAS, they generally lack the experience required to make educated guesses when judgment is required, or to quickly identify which problems deserve priority attention, which should be left until later or delegated to someone else. Experienced technical assistance is required in order to reduce errors of judgment during the design phase, to assist in developing the training required to efficiently implement the new or modified systems, and to assist in the evaluation and adjustment process which follows implementation.

A team of five long-term resident advisors is contemplated. Each will have multiple responsibilities and counterparts and will be supported by short-term consultants with specialized skills.

The technical assistance will have official counterparts as shown in the following diagram.

DIAGRAM 2: TECHNICAL ASSISTANCE COUNTERPARTING



While the previous diagram illustrates the official counterparts of the technical assistance team members, they will be expected to work closely with a much larger number of people at both the division and department levels. Thus, for example, the logistics and maintenance advisor will work with the Directors of Procurement and Supplies, Maintenance, Transportation and Communication, as well as with some of their department chiefs.

A Project Coordinator will be named by the Secretary of Health. The Coordinator will work directly with the technical assistance contractor and the counterparts. The main responsibility of the Coordinator will be to facilitate project implementation and coordination among the various implementors, i.e., SESPAS, the TA contractor and AID.

The technical assistance team will require approximately 4 1/2 years to make all modifications and achieve a degree of institutionalization sufficient so that the systems will continue to function acceptably without technical assistance.

Although the long-term advisors should all be experts in their field, they will all require, at one time or another, short-term assistance from specialists, perhaps less experienced in third world development but more up-to-date in specific management fields. For this reason, the Project anticipates using 90 person-months of short-term consultants. The short-term technical assistance needs will depend on the timing and nature of management problems and selected interventions. The following list of short-term technical assistance requirements is, therefore, illustrative, not definitive:

- Survey design
- Systems analysis
- Micro-computer applications
- Pharmaceutical procurement
- Financial forecasting and model building
- Computerized inventory systems
- Hospital service quality control
- Hospital administration.

C. Project Interventions and Implementation Plan

Project implementation has been divided into five phases. Each phase will terminate in a "check point" which signifies a point in time by which the implementation process should have achieved certain tasks as determined by the Work Plans. A site visit assessment, further described in the Evaluation Plan, will be conducted at that time. The rationale behind each phase and the major interventions to be undertaken in each phase are described in the sections which follow. The estimated duration of each phase is shown in the following table.

TABLE 3

PROJECT PHASE

Phase	Major Interventions	Start	End	Duration
I	Start-up and Work Plan Development	6/84	12/84	6 Mos.
II	Priority Interventions for Improved Management	1/85	3/86	14 Mos.
III	Development of Policy Alternatives, Transition and New Work Plan	4/86	9/86	6 Mos.
IV	Structural Adjustments in Management Systems	10/86	9/88	23 Mos.
V	Final Assessment and Transition to Post Project Area	10/88	2/89	5 Mos.
	Total			54 Mos.

Phase I: Start-up and Work Plan Development

The principal objectives of the technical assistance team during this initial phase will be:

1. To develop detailed knowledge of the management systems at all levels in SESPAS.
2. To select management performance indicators, develop performance indices, and establish baseline values.
3. To develop close working relationships with counterparts and other SESPAS officials, and
4. To develop, with SESPAS counterparts, a detailed Work Plan to be jointly implemented.

The technical assistance team will undertake a number of interventions directed towards the accomplishment of these objectives. The first will be a short 1-2 day workshop for the Secretary, the Sub-secretaries, the Directors General designated as counterparts, the Project Coordinator and the 5-member technical assistance team. This workshop will have four principal objectives:

1. to establish working relationships,
2. to articulate the individual participants' expectations with respect to the project,
3. to clarify the roles workshop participants will play in project management and implementation, and
4. to identify criteria which will be used to select management systems interventions.

The second major intervention of the technical assistance team members in conjunction with their counterparts, will be to design and implement a management systems baseline survey. The survey will cover the seven principal management systems addressed by the project. The objective of the survey is to provide the technical assistance team with a comprehensive and in-depth quantitative and qualitative knowledge of the current functioning of the management support systems, which will assist in Work Plan development and as an initial measurement from which future progress can be measured.

Based on the survey results a performance index will be established for each management system at each level in the health service delivery system. These indices will be one of the principal tools for purpose-level evaluation of the project.

The third major intervention during Phase I will be a general management systems status review. This activity is the logical extension of the management systems baseline survey. While the latter seeks to determine the level of health services which reach the delivery point, the former examines the management process by which the services are delivered, with the objective of identifying problems. By way of an example, the following five activities would constitute the management systems status review for the management information system:

1. assess and, as appropriate, learn from and use the results of previous studies, i.e., PAHO Studies;
2. develop open communication channels with all SESPAS units that will participate in the effort to improve the MIS;
3. clarify the roles of everyone involved;
4. identify the information needs (not data needs); and
5. formalize the activities within the organization.

Documentation of existing procedures in each of the management support systems will constitute a first, though not very thorough, operations and procedures handbook for each of the management systems.

Analysis suggests that the simple act of documenting current procedures will yield significant performance improvements in several of the systems by clarifying both the procedures and also the roles of individual persons in carrying out those procedures.

As a complementary exercise designed to make maximum use of the management system baseline survey and the status review, each of the five long-term resident advisors is required to develop at least one case study. These cases and others to be developed (about two dozen in all) will form a body of management teaching materials directly related to the Dominican Republic, which will help SESPAS maintain a management training program after the end of the project. The case studies and associated teaching materials will be prepared in two versions: one appropriate to senior officials (sub-secretaries and some directors general and hospital directors), and another appropriate to middle level officers (directors of divisions, directors of small hospitals and hospital administrators of large hospitals).

A management training seminar followed closely after the completion of the baseline survey and status review is another intervention planned for Phase I. The workshop will focus on the development of a detailed workplan for the technical assistance team and counterparts. Priority management interventions will be selected and scheduled accordingly. The interventions selected should result in short-run improvements in management systems. Some criteria for the selection of these interventions could be (1) the impact on service delivery infrastructure (rural clinics, hospital) utilization rates, (2) impact on SESPAS operating costs, (3) feasibility in terms of available organizational capacity, (4) impact on mix of SESPAS-provided health services (preventive vs. curative), and (5) impact on SESPAS ability to acquire necessary human and financial resources.

The development of a detailed technical assistance work plan is the final major activity during Phase I. It will specify the interventions to be undertaken during Phase II and justify each in accordance with specific selection criteria.

Unscheduled and unplanned activities ("fire fighting") will consume considerable time on the part of the technical assistance team and of the short-term consultants, particularly during Phases I and II. As discussed in the social soundness analysis, SESPAS operates in a reactive environment, i.e., responds to a variety of pressures. The effect from a management point of view, is that SESPAS is like a fire department responding to fires which cannot be anticipated. The technical assistance team will have to participate in fire fighting 1) because, if they expect counterparts to be interested in their long-range interests, they will have to show an interest in their counterparts' priorities, and 2) because their participation in these activities will provide them with both the knowledge and the credibility they require to begin redirecting SESPAS resources from ad hoc fire fighting to fire containment and prevention.

Phase II: Priority Interventions for Improved Management

The focus of Phase II will be on priority interventions to improve the management support systems. The strategy will not be one of comprehensive, broad-based and systematic reform which is necessarily both disruptive and confrontational. Rather the technical assistance team, using the knowledge developed during Phase I, will undertake to implement the interventions selected in Phase I.

Phase II will include five types of interventions summarized below.

First, management systems interventions will be carried out and designed to correct obvious bottlenecks and improve system performance in the short run. These will complement changes being made in other management systems and will be characterized as modifications of the existing system, not as major changes. For example, drug requisitions from rural clinics could be simplified by the use of preprinted, standard forms listing the drugs in the same order as they are stored on clinic shelves.

Second, experimental interventions through operations research, which if universally applied would result in major changes, will be carried out in order to demonstrate their long-term value. For example, supervisors' checklists could be developed for rural clinics or promoters, based on objective performance criteria, and would result in each promoter receiving a monthly performance score.

Third, management training seminars and workshops will be held for senior-and middle-level SESPAS officials, these will develop their ability to apply and understand the selected interventions described above, to broaden their overall vision of SESPAS, and to encourage their understanding of the longer objectives of the project and the impact that ad hoc fire fighting has on these objectives. Case study development will be a key element in the management training effort.

Fourth, administrative training will be provided to middle-and low-level personnel. An attractive possibility would be to use the campaign approach to address administrative training deficiencies. Campaigns are currently being mounted to deliver priority health services in order to bypass the existing, barely functional, integrated service delivery system. The campaigns have a tendency to attract resources away from the integrated system, thereby weakening it further. An administrative skills campaign might co-opt this approach into supporting long-term institutional development.

Finally, special studies will be undertaken to improve SESPAS understanding of current efforts being made in priority public health areas. As described elsewhere in this paper and in reference

documentation, a variety of other institutions and programs are involved in delivery of health services. Some of these services, such as nutrition activities, are not done in coordination with SESPAS. An operations research methodology could appropriately be applied to this problem in an attempt to learn from existing Dominican experience.

As in Phase I, a good percentage of the time of the technical assistance teams will be spent fire fighting; that is, attending to emergency efforts undertaken by SESPAS in reaction to some unanticipated outside pressure.

Phase II will end at the initiation of the 1986 presidential campaign. By this point in time, significant but not comprehensive improvements in management system performance will have been achieved, and the technical assistance team will have a thorough understanding of the strengths and remaining weaknesses of SESPAS management.

Phase III: Development of Policy Alternatives, Transition and New Work Plan

The final months of the electoral campaign will provide a good opportunity for the technical assistance team to step back from the project, assess the progress made and identify the major structural and organizational problems that remain. Using the information and knowledge gained during the first 20 months of the project, the team should develop a series of position papers and case studies that describe and suggest possible courses of action and policy alternatives.

After the May 1986 elections, the team should commence work with their counterparts toward planning a smooth transition to the new administration. This will be a critical period for the project. It is crucial that the team accomplish three objectives, the failure to achieve any one of which would severely limit project benefits. The period from May to August 1986 will be one of great risk and opportunity for the project. The principal objectives to be achieved are:

1. to establish close working relationships with the incoming administration.
2. to preserve the advances made during the first 2 phases of the project, and
3. to assist the incoming administration develop strategies to address the major structural and organizational problems that inhibit further improvement in SESPAS performance.

One intervention to be undertaken is management training. This can be done as new counterparts and senior officials are named. One or two workshops will be held for senior officials. The training will focus on management skills and will utilize the case studies and position papers previously developed. Participants may include some members of the outgoing administration, particularly those identified as likely to continue working in senior positions in the new administration.

The new administration will take office in August 1986. At this point, the technical assistance team will be prepared to help effect a smooth transition and needed structural and organizational changes.

Besides training interventions, activities during this time period should include a two-day workshop for the new Secretary, new Sub-secretaries and other project counterparts with the same objectives as the counterpart workshop in Phase I. The management training workshop will be used to introduce key officials in the new administration to documentation on SESPAS administrative procedures and management decision making, as well as explain the objectives of the project being carried out by the TA team.

The final product of Phase III will be a detailed workplan for the remainder of the project. It will include activities and objectives for each of the management support systems. The workplan will be developed collaboratively with SESPAS counterparts and must be approved by both the new Secretary of Health and USAID/DR.

PHASE IV: Structural Adjustments in Management Systems

Four major categories of interventions are planned for Phase IV. First, the management systems handbooks will be revised to incorporate the structural and organizational adjustments made by the new administration. A major objective to be accomplished during this process is the coordination of the various management information sub-systems (logistics, personnel, finance, supervision, information, maintenance and planning).

Management training is the second major intervention. New people brought in at all levels by the new administration will require training in their administrative and management responsibilities and carry-over personnel from the previous administration will require refresher training. During this phase much of the training will be administrative training directed at middle-and low-level personnel as in Phase II. As with previous training exercises the course content will be developed jointly by the TA team and SESPAS counterparts using project developed materials.

Operations research and case study development will continue to be a major sub-activity associated with management systems improvement and management training.

The third category of interventions will be the implementation of any major initiatives by the new administration. It is not possible to predict what these initiatives may be, but possibilities include:

1. a SESPAS policy decision to initiate fees for service and/or pharmaceuticals, or
2. a donor-supported effort to eradicate malaria from the island of Hispaniola.

Phase V: Final Assessment and Transition to Post Project Era

The final phase of the project, is planned as a short but critical period of assessment, reflection and planning. Depending upon the performance of the management information system, a follow-up management system performance survey may be conducted to measure progress from the performance levels established during Phase I.

The final, currently anticipated, intervention of the project will be a third professionally facilitated workshop for the Secretary, Sub-secretaries, counterparts and the technical assistance team. The purpose of this workshop is to give SESPAS senior officials a final opportunity to debrief the team and for the team to discuss and present its concluding advice to the Secretariat.

A summary schedule of project timing and activities is included in Annex C.4.

D. Priority Disease Control

In addition to the major management systems and training activities described above, the Project proposes to fund an additional component. The purpose of this component is to strengthen the ability of SESPAS to deal effectively with certain priority communicable diseases, namely, schistosomiasis, dengue and yellow fever.

Tuberculosis, malaria, acute gastroenterities are very common in the Dominican Republic. Tuberculosis and malaria have received special attention from SESPAS since the Government took office in August 1982. AID has approved the utilization of PL-480 funds to assist the GODR in expanding activities for the control of both diseases. In addition, there is sufficient expertise in the country to adequately develop both interventions. However, other diseases, like schistosomiasis, dengue and yellow fever, require a different approach. There is no local technical expertise to develop coherent epidemiological approaches for the control of schistosomiasis nor expertise to develop an adequate laboratory surveillance program for dengue and yellow fever. Limited interventions have been recommended in these two areas to assist the GODR in developing adequate control and surveillance programs for these diseases.

1. Schistosomiasis Control

Although a reliable estimate of schistosomiasis prevalence in the Dominican Republic is not available, it is considered endemic in four eastern provinces. Due to the development of new dams and the existence of fresh-water bodies all over the nation, in addition to irrigation projects being developed by the GODR and the private sector, and the presence of schistosomiasis' intermediate host country-wide, there is a very high risk that the disease can spread to the rest of the nation. To obtain a more reliable estimate of prevalence, a survey of randomly selected households was done in three localities in 1980. Since the report of this survey was published, case numbers have increased, and another endemic focus has been documented.

The findings and recommendations of the 1980 Assessment were reviewed and updated by CDC experts in August 1983.^{1/} The report recommends following the epidemiologic approach of disrupting the transmission cycle of the disease by identifying and treating patients, and preventing its spread by using appropriate control measures

^{1/} (See Project files for full report by Dr. Robert E. Fontaine, CDC, "Strategy for the Control of Schistosomiasis in the Dominican Republic", Revised August 1983).

(molluscicides and environmental control methods) in the areas where patients have been identified. The following is a summary of the proposed interventions in the schistosomiasis control component:

a. Epidemiologic Survey and Diagnosis: Since present data does not adequately describe the current situation, the need for a systematic, representative and longitudinal survey of the endemic area is crucial. A survey of the rural area will be implemented. It is designed to estimate overall prevalence and to identify risk factors useful in selection of communities where future control efforts should be focused. It will also serve as a baseline for future evaluation surveys. Equipment and supplies for the laboratories in the affected area will be provided through the program.

b. Chemotherapy: All confirmed cases will be treated with oxamniquine, a drug proven effective in the treatment of schistosomiasis. SBS promoters will be instructed to locate and refer these patients to the clinic for treatment. Promoters will obtain a stool specimen from the patient three month after treatment.

c. Snail Reconaissance and Control: Two interventions will be developed for the control of the snail: 1) limited utilization of a chemical control agent (niclosamide), and 2) environmental control measures. (See Annex A.3 for Environmental Determination.) Six months after this activity there will be an evaluation to assess snail control effectiveness. The measures developed for the environmental control of the snail will focus on upsetting their habitats to make them untenable and unsuitable for their existence and propagation. In general, these will include engineering methods such as straightening banks to increase water velocity in irrigation systems or natural streams, the removal of mud and aquatic vegetation, and drainage of swamps and swampy embankments of rivers. Finally, the potential utility of two other kinds of snails (Marissa cornuaretis and Thiara granifera) in the control of the intermediate host of schistosomiasis will be assessed to determine its viability.

d. Training: Physicians from the affected area will be trained in the basic principles and practices of epidemiology and public health. This training will include field experience and will last three weeks. A one week training course will be offered to the laboratory technicians working in the endemic area. Training will include the most accepted technique for coprologic examinations (MRCT) and parasite identification. Finally, the Snail Control Team supervisor and one of the assistants will be trained in the survey and control of snails.

e. Evaluation: The project will finance travel and per diem expenses for a CDC consultant for specific TDY visits to evaluate the pre-control studies, evaluate the control program, conduct a

mid-survey evaluation, evaluate the survey results, and evaluate the control program and the design of a five-year follow-up survey.

f. Other General Aspects: The project will also finance the procurement of vehicles and training aids.

2. Dengue and Yellow Fever Control

Increased frequency of air travel by man between population centers of the world has provided the ideal mechanism for the movement of dengue virus strains and serotypes into new areas. This, along with a breakdown in Aedes aegypti (the vector of dengue and yellow fever) control in many countries of the Caribbean Basin, has resulted in major epidemics of dengue caused by all four serotypes in the past 10 years. It is unlikely that this set of circumstances, which are so favorable to the spread of dengue fever, will change in the near future and, therefore, epidemic dengue will likely continue to occur at frequent intervals in the region. Furthermore, recent evidence in Cuba and Puerto Rico suggest that the severe and fatal form of the disease, dengue hemorrhagic fever (DHF), will become a major problem to health authorities in the Americas. Major epidemics have been documented in adjacent islands, but little is known of the past or existing situation in the Dominican Republic with regard to the serotypes of dengue virus being transmitted or the type of illness associated with dengue infection. Finally, yellow fever is still common in rural areas of several countries and there is a continued threat of renewed urban epidemics of this disease.

The prospects of preventing epidemic dengue and yellow fever by routine mosquito control is not promising. An effective vaccine is available for yellow fever, but not for the dengue viruses. The only alternative for dengue, therefore, is to develop an early warning surveillance system which allows detection of new viruses in an area before epidemic transmission begins. This predictive capability will allow focal and targeted mosquito control to be initiated to reduce epidemic transmission. The approach proposed by CDC is to carry out seroepidemiologic surveys in major metropolitan areas of the country and to increase surveillance of DHF. Sound surveillance requires good laboratories and trained personnel who can provide serological and virological diagnostic support. The approach that will be followed in this activity is to provide equipment and materials for laboratory facilities and to train laboratory personnel.

a. Training: The training of supervisory personnel and laboratory technicians (from the National Veterinary Lab, Robert Reid Cabral Hospital, and the National Public Health Lab) will be held at the facilities of the CDC in Puerto Rico. Personnel will be trained in viral

serology isolation and identification, depending on the laboratory where they are working. Training costs will be participants' travel and per diem expenses.

b. Equipment: Necessary laboratory equipment and materials will be provided through the project. The Robert Reid Cabral Hospital Laboratory and the National Public Health Laboratory will receive significant amounts of equipment and materials, while the Central Veterinary Laboratory will receive minimal supplies of equipment and materials.

E. Evaluation Plan

The Health System Management Project's focus on SESPAS organizational and institutional development and its exclusion of service-delivery infrastructure expansion set it apart from most AID-assisted health projects. The innovative nature of the project, the recognized difficulty of the problems it seeks to address, and the frequency with which these same problems are encountered in other third world countries, all suggest that the project should contain a strong evaluation component.

Three organizations will be involved in project implementation: SESPAS, the technical assistance contractor and USAID/DR. USAID will want to evaluate the project periodically, with a view towards determining if alterations in design are warranted or if the project should be curtailed should the GODR choose not to carry out the project as fundamentally designed. USAID is interested in determining if there are lessons from this project which can be applied elsewhere in the third world. The technical assistance contractor will want more continuous information to aid in normal implementation decision making and needs to know quickly when resistance is encountered so that alternative strategies can be found and progress resumed. Implementation of the project by SESPAS requires both periodic and more or less continuous assessment. Both types of assessment will be undertaken.

Decision makers will face two interrelated questions. First, is the quality of the product acceptable? Second, is the quality of implementation adequate to produce an acceptable product?

The product is defined by the goal and the purpose of the project. These have been sufficiently specified from the point of view of project design, but must be further elaborated during project implementation. Product quality control will, therefore, be monitored using several categories of objective but not independent indicators including: (1) quantity of SESPAS-delivered services, (2) unit productivity of physical and human resources, (3) unit cost of SESPAS-delivered services, (4) measures of management system performance, and (5) measures of administrative skill improvement achieved through training. Evaluation of overall management system performance and skill training will, therefore, have three dimensions, i.e., quantity, quality and unit cost.

USAID, SESPAS and the technical assistance contractor will evaluate project progress through extensive, collaboratively developed project documentation. These reports include:

1. Workplan (initial plus regular revisions, to guide counterparts and technical assistance),

2. Biweekly Reports (developed by individual advisors based on Workplan),
3. Monthly, Quarterly and Annual Reports (progress reviewed against Workplan),
4. Management Systems Handbooks (collaboratively developed by contractor and counterparts),
5. Training modules and curricula (to develop skills required by management systems),
6. Special In-depth Analyses (for example, detailed 5-year recurring cost projections for SESPAS),
7. Survey Reports (for example, management systems baseline survey).
8. Operations Research Reports (for example, special study of effectiveness of on-going nutrition efforts),
9. Management Case Studies (for example, case study dealing with personnel management at a regional health office), and
10. SESPAS Health Statistics Reports (to be developed with project MIS technical assistance)

In order to plan for continuous on-going assessment and evaluation various activities have been selected. These activities include the following:

1. Contractor Workplan Review Meetings

The technical assistance team will meet with their counterparts at regular (monthly) intervals to review progress against workplan targets. A report will be prepared that summarizes progress, identifies problem areas, and recommends alternative remedial interventions. The report will be submitted to USAID/DR and the SESPAS Secretary along with a listing of all project documentation completed during the period covered by the review meeting.

2. Joint Quarterly Review Meetings

The contractor's quarterly reports will be reviewed at a regularly scheduled meeting that will include the Secretary of SESPAS or his designate, a USAID/DR representative, the contractor's chief of party, and, at the discretion of the Secretary, an outside

representative; for example, the PAHO country representative. The workplan will be reviewed and recommended adjustments made. Minutes will be kept and appended to the quarterly report.

3. Site Visits

The innovative nature of the project suggests the need for outside involvement in project evaluation. At each of the four "check points" identified in the Implementation Plan, an outside assessment team will visit the Dominican Republic for 3-5 days. The tasks of the team will include:

1. assessment of progress against the Implementation Plan and the Workplan based on project documentation;
2. assessment of the Workplan's feasibility and the likelihood that achievement of Workplan targets will result in achievement of project performance indicators;
3. assessment of project acceptability to the GODR through an interview with the Secretary of Health;
4. preparation of a written evaluation to USAID/DR, SESPAS and the technical assistance chief of party that outlines problems identified and recommended action, including adjustments in project design and Workplan, and
5. recommendation of a date for a follow-up site visit, should one appear necessary before the next "check point."

The assessment team will consist of two members. The two members should have no formal ties with the organizations responsible for the project; that is USAID, the TA contractor and SESPAS. The two members should be tenured faculty at institutions with a superior reputation in the specified field of competence. The first member should be a recognized expert in organizational or institutional development at a Dominican university. He should be a senior faculty member or hold a leadership position in the university. The second member should be a recognized expert in third world health system development, teaching in a department of international health at a U.S. university. Observers from the implementing organizations; that is USAID, SESPAS and the technical assistance contractor will be strongly encouraged to participate in the site visits. They should not be in supervisory positions relative to project management. They should, however, be senior people in their own organizations. Their role should be as resource persons to the two

assessment team members. The site-visit evaluation report and its recommendations will be the responsibility of the team members, not the observers. The observers will assist their institutions respond to the recommendations, thereby serving as a critical link between the independent assessment team members and the individuals responsible for project implementation.

Continuity is essential to the site-visit evaluation strategy. A long-term contractual relationship will be worked out with site-visit assessment team members. They will receive copies of all project documentation (Workplans, routine reports, survey reports, case studies, etc.) as they are produced. Funds have been budgeted for them to review this documentation prior to the site visits.

4. In-Depth Evaluation

An objective in-depth, independent evaluation of the project will be carried out during the fourth year of the technical assistance effort to review the technical quality of the management systems. It will also make recommendations for implementation, follow on activities and overall success.

To insure objectivity, the in-depth evaluation should be implemented by a contractor independent of both the technical assistance contractor and the site-visit contractor. The level of effort required is estimated to be approximately 90 person-days; that is, five persons for three six-day weeks each.

VI. PROJECT ANALYSES

A. Social Soundness Analysis

1. The Beneficiary Populations

Rather than building an infrastructure to deliver services, this project will be building management systems to support an existing infrastructure and to support both operational and policy level decision making related to the use of that infrastructure. The core assumption of the project is that, if SESPAS can improve both the quality and quantity of its services, then health status for its client population should improve.

Thus, there are two contexts and two beneficiary populations in which the impact of this project has the potential to be felt. One, a population of indirect beneficiaries, is the clientele of SESPAS. The other, a population of direct beneficiaries, includes the individuals who make up the SESPAS system. It is the opinion of SESPAS' leadership that the beneficiary population should be defined contrarily, that is, that the direct beneficiaries are SESPAS' client population and that its staff are only indirect beneficiaries. The logic for this inversion is that the personnel of SESPAS are, ideally, only a means to an end, which is better health for more Dominicans.

a. The SESPAS Client Population

The standard figure cited as percent of coverage for SESPAS services is 80%, that is, approximately 4.5 million Dominicans (1981 population: 5,647,977, a number which is increasing annually at a rate of 2.9%). The figure does not reflect reality. It is, first of all, a theoretical access figure which does not fully account for geography, natural barriers, or availability of transportation. Nor does it represent the skew towards urban areas; for example, of the 7,486 hospital beds in the SESPAS system, 61% are in the Central Nucleus (urban and periurban areas of Santo Domingo) and Santiago. Second, and more importantly, the 80% figure does not reflect utilization rates, which are extremely low and which are an important part of the motivation and justification for this project. Finally, SESPAS leadership considers the 80% figure to be overblown in broader terms: it simply does not respond to the changing socioeconomic profile of the country as a whole. While population growth keeps feeding the lower socioeconomic strata, economic development also keeps feeding the middle strata. The middle strata are increasingly turning to private sector health solutions as they get more money, and as health management organization-like entities proliferate, or as they acquire access to social security services. On the basis of

this analysis, management estimates a realistic, more or less stable, access coverage figure of around 65%. Based on the 1981 population figure, SESPAS' putative client population would run somewhere around 3.7 million.

b. The SESPAS Institutional Population

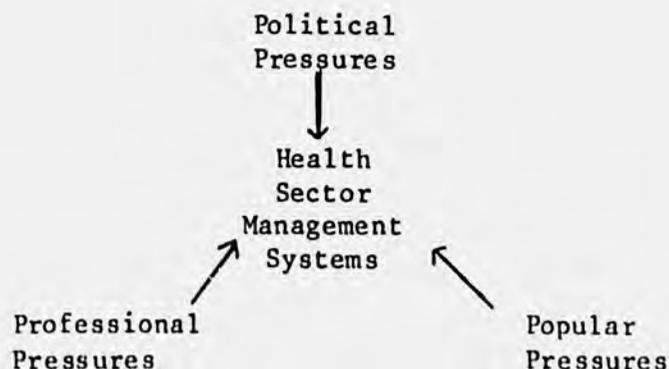
Estimates of the number of employees in SESPAS are precisely that: estimates. The number now in official use is 13,344, excluding numerous categories. However, a corrected estimate puts the present personnel level of SESPAS at about 27,000. The most certain statement that can be made about the number of people working in a remunerated capacity for SESPAS is that nobody knows.

As for distribution within the personnel system, the best proportional data we have are on the Central Nucleus staff. If this is even reasonably accurate, the largest occupational category is composed of Office Workers and Administrative Assistants (37%), followed by Professionals and Technicians (28%), Directors and Supervisors (23%), and Manual and General Services Workers (13%). In terms of numbers per 1,000 inhabitants and inhabitants per resource, rates vary, ranging from highs of 0.85/M (Auxiliary nurses) and 0.63/M (doctors) to lows of .0005/M (nutritionists and dieticians) and .01/M (statisticians, social workers, and health educators). Except for the numbers of doctors and nurses, generally agreed to be grossly in excess of demand, there have been no recent analyses of the ratios of human resources to real demand. Looking at the profile as a whole, it is fair to say that it accurately mirrors larger cultural values about relative prestige in the field of health, as well as narrower institutional values as expressed in traditional program priorities and perceived national health needs.

2. Issues of Project Feasibility

There are two sets of issues under consideration here: a) questions of project feasibility, which include issues logically prior to project design and those which primarily affect project implementation, and b) questions of project impact, defined as the likelihood of institutional improvement, the likelihood of durability of such improvement and the likelihood of any spread effect.

The working hypothesis is, based on preliminary evidence, that the principal pressures in and on the public health sector have their roots in current political phenomena and in traditions of political and bureaucratic culture. The nature and sources of pressure are, viewed rather simplistically, external and internal; when applied to management of the health sector, external pressures can be thought of as follows:



These external pressures are only artificially separable and often interactive. Again rather simply, internal pressures can be understood as the dynamic phenomena generated by external pressures as they meet the more persistent manifestations of bureaucratic culture.

a. Professional Pressures on the Health Sector

Pressure for different sorts of response by the public health sector is expressed primarily through the guilds (gremios) and unions (sindicatos) of professional health employees: the Dominican Medical Association (AMD), the National Union of Nursing Services (INASAE), the National Union of Health Workers (SINTRAS), and the several groupings of pharmacists, pharmaceutical manufacturers, and distributors. At present, the latter two are pressing no demands. UNASE, with a membership of from 5,000 to 6,000, of whom only 33% are estimated as employed, recently supported a strike threat by auxiliary nurses for resolution of a variety of problems in the state hospitals, salary hikes for nurses and auxiliaries, housing, and transportation. For the moment, nurses as well as dentists and laboratory technicians, whose rates of unemployment are said to be the highest of all health professional categories, seem to be neither highly militant nor highly successful in achieving the demands they press.

The major pressure by professionals is exerted by the AMD and an affiliate of the AMD whose name symbolizes the main concern for this professional group, the Association of Unemployed Doctors. The total number of physicians now in the Dominican Republic is 7,000 - 7,500. One knowledgeable projection foresees 10,000 - 12,000 doctors in the Dominican Republic by 1986. The present ratio of physicians to population is 1/760 and will drop to 1/500 by 1986. Rates of unemployment and under-employment vary widely. However, the AMD, with a membership of over 5,000, registers 2,000 of its members as unemployed. The 1975 Health Sector Assessment noted that about half of all medical graduates eventually emigrated, a tendency that had persisted for at least 15 years. In dollar terms, at training costs in 1975 of about \$20,000 per physician, the estimated loss in terms of exported human value ran at about \$1.5 million in 1975.

The gravity of the excess is not its newness but its size and the reduction in the number of possible solutions. The practice of medicine is still seen as the number one route to success, but alternatives have narrowed sharply. The absorptive capacity of the public sector seems to have been reached, at least for the time being. It is only now some consideration is being given to controlling production. The quality of the education received, together with an almost total lack of preparation for community medicine, produces a pressure group which is not only large but often poorly motivated.

This over-production of physicians, and consequent high level of medical unemployment, together with continuing low salary level in the public sector combine to maintain pressure within the public sector for emphasis on health delivery programs which are employment-intensive and cost-ineffective. The quintessential expression of this is the pasantfa, the year of obligatory social service for medical graduates. Because of the employment crunch, the pasantfa now requires large numbers of candidates to take positions in remote areas unfillable in 1977. The result is to exacerbate the tendency of pasantes to not want to do the pasantfa.

The inability of public sector logistics and maintenance systems to provide doctors with what they have been trained to do, their lack of preparation and interest in community health, and their curative orientation combine to distort public sector capacity and diminish enthusiasm to provide sustained, well focused, preventive (and curative) medical care to the large majority of the Dominican population that need it. One substantial piece of evidence for this is the low utilization rates of SESPAS facilities and such ancillary evidence as average consultation rates (length of consultation) of 3 minutes.

b. Popular Pressures on the Public Health Sector

The degree to which there is, or is not, popular pressure on the public health sector seems to be very much a matter of opinion. Some analysts outside the sector theorize that SESPAS' putative client population is aware of health needs and their urgency, despite low utilization rates, but do not focus their primary demands there, either because they cannot articulate them or because they do not feel that there are sympathetic channels for such demands into the political orbit. The dominant view at the directorial level inside the sector is that there is real pressure, deriving from increasing perception of the lack of resolution over the last 20 years of increasingly perceived needs.

Again, some are being politically, the different groups are, some and some, given to accompanying their self-interested demands for higher salaries, more jobs, and better benefits, with demands for improved quality of public sector health services, especially hospital

equipment and supplies. Thus they become proxies for possible popular dissatisfaction or elevate such dissatisfaction to a higher plane of political interest.

c. Political Pressures on the Public Health Sector

The theme which ties together the three major sources of pressure on the public health sector is the high rate of unemployment in the Dominican Republic and the degree to which the public sector as a whole is perceived as offering solutions to this highest of all priorities. Part of it derives from the heritage of Trujillo and subsequent "popular statism", which generated the view of the state as the resolver of all the country's economic, social and cultural problems, among which was employment. This was fostered and reinforced by a swell of public hiring beginning in 1978 with the Guzmán administration; both public sector wages and the level of public sector employment grew sharply in the period 1978-80 and, correspondingly, current Central Government expenditures rose by 25% per year during this period, while revenues barely kept pace with inflation. The fact that salaries were cut back, after a pre-election hike, in response to International Monetary Fund (IMF) economic recovery recommendations, does not appear to have dimmed the lustre of the public sector as a primary employer.

Coupled with this lingering perception of government as the arbiter of disputes and solver of problems and the public sector as major employer, there is the recognition that many public sector jobs are patronage positions unprotected by a civil service system. Sketchy evidence supports the popular perception that with each change of government substantial alteration of the administration of SESPAS has taken and will take place. Frequently personnel are shifted within and between offices, with the number of substitutions and dismissals greatest with changes of party. It appears that employees classified as directors and supervisors, office workers and administrative assistants are subject to the greatest movement, while professionals, technicians and laborers remain the most stable. As a result, a feeling of apprehension, if not insecurity, permeates much of the Secretariat to the lowest levels affecting loyalties, expectations and appropriate motivations.

There are two interpretations currently offered concerning the impact job insecurity has on the Dominican public health sector bureaucracy. One derives from public administration theory and the central argument is that fear of job loss or displacement produces a stultifying effect on any disposition to innovate, to question, to challenge. The cure for this situation is the introduction of a civil service system.

Coupled with this is the theory that low salary levels and the absence of attractive fringe benefits not only act as disincentives to productivity but act as an incentive for underachievement.

behavior. SESPAS salary ranges are among the lowest in the entire public sector. Guild and union activism on the part of doctors and nurses has pushed salaries up to a degree other health professionals, such as dentists and laboratory technicians, see this as inequitable. But the fact that all human resources in health are in surplus limits their leverage. The absence of a unified salary schedule for the public sector as a whole also leaves SESPAS without any external structure on which to pull itself up and, since it is already predominantly invested in salaries, it is restricted in its capacity to respond to the pressure of competition from other subsectors, not to mention the private sector. The resulting need for so many of SESPAS' personnel to "moonlight" diffuses both energy and commitment. In its most counterproductive manifestations, the low salary scale serves to persuade pasantes and doctors in other SESPAS entities that they are justified in using their public sector activities as a "trampoline" into more lucrative private activities. While it is simplistic to claim that higher salaries would in themselves eliminate the view of public administration as "a system of financial entitlements" built on "Macuteo" (graft), the low salaries in the public health sector do little to discourage abuse.

The other interpretation, which is advanced by the present SESPAS management, is that a static bureaucracy benefits from the threat of displacement. The argument is that the public health bureaucracy is, in large measure, overblown, inert if not recalcitrant, at least in part over-protected by custom, political connections, or kinship ties, inadequately or inappropriately prepared for change. The basic philosophy here is that change is good per se, since what is is so bad that destabilization of such a system is a central and necessary goal.

Whichever the case, the two major outputs from this systemic interaction are centralization of power and the construction of a parallel bureaucratic structure. The centralization of power in SESPAS is basically a habit of history. The primary evidence for this typical orientation is the almost complete failure to date of efforts toward regionalization and an apparent lack of current interest in assigning real meaning to the existing regional offices. In fact, the major institutional strategy presently being employed by SESPAS management is largely antithetical to any regionalization that is more than cosmetic, that is, the building of alternative health delivery mechanisms as evidenced by:

a series of campaigns to deliver certain health care interventions (e.g., vaccinations, deworming, DDT),

the expansion of the role of REMIBA,

the establishment of the Comité de Salud (Health Committee), and

- the effective bypassing of the regional offices and Central Purchasing (Compras) in connection with the vaccination campaigns.

d. The Social, Cultural and Political Feasibility of a Health Systems Management Project and Implications for Implementation.

The context within which a technical assistance team must work, i.e. SESPAS as an institution and as a reflection of Dominican society, proscribes certain approaches to establishing or renovating management systems. In the area of personnel, for example, the institution of a civil service system, as exists in state level health departments in the United States, simply cannot be carried out at this time. This has been amply demonstrated in the past by the large array of studies which yielded plans which were promptly shelved.

Wholesale frontal assaults directed at a clean reorganization of SESPAS have generally been failures, or at best only marginally successful. The reasons for this are several and interrelated though not complex. Plans and their implementers which have been deductive, formal and rigid have met profound resistance, often through bureaucratic delay or sabotage. This is especially true of outside interventions where an office was established and identified with a pre-established plan of systematic change. There appears little reason to believe that, despite the high level of support from current SESPAS administration and the obvious incentives in terms of costs and effectiveness, another siege by asesores would yield any better results if it followed the above pattern.

Thus, the approach of this project must be inductive, pragmatic, flexible, adaptive, work-specific, piecemeal and concerned as much with process as product, particularly in the initial phases of implementation. The key concept here is incrementalism. A companion concept is that of selective change, more or less sequentially in the priority areas, which will yield visible results with promise of savings to the system as a whole. Some possibilities which are most promising are drug logistics, finance and planning and maintenance.

Finally, the concept of evaluation should be much broader than mere risk avoidance and assessment of past activities. Rather, from the beginning, there must be well-integrated and continual monitoring, evaluation and feedback, initiated with a Management Baseline Survey very early in the project. Goals should be articulated collaboratively within SESPAS and in consultation with other donors. The project team should be selected not just on the basis of technical capability, but also on the proven capacity to work in a comfortable, collegial and constructive fashion with host country counterparts.

B. Financial Analysis

1. The Dominican Republic: Current Economic Status

The economy of the Dominican Republic has encountered substantial problems in recent years. The annual growth rate of the country's gross domestic product, which had averaged about 11% in the early 1970's, declined precipitously during the period 1977-1980 due to the drop in the world prices of the country's major exports. Prospects for a resurgence of the economy over the next several years do not appear good due to continued reduced world market prices for traditional exports and to the lack of a diversified export base.

These adverse economic conditions have seriously affected the fiscal status of the Government of the Dominican Republic (GODR), which is heavily dependent upon trade taxes and transfers related to export commodities and has caused a drop in government revenues. The Government's ordinary income dropped by 18% in 1982 to RD\$745 million, RD\$163 million below the 1981 level, and RD\$144 million below original 1982 estimates.* Despite the implementation of tightened fiscal policies and the issuance of RD\$193 million in unbacked monetary emissions during the first eight months of 1982, the central government's fiscal 1982 deficit reached RD\$279.3 million, about RD\$89.4 million greater than the previous year's deficit. The country's external public debt continues to grow and is expected to be about RD\$1.94 billion by the end of 1983.

An agreement between the Dominican Republic and the IMF was negotiated in an attempt to shore up the country's precarious economic situation. This agreement provided for extended financial assistance from the IMF in exchange for the implementation of a series of fiscal and monetary policies and the establishment of certain fiscal objectives for the GODR. These objectives include efforts to diversify sources of governmental income and the maintenance of 1983 governmental expenditures at 1982 levels.

2. The RESPAE Budget

a. General

The approved 1983 budget calls for a total of RD\$113.5 million, an increase of 23% over 1982 expenditures.

* Following USAID guidelines, the exchange rate used in this document sets the Dominican peso at par with the US dollar. A sizable parallel market exists, however, in which the exchange rate from US dollars to Dominican pesos is running around 1 to 1.00.

and representing 11% of the total Central Government Budget. An analysis of historical SESPAS expenditure patterns indicates that this spending level is not likely to be achieved. In 1981 and 1982 approximately 100% of the recurrent budget was expended. Over these same two years, however, an average of only 40% of the capital budget was spent. If this same pattern continues in 1983, actual SESPAS expenditures for 1983 will only be \$97.6 million. (See Annex D-1 for development of these estimates.) During the period 1980 through 1982, total actual SESPAS expenditures dropped from RD\$98.1 million to RD\$92.7 million due to a halving of the secretariat's capital expenditures from 1980 to 1981. Nearly all of this reduction resulted from a decrease in national capital funds. Furthermore, the drop in the capital budget was partially offset by a total increase in SESPAS' operating budget of over RD\$11 million.

b. The Operating Budget

The overall SESPAS budget for recurrent expenses has been growing during recent times by several percentage points each year. A closer analysis of this budget, however, does reveal substantial variation, in real terms, among its components.

The SESPAS operating budget can be roughly divided into two components; 1) personnel expenditures, and 2) non-personnel expenditures. The first category is comprised essentially of salary expenses; the second includes such items as supplies, materials, and grants or payments to specific facilities for the purchase of supplies. Available data indicate different patterns in the growth of personnel and non-personnel expenditures in nominal and in real terms. During the period 1980-1983, personnel expenditures increased by 28%, while non-personnel expenditures increased by only 10.5%. (See Annex D-2 for analysis of SESPAS operating budget).

To examine expenditure levels in real terms, consideration must be given to price levels in each of these years. According to SESPAS personnel, salary levels have hardly increased over the last several years. In fact, overall levels were cut drastically (approximately 30%) following the 1982 elections. (This largely represented a rollback of a pre-election increase). Therefore, it may be inferred that a given personnel expenditure level in 1980 would buy approximately the same quantity and quality of personnel in 1983. In this case, real expenditure levels would be the same as the nominal levels and is a reflection of the fact that the local economy has recently stagnated and even lost some of its earlier gains.

As shown in Annex D-2, personnel expenditures have grown by 28% from 1980-1983. For non-personnel items nominal expenditures are shown to increase by 10.5% between 1980 and 1983; however, taking price increases into account, real expenditures for non-personnel items actually decreased by over 18%. Thus, with its 1983 budget, SESPAS can only purchase slightly more than 80% of the non-personnel items it actually purchased in 1980.

Another way to look at this information is to think of the material resources which are at the disposal of the average SESPAS worker. If we assume that salary levels have remained approximately the same, then the number of SESPAS workers (The actual number is not known,) must have increased approximately 28% during the last four years. During the same period, the actual quantity of materials (medicine and food) that could be purchased with the non-personnel allocation decreased by 18%. Assuming constant average salaries, the average SESPAS worker has 36% less material resources to work with now than he had in 1980.

SESPAS has attempted to reduce expenditures for non-personnel items in a number of different ways. One of the most direct approaches has been to freeze the amount of the grants it provides to its hospitals, sub-centers and certain other facilities at 1981 levels. In total, these grants account for approximately \$15 million or over 1% of the SESPAS operating budget. It might be argued that, had these levels been too high to begin with, freezing them at 1981 levels might have improved the operating efficiency of these facilities without adversely affecting the quality of care provided. There are certain indicators that suggest, however, that this may not be the case. Most hospitals receive only slightly more than \$1 per patient per day for food and less than \$2 for medicines.

Perhaps the most telling evidence concerning the adequacy of the grants to hospitals and sub-centers is the individual credit outstanding of those facilities reported as of May 1983, with nearly 80% reported being in debt. Extrapolation of the figures from

these reports, as well as from reports for the latter part of 1982, suggest that the total debt level of SESPAS in-patient facilities may have increased from RD\$1.4 million in November 1982 to RD\$1.6 million in May 1983, an increase of over 14%. This latest debt level is equal to 25% of all grants provided these facilities from January-May 1983 or 11% of their total grants for all of 1983.

In summary, it appears that SESPAS has over the past few years responded to tight economic and financial conditions by reducing: 1) the size of its nationally-funded capital budget, and 2) its expenditures on non-personnel items in real terms. The results of this trend, besides the increasing debt incurred by SESPAS institutions, is a probable drop in the quality of care offered by SESPAS health care facilities, although this can not easily be demonstrated objectively.

c. Implications of SESPAS Capital Projects on Future Operating Costs

Certain projects in the SESPAS approved capital budget would not necessarily result in increased operating costs. Among these projects are proposals to refurbish certain hospitals whose physical plant is badly in need of repair and the replacement of non-functioning equipment.

SESPAS is projecting an expansion in the number of hospital facilities, however, which would increase its recurrent budget requirements for the next years. Some of these projects are: a) the construction of approximately 157 rural clinics and 30 sub-centers; b) the construction of 3 hospitals (250 beds each) for the secondary cities and, c) the construction of an 800 bed hospital for Santo Domingo.

Estimates of the recurrent costs required to operate these facilities were not readily available within SESPAS and, in fact, do not appear to have been made. Due in fact to the lack of staffing standards for these facilities and the inability of the personnel or finance systems to provide data on the cost of personnel allocated to existing facilities accurate estimates cannot be made easily. A very rough estimate of the recurrent cost implications of these facilities can be made, however, using the findings of a unit-cost study carried out in 6 hospitals within the Dominican Republic. It is estimated that the additional costs to SESPAS of operating these facilities will be on the order of RD\$16.7 million. This amount is equal to nearly 17% of SESPAS 1983 operating budget. See Annex D-1 for methodology and results of calculations.

3. Analysis of Impact of the Health Systems Management Project On the SESPAS Budget

This section discusses the recurring cost implications of the Project in terms of new expenditures which SESPAS would not otherwise have made.

The costs associated with the management and operation of the improved management support systems developed by the Project should be well within the current resource (human and financial) base of the Secretariat. With the exception of the limited additional financial requirements of an ongoing management and administrative skills training program, SESPAS appears to have the resources required. The Project is intended to improve the utilization of the Secretariat's resources making them more productive. In this sense the Project departs radically from traditional donor-funded activities which have promoted health service infrastructure expansion and have generally had very significant, but often ignored, recurrent cost implications.

It is quite likely that the improved management systems will demonstrate that SESPAS requires additional financial resources to adequately support the existing health service delivery infrastructure. An improved logistics system may demonstrate the need for greater quantities of medicines at sub-centers but is considered a recurrent cost of the project which financed the sub-center or hospital construction. This project is intended, however, to help the Secretariat address these needs, when they are identified, through surveys, operations research and analysis of policy options such as alternative financing schemes.

The Table presented below is a summary of GDR counterpart funding for the Project. The total counterpart funding required is slightly more than RDS\$ million. This includes, however, computer time and salaries. These are both "in kind" contributions; that is, they do not represent increased expenditures, but rather the use of existing resources for Project activities. The in kind contribution for salaries includes the salaries for the SESPAS Project Coordinator, the counterparts for the long term resident advisors, and computer operators. Also, as the project will provide in country and long term training for SESPAS employees, their salaries while in training are considered an in kind cost. The cost for computer analysis and use is considered in kind as the project will make considerable use of the equipment which SESPAS has purchased with its own funds.

GODR COUNTERPART CONTRIBUTION

<u>LINE ITEM</u>	<u>RD\$</u>	<u>% TOTAL</u>
Per Diem	366,000	11.9%
Salaries	1,307,000	42.7%
Materials	535,000	17.5%
Services (computer)	501,000	16.4%
Contingency/Inflation	352,000	<u>11.5%</u>
TOTAL	RD\$3,061,000	100.0%

The per diem line item above represents a cash payment by SESPAS, based on the assumption that it would do little, or no management and administrative training or operations research without the Project. Similarly, the materials line item includes expenditures for training and other materials which SESPAS might not purchase in the absence of the Project. An additional 11% has been added to the total counterpart funds to cover inflationary and other contingency expenditures. The total additional cash costs amount to RD\$1,253,000 over the life of the project.

The majority of the project expenditures are for training and continuing education, the requirement of which will continue after project termination. One can, therefore, estimate the recurring cost implications of this aspect of the Project at RD\$334,600 per year or \$27,883 per month, or a little less than 0.4% of the 1983 SESPAS recurrent budget.

The Health Systems Management Project includes US\$464,000 for loan-funded equipment purchases under all project activities, including disease control and in support of technical assistance. The activities for which this equipment is to be used should be continued indefinitely. Thus, the equipment should be amortized to permit its eventual replacement. An average service life of 5 years is assumed to be reasonable. Amortization costs should be calculated in U.S. dollars.* In addition, equipment maintenance costs should be included in project recurring cost estimates. An average of 10% of the purchase

* It is judged appropriate to estimate the recurrent costs "conservatively;" thus, no U.S. dollar inflation is assumed and the parallel market exchange rate (1 U.S. dollar is equivalent to 1.57 DR pesos) is used. Exchange rate has fluctuated during recent months between 1.57 and 1.95 and because of the present uncertainty of the adequate level of this exchange rate, it is difficult to reflect a true shadow price for the project.

price is a generous estimate, of which, up to half will be dollar costs associated with spare parts. Total annual equipment-related recurrent costs are, therefore, US\$116,000 (RD\$182,120 at the existing parallel market exchange rate at the time of the analysis) plus RD\$23,200. In pesos, the total cost (RD\$205,300) is equivalent to 0.2% of the 1983 SESPAS recurrent budget.

Off-shore training** should also be amortized, since the specialized skills will continue to be required and since the Secretariat may have to finance the training of replacement personnel when project-trained personnel resign from SESPAS. The average attrition rate among SESPAS personnel is not known, so the assumption is made that SESPAS will secure a five-year guarantee of service from long-term off-shore participants. A 20% amortization rate is, therefore, applied to the US\$107,000 provided for off-shore participant training, which yields a US\$21,400 (RD\$37,450) recurrent cost estimate, which, in turn, is equivalent to less than 0.1% of the 1983 SESPAS recurrent budget.

Annual interest payments will be only US\$127,000 during the grace period, and US\$343,000 during the repayment period. If one assumes the worst possible case, from a borrower's point of view, that there is no U.S. dollar inflation and no nonproject-related growth in the SESPAS recurrent budget, the higher figure is equivalent to RD\$538,510 per year or to 0.5% of the SESPAS recurrent budget for 1983.

The recurrent costs of the Health Systems Management Project are summarized in the following Table. It shows that the Health Systems Management Project is expected to require a RD\$650,000 increase in the SESPAS recurrent budget during the loan grace period. During project implementation, the recurring cost requirements of the Project will gradually increase from zero, to the amount indicated for the grace period, as training programs are initiated and equipment is purchased. During the repayment period, the recurring cost increases to RD\$1,081,500, equivalent to 1.2% of the 1983 SESPAS recurrent budget. It is worth emphasizing that this cost estimate is inflated, by the conservative assumptions on which it is based and the inclusion of amortization costs. Yet even this estimate, is easily within the GODR's financial capabilities. The financial feasibility of the Project is therefore sound.

** The costs of in-country management and administrative skills training have been considered in the discussion associated with the previous Table,

RECURRENT COSTS OF HEALTH SYSTEMS MANAGEMENT PROJECT

ITEM	GRACE PERIOD		TOTAL PESOS	REPAYMENT PERIOD		
	PESOS	U.S.\$		PESOS	U.S.\$	TOTAL PESOS
Training Per Diem	142,000	-	142,000	142,000	-	142,000
Training and Other Materials	188,000	-	188,000	188,000	-	188,000
Equipment Maintenance	23,200	23,200	59,600	23,200	23,200	59,600
Equipment Amortization	-	92,800	145,700	-	92,800	145,700
Participant Training Amortization	-	37,400	58,700	-	37,400	58,700
Loan Payments	<u>-</u>	<u>40,000</u>	<u>62,800</u>	<u>-</u>	<u>310,500</u>	<u>487,500</u>
Total	<u>353,200</u>	<u>193,400</u>	<u>656,800</u>	<u>353,200</u>	<u>463,900</u>	<u>1,081,500</u>
% of 1983 SESPAS Recurrent Budget			0.7%			1.2%

11. Economic Analysis

The economic analysis will assess the impact of the project on the health services, and will assess the impact of the project on the health services, and will assess the impact of the project on the health services.

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At the present time, the health management information system does not systematically produce information on the quantity of resources consumed, on their cost, on their utilization or productivity. Furthermore, even with such information, it would be impossible to quantitatively predict the project's likely impact on utilization and productivity. A definitive analysis of the economic soundness of the Project is, therefore, not possible. It is possible, however, to amply demonstrate, through a series of examples, that the economic benefits of the Project will greatly exceed its estimated cost.

Example 1: Pharmaceutical Procurement

Health facilities use 20% of their monthly operating grant to purchase medicines and medical supplies. Collectively, the monthly grants total RD\$15 million, at least RD\$7.5 million of which is expended for medicines. Hospitals generally make small volume, monthly purchases of medicines and therefore pay consistently high prices. For example, SESPAS has been paying RD\$31 per packet for small volume purchases of oral rehydration salts, more than 3 times the UNICEF price.

If SESPAS, establishes through the Project a centralized purchasing system that will purchase at least one half of the medicines needed by the hospitals and rural clinics, and if one also assumes that

centralized purchasing will achieve a 20% reduction in cost, the resulting annual saving will be R0\$750,000. This single intervention could produce savings equivalent to 93% of the Project's total estimated recurrent cost during the first "three" period.

Cost intervention could be extended to other purchases including part of the remaining direct purchases made by hospitals for medicines, food, etc. The 20% not included in the above intervention, food, non-medical supplies, etc. If improved procurement practices led to a 25% cost reduction in these categories, additional annual savings of R0\$500,000 would be generated. In this case, procurement savings would exceed projected total Project recurrent costs.

Example 2) Promoter Productivity

The 1991 SPA evaluation estimated promoter productivity to be approximately 20% of the optimum level. The salaries of 2,200 promoters (R0\$30 mo.), 29 promoter supervisors (R0\$100 mo.) and 10 area and regional supervisors (R0\$100 mo.) total more than R0\$4.5 million. Eighty percent, R0\$3.6 million, is currently being wasted by sub-optimal promoter productivity. If one assumes that project-supported continuing education, monthly supervision with objective, task related performance criteria and provision of child growth charts, succeed in improving promoter productivity to 30% of the optimum level, annual salary waste would be reduced to R0\$2.25 million, thereby eliminating R0\$1.35 million in current waste.

Costing for the recurrent costs associated with the above interventions has been included in GMR counterpart contributions and in the projected recurrent cost of the Project. The estimated annual reduction in current waste, from successful achievement of the above, exceeds the total estimated annual recurrent cost of the Project.

Example 3) Equipment Maintenance

The SESPAS recurrent budget does not adequately represent certain recurrent costs. One example is equipment amortization. Equipment must eventually be replaced. Yet, when SESPAS replaces equipment, it finances the purchase from the capital budget.

SESPAS does not currently maintain an equipment inventory and, therefore, its value is not known. Equipment costs, however, are not insignificant. About two years ago, SESPAS received a French loan of \$11 million to equip 6 polyclinics and two 250-bed hospitals. Assuming that the equipment for each polyclinic cost \$500,000 and the equipment cost per hospital bed was \$20,000, and if one then assumes that good maintenance would ensure an average service-life of 20 years, the equipment amortization cost is \$1,000 per year per bed (R0\$1,270). Since SESPAS has 7,500 beds, total equipment amortization cost can be very roughly estimated as R0\$11,775 per year.

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Example of Project Planning

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with a view to operate and that they expenditure does not appear to have been entirely in accordance with the plan of evaluation of the concerned project. The Project could, however, be completely pay and repay for itself very simply by helping to cover the investment in industrial equipment in the current conditions of the industrial productivity.

Conclusion

All the economic and social effects of the project are positive. The investment in equipment and organization of the project will be profitable in the long run. The project will produce a stream of benefits which will be compared to the Project's estimated financing costs which can be shifted to a stream of costs continuing into the future. To be economically viable, the project's benefits stream should exceed the investment stream.

The project's economic viability has been established in the financial analysis. The approach used in the financial analysis is based on the assumption of all financing costs that could be attributed to the Project. The Project's estimated annual financing costs are 80,000,000 during the seven period from the first investment period, when they will be 80,000,000. In comparing these costs to the benefits stream, the comparison is clear. Even if only 50% of the estimated benefits from the first three examples are realized, the benefits stream will exceed the financing cost stream and the Project will have a net "profit." If small fractions of the estimated benefits from examples four, five and six are added to the benefits expected from the first three examples, the net benefits stream is more than twice as great as the financing cost stream. Thus, the project is economically viable.

POTENTIAL BENEFITS FROM THE ESTIMATED COST PROGRAM

EXAMPLE NO.	DESCRIPTION OF SUBJECT	DCR/PROG
1	Pharmaceutical Procurement	750,000
2	Priority Productivity	1,120,000
3	Equipment Maintenance	700,000
	Sub Total	2,570,000
	Recurrent costs from Payment	
	Period	11,411,000
	Net Annual Benefit	1,071,000

	Alternative Financing Scheme	
	Cost of investment	112,000
	Priority Delivery Substitution	
	Utilization Cost of investment	112,000
	Project Planning	
	Cost of investment	700,000
	Total	1,214,000
	Recurrent costs from Payment	
	Period	11,411,000
	Net Annual Benefit	1,100,000

Notes:

This table is based on the conservative, but very speculative estimates developed in the examples. In the top half of the table, the three independent and, therefore, additive examples are analyzed, and the Project's costs are compared to the estimated benefits of these three interventions, alone. In the bottom half of the table, the three, more speculative and generally interrelated examples are also included. To compensate for their interrelatedness and greater degree of speculativeness, only small fractions of their "estimated" potential benefits are included. Again, the total benefits are calculated, including the benefits from the top half, and compared to the Project's recurrent costs.

511. PROJECT IMPLEMENTATION

A. Summary Financial Tables and Financial Plan

The total cost of the project is \$14 million of which \$10 million will come from the AID and the GDRB counterpart contribution is \$4 million representing 28% of the total project cost. The AID portion is split funded with a loan of \$6 million and a grant of \$4 million. Grant funds cover a major portion of the technical assistance costs and evaluation. All other project costs are loan funded (travel, contract, participant training, etc.) including the salaries and local office costs for the long-term resident advisors. The summary cost estimate and financial plan (Table I) details the cost of the project by major components both for AID and the GDRB. AID funding is further broken down by loan, grant and foreign exchange and local currency requirements. The GDRB counterpart contribution is divided by cash contribution and costs supported on an in-kind basis. The ground table (Table II) projects the expenditures by fiscal year. The major components of the project include:

- 1. Technical Assistance: \$1,000,000 (loan), \$2,000,000 (grant), \$3,000,000 (GDRB)

The technical assistance program encompasses a long term resident advisor and 40 person months of short term technical assistance. Grant funds will cover the salaries for the long-term advisor (\$1,283,000 over a 2 1/2 years) and costs to support a local office in Santo Domingo for the project (\$68,000) which includes costs for locally hired non-SESPAS staff, office equipment, operating supplies and 3 vehicles (two four-wheel drive type and one sedan). Grant funds will be used for salaries for the short-term TA; all allowances, travel, overhead and project backstopping from the contractor's home office. The GDRB contribution is calculated on an in-kind basis to cover the salaries of SESPAS Project Coordinator, counterparts for the long-term advisors and in-house computer operators.

- 2. Management Interventions: \$1,212,000 (GDRB)

Several management interventions will be funded using GDRB counterpart. Costs include salaries, per diem, materials and computer analysis to carry out the baseline survey, various operations research and case studies, prepare continuing education materials and print forms used by promoters.

- 3. Skills Training: \$2,000,000 (GDRB)

Management training for SESPAS personnel will be carried out via workshops. Over the course of the project there will be three counterpart workshops; two workshops and three follow-up sessions for

senior level personnel, two mid level management training courses, and two administrative skills campaigns for promoters, nurse auxiliaries etc. The GOB will fund salaries and per diem for participants and workshop materials.

6. Evaluation; (\$200,000 - grant)

Evaluation is a very important element of the project design. AID will finance with grant funds periodic assessment by contracting the services of two professors from U.S. and one consultant, with expertise in public health and health systems management to conduct periodic site visits and make recommendations on project implementation. Costs of the ongoing assessment (\$195,000) include salaries, per diem, travel, overhead and supplies. An in-depth evaluation will be conducted in the fourth year by an independent firm. For this purpose \$50,000 has been budgeted to cover salaries, per diem, air fare, over head, and equipment.

7. Participant Training; (\$300,000 - loan, GOB \$107,000)

A total of fourteen person-years of participant training is planned. This includes 5 two-year masters programs and 9 one-year degree or specialized training courses. Costs are calculated at \$42,000 for a two-year program and \$20,000 for a one-year program. The GOB will finance travel and salaries for the students while in training.

8. Disease Control; (\$220,000 loan)

The disease control component will be carried out in conjunction with the Center for Disease Control. Under the dengue/yellow fever element (\$100,000), AID will finance a small amount of laboratory equipment and training of Dominican laboratory personnel in disease identification and surveillance. Under the schistosomiasis element AID funds (\$150,000) will finance two vehicles (\$36,000); equipment and supplies (\$16,000); molluscacides (\$48,000); a small amount of training; and travel and per diem for CDC experts to conduct the epidemiological survey, control studies, evaluation and follow-up visits. Counterpart funds will cover salary costs of SESPAS personnel.

9. Feasibility Study; (\$150,000 - loan)

The project will finance a feasibility study on health care insurance in the Dominican Republic. The study will take one year to complete. Costs include personnel (i.e., an investigator, assistant investigator, and social scientist) and support costs.

10. Equipment; (\$285,000 - loan)

Project funds will purchase audiovisual equipment such as video recorders, players and tapes (\$190,000) for use in the management

workshops and continuing education modules for promoters, etc. Also a small number of scales will be purchased for use by promoters in growth monitoring.

9. Contingencies \$292,000 (cash); \$300,000 (grant); \$170,000 (GDR) and Inflation (\$920,000 - loan); \$82,000 (GDR)

Contingencies were figured at approximately 10% of the AID project costs and inflation at 13% of the AID project costs including contingencies. The GDR contingency is 10% of the total GDR project costs and inflation is figured at 9% of the GDR cash contribution.

TABLE

Health Systems Management

Summary Cost Estimate and Financial Plan

(\$000)

	AID				TOTAL AID	GDS		TOTAL GDS	PROJECT TOTAL
	LOAN		GRANT			DAS	IN-TIME		
	FY	LC	FY	LC					
Technical Assistance	1,400	400	3,400	-	5,200	-	40	40	5,600
Management Interventions-	-	-	-	-	-	60	60	60	60
Skills Training	-	-	-	-	-	27	21	48	48
Evaluation	-	-	16	2	20	-	-	-	20
Participant Training	300	-	-	-	300	-	10	10	40
Disease Control	225	2	-	-	250	2	45	47	72
Feasibility Study	108	4	-	-	150	-	-	-	150
Equipment	285	-	-	-	285	-	-	-	285
Contingencies	295	-	40	-	695	27	-	27	965
Inflation	920	-	-	-	920	8	-	8	1,000
	<u>3,533</u>	<u>467</u>	<u>3,966</u>	<u>2</u>	<u>8,000</u>	<u>125</u>	<u>180</u>	<u>2,065</u>	<u>11,965</u>

X08

TABLE 1

Project Costs by Fiscal Year

(\$000)

	FY 1984			FY 1985			FY 1986			FY 1987			FY 1988		
	Loan	Grant	GOBF	Loan	Grant	GOBF	Loan	Grant	GOBF	Loan	Grant	GOBF	Loan	Grant	GOBF
Technical Assistance	240	500	48	390	73	9	391	70	9	39	71	9	391	751	9
Management Interventions	-	-	4	-	-	29	-	-	23	-	-	55	-	-	81
Skill Training	-	-	37	-	-	278	-	-	6	-	-	17	-	-	27
Evaluation	-	8	-	-	21	-	-	21	-	-	22	-	-	18	-
Disease Control	100	-	88	78	-	114	71	-	118	-	-	88	-	-	98
Feasibility Study	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	285	-	-	-	-	-	-	-	-	-	-	-
Participant Training	-	-	-	210	-	4	9	-	13	-	-	-	-	-	-
Contingencies	59	81	5	54	81	5	54	8	4	3	81	4	54	81	4
Inflation	184	-	10	184	-	17	184	-	33	184	-	17	184	-	33
Total	<u>583</u>	<u>588</u>	<u>284</u>	<u>1,278</u>	<u>835</u>	<u>840</u>	<u>871</u>	<u>803</u>	<u>811</u>	<u>623</u>	<u>917</u>	<u>980</u>	<u>633</u>	<u>855</u>	<u>231</u>

B. Disbursement Plan and Procedures

The USAID/DR Health and Nutrition Office will have the primary responsibility for monitoring project implementation and progress. The Controller's Office will have primary responsibility for the disbursement of project funds. The disbursement of project funds will take place over the five-year implementation period. The AID loan and grant will be disbursed according to standard AID procedures with funds disbursed quarterly upon written request from SESPAS. The details of the disbursement procedures will be further elaborated in corresponding sections of the Project Agreement and will be the subject of a later Implementation letter.

C. Procurement

The Mission and SESPAS have agreed that the procurement of all technical assistance will be undertaken by AID directly. USAID/DR and SESPAS base this determination on the conclusion that use of the host country contracting mode for these procurements would unnecessarily delay project implementation. In addition, direct contracting by AID would not materially increase expenditure of Mission staff time. Technical assistance will be acquired using competitive negotiations as contemplated by chapter 1.205 of the Federal Procurement Regulations. The requirement will be synopsized in the Commerce Business Daily and Request for Proposals issued to all interested firms/institutions. Technical proposals shall be evaluated independently of any cost data and ranked using pre-determined selection criteria. Negotiations will then be conducted with all offerors determined to be within the "Competitive Range" and the contract will be awarded to that offer whose proposal is most advantageous to the Government, cost and other factors considered.

The USAID will contract directly with two universities, one U.S. and one Dominican, to implement the ongoing evaluation component and conduct the site visits. The USAID will also contract directly with another institution to conduct the in-depth evaluation. Informal competitive procedures may in all cases be used.

All other project procurement will be carried out by the borrower pursuant to AID standard host-country contract procedures. All equipment and commodities procured with loan funds will have their source and origin in countries included in AID Geographic Code 941. Materials purchased as imported or locally produced shelf items will be procured in accordance with regulations in AID Handbook 1B, Chapter 18.

D. Conditions and Covenants

The Project Committee recommends that the following conditions and covenants be included in the Project Agreement,

1. Conditions Precedent to Initial Disbursement

(a) An opinion of counsel acceptable to A.I.D. that the Agreement has been duly authorized and/or ratified by, and executed on behalf of, the Cooperating Country and that it constitutes a valid and legally binding obligation of the Cooperating Country in accordance with all of its terms; and

(b) A statement of the names of the persons holding or acting in the Office of the Cooperating Country specified in the pertinent Loan/Grant Agreement and a specimen signature of each person specified in such statement.

2. Conditions Precedent to Disbursement for the Management Systems Improvement Component.

a. Evidence of the availability of adequate office space and facilities in SESPAS' central building to accommodate Project personnel for the life of the Project.

b. Evidence of the appointment of a Coordinator for this Project component and of the counterparts necessary to carry out the technical assistance to be provided through the Project in the areas of personnel, training and supervision, logistics, maintenance, financial management, and the information system.

3. Conditions Precedent to Disbursement for the Disease Control Component

a. Evidence of an agreement by the Secretary of Agriculture authorizing Project activities to be developed in the National Veterinary Laboratory of the Secretariat of State for Agriculture (SEA); and

b. Evidence of the appointment of the necessary personnel for the Schistosomiasis Control Unit and SESPAS laboratories, as required to carry out Project activities.

4. Covenants

a. The Cooperating Country shall, except as A.I.D. may otherwise agree in writing, complete, in form and substance acceptable to A.I.D., a study of alternative methods of financing health services,



Department of State
INCOMING TELEGRAM
 American Embassy Santo Domingo

ANNEX A-1
 Page 1 of 3

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 TAGS:
 SUBJECT: HEALTH SYSTEMS MANAGEMENT (817-0153)

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ACTION:	
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AMB	<input checked="" type="checkbox"/>
DCM	<input checked="" type="checkbox"/>
POL	<input checked="" type="checkbox"/>
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AC	<input checked="" type="checkbox"/>
BMO	<input checked="" type="checkbox"/>
CPU	
CSO	
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KSO	
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DTR	<input checked="" type="checkbox"/>
AO	<input checked="" type="checkbox"/>
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AGR	
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UDD	
A/RF	<input checked="" type="checkbox"/>
CHRON	<input checked="" type="checkbox"/>

1. THE BASSO MET ON JULY 27, 1983 TO DISCUSS THE INTERIM REPORT ON DEVELOPMENT OF THE HEALTH SYSTEMS MANAGEMENT PROJECT. BASIC EFFORTS TO PRODUCE A CONCISE, INFORMATIVE AND PRACTICAL REPORT WERE EVIDENT IN THE SUBJECT PPT, AND THE DRAC EXTENDS ITS COMPLIMENTS TO ALL CONCERNED. THE MISSION IS AUTHORIZED TO DEVELOP THE PPT, SUBJECT TO THE GUIDANCE SET FORTH BELOW:

2. HIGH PRIORITY. IN CONSIDERATION OF THE WIDE SCOPE OF PROJECT ACTIVITIES, AND WITH PRIOR EXPERIENCE WITH PROJECT ASSISTANCE OF THIS NATURE IN THE DR, METHODS OF REDUCING PROJECT RISKS WERE DISCUSSED. IT WAS SUGGESTED THAT THE MISSION EXPLORE BRINGING THE PROJECT ONE LEVEL OR LIFE DIVISION (OF THE DR) AT A TIME. THIS APPROACH MIGHT INVOLVE DEVELOPMENT OF THREE PHASES WHICH WOULD HAVE TO BE SET IN EACH COMPONENT AND LEAD TO PROCEEDING ON TO THE NEXT PHASE OF THE PROJECT. SIMILARLY, THE MISSION SHOULD CONSIDER APPLYING THE PRINCIPLES OF OPERATIONS RESEARCH, I.E., PLAN, INTERVIEW, EVALUATE AND CORRECT, TO PROJECT COMPONENTS SUCH AS TESTING OF INCENTIVES, SUPERVISORY SYSTEMS, ETC.

DURING INTENSIVE REVIEW, THE MISSION SHOULD, THEREFORE, DEVISE A PLAN FOR IMPLEMENTATION WHICH WILL PROVIDE FOR SHORT-TERM FEEDBACK ON EACH STEP OF IMPLEMENTATION AND INSURE THAT RISKS ARE REDUCED TO THE MINIMUM.

3. ECONOMIC AND FINANCIAL ANALYSIS. CONCERN WAS VOICED AS TO HOW THE CONSTRAINTS OF SLOW OR NEGATIVE ECONOMIC GROWTH, AND SHORTAGE OF FOREIGN EXCHANGE MIGHT AFFECT THE DRAC'S ABILITY TO SUSTAIN THE PROJECT. THUS, AN ANALYSIS OF SUCH RECURRENT COSTS, WITH AND WITHOUT THE PROJECT, SHOULD BE A CENTRAL PART OF THE ECONOMIC ANALYSIS. THE ECONOMIC, FINANCIAL ANALYSIS SHOULD SHOW PRESENT TRENDS IN COST OPPORTUNITIES FOR HEALTH, AND ESTIMATES OF CAPITAL AND RECURRENT COSTS. FURTHER, IN KEEPING WITH DRAC'S POLICY TO ENCOURAGE THE USE OF SELF-FINANCING

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NETWORK AS A MEANS OF MINIMIZING RECURRENT COSTS, THE MISSION SHOULD FOLLOW UP ITS PRE-FEASIBILITY STUDY; HEALTH CARE FINANCING WITH FURTHER HIGH-LEVEL DISCUSSIONS AIMED AT SECURING AGREEMENT WITH THE GOB. THE COVENANT WOULD OBLIGE THE GOB TO EXPLORE ALTERNATIVE SELF-FINANCING SCHEMES, SUCH AS FEE-FOR-SERVICES, REVOLVING DRUG FUNDS, ETC., AND EVALUATE THEIR POTENTIAL DURING FIRST YEAR OF PROJECT. AIM SHOULD BE TO MOVE GOB TOWARD TAKING STEPS TOWARD IMPLEMENTING FEASIBLE SCHEMES AS PROMPTLY AS MAY BE PRACTICAL. THIS COVENANT SHOULD BE NEGOTIATED AS PART OF THIS PROJECT. WE VIEW THIS AS A VITAL ASPECT OF THIS PROGRAM AND BELIEVE IT IS ESSENTIAL TO OBTAIN A GOB COMMITMENT AND GET THE PROCESS STARTED.

4. INCENTIVES. THE PFE ATTRIBUTES LOW PRODUCTIVITY AND FULL PERFORMANCE OF HEALTH CARE WORKERS LARGELY TO DEFICIENCIES IN TRAINING, SUPERVISION AND SUPPLIES. A QUESTION WAS RAISED AS TO WHETHER THE PROJECT DESIGN ADEQUATELY ADDRESSED THE ISSUE OF INCENTIVES, BOTH POSITIVE AND NEGATIVE, AT ALL LEVELS OF THE SYSTEM. A FIELD CONFERENCE WAS DESCRIBED WHERE IN THE HEALTH MINISTRY SUPERVISORS WERE NOT BEING USED FOR TRAVEL AND PER DIEM UNTIL MONTHLY REPORTS WERE COMPLETED. THE MISSION SHOULD CONSIDER, THEREFORE, THE BASIC SYSTEM OF INCENTIVES AND DISINCENTIVES FUNCTIONING IN THE GOB SYSTEM, AND CONSIDER MEASURES THAT COULD CREATE A CLIMATE IN WHICH LONG-TERM TECHNICAL ASSISTANCE CAN HAVE GREATER EFFECT.

5. LOCAL PRODUCTION. THE RATIONALE FOR INCLUDING THE CPS COMPONENT WAS QUESTIONED SINCE THERE APPEAR TO BE NO SUPPLY CONSTRAINTS (IN CONTRAST TO OTHER CIRCUMSTANCES WHERE LOCAL PRODUCTION HAS BEEN SUPPLANTED BY AID, E.G. CHINA). THE MISSION SHOULD CAREFULLY EXAMINE THE NEED FOR PROVIDING SUPPORT FOR LOCAL PRODUCTION UNDER THIS PROJECT. THIS EXAMINATION WOULD CONSIDER, INTER ALIA, THE FOLLOWING FACTORS: RELIABILITY AND COST OF FOREIGN COMMERCIAL SUPPLIES; EXISTENCE OF TARIFF BARRIERS TO FOREIGN PRODUCTION; POTENTIAL FOR PROMOTING LOCAL PRODUCTION BY PROVIDING INCENTIVES OF LONG-TERM GOVERNMENT PROCUREMENT CONTRACTS IN RETURN FOR MEETING QUALITY STANDARDS, ETC. SHOULD MISSION CONCLUDE THAT THERE IS A GOB CASE TO PROCEED WITH THIS COMPONENT, MISSION IS ASKED TO SUBMIT ITS PROPOSAL FOR CONSIDERATION BY BUREAU.

6. OTHER DONOR ACTIVITIES. A QUESTION AS TO THE ACTIVITY OF OTHER DONORS IN THIS AREA WAS RAISED. THE MISSION SHOULD DESCRIBE OTHER DONOR ACTIVITIES IN THIS TYPE OF ASSISTANCE, E.G., THE PAN AMERICAN HEALTH ORGANIZATION, AND WHERE NECESSARY, DOCUMENT EFFORTS UNDERWAY TO MAINTAIN COORDINATION AND PREVENT OVERLAP.

7. EVALUATION. IN LIGHT OF THE LARGE IA COMPONENT, THE IMPORTANCE OF EVALUATIONS SHOULD BE EMPHASIZED. THE PP SHOULD INCLUDE A PLAN FOR EXTERNAL EVALUATION, PREFERABLY

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TIED TO THE MAJOR STEPS OF PROJECT IMPLEMENTATION. AN INITIAL EVALUATION SHOULD BE CONDUCTED WITHIN 9-12 MONTHS FROM THE BEGINNING OF PROJECT ACTIVITIES. THESE PERIODIC EVALUATIONS WOULD, OF COURSE, COMPLEMENT ROUTINE MONITORING OF CONTRACTOR/GOV. RELATIONS AND ACTIVITIES DURING THE COURSE OF THE PROJECT. INTENSIVE REVIEW SHOULD EXAMINE EXISTING GOV. MONITORING AND EVALUATION PROCEDURES AND MEASURES TO STRENGTHEN THEM SHOULD BE BUILT INTO PROJECT. INTENSIVE REVIEW OF THIS QUESTION SHOULD ADDRESS THE REPORTING RESPONSIBILITIES OF THE CONTRACTOR, AND HOW THE MISSION WILL REMAIN INFORMED ON GOV. RESPONSES TO PROJECT ACTIVITIES.

B. FUNDING.

--A. IT WAS AGREED THAT ADDITIONAL GRANT FUNDS FOR EVALUATION PURPOSES MAY BE NEEDED. THE MISSION SHOULD ESTIMATE FUNDING REQUIREMENTS AND REQUEST ADDITIONAL HEALTH GRANT FUNDING IN FY 84 AND IN FY 85.

--B. GIVEN THE SCOPE OF PROJECT ACTIVITIES AND ALSO THE DIFFICULTY IN ESTIMATING TA REQUIREMENTS, THE MISSION SHOULD CAREFULLY EXAMINE FUNDING REQUIREMENTS DURING THE INTENSIVE REVIEW. IF FOUND TO BE NECESSARY, THE MISSION SHOULD REQUEST ADDITIONAL HEALTH GRANT FUNDING IN FY 84 AND FY 85. ALSO, DUE TO THE SIZE OF THE PROSPECTIVE TA CONTRACTORS GOVLAC ANTICIPATES A GREAT DEAL OF INTEREST ON THE PART OF CANDIDATE FIRMS. HENCE, GOVLAC RECOMMENDS THAT THE PLA SHOULD BE INVOLVED IN ALL REQUIREMENT PLANNING RELATE TO THIS PROJECT.

--C. YET ANOTHER PAGE 30 PROJECTS TRAIL HEALTH TA IS EST. TO BE IN FY 84-85-86 TOTALING 35 MILLION. IS THIS PROJECT INTERLUDE INTERMITTENT FUNDING OF THIS PROJECT, OR ARE TWO OTHER PROJECTS CONTEMPLATED AT 1ST.

9. ADDITIONAL. USAID/SAH TO BE INVOLVED IS GRANTED THE AUTHORITY TO PROCEED WITH AUTHORIZATION OF THE PROJECT. PROJECT SHOULD BE A GOOD CANDIDATE FOR EARLY CIST CONTRACT EVALUATION BY 84.

10. RECALL THE RANGE OF THIS MESSAGE, ISSUED BY JOINTLY BY THIS PROJECT WITH ADVISED GOV. HAS BEEN 27/11/83. SHOULD BE RE-PAID TO ADDRESS THIS ISSUE TO GOV. IN FY 84, AND SHOULD BE A PART OF THE PROJECT IMPLEMENTATION STRATEGY. CASLEBORGER

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100-111-1-11
HEALTH SYSTEMS - WSV

<u>GOAL</u>	<u>INDICATOR</u>	<u>MEASUREMENT METHOD</u>	<u>ASSUMPTIONS</u>
1. To increase the quantity and quality of SESPAS-delivered PHC services.	<ol style="list-style-type: none"> 1. National immunization coverage (measured by DPT) increased from 25% to 80% by 1989. 2. National ORS consumption increased from 100,000 to 1,000,000 packets/year by 1989. 3. National contraceptive prevalence with effective methods increased from 40% to 50% among married women by 1989. 4. National growth monitoring coverage increased to 25% by 1989. 	<ol style="list-style-type: none"> 1. Management systems baseline survey. 2. SESPAS health services information system. 3. Follow up contraceptive prevalence survey. 	<ol style="list-style-type: none"> 1. Cost cuts on current policy by allocating gradually increasing share of health resources to PHC. 2. Deployed doctors don't force SESPAS to increase % of budget expended for salaries. 3. Physical infrastructure expansion can be limited to current plans plus population increase.
<u>PURPOSE</u>	<u>END OF PROJECT STATUS</u>	<u>MEANS OF VERIFICATION</u>	<u>ASSUMPTIONS</u>
To improve SESPAS management systems and concurrently to develop the capacity within SESPAS to administer and manage health services through skills training.	<p><u>Management Systems:</u></p> <ol style="list-style-type: none"> 1. The MIS will routinely calculate performance indices for each management system, based on performance norms to be established during project implementation. 2. Recurring costs of all developmental projects will be routinely estimated. 3. Unit costs of priority services will be periodically estimated following standard procedures. 4. Majority of SESPAS personnel will have job descriptions in standard format. 5. Supervision of promoters and rural clinics routinely includes application of standard checklist or other objective performance measure. <p><u>Trainings:</u></p> <ol style="list-style-type: none"> 1. Majority of SESPAS personnel trained in administrative skills required to perform their job. 2. Majority of promoters and rural clinics auxiliaries receive minimum 8 hours of continuing education per year. 3. Majority of SESPAS directors and SESPAS hospital directors and administrators have attended at least one one-week management training workshop. 4. SESPAS has sufficient training personnel to maintain administrative skills and continuing education programs. 	<ol style="list-style-type: none"> 1. Management systems baseline survey. 2. SESPAS MIS. 3. Position papers and operations research documentation. 4. Site visits reports. 5. Evaluation. 	<ol style="list-style-type: none"> 1. SESPAS maintains current level of interest in and commitment to development and implementation of improved management systems. 2. Management systems performance EOPs depend on training EOPs.

OUTPUTS	MAGNITUDE (Figures are minimum quantities)			MEANS OF VERIFICATION	ASSUMPTIONS
	Quantity	Participants	Day Duration		
1. Management Systems Development					
Management and household survey reports.	3			1. Project documentation. 2. Human Resources Division Documentation. 3. Survey and Research reports. 4. Consultant's reports.	1. Project sponsored technical assistance team work effectively with SESPAS counterparts.
Management systems handbooks with notes and procedures.	3				
Management systems performance indices.	3			5. Evaluation.	
Operations research final reports.	4				
Management case studies.	20				
2. Training					
Counterpart workshops.	3	15	2		
Management training workshops (senior level).	6	18	12		
Management training follow-up workshops (senior level).	3	18	6		
Management training workshops (middle level).	12	70	6		
Administrative skills training (middle and low level).	2	4,000	3		
Continuing Education (SBS personnel).	16	6,000	17 1/4		
Case study teaching notes (sets).	24				
Administrative skills training modules (teach management systems).	5				
Continuing education modules.	48				
Participant training (person months).	168 168				

INPUTS	OBJECTIVELY VERIFIABLE INDICATOR				MEANS OF VERIFICATION	ASSUMPTIONS
	A. I. D.					
Item	Loan	Grant	COOR	Total		
Technical Assistance	1,800	1,600	432	5,632	SESPAS records, Invoices, TA contracts.	1. AID funds continue to be made available.
Management Interventions	-	-	1,717	1,717		
Skills Training	-	-	488	488		2. COOR counterpart is available.
Evaluation	-	250	-	250		
Participant Training	300	-	107	407		
Disease Control	250	-	470	720		
Feasibility Study	150	-	-	150		
Equipment	285	-	-	285		
Contingencies	295	150	110	555		
Inflation	220	-	87	307		
Total	4,000	6,000	3,061	13,061		

ENVIRONMENTAL ASSESSMENT
SCHISTOSOMIASIS CONTROL PROJECT FOR THE
DOMINICAN REPUBLIC

Prepared By: James J. Talbot
Regional Environmental Management Specialist/Caribbean
USAID/Port-au-Prince/Haiti

December, 1983

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SUMMARY AND RECOMMENDATIONS

Although a reliable estimate of schistosomiasis prevalence in the Dominican Republic is not available, it is considered endemic in four eastern provinces (Figure 1). Due to development of new dams and the existence of fresh water bodies all over the nation, in addition to irrigating projects being developed by the GODR and the private sector, and the presence of schistosomiasis intermediate host, the snail Biomphalaria glabrata, countrywide, there is a very high risk that the disease can spread to the rest of the country. USAID and the GODR are therefore developing a control strategy for schistosomiasis following an epidemiologic approach to disrupt the transmission cycle of the disease by identifying and treating patients, and by preventing its spread using control methods which include molluscicides, physical changes in snail habitats, and biological control using predator snails. The latter two methods can be considered to be pilot activities since the majority of the project will focus on chemical control of snail. This environmental assessment focuses on impacts and mitigative measures to ensure that the proposed molluscicide Bayluscide is used in the most environmentally sound fashion as possible, given its relatively low toxicity to most organisms in the target areas. The following recommendations for chemical control are discussed in detail in the text: determination of transmission foci, reconnaissance, molluscicide treatment, focal control, training of applicators, and evaluation of molluscicidal action.

PROJECT OBJECTIVES AND ACTIVITIES

The USAID Mission and the Government of the Dominican Republic (GODR) are developing a cost-effective intervention strategy to address the schistosomiasis problem in the Dominican Republic. In 1980, USAID sponsored an assessment of schistosomiasis and the basic aspects of the strategy follows the guidelines set forth in that report. The findings and recommendations of the 1980 Assessment were reviewed and updated by Center for Disease Control (CDC) experts in August 1983. The report recommends following the epidemiologic approach of disrupting the transmission cycle of the disease by: identifying and treating patients, and by preventing its spread by using appropriate control measures (molluscicides and environmental control methods) in the areas where patients have been identified. The following is a summary of the proposed activities or interventions in the schistosomiasis control project being proposed by the Mission:

(a) Epidemiologic Survey and Diagnosis

Since present data does not adequately describe the current situation, the need for a systematic, representative and progressive survey of the endemic area is crucial. A survey of the rural area will be implemented. It is designed to estimate overall prevalence and to identify risk factors useful in selection of communities where future control efforts should be focused. It will also serve as a baseline for future evaluation surveys.

Equipment and supplies and training in effective coprologic diagnosis techniques for the laboratories in the affected areas will be provided through the program.

(b) Chemotherapy

All confirmed cases will be treated with oxamniquine. SBS promoters will be instructed to locate and refer these patients to the clinic for treatment. Promoters will be utilized for obtaining a three-month post-treatment follow-up stool specimen from the patient.

(c) Snail Reconnaissance and Control

Two interventions will be developed for the control of the snail: (1) the limited utilization of a chemical control agent (niclosamide), and (2) environmental control measures. Six months after the mollusciciding activity, there will be an evaluation to assess snail control effectiveness. The measures developed for the environmental control of the snail will focus on upsetting their habitats to make them untenable and unsuitable for their existence and propagation. In general, these will include engineering methods such as: straightening banks to increase water velocity in irrigation systems or natural streams, the removal of mud and aquatic vegetation, and drainage of swamps and swampy embankments of rivers. Finally, the potential utility of two other kinds of snails (Marisa cornuarietis and Thiara granifera) in the control of the intermediate host of schistosomiasis will be assessed to determine its viability.

1/ Report by Dr. Robert E. Fontaine, CDC, "Strategy for the Control of Schistosomiasis in the Dominican Republic", Revised August 1983.

(d) Training

Physicians from the affected area will be trained in the basic principles and practices of epidemiology and public health. This training will include field experience and will last three weeks. A one-week training course will be offered to the laboratory technicians working in the endemic area. Training will include the most accepted technique for coprologic examinations (MRCT) and parasite identification. Finally, the Snail Control Team supervisor and one of the assistants will be trained in the survey and control of snails.

(e) Evaluation

The project finance travel and per diem expenses for a CDC consultant for specific TDY visits to: evaluate the control program, conduct a mid-survey evaluation, evaluate the survey results, and evaluate the control program and the design of a five-year follow-up survey.

(f) Other General Aspects

The project will also finance the procurement of vehicles and training aids.

PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

The purpose of the Environmental Assessment (EA) is to examine the foreseeable impacts of the project on the human and natural environment in accordance with AID's Environmental Procedures (22 CFR Part 216), particularly with respect to the use of the molluscicide Bayluscide. Engineering

treatments requiring physical modification of habitats, if eventually utilized, will require a separate, but very brief EA since the details of these activities and their precise location have not been determined at this time. Biological control components, if developed, do not fall under Regulation 16 at this time since they comprise limited research of a specific nature associated with the proposed project.

ENVIRONMENTAL SETTING

Endemic Areas of Schistosomiasis in the DR

Although a reliable estimate of schistosomiasis prevalence and distribution in the Dominican Republic is not available, it has been considered endemic in four eastern provinces (Health Region V, figure 1): San Pedro de Macoris, El Seibo, La Altagracia and La Romana. Of these, no evidence of infestation has been forthcoming from a major study in La Romana (Sanchez Limardo and Grullon Perez, 1980, Brugal Montoya, 1979), and the presence of the disease in San Pedro de Macoris has not been reported or investigated. Hato Mayor, the site of the first finding of autochthonous schistosomiasis in the Dominican Republic in 1942, was thought to be the area of heaviest prevalence and the subject of several subsequent studies reviewed in the 1980 report by the Schistosomiasis Assessment Team (SAT). Likewise, the government of the Dominican Republic through the Centro de Erradicacion de Bilharzia (CEB) has maintained case detection since 1970 through clinics serving the urban areas of Hato Mayor, and the nearby municipios of El Seibo and Higüey. In 1970, 377 cases (8.8% of specimens examined) were detected, declining steadily to 12

(0.3% of specimens examined) in 1979. Prevalence estimates derived from these figures (810.4/100,000 in 1970 and 37.8/100,000 in 1978) were based on population projections which combined rural and urban figures. Since case detection was mostly from urban areas, these rates may be underestimated. Naturally, the focus of surveillance on the three urban areas also biases the distribution. There are informal reports of a few cases from other eastern towns (Miches and Misibon) but these are not necessarily indicative of local transmission. Outside the four eastern provinces a few other locales, including Santo Domingo, have been studied and these produced negative or equivocal results.

In the endemic area of Hato Mayor, El Seibo and Higüey, official figures provided by the government (Secretaría de Estado de Salud Pública y Asistencia Social - SESPAS) indicate a considerable decline in confirmed cases over the past decade. For instance, there is the aforementioned decline in Hato Mayor from 377 cases in 1970 to 12 in 1979. Similar declines, with less consistent yearly data, are reported from Higüey and El Seibo. Dr. Amaury Mendez, of the CEB, indicated that most case detection is in urban clinics. Thus, the increase in numbers of rural clinics over the past decade may have diverted many patients from the CEB case detection system.

To obtain a more reliable estimate of current prevalence, the SAT (1980) conducted a survey of randomly selected households in three localities: Barrio Guanay (Hato Mayor), Bayey Guaguani (Paso Cibao) and Barrio Ginandiana (El Seibo). Of 114 stools examined (modified Ritchie technique) from different individuals, 4 (3.5% contained eggs of S. mansoni). This included,

1 positive from 49 specimens (2%) from Barrio Gualey, 1 positive from 31 specimens (3.2%) from Batey Guaiguai, and 2 positives from 33 specimens (6.1%) from Barrio Ginandiana. The case from Hato Mayor had a relatively high egg count (152 eggs per gram) but had been treated previously by the CEB. The others represented new findings of light (10 egg) probably asymptomatic infections. Nonetheless, these attest to the continuing endemicity of schistosomiasis in the area.

Since the 1980 SAT report, case numbers have increased slightly. All these reports originate from CEB case finding which has been sporadic and largely limited to patients coming to the clinic with gastrointestinal complaints. A total of 30 such cases were diagnosed and treated in the last six months of 1980, and these were: 16 from Hato Mayor; 1 from El Seibo; 11 from Higüey and 2 from Santo Domingo. The ages of these patients varied from 18 to 33 years, except one boy who was 5-year old and lived in Nisibon, (Altagracia Province) all those 5 years. During 1981 a total of 34 cases were diagnosed and treated at CEB. The age of these patients varied from 16 to 55.

Another endemic focus with active transmission seems to be at El Valle, El Seibo province. Of 48 stool samples collected in 1981 from people coming to a clinic for free milk, 24 contained eggs of S. mansoni (Dra. Mercedes Vargas, UASD, personal communication). The youngest infected individual in this series was 8 years old. Certainly, this information helps describe the endemic area but it also demonstrates the inadequacies of the current case finding system and the potential for further spread of the disease.

Snail Distribution

Biomphalaria glabrata, intermediate host of Schistosoma mansoni, has long been known to occur in the Dominican Republic. Ponce Pinedo (1946) and later Olivier et. al. (1952) found infected snails in the Hato Mayor region. It was believed at first that the snail was limited to the Las Guamas-Pana Pana drainage and to a segment of the Magua river near the mouth of the Pana Pana. Later surveys showed the snail to be far more widely distributed, including some foci outside the endemic area for schistosomiasis. Between 1963 and 1966 Etges and Maldonado (1969) found that the snail occurs, in addition to the Magua river drainage system in swamps and stream in the town of Miches; in irrigation canals of the Cuaron river near the town of Nisibon east of Miches; in extensive ricefields and irrigation canals surrounding the town of Cotui in the central valley; and in a large swamp 9 Km. from the northern town of Nagua. The limits of the above distribution encompass one-sixth of the total area of the country.

Later other foci in the eastern and central parts of the country were added (Vargas, 1973 and Vargas and Gomez 1976) including Gilandiana and Los Guincoles sectors, and Sabana de la Mar (El Seibo Province); Higuey (La Altagracia Province); Ramon Santana (San Pedro de Macoris Province); Laguna de Guerra (National District); Zoological Gardens (Santo Domingo); Casa de Alto (San Francisco de Macoris Province); and Pimentel (Duarte Province). In another survey, a population was located at Pinar Quemado near Jarabacoa (La Vega Province).

A recent survey by a schistosomiasis Assessment Team (1980) added the following localities for distribution of B. glabrata: El Seibo Province (well at Las Palmillas; swamp in Hato Mayor near Pana Pana stream; cattle-watering ponds at Paso Cibao, 9 Km. south of Hato Mayor and 10 Km. east of Hato Mayor; swamp near El Valle; irrigation canals and large rice plantation at Paraje La Cruz, 6 Km. south of Sabana de la Mar; irrigation canals and large rice plantation, 10 Km. west of Miches). La Altagracia Province (Laguna del Barrio Sabeka, Higüey; Arroyo Canero, Barrio San Martín, Higüey). Distrito Nacional (aquatic ponds, Botanical Gardens, Santo Domingo; large pond and swamp, main highway before Haina). Sanchez Ramirez Province (drainage canal, rice plantation about 5 Km. west of Cotuí). Naturally, a substantial number of other sites examined had not vector snails. These results attest to the potential for widespread but clustered distribution of B. glabrata, but in no way are intended to fully describe its distribution.

Previous Snail Control Efforts in the Dominican Republic

- Chemical Control

Attempts to control schistosomiasis vectors in the Dominican Republic started shortly after the studies of Oliver et al (1952). Vaughn et al (1954) used sodium pentachlorophenate (Santobrite) in briquette form. A single application of this molluscicide at an estimated rate of 15 ppm eradicated Biomphalaria glabrata from the Arroyo Pana Pana (a flowing stream) for a period of six months. Another stream, Arroyo Las Guamas (a series of connected pools with negligible flow) was treated by santobrite at a rate of 5 ppm. The snails in the latter stream were exterminated, as evidenced by examination of the stream bed one week after the mollusciciding operation.

Three methods were used in applying santobrite and these were: (A) scattering the briquettes evenly in the stream bed where they sank to the bottom and gradually dissolved; (b) placing the briquettes on the rocks in the flowing water between pools; (c) sprinkling the chemical in solution onto the surface of pools left in absence of flowing water. In general, the chemical was distributed easily and rapidly without the use of special equipment. However, the method of placing the chemical in the rapidly flowing water on rocks, between pools of the Arroyo Pana Pana was preferable to the other two methods used.

About 1972, the Center for Eradication of Bilharzia (CEB) of the Secretariat of Health started using molluscicides as part of their control effort. At first, Frescon (notritylmorpholine) was used in alternation with Bayluscide (niclosamide); but eventually, Frescon was used alone and its use is being continued to the present. The current formulation is the 16.5% emulsifiable concentrate. The procedure, used originally and apparently unchanged to the present, consists of applications of Frescon to snail sites every 14 days for three successive times and thereafter at monthly intervals. Unfortunately, no calculation of water volume was being, or is being made, before the treatment of any snail site. An unmeasured quantity of the chemical is usually dumped in the water whenever snails are encountered.

- Biological Control

Attempts at introduction of biological control of Biomphalaria glabrata in the Dominican Republic started in 1963, when Etges and Maldonado seeded the

Arroyo Pana Pana and collateral bodies of water with 1,750 specimens of Marisa cornuarietis. This is an operculate ampullarid snail which has been demonstrated to compete with B. glabrata in farm ponds and lakes in Puerto Rico. M. cornuarietis also preys on egg masses and young snails on the aquatic vegetation which it eats voraciously. In the Dominican Republic M. cornuarietis is now found in several streams in the Hato Mayor area and also in the Seibo river. Outside the endemic region it is found in the Cotui area as determined by a recent study by the SAT in 1980. Etges and Maldonado (1969) reported that surveillance during the five-year period after the introduction indicated that the snails were initially washed downstream for several kilometers, but eventually returned to Hato Mayor. Since 1979, a dense population has been established in the Magua river. A cement pond was built in back of the health subcenter in Hato Mayor for raising M. cornuarietis. In the absence of much apparent attention, the tank seems to be still productive of live snails. However, no attempt has been made, in the last decade, to introduce M. cornuarietis into natural habitats of B. glabrata for biological control of the latter snail. Remnants of M. cornuarietis still exist in the endemic area in the Hato Mayor area and also in the Seibo river.

Although not a part of the activities of the Centro de Erradicacion de la Bilharzia, another snail, Thiara granifera, exists in the Dominican Republic. This snail is believed to act as biological control agent in Puerto Rico. T. granifera, an operculate melanid, originally from Asia, has been accidentally introduced in several Caribbean islands. It is believed that T. granifera was

introduced in the Dominican Republic in 1968, in the vicinity of Nisibon, and was later reported by Alvarez and Mena (1973) in the widely separated regions of the Dajabon river in the extreme west, and in La Altagracia Province in the east. A recent study by the SAT (1980) demonstrated the existence of T. granifera in the Cotui-Fantino-Pimentel areas, and indicated that it probably exists in other regions of the country.

- Physical Control (Environmental)

As far as we know no attempt has been made until the present, as to the application of engineering measures to control the snail hosts of schistosomiasis in the Dominican Republic.

ENVIRONMENTAL IMPACTS AND MITIGATIVE MEASURES

Basis for Selection of Bayluscide

Chemical control of snails through the use of molluscicides has been accomplished with some success in various endemic areas of the world. In such projects they were used alone or in combination with other control measures, such as chemotherapy or environmental measures or health education. Control of schistosomiasis through the use of molluscicides can be a rapid and efficient means of reducing or eliminating transmission. Snail control procedures, including mollusciciding, must therefore remain among the methods of choice for the control of schistosomiasis. With the use of molluscicides cost effectiveness can be very satisfactory. There are several examples of endemic areas where the use of molluscicides has been cost-effective, namely: the Philippines, Brazil, Egypt, Ghana, Zimbabwe, and Tanzania. Two recent projects where molluscicides were used deserve some comments, namely: St. Lucia and Brazil. In St. Lucia a four-year focal mollusciciding program

(using Bayluscide) caused considerable reduction of transmission of Schistosoma mansoni. The monthly application of molluscicide gave good control of the snail populations in the streams and marshy areas. (Prentice et al. 1981). In Brazil, the use of Bayluscide in addition to chemotherapy by oxamniquine has been successful in several parts of the country. This is the National Control Programme in Brazil known as "Programa Especial de Controle de Esquistossomose (PECE)", and is carried out by a special division of the Ministry of Health, known as "Superintendencia de Campanha de Saude Publica (SUCAM)".

Mitigative Measures Employed with Use of Bayluscide

The cost-effectiveness of mollusciciding is greatest where the volume of water to be treated per capita at risk is small. Even in large flowing bodies of water, or static waterbodies, the application of molluscicides is also cost-effective, now that it is generally recognized that schistosomiasis transmission tends to be focal rather than wide-spread. During the last few years there was a switch in strategy from area wide to focal and seasonal control of the snail hosts and of transmission based on the realization that, in most endemic areas, even including large irrigation schemes, transmission of the infection is mainly seasonal and takes place at limited water contact sites.

The key to successful application of the molluscicide on a focal basis requires the determination of transmission foci. These will require input from several sources and include the following components:

i) Water and sanitation data designed to characterize water contact and defecation habits and habitats of each community in area 1 will need to be tabulated and analyzed.

ii) Health promoters in area 1, will complete a questionnaire (Appendix B) about the general nature of water contact and specific, heavily used sites in their communities. During visits for snail reconnaissance or epidemiologic surveys CCB personnel will further refine their information by observing use of reported water contact sites. All sites will be registered and then plotted on 1:5000 (urban areas) or 1:50,000 (rural areas) scale topographic maps.

iii) Data from snail reconnaissance will also be plotted on the same maps and the CCB with the help of consultants should assess the importance of sites by comparing snail densities and infection rates with corresponding water contact.

Before application of Bayluscide, a preliminary reconnaissance of snail habitats must be completed. The specific sites to be surveyed will be determined from the water contact data already collected. The snail survey should last about one year, but may take less time if infection sites are well documented. Data collected in the snail survey should be recorded on standard forms and include the following:

- Occurrence and distribution of the snail intermediate host/habitat;
- Natural infection rates among these snails;
- Physico-chemical qualities of the water, if not already available;
- Presence/absence of aquatic vegetation in the water body (since such vegetation affects ability of chemical to reach target snail).

It is expected that a limited number of transmission sites will be identified. Hence, the molluscicide will be applied at these sites only, thus constituting a focal control methodology.

A period of evaluation of six months will be necessary after the mollusciciding activity to determine the failure or success of the control operation. If snails, especially infected ones, still exist after Bayluscide was applied, then a decision should be made to repeat the application.

With regard to application of the molluscicide to the water body, the following method is recommended: Apply at a target dose of 8 mg/l for one hour to select stretches of streams by constant flow drip cans at a point 50 to 100 meters upstream of the highest snail colony in the transmission area; treatment should be repeated every four weeks; stream flow should be measured, e.g., by means of Parshall measuring flumes permanently built into the streams at strategic locations; tables should be written which directly relate the gauge reading at the flume to the quantity of Bayluscide required to eradicate at least 90% (or more) of the snail population; a lower limit of 0.5 liters of molluscicide concentrate should be used so that very small streams are all overdosed to compensate for molluscicide losses caused by their high wetted perimeter to volume ratio; likewise, an upper limit of stream discharge should be designated above which mollusciciding would be unnecessary because of stream flushing action. During the dry season streams which cease to flow could be sprayed with a standard concentration of Bayluscide.

EPA Registration Status of the Requested Pesticide

In the United States, pesticides are registered by the Environmental Protection Agency (EPA) in one of two categories: restricted use or general use. A restricted use pesticide is available for purchase and use only by pesticide applicators who have been licensed or certified by law, because of its high toxicity and/or environmental hazard. A general use pesticide, by contrast, is available for purchase and use by the general public. Bayluscide is a restricted use pesticide in the following forms:

Bayluscide 70% Wettable Powder
EPA Registration No. 3125-136

Bayluscide 5% Granular Molluscide
EPA Registration No. 3125-215

The active ingredient, niclosamide is:

5 chloro-N (2 chloro-4-nitrophenyl)-2-hydroxybenzamide-compound with
2-aminoethanol (1:1).

It goes by alternate names of Bay 73, Bay 25648, Bayer 73, CAS 1420-04-8, and Clonitrolid.

Acute and Long-Term Toxicity Hazards

Any pesticide is potentially hazardous to humans and to the environment and should be treated with great caution regardless of relative toxicity. Bayluscide is one of the most promising molluscides developed. It is especially toxic to those snails that serve as intermediate hosts of organisms causing schistosomiasis and fascioliasis. It is also useful as a piscicide,

but has undesirable side effects on other aquatic organisms such as flatworms, frogs, and clams, with little effect on plankton and aquatic vegetation. Bayluscide has exhibited low toxicity to mammals in both acute and chronic tests. Water treated with Bayluscide may be drunk occasionally by humans, domestic animals and livestock with little problems. It is non-irritating to skin and mucous membranes.

When applied in appropriate fashion and according to labelling instructions, the wettable powder or emulsifiable concentrate form, the liquid toxicant is metered with precision into streams to kill target organisms, resulting in little harm to other aquatic organisms. The activity of Bayluscide is decreased by intensive sunlight, time, and higher water temperatures such as those encountered in the Dominican Republic, hence its short term effects will be minimal and mostly directed to target organisms. Bayluscide is subject to photochemical and biodegradation processes and its residual activity lasts only a few days. Long-term effects on stream environments are therefore expected to be negligible.

Effectiveness of Bayluscide for Proposed Use

Numerous lab and field tests indicate that Bayluscide effectively kills aquatic snails and amphibious snails at concentrations of 0.3 ppm upwards. The compound has been recognized by the World Health Organization as the best commercially available molluscicide. In general, the LC 90 for snails ranges between 5-8 ppm X hours, depending on the species and environmental conditions, with concentrations as low as 1 ppm X hour killing snails in flowing water. Bayluscide is also effective against snail eggs, as well as both miracidia and cercariae of Schistosoma mansoni.

Compatibility with Non-Target Ecosystems/Organisms

At concentrations used for focal snail control Bayluscide does not appear to adversely affect higher aquatic and crop plants, nor hard-shelled aquatic invertebrates such as crayfish, water boatmen, dragonflies, snipeflies, and others. Soft-bodied invertebrates such planarians and tubificids are more susceptible. Field studies have shown that some percentage of the population of susceptible organisms are reduced, but that the population quickly recovers. Fish are usually adversely affected in river stretches or in ponds where Bayluscide is applied as a molluscicide. The trend, however, is that fish in the treated section of the stream are killed but the area is quickly repopulated by fish from untreated stream segments.

In sum, at the levels expected for use, Bayluscide may have some adverse impact on selected faunal stream organisms in the short term, but the stream ecosystem should quickly recover and former fish population levels established.

Availability and Effectiveness of Other Pesticides or Non-chemical Control

Methods

Choice among control strategies for preventing or controlling schistosomiasis transmission requires consideration of both epidemiological and economic conditions. Information about the epidemiological situation helps determine appropriate physical measures for control. The use of transmission models enables the decision maker to decide which single control measure, or combination of measures, would be most effective in reducing infection in the population, thus limiting transmission. Control measures may

be compared for their costs and effectiveness in reducing schistosomiasis. The strategy of intervention which we are recommending for the Republic Dominican involves combined control measures, because results of conducting transmission models by some investigators to demonstrate the effectiveness of the various measures showed that combined controls are most effective in reducing incidence of the disease. Moreover, combined measures such as chemotherapy, mollusciciding and engineering measures of control have been very effective in several endemic areas.

In terms of appropriate alternate pesticides, REMS/C recommends only the use of Bayluscide for the control of the schistosomiasis vector, Biomphalaria glabrata, in the Dominican Republic. Its efficacy has been demonstrated in other countries and it is the only effective molluscicide available commercially at the present time.

Environmental control of snails is an alternate, yet not mutually exclusive, tactic, that will be considered in this project.

Environmental control of snails is designed to upset snail habitats and make them untenable and unsuitable for snail existence and propagation. In general, the measures include habitat management through engineering methods. The latter methods are designed to straighten canal banks and increase water velocity in irrigation systems or natural streams, drainage of swamps and swampy embankments of rivers, and removal of mud and aquatic vegetation, among other measures. Such measures were demonstrated to be effective, when applied

alone or when they precede molluscicide application. They should be implemented for identified transmission foci only where appropriate and should complement molluscicide application and biological control.

In the endemic area (1, A) it is believed that B. glabrata can be controlled by engineering measures in the irrigation systems west of Miches, those south of Sabana de la Mar and those close to El Valle. It is also feasible to control the snails by engineering measures in the several natural streams which exists in the endemic area (1, A). B. glabrata can also be controlled in swampy areas by drainage and filling, such as the swamp in Hato Mayor, close to the Pana Pana river. In the case of the latter, swamp drainage and removal of aquatic vegetation are sufficient to eradicate the snails, without any need for use of molluscicides. Some cattle-watering ponds in the vicinity of Hato Mayor are so shallow and full of vegetation that removal of this vegetation and picking up of the snails would help tremendously in reducing or eradicating the population of B. glabrata which exists there. Naturally, all this is predicated on the demonstration that the site actually contributes to transmission.

It is recommended that environmental snail control measures should be used in the endemic areas, whenever feasible. Only simple equipment will be required because the methods necessitate the use of hand and hoe by agricultural or other laborers in rural areas. The entire operation will accordingly be inexpensive.

The project will also test the potential utility of biological control methods by using two predator snails in test plots for control of Biomphalaria glabrata. Biological control in general is a difficult and sometimes costly route to pursue, but it has been effective in controlling some crop pests in various places throughout the world.

GODR Ability to Regulate Use of Bayluscide

A) Pesticide Regulations

The pesticide registration Division is the official entity charged with enforcing regulations dealing with the importation, sale, and use of agricultural chemicals in the Dominican Republic. This Division was formed by public Law No. 311 on May 24, 1968, but it was not until regulation No. 1390 was established for the application of public law No.311 on August 30, 1972 that the importation, sale, and use of pesticides was effectively regulated and organized. As a result of recent development in organization the pesticides Registration Division now has 5 technicians and 3 sections: Registration Section, Testing Section and the Inspection Section. These sections have the support of 20 technicians who are biologists, specialists in plant pathology and vertebrate pest control, and 60 field personnel. They also have the support of the pesticide research laboratory.

B) Pesticide Residue Laboratory

The Laboratory was inaugurated on December 15, 1978 and was created as a support unit for the prevention and management of pesticides program. At

the present time, pesticide residues are analyzed for chlorinated hydrocarbons in vegetable products for export, edible oils, milk and its derivatives, eggs, human fat tissue; chlorinesterase activity in human serum is also analyzed. By the end of 1981 it is expected that quality control analysis of pesticide formulations will be undertaken. They conceivably have potential to analyze for bayluscide.

C) Extension and Educational Programmes

Training in pesticide management is given by qualified and experienced personnel of the plant protection division. The subjects are:

(1) Agricultural pesticide toxicology.

The chemical properties and toxicology of the pesticides used to control diseases and pest are described, and training is given on the dangers of these products to humans and animals as well as to the environment.

(2) Pesticide formulations and their interpretation.

The way different pesticides are formulated for field use and pertinent label information are explained in this course.

(3) Prevention and control of pesticide poisoning.

This course gives instruction in how to prevent pesticide poisonings, and also how to manage and handle pesticides to avoid spills, leaks, and environmental contamination.

(4) Pesticide management security

How to manage pesticide use and storage at the field, store, and warehouse level.

(5) Use and calibration of pesticide application equipment.

The proper use and care of pesticide application equipment is demonstrated.

(6) Public Law 311 and its regulations and resolutions.

The Laws that govern the use and sale of pesticides are explained. Through these courses agricultural technicians, farmers and store personnel have benefitted. The number of people who have taken the courses are as follows:

Secretariat of Agriculture technicians -	80
Technicians from related institutions -	75
Sales personnel -	5
Agrarian Reform farmers -	<u>60</u>
Total	220

Also, discussions and talks on different aspects of the application of Public Law 311 have been given to technicians. Between 1978 and 1979 ten conferences on this subject have been given posters, bulletins, and pamphlets have been printed. With these materials technicians, businessmen, and farmers have been informed about the correct use of pesticides and the public has been informed about the amounts of pesticides imported. It is still very common for farmers to apply pesticides without proper protection, gas masks, etc. Nor do they observe the simple precautions of not smoking, eating or drinking while applying pesticides. Also, farmers do not observe proper time intervals for reentry into sprayed fields. However, as a result of radio programs, posters, conferences, training courses and education by other means all of these

improper practices have decreased. However, in this project only specially trained applicators will handle bayluscide, thus reducing problems of improper usage.

Provisions Made for Training of Users/Applicators of Bayluscide

The use of pesticides is routinely addressed by the Public Health Ministry, SESPAS. The Center for Eradication of Bilharzia (CEB) is primarily responsible for activities associated with schistosomiasis control. Their ability to correctly apply chemical control methods to water bodies is problematic due to lack of proper training, as indicated by the earlier use of Frescon in snail control. Although Bayluscide is relatively non-toxic to humans, hence reducing any risks due to handling, applicators will be trained in proper dosage and water volume calculations in order to improve effectiveness of the control program, as well as in proper storage and disposal of containers. The project will ensure that field personnel receive such training, possibly in Venezuela. Some familiarity with the St. Lucia control program would benefit the development of any local training program in the Dominican Republic.

A much neglected aspect of the project is public awareness programs on use of molluscides and their relative safety and on the problem of reinfection of water courses by human faeces. Some attention should be paid to informing local inhabitants of models of transmission and snail control interventions in order to elicit better cooperation in control of the disease.

Provisions for Monitoring the Use and Effectiveness of Bayluscide

A period of evaluation of six months after mollusciciding activity will be followed to determine the success or failure of the control operation. If snails, especially infected ones, still exist after molluscicide treatment, then a decision should be made to repeat the operation. Initial mollusciciding will be supervised by USAID designated personnel trained in Bayluscide application to ensure effective use of material and disposal of empty containers, even though local GODR personnel will receive such applicator training.

Provisions will be made for evaluation of chemical, environmental (physical) and biological control measures after the second year of the project.

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REPÚBLICA DOMINICANA

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Secretariado Técnico de la Presidencia

SANTO DOMINGO, D. N.

AMBER

AÑO DE LA REFORESTACION

STP/Núm. 4338

Santo Domingo, D. N.

14 D. C. 1983

Señor
Philip R. Schwab
Director de la Agencia
Internacional para el Desarrollo
Su Despacho.

Estimado señor Schwab:

El Gobierno de la República Dominicana, presidido por el Ciudadano Presidente de la República, Dr. Salvador Jorge Blanco, ha establecido como una de las prioridades del Gobierno de Concentración Nacional, mejorar el sistema gerencial de la Secretaría de Estado de Salud Pública y Asistencia Social (SESPAS), y el control de ciertas enfermedades prioritarias como un medio para incrementar la calidad de servicios de salud ofrecidos a nuestros usuarios.

Reconocemos y apreciamos la gran ayuda que la Agencia Internacional para el Desarrollo (AID) ha ofrecido tradicionalmente a la República Dominicana en estos programas. Con el propósito de desarrollar actividades tendientes al mejoramiento del sistema gerencial de la SESPAS y para el control de ciertas enfermedades prioritarias, he comunicado a su Excelencia, el Señor Presidente, sobre nuestra solicitud a la AID de un préstamo por un valor de US\$4.0 millones, bajo los más favorables términos, y una donación por valor de US\$4.0 millones. Estimamos que el costo global del proyecto asciende a unos \$11.0 millones de pesos, contribuyendo el Gobierno de la República Dominicana con una contrapartida equivalente a tres millones de pesos.

Nos permitimos presentar a usted los lineamientos generales de esta solicitud de préstamo y donación.

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Señor
Philip R. Schwab, Director
Agencia Internacional para el
Desarrollo
Su Despacho.

Pág. 2

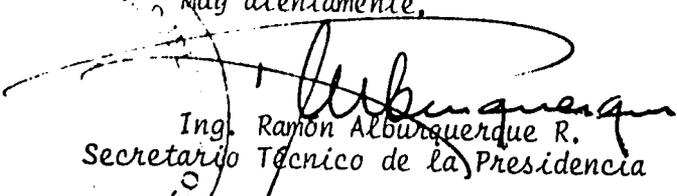
El componente principal se concentrará en el mejoramiento de siete sistemas principales de gerencia: finanzas, logística, información, supervisión, personal, mantenimiento y planificación. También se contemplan adiestramientos a corto y largo plazo en las áreas mencionadas de la gerencia de servicios de salud.

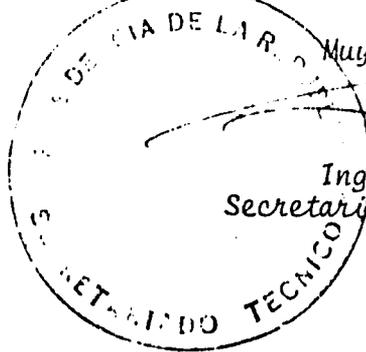
En el área de control de enfermedades, el Gobierno de la República Dominicana, por medio de SESPAS, ha determinado como prioritarias, tres en particular: dengue, fiebre amarilla y esquistosomiasis. Se proveerá equipo y adiestramiento para el personal de laboratorio y de campo, que labora en SESPAS y que desarrollará funciones tendientes al control efectivo de las enfermedades señaladas.

La Secretaría de Estado de Salud Pública y Asistencia Social se compromete a emprender las acciones necesarias para la ejecución adecuada de las acciones de este proyecto, y continuar labores de seguimiento una vez se haya terminado la ejecución del proyecto.

Esperamos una acogida favorable de su parte a esta solicitud.

Muy atentamente,


Ing. Ramón Alburquerque R.
Secretario Técnico de la Presidencia



RAR/jwm

5C (1) COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and criteria applicable to individual fund sources: Development Assistance and Economic Support Fund.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FAA Sec. 481. Has it been determined that the government of the recipient country has failed to take adequate steps to prevent narcotic drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? No

2. FAA Sec. 620 (c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such a citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? No

3. FAA Sec. 620(e)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? No

4. FAA Sec. 532 (c), 620 (a), 620 (f), 620D; FY 1982 Appropriation Act Secs. 512 and 513. Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Vietnam, Syria, Libya, Iraq, or South Yemen? Will assistance be provided to Afghanistan or Mozambique without a waiver? No

5. ISDCA of 1981 Secs. 724, 727 and 730. For specific restrictions on assistance to Nicaragua, see Sec. 724 of the ISDCA of 1981. For specific restrictions on assistance to El Salvador, see Secs. 727 and 730 of the ISDCA of 1981. N/A

6. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property? No

7. FAA Sec. 620 (1). Has the country failed to enter into an agreement with OPIC? No

8. FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters? N/A
- (b) If so, has any deduction required by Fishermen's Protective Act been made?
9. FAA Sec. 620 (q); FY 1982 Appropriation Act Sec. 517. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any AID loan to the country? No
- (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the appropriation bill appropriates funds? No
10. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the amount of foreign exchange or other resources which the country has spent on military equipment? (Reference may be made to the annual "Taking into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.) N/A

11. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? No
12. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? (Reference may be made to the Taxing into Consideration memo.) Current
13. FAA Sec. 620A; FY 1982 Appropriation Act Sec. 520. Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed an act of international terrorism? No
 Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed a war crime? No
14. FAA Sec. 666. Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under FAA? No

15. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements on safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device, after August 3, 1977? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)

No

16. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Session of the General Assembly of the U.N. of Sept. 25 and 28, 1981, and failed to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the Taking into Consideration memo.)

N/A

17. ISDCA of 1981 Sec. 721. See special requirements for assistance to Haiti.

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

a. FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

No

2. Economic Support Fund Country Criteria

a. FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the country made such significant improvements in its human rights record that furnishing such assistance is in the national interest?

No

b. ISDCA of 1981, Sec. 725 (b). If ESF is to be furnished to Argentina, has the President certified that (1) the Government of Argentina has made significant progress in human rights; and (2) such assistance is in the national interests of the U.S.?

N/A

c. ISDCA of 1981, Sec. 726 (b). If ESF assistance is to be furnished to Chile, has the President certified that (1) the Government of Chile has made significant progress in human rights; (2) it is in the national interest of the U.S.; and (3) the Government of Chile is not aiding international terrorism and has taken steps to bring to justice those indicated in connection with the murder of Orlando Letelier?

N/A

5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable generally to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to project funded from specific sources only: B.1. applies to all projects funded with Development Assistance Funds, B.2. applies to projects funded with Development Assistance Loans, and B.3. applies to projects funded from ESP.

CROSS REFERENCES:

IS COUNTRY CHECKLIST UP TO DATE? Yes.
HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT? Yes.

A. GENERAL CRITERIA FOR PROJECT

1. FY 82 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations Committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

(a) The project was included in the FY 85 Congressional Presentation as a new project in FY 84. This modified a previous inclusion in the FY 84 CP due to substantial modifications in project design.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Not Applicable.

(b) Yes.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

The Project will need to be ratified by the Dominican Congress. In the past AID projects have been ratified in a timely manner.

4. FAA Sec. 611 (b); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973? (See AID Handbook 3 for new guidelines.)

Not Applicable.
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

Not Applicable.
6. FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.

The Project cannot be executed as part of a regional project.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

Not directly applicable.

8. FAA Sec. 601 (b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
The technical assistance and equipment for the project will be procured from U.S. private sector sources.
9. FAA Sec. 612(b); Sec. 636(h); FY 1982 Appropriation Act Sec. 508. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.
The project agreement will require that counterpart contribution be used in the implementation of project activities.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?
There is no excess, U.S. owned local currency available for this program.
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?
Yes.
12. FY 1982 Appropriation Act Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar, or competing commodity?
Not Applicable.

13. FAA 118(c) and (d).

Does the project comply with the environmental procedures set forth in AID Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests.

Yes.

14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?

Not Applicable.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b); Sec. 111; 113; 281 (a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

The project effectively involves the poor in development by improving their access to health care services. The project will support self-help efforts through training and continuing education for community based health promoters. It promotes the participation of women by providing better access to health care for infants and small children and family planning services.

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

Yes.

c. FAA Sec. 107. Is appropriate emphasis on use of appropriate technology? (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes.

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement been waived for "relatively least-developed" country)?

The recipient country is providing of the costs of the project

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least-developed?" (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character.

Not Applicable

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

The project directly recognizes and utilizes the needs, desires, and capabilities of the population through the implementing agencies to promote institutional development.

g. FAA Sec. 281(b). Describe the extent to which the program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

The project contributes to the well-being of the people by improving the quality of basic health services in rural areas, encourages the institutional development of the Secretariat of Health through management system improvement and promotes skill training for Secretariat personnel in administrative and management techniques.

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.

The Dominican Government and Central Bank are not in default on AID loans and appear capable of repaying the proposed loan.

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

Not applicable.

3. Economic Support Fund
Project Criteria

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of section 102? Not applicable.

b. FAA Sec. 531 (c). Will assistance under this chapter be used for military, or paramilitary activities? No.

c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives. Not Applicable.

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements be made? Not Applicable.

OTHER A.I.D. HEALTH ACTIVITIES

1. PL-480 Title I Program

Several health sector activities have been funded with the proceeds of the PL-480 Title I Program. Approximately \$2.3 million has been made available under the FY-79 and FY-80 programs to finance construction of and equipment for approximately 50 rural clinics. Under the FY 83 program \$2.2 million has been made available to expand the malaria and tuberculosis control programs.

2. PL-480 Title II Program

The Title II program has averaged \$2.8 million over the last three years. The Title II food donations are used for developmental, nutritional and urgent or extraordinary relief purposes. In the Dominican Republic there are four categories of food programs: Maternal/Child Health, Other Child Health, Pre-School Feeding and Food-For-Work. It is through these four categories by which CARE and its local counterparts, SESPAS and the Secretariat of State for Education, Fine Arts and Worship (SEEBAC); Catholic Relief Services (CRS) and its local counterpart, CARITAS; and Church World Services (CWS) and its local counterpart, Servicio Social de Iglesias Dominicanas (SSID) distribute the food.

3. Primary Eye Care - OPG

AID is currently supporting the training of primary health care providers, including those in the SBS, in the recognition, treatment and appropriate referral of eye diseases common in the Dominican Republic. Nurse auxiliaries and promoter supervisors are being instructed in the training, supervision and support of the promoters who will be the primary outreach agents in this screening and referral project. To date, 339 physicians, 38 graduate nurses, 261 nurse auxiliaries, 69 medical students and 307 health promoters have been trained.

4. Pro-Familia - OPG

This grant supports studies on various population issues being undertaken by the Institute for Population Studies which is responsible for both the research and the dissemination of the results. Subjects include the inter-relationships between population and the labor force, population and health, and population and education. These

studies will be provided to Dominican decision makers to assist in the formulation of appropriate policies. To date, two studies have been completed: Population and Employment, and Population and Food Production. The Population and Housing study is underway.

5. Applied Nutrition Education - OPG

A recently approved grant to Catholic Relief Services supports the expansion of an on-going program to attack malnutrition. Project activities include (1) nutrition education; (2) nutrition and health monitoring; (3) agricultural and animal husbandry projects; (4) income-generating activities and (5) improvement of health and sanitation practices. The project activities will be closely coordinated with SBS promoter activities to avoid duplication of services.

6. Preliminary Study of Primary Health Care Insurance

The USAID recently funded a study that is an important start in developing alternative health financing schemes in the Dominican Republic. At the request of the Secretary of SESPAS, a pre-feasibility study of primary health care insurance is being carried out. The model is similar, in principal, to the Health Maintenance Organizations (HMO's) that have been organized in the United States. According to the model, a non-profit community group would organize and manage the pre-paid primary health care insurance which would finance the costs of primary health care including health education and preventive services, as well as provide formal referral arrangements to secondary and tertiary care.

The prefeasibility study has been carried out in one rural and one urban site. The rural component of the study has shown two significant findings: 1) public health services are very costly, as costly as those of the private sector and of less quality; and 2) out-of-pocket expenditures for the purchase of private health services are substantial. Consequently, the need to reorganize health services in rural areas is urgent. The study has shown the feasibility of community pharmacies, which can decrease expenses for SESPAS and for the communities. As a result of the study, three pilot community pharmacies will be organized in the near future. This pilot project will be the basis for a national program of community pharmacies.

The urban part of the study is in the process of completion. The first analysis suggests that urban dwellers are using private health services and spending substantial resources for services and medicines. Many respondents have indicated that they would be willing to pay a health insurance premium if the quality of the services could be guaranteed.

From an economic point of view, an insurance or a prepayment system for primary health care is feasible. Under this project a detailed feasibility study of the proposed model will be carried out. The study will define alternative packages of services to be delivered, assess costs and premiums, and make recommendations regarding the role of the public sector in supervision, logistics, educational materials and in the provision of secondary and tertiary curative care.

7. Private Sector Initiatives

Recently, USAID/DR authorized the utilization of project development and support funds to assist a private Dominican university to prepare a project for the development of an integrated, rural primary health care system and prepayment options in the neighborhood of a farm operated by the university. SESPAS has agreed to transfer two rural health clinics and their operation and maintenance budget to the Universidad Nacional Pedro Henríquez Ureña (UNPHU), and the university, in turn, will develop an integrated model of health care delivery for rural areas that could be used by SESPAS in other parts of the country. UNPHU will provide its facilities and its technical expertise for the purpose of (1) developing a primary health care prepayment system that will decrease costs for SESPAS and rural dwellers, (2) developing formal and non-formal health education materials and methodologies that can be used by SESPAS in other rural health clinics, (3) preparing programs to train health promoters and supervisors in primary health care programs, (4) preparing materials for self-care of some prevalent diseases, and (5) preparing guidelines for the improvement of rural health clinics.

Organization of Planning Sub-Secretariat

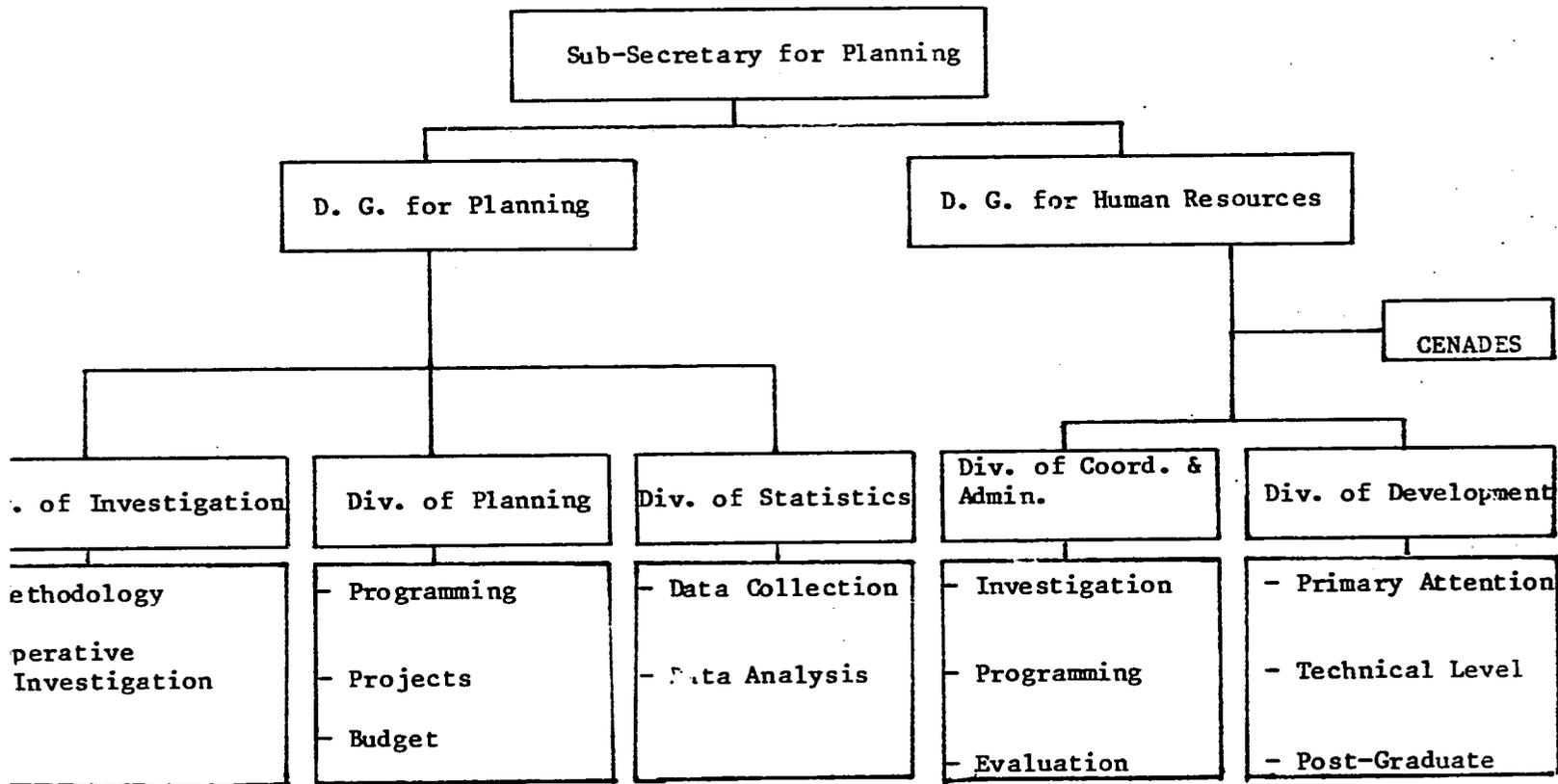
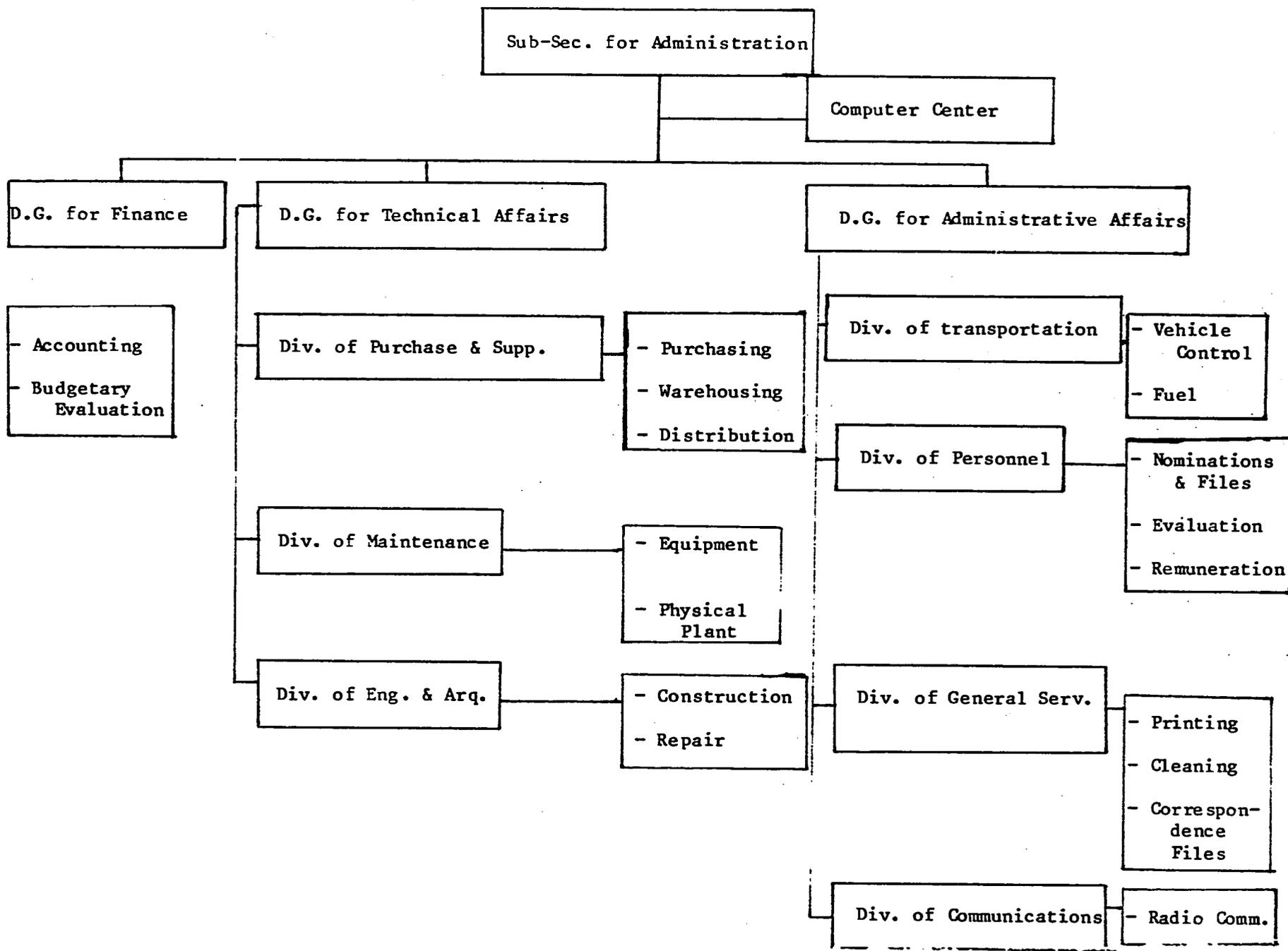


Diagram 4: Organization of Administration Sub-Secretariat



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PROBLEM/PROJECT RESPONSE MATRIX
MANAGEMENT INFORMATION SYSTEMS

ANNEX C-3
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	<u>PROBLEM RESPONSE</u>	<u>PROJECT RESPONSE</u>
1.a. Overall, SESPAS does not have an MIS. As a result, SESPAS planners and decision makers carry out their responsibilities in an information vacuum.	1. Wide spread recognition of the problems exists, particularly at the highest levels in SESPAS. Due to a lack of qualified human resources, current efforts are largely ad hoc, stop-gap measures. SESPAS is currently in the process of purchasing a computer, thus simultaneously demonstrating a commitment to improve MIS and a lack of knowledge about how to develop MIS.	1. Assess the overall managerial information needs of SESPAS in the light of current management practice and formulate general guidelines and a global view for MIS development.
b. Most, not all senior and middle level managers can not articulate their information needs. Thus, they don't really know how an MIS can help them.		
2.a. Data that will be needed in an integrated MIS doesn't exist now; for example equipment inventories, personnel inventories, fee-for-service revenue etc. Procedures for collecting, processing and using this data don't exist.	2. SESPAS is developing a small "system" designed to meet specific management needs including: -Listing of nominated personnel -Vehicle inventory, -Medical equipment inventory -Accounts payable, -Information follow-up, etc. (these efforts are largely uncoordinated and don't constitute part of a coherent MIS plan but they also indicate a certain awareness of the problem).	2.a. Focus initial interventions on key areas of felt need where success indicators are unambiguous; for example, pharmaceutical procurement, in order to build broader support for improved MIS.
b. Lateral information flows in the Secretariat are minimal and, the limited flow that does exist is mostly informal. Lack of coordination is one result.		b. Give priority attention to training/orientation of personnel to the MIS developing their capability to interact effectively with the system either as data sources or users.
3.a. The elements of the MIS that do exist are often of poor quality; for example, the set of monthly health service indicators which, in their current form, are of little conceivable use.		3.a. Develop, in the context of the global view of the MIS planning cycles/feedback loops at all levels in SESPAS. For example, supervisors should use promotor supplied data for decision-making purposes as well as transmitting the data to higher levels.
b. Existing elements of the MIS are inadequately documented. Operations manuals, norms and procedures, either don't exist or are not used.		b. Number 2b. above, involves the explicit development of detailed handbooks of standards and operating procedures. (This is a requirement, not only for the MIS itself, but also for the systems it is to support.

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FINANCIAL MANAGEMENT SYSTEMS

PROBLEM	CURRENT RESPONSE	PROJECT RESPONSE
1. The financial control system is not supplying information required by decision makers. Information may be provided late, or not at all; for example, information on personnel expenditures by facility is not available.	The current response of SESPAS is quite limited, although the mere existence of a response indicates that the problems are recognized Current responses include:	1. Develop a financial management information system that provides decision makers with appropriate timely information.
2. The scope of existing financial control system does not account for real estate, buildings or durable goods, nor does it cover locally raised income at hospitals.	<ul style="list-style-type: none"> o Management training for personnel in Division of Finance; only 1 day of training so far. 	2. Expand the scope of the financial control system to include locally raised revenues.
3. Responsibilities and authority are not clear within the Finance Division, nor between the Division and other SESPAS offices, nor between the Division and Government offices outside SESPAS. Written job descriptions and operations manuals are missing. This problem also applies to the Financial planning (budget) function.	<ul style="list-style-type: none"> o A study of the problems related to financial control by PAID. o An on-going attempt by the Division of Planning to estimate the recurring cost implications of currently funded development projects. 	<p>3.a. Clearly identify departmental and personal roles (responsibilities and authority) through development of job descriptions and operations manuals for financial control and planning.</p> <p>b. Address skill deficiencies through management and administrative training, including degree level training.</p>
4. The capital budget appears insufficiently influenced by national needs and priorities and overly influenced by the availability of funds from donors.		4. Assess the feasibility of developing alternative financing mechanisms to address a predicted future shortfall in financial resources.
5. Recurrent costs of major capital projects appear to be infrequently estimated and are not a major issue in the approval process for capital projects.		5. Establish and implement routine procedures for estimating the recurring costs of all development projects.

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LOGISTICS AND SUPPLIES SYSTEMS

<u>PROBLEM</u>	<u>CURRENT RESPONSE</u>	<u>PROJECT RESPONSE</u>
1. No methodology exists that permits the accurate calculation of supply needs.	1. SESPAS is currently in the process of developing a system to determine more accurately estimated consumption and future supply requirements.	1. Under the project a programming model will be developed which will calculate supply requirements based on: health facilities utilization rates, morbidity by age-groups, item costs, catalog of supplies and current inventories.
2. Purchases not made in sufficient volume to realize economies.	2. SESPAS has requested exception from government regulations which inhibit its ability to make direct purchases and is examining possibilities of collective purchase for hospitals.	2. Incorporate into programming a global purchasing system which will encourage economies from volume purchase. Limit purchase power to one dependency with separate accounting systems for Rural Clinics and Hospitals.
3. There is insufficient control of the logistics process to guarantee that decisions taken result in adequate coverage.	3. SESPAS is carrying out some dispersed efforts to improve response to requests for supplies from facilities.	3. Norms and procedures will be developed to cover programming, purchase, storage and distribution of supplies. SESPAS personnel at all levels will be trained to interact with the logistics system.
4. The management information system is inadequate to coordinate the various components of the logistics system.		4.a.A Management information subsystem will be developed to aid coordinated decision-making in the various components of logistics and supply. A performance index will be developed by which SESPAS can monitor the functioning of the logistics system. 4.b.Management training for senior and middle-level personnel, using project developed case studies, will increase general awareness and attention to logistics issues.

X1/1

MAINTENANCE SYSTEM

PROBLEM	CURRENT RESPONSE	PROJECT RESPONSE
1. No inventory of equipment.	1. One-time inventory being carried out in conjunction with equipment repair.	2. Accelerated inventory with site visits utilized to check against previously identified equipment lists for completion; systematized notification of maintenance for all newly acquired equipment on a continuous basis.
2. No stock of spare parts.	2. Soliciting funds for individual parts purchase, than searching out parts in commercial market.	2. Establish a limited stock of commonly needed spare parts to be financed out of a revolving fund; further expansion and refinement of stock based on cumulative experience and; involve Maintenance in purchase of equipment.
3. Insufficient skills.	3. No criteria for employment, no formalized training plan.	3. Additional or future staff needs minimum skill levels defined; training plan developed based on needs as reflected by both equipment and skills inventory; phased training of equipment operators and repair personnel.
4. No operative preventive maintenance plan.		4. Develop supervised preventive maintenance system.

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TRAINING AND SUPERVISION SYSTEM

PROBLEM	CURRENT RESPONSE	PROJECT RESPONSE
1. There is no base-line training data as to what training is given, to whom, what evaluation to determine degree of skill transfer.	In theory these problems areas are being addressed by the Division of Human Resources. In fact this Division has found it very hard to obtain cooperation from other branches of SESPAS and has limited human and financial resources. Some training is taking place in the normative programs and through the efforts of PAHD, but there is neither a central repository of this data nor evaluation of results.	1. The project anticipates the establishment of formal mechanisms for capturing type of training given, recipient of training and what evaluation criteria applied on a continuing basis.
2. There is no inventory of skills available within SESPAS.		2. The project will inventory the skills available within SESPAS to allow not only identification of training needs, but also to identify potential participants in skills transfer.
3. There is no planning being done which allows determination of SESPAS present and future training needs.		3. Development of SESPAS management to the point where it will be regularly engaged in exactly this kind of analysis.
4. There is no training plan.		4. A training plan reflective of SESPAS needs will be the logical result of successful completion of the above. (1) and (2) should provide the necessary base for the planning process.

PERSONNEL SYSTEM

PROBLEM	CURRENT RESPONSE	PROJECT RESPONSE
1. Inability to identify accurately or in a timely fashion staff size, composition or location.	1. At least three distinct divisions within SESPAS are in isolated pursuit of this information, none of which are using methods which allow the data to be easily and accurately updated.	1. Project will begin with minor modifications of the current systems, combining them in order to develop a data base which can be maintained. Appropriate system changes or major modifications will be determined in the context of overall MIS.
2. Lack of criteria on which to base selection of personnel for all positions.	2. Though some positions (physicians, auxiliary nurses) have selection criteria, most administrative staff positions either have none or those developed are deemed inappropriate.	2. Project will encourage management to identify positions in priority need of selection criteria, jointly develop standards, evaluate incumbants to determine skill levels, target for training those with insufficient skills, evaluate the training, measure performance and overall effectiveness.
3. Lack of objective criteria or plan for supervision. Inability to systematically respond to deficiencies uncovered when supervision takes place.		3. Project will work with management to identify priority areas in need of supervisory support, develop criteria and monitory tools for constructive supervision, develop training packages for supervisors at all levels.
4. Lack of effective communication and coordination with other sections of SESPAS involved in personnel-like functions.		4. Project will encourage the development of a committee representative of the disparate elements within and outside SESPAS currently involved in personnel-related tasks to provide mutual orientation, facilitate development of an overall personnel plan and strategy with concurrent delineation of roles and responsibilities.

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SUMMARY SCHEDULE OF PROJECT INTERVENTIONS

PHASE	INTERVENTION	COMPLETION DATE
I.	<u>Start-up and Workplan Development</u>	
	1. Technical Assistance Team Arrival	6/84
	2. Counterpart Workshop No. 1 (1-2 days, Intervention Selection Criteria Established)	7/84
	3. Management Systems Baseline Survey	9/84
	4. Management Systems Status Review	11/84
	5. Management Training Workshop (Senior Level, 5 SESPAS Management Case Studies)	11/84
	6. Workplan (Management Systems Development)	12/84
	7. "Firefighting" (Continuous During Phases I and II)	
	CHECK POINT (Progress and Workplan Reviewed)	1/85
II.	<u>Incremental Interventions for Improved Management</u>	
	8. Priority Interventions within Existing Management Systems (Continuous)	
	9. Follow-up Management Training Workshop (Senior Level)	8/85
	10. Management Training Workshops (6) (Middle Level)	11/85
	11. Administrative Skills Training (Middle and Low Level Personnel, Campaign Approach)	1/86
	12. Case Studies and Operations Research Studies (5)	1/86
	13. Revised Workplan (Management Systems Development)	2/86
	14. Firefighting (Continuous During Phases I and II)	2/86
	CHECK POINT (Progress Reviewed)	3/86
III.	<u>Development of Policy Alternatives, Transition and New Work Plan</u>	
	15. Comprehensive Management Systems Review	6/86
	16. Position Papers and Case Studies (5)	6/86
	17. Counterpart Workshop No. 2 (1-2 days, Intervention Selection Criteria Revised)	8/86
	18. Management Training Workshop (Senior Level) (2)	10/86
	19. Workplan II (Management Systems Development)	1/87
	CHECK POINT (Project Acceptability to New Administration Evaluated, Workplan II Revised)	2/87

Table 4 cont
SUMMARY SCHEDULE OF PROJECT INTERVENTIONS

PHASE	INTERVENTION	COMPLETION DATE
IV.	<u>Structural Adjustments in Management Systems</u>	
20.	Integrated Management Systems Development (Handbooks, Performance Norms, etc.)	8/87
21.	Follow-up Management Training Workshop Senior Level)	8/87
22.	Project Evaluation (Outside)	2/88
23.	Management Training Workshop (6) (Middle Level)	5/88
24.	Administrative Skills Training (Middle and Low Level Personnel, Campaign Approach)	5/88
25.	Case Studies and Operations Research Studies (10)	5/88
26.	Revised Workplan II (Management Systems Development)	5/88
	CHECK POINT (Evaluation and Progress Reviewed)	10/88
V.	<u>Internal Assessment and Transition to Post-Project Era</u>	
27.	Follow-up Management Training Workshop (Senior Level)	11/88
28.	SESPAS and Contractor Evaluation (Internal, Case Studies)	1/88
29.	SESPAS Transition Plan	2/88
30.	Counterpart Workshop No. 3 (Review Project and Transition Plan)	3/89

Table 1: SESPAS BUDGETS

	1980 (Actual)	% Increase 80-81	1981 (Actual)	% Increase 81-82	1982 (Actual)	% Increase 82-83	1983 (Approved)	% Increase 80-83	Estimates 1983
National Resources	<u>92,620,503</u>	(+5)	<u>96,947,325</u>	(-8)	<u>89,618,206</u>	(+10)	<u>98,302,824</u>	(+6)	<u>91,492,824</u>
Operating	72,146,871	(+7)	78,368,834	(+7)	83,574,890	(+4)	86,952,824	(+21)	86,952,824
Capital	20,473,632	(-9)	18,565,382	(-67)	6,043,308	(+88)	11,350,000	(-45)	4,540,000
Foreign Resources	<u>5,455,458</u>	(-70)	<u>1,635,950</u>	(+87)	<u>3,061,320</u>	(+397)	<u>15,200,000</u>	(+179)	<u>6,080,000</u>
Total	<u>98,075,961</u>	(+1)	<u>98,583,275</u>	(-6)	<u>92,679,526</u>	(+23)	<u>113,502,824</u>	(+16)	<u>97,572,824</u>

Table 2: ANALYSIS OF SESPAS OPERATING BUDGETS BY PERSONNEL/NON-PERSONNEL
EXPENDITURES IN NOMINAL TERMS (RD\$'s)

	1980 (Actual)	% Change 80-81	1981 (Actual)	% Change 81-82	1982 (Actual)	% Change 82-83	1983 (Approved)	% Change 80-83
Personnel	41,660,850	(12.4)	46,843,812	(+12.6)	52,732,721	(+1.1)	53,337,300	(+28)
As % of SESPAS Operating Budget	58%		60%		62%		61%	
Non-Personnel	<u>30,425,897</u>	(+3.6)	<u>31,525,022</u>	(+22)	<u>32,216,903</u>	(+4.3)	<u>33,615,524</u>	(+10.5)
As % of SESPAS Operating Budget	42%		40%		38%		39%	
Total	72,086,747		78,368,834		84,949,624		86,952,824	

Table 2a: ANALYSIS OF SESPAS OPERATING BUDGET BY PERSONNEL/NON-PERSONNEL
EXPENDITURES IN REAL TERMS
(1980 Price Levels)
(RD\$)

	1980	1981	1982	1983	% Change 80-83
Personnel	41,660,850	46,843,812	52,732,721	53,337,300	(+28%)
% of year's total	58%	63%	68%	68%	
Non-Personnel	<u>30,425,897</u>	<u>26,985,419</u>	<u>24,784,379</u>	<u>24,875,588</u>	(-18%)
% of year's total	42%	37%	32%	32%	
Total	<u>72,086,747</u>	<u>73,829,231</u>	<u>77,517,100</u>	<u>78,212,788</u>	
Ratio of Non- Personnel: Personnel	\$1.00:\$.73	\$1.00:\$.58	\$1.00:\$.47	\$1.00:\$.47	(-36%)

1981 UNIT COSTS

(RD\$)

<u>--Service Hospital--</u> <u>Visit</u>	<u>Non-Emergency Outpatient Visit</u>	<u>Emergency Visit</u>	<u>Patient Day</u>
Hospital Dr. Alejandro Cabral	10.21	4.75	9.47
Hospital Dr. Robert	4.54	5.77	16.23
Hospital Dr. Toribio Bencosme	10.28	1.76	13.26
Hospital Dr. Francisco Gonsalves	<u>5.33</u>	<u>2.77</u>	<u>16.95</u>
NonWeighted Averages	7.59	3.76	13.98

It should be noted that it is not known if these costs include those covered by locally collected fees and donations, revenues, in addition to the hospital's salaries, monthly grants, and incurred debt.

To calculate a conservative estimate the recurrent cost implications of the proposed facilities, the following estimates and assumptions were used:

For Hospitals

- 1) The average cost per patient day is RD\$14.00.
- 2) The number of patient days per year is based upon an 85% occupancy rate.
- 3) The average cost for a hospital outpatient visit would be RD\$6.63. This is based upon the average costs determined in the study for non-emergency visits to emergency visits in SESPAS hospital facilities in 1982 (3:1).
- 4) The number of annual outpatient visits to one inpatient is 495 (the 1982 average for all SESPAS hospitals with 200 or more beds).

For Subcenters

1. The average cost per patient-day is arbitrarily assumed to be RD\$7.00 per day.
2. The number of patient-days per year is based on a 50% occupancy rate.
3. The average cost of an outpatient visit is half that of a hospital visit or RD\$3.30.
4. The ratio of outpatient visits to inpatient beds is 1,240:1, the 1982 average for SESPAS subcenters.

For Rural Clinics

1. The number of outpatient visits per rural clinic is 5,547, the 1982 average.
2. The average cost per outpatient visit is RD\$1.

Table 5 presents an approximate estimate of the annual recurrent costs associated with the operation of the facilities currently being considered for construction. The total recurrent cost requirements of these facilities is estimated to be approximately RD\$14 million. Furthermore, as mentioned above, it is a conservative estimate. The amount is equal to nearly 17% of SESPAS' 1983 operating budget.

It would appear unlikely that SESPAS would be able to increase its operating budget by an amount sufficient to satisfy the needs of these new facilities. In that event, the options open to SESPAS include the following:

- 1) Defer construction of some of the proposed facilities until such time as sufficient resources can be obtained to cover their costs.
- 2) Seek alternative ways of financing the cost of their services.
- 3) Draw resources away from other SESPAS facilities to staff and supply these new institutions.

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TABLE 3

ESTIMATED OF RECURRENT COST IMPLICATIONS OF PROPOSED CONSTRUCT

A. HOSPITALS

1. Inpatient

1,500 beds x 365 days x .85 occupancy rate -
465,375 patient days x RD\$14/day RD\$ 6,515

2. Outpatient

1,500 beds x 495 visit/beds x RD\$6.63/visit.....4,922

B. SUBCENTERS

1. Inpatient

360 beds x 365 days x .50 occupancy rate -
65,700 patient days x RD\$7.00/day 459,900

2. Outpatient

360 beds x 1,240 visits/bed x RD\$3.30/visit 1,473,120

C. RURAL CLINICS

162 new clinics 2 5,547 visits/clinic
x RD\$1.50/visit 1,347,900

TOTAL ANNUAL OPERATING COSTS

RD\$14,718,900

Figure 1: EXPECTED BENEFITS FROM RESOURCE MANAGEMENT

EXPECTED RESOURCE	PROJECT-ASSISTED INTERVENTION	BENEFIT*
MATERIAL		
Supplies (medicines)	Improved programming and procurement system.	F/U
	Improved storage, distribution and control system.	U
	Community pharmacy concept studied (implemented?).	F/U
Equipment & Vehicles	Preventive maintenance training for operators.	F/U
	Spare parts procurement system (revolving fund?).	F
	Equipment inventory and control system	F/U
	Maintenance criteria applied to procurement process	U
Buildings	Project evaluation criteria and MIS improved planning.	F/U
	Preventive maintenance initiated.	F
HUMAN RESOURCES		
Health Service Personnel	Task-focused continuing education (promoters and auxiliaries).	P/U
	Supervision using objective performance criteria.	P/U
	Improved logistics, maintenance and other support.	P/U
Management Personnel	Manuals with performance norms and procedures	P
	Management and administrative skills training.	P
	MIS improves planning and decision-making.	P
FINANCE		
	Improved control systems and MIS	F
	Improved financial planning assisted by MIS.	F/U
	Alternative financing systems studies (implemented?).	F

* Benefit Categories F: Financial Savings U: Utilization
Rate
P. Personnel Productivity