

UNCLASSIFIED

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

HONDURAS

PROJECT PAPER

HEALTH SECTOR II

AID/LAC/P-426

Project Number: 522-0216

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE

3

COUNTRY/ENTITY
HONDURAS

3. PROJECT NUMBER

522-0216

4. BUREAU/OFFICE

LAC

5. PROJECT TITLE (maximum 40 characters)

Health Sector II

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
11 00 11 9 14

7. ESTIMATED DATE OF OBLIGATION

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

A. Initial FY 88 B. Quarter 2 C. Final FY 94

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 88			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(3,610)	(3,500)	(7,110)	(42,243.3)	(15,009.9)	(57,253.2)
(Loan)	()	()	()	()	()	()
Other						
U.S.						
Host Country				4,775.9	21,240.5	26,016.4
Other Donors						
TOTALS	3,610	3,500	7,110	47,019.2	36,250.4	83,269.6

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) PN	400			0	0	1,240		3,030	
(2) HE	500					1,870		24,000	
(3) CS						4,000		30,223.2	
(4)									
TOTALS				0	0	7,110		57,253.2	

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

510

530

11. SECONDARY PURPOSE CODE

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

A. Code

BR

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

The purpose of the Project is to support, strengthen and continue the process of extension of coverage of efficient, sustainable and effective primary health care and rural water and sanitation services, with an emphasis on child survival interventions.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY 11 18 19 Final MM YY 11 19 13

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

John A. Sanbrailo

Title

Mission Director

Date Signed

MM DD YY
12 10 88

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

MM DD YY
| | | | |

Project Authorization

Name of Country: Honduras
Name of Project: Health Sector II
Number of Project: 522-0216

1. Pursuant to Section 104 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Health Sector II Project for Honduras involving planned obligations not to exceed Fifty-seven Million Three Hundred Thousand United States Dollars (\$57,300,000) in grant funds ("Grant") over a seven-year period from the date of authorization, subject to the availability of funds in accordance with A.I.D. CYB/allotment process, to help in financing foreign exchange and local currency costs for the Project ("Project").

2. The Project consists of technical, commodity and training assistance to the Government of Honduras, Ministry of Health (MOH) and the National Autonomous Service for Water and Sewerage (SANAA) to support, strengthen and continue the process of extending coverage of efficient, sustainable and effective primary health care and rural water and sanitation services with an emphasis on child survival. The Project includes as components sustainable support systems, health technologies and rural water and sanitation.

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. Source and Origin of Goods and Services

Commodities financed by A.I.D. under the Grant shall have their source and origin in the United States or in the Cooperating Country or in other Central American Common Market Countries, except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have countries which are members of the Central American Common Market or the United States (A.I.D. Geographic Code 000) 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

shall, except as A.I.D., may otherwise agree in writing, be financed only on flag vessels of the United States.

B. Conditions Precedent to Disbursement

(1) First Disbursement

Prior to the first disbursement of the Grant, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Grantee will, except as A.I.D. may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D.:

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

(b) A statement of the names of the persons holding or acting in the office of the Grantee, and a specimen signature of each person specified in such statement.

(2) Additional Disbursement

(a) Prior to disbursement of funds or the issuance of any commitment document under the Project Agreement for implementation of vector control activities and the rural water and sanitation component of the Project, an environmental assessment will examine the potential impact of malaria and chagas vector control and rural water and sanitation activities on the environment. This assessment will develop an environmental review system which will be employed by the MOH and/or SANAA personnel prior to the initiation of any specific malaria or chagas intervention, or any rural water or sanitation infrastructure effort.

(b) With respect to the local production of oral rehydration salts, before any amounts may be disbursed or any commitment made to provide any funds, the Cooperating Country shall

provide to A.I.D. evidence, in form and substance satisfactory to A.I.D., that the salts meet all appropriate and applicable specifications and that a safe and effective quality control production system has been developed, is in place, and is properly functioning.

C. Special Covenants

(1) The Cooperating Country shall submit to A.I.D. an annual budget for the child survival related activities, in form and substance satisfactory to A.I.D., by no later than January 31 of each year of the project beginning with year 1989, unless A.I.D. otherwise agrees in writing. Beginning with the budget due January 31, 1990, and for each project year thereafter, each budget shall include evidence that all amounts designated in the Cooperating Country's budget for the child survival related activities were made available for those activities in a timely and satisfactory manner. Additional requirements with respect to the form of the budget may be set forth in Project Implementation Letters.

(2) The Cooperating Country shall make every effort to ensure that all funds designated for child survival related activities are made available to that component in a timely and satisfactory manner. Should the Cooperating Country fail to make available all amounts designated in the budget or fail to make those amounts available in a timely and satisfactory manner, as determined by A.I.D. in its sole discretion, A.I.D. may suspend assistance to those activities until such time as A.I.D. shall determine that the assistance may be continued or that the child survival related activities component of this Project be concluded.

(3) The Cooperating Country agrees that all fees and costs recovered as part of any activity described in this Agreement shall be retained by the collecting unit and shall be in addition to any amounts budgeted by the Cooperating Country for that unit.

(4) The Cooperating Country agrees that centralized financial control is not required for this Project and that maximum efforts will be made to ensure the efficient and rapid flow of funds to the regional level, including the use of regional revolving funds or other similar efficient funding mechanisms approved by A.I.D.

D. Waiver

(1) An origin waiver for the purchase of 335 off/on road, four-stroke, 185/200 CC motorcycles from free world countries other than the cooperating country and countries included in Code 941.

Mission should seek to expand the role of the private sector as opportunities arise

Malcolm Buntle
Assistant Administrator
Latin America and the Caribbean

5/25/88

Date

drafted: LAC/DR, LGorton:, 2/26/88; LAC/DR: RWhelden, 3/25/88, #36370

Clearances:

GC/LAC:I.Smyer (Draft)	Date	_____
LAC/DR:DBoyd (Draft)	Date	_____
LAC/DP:WWheeler(Draft)	Date	4/16/88
LAC/CEN:CCostello(Draft)	Date	4/22/88
LAC/DR:JEvans <i>MS</i>	Date	5/13/88
LAC/DR:TBrown <i>TB</i>	Date	5/19/88
M/SER/OP:RGreen <i>RG</i>	Date	_____
GC/LAC:TGeiger <i>fill in (signature)</i>	Date	_____
DAA/LAC:MButler <i>MB</i>	Date	_____

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I. SUMMARY AND RECOMMENDATIONS

A. DESCRIPTION OF THE PROJECT

1. Grantee and Executing Agencies

The grantee will be the Government of Honduras (GOH). The Ministry of Health (MOH) and the National Sewer and Water Agency (SANAA), a semi-autonomous agency, will have the responsibility for implementing the Project. To ensure coordination and joint action, a Project Coordination Unit (PCU), established under Health Sector I, will continue under this Project. A Project Coordinator, responsible for directing the PCU, will be contracted with Project funds.

2. Statement of the Problem

Honduras continues to have one of the highest infant mortality rates (IMR) in Latin America, at approximately 70/1000 live births. Although the IMR has dropped significantly in recent years from 115/1000 in the mid 1970s, a disturbing rural/urban differentiation persists. IMR in rural areas is estimated to be 80/1000, while in the urban areas it is about 42/1000. The principal pathologies underlying this high IMR are acute respiratory infections and diarrheal diseases, which accounted for 80% of all visits by infants to health centers in 1986. Diarrheal disease is the leading reported cause of death, accounting for 29% of all infant deaths. Acute respiratory infections are next, causing 18% of all infant deaths. These pathologies are the result of the lack of full coverage of primary health care services and the lack of adequate water and sanitation coverage, primarily in rural areas. In those parts of Honduras where mortality statistics are the highest, water and sanitation coverage is the lowest. In five of the eight health regions of Honduras, 25% of the people obtain their water from rivers and creeks and 59% do not use even simple latrines, according to a national survey completed in 1987.

3. Summary Project Description

The goal of this seven year Project is to contribute to the improvement of the health of the Honduran people, particularly children under the age of five years and pregnant and lactating women. The purpose is to consolidate and continue the process of extending coverage of efficient, sustainable, and effective primary health care services with primary emphasis on child survival interventions and on rural water and sanitation services. Achievement of Project goal and purpose will be determined by a reduction in IMR from 70/1000 to 40/1000 and by an increase in life expectancy from 62 to 68 years by the end of the Project.

The Project will build on the achievements made during the Health Sector I (522-0153) and Rural Water and Sanitation (522-0166) Projects. Virtually all of the policy decisions in support of primary health care have been taken. Most of the support systems for the central level are either developed or are under design. Each of the child survival health technology areas is established in general terms at the central level in policy direction, organizational structure, norms (with some exceptions), and staffing. With

regard to rural water and sanitation services, although advances in coverage have been made, the number of rural communities without access to safe water supplies and adequate sanitation facilities continues to be large.

Under this Project, the remaining child survival support systems will be developed and implemented, with the principal focus on increasing the capacity of the regional level and below, that is, the operational levels, to program, execute, monitor, and evaluate the delivery of primary health care services. Access to safe water and sanitation systems will be expanded in those target areas where health conditions are the poorest, which will directly contribute to the Project's health objectives, particularly the reduction in incidence of diarrheal diseases.

The Project contains two major components: child survival and rural water and sanitation. The child survival component is further broken down into two sections: the sustainable support systems needed for service delivery:

- local programming;
- logistics;
- maintenance systems;
- management and health information systems;
- human resource development;
- health financing; and
- educational/promotional activities.

and the child survival health technologies:

- oral rehydration therapy/diarrheal disease control;
- immunizations;
- acute respiratory infections;
- birth spacing;
- breastfeeding and growth monitoring; and
- other programs: vector control, tuberculosis, and AIDS.

The following activities will be carried out on a country-wide basis.

The rural water and sanitation component is based upon the establishment of appropriate water and sanitation facilities for communities in the Northwest and Northern sections of the country, an area which suffers from the highest rates of infant and child mortality and contains over 900 communities completely lacking in safe, potable water sources.

The total cost of this Project is \$83.3 million. The A.I.D. contribution will be \$57.3 million in Grant funds. The A.I.D. resources will be complemented by a Government of Honduras contribution, cash and in-kind, of \$26 million. The table below summarizes A.I.D. and GOH contributions.

<u>FINANCIAL SUMMARY</u> <u>BY AID LINE ITEM</u>	<u>AID FUNDS</u>		<u>GOH FUNDS</u>		<u>PROJECT TOTAL</u>		<u>GRAND</u> <u>TOTAL</u>
	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>	
Commodities	6881.3	0.0	4415.3	1500.0	11296.6	1500.0	12796.6
Vehicles	3394.5	0.0	0.0	0.0	3394.5	0.0	3394.5
Construction	4776.2	6485.4	0.0	284.0	4776.2	6769.4	11545.6
Training	750.0	2256.0	0.0	1003.1	750.0	2359.1	4009.1
Supervision/Other							
Local Costs	0.0	3728.0	0.0	17414.7	0.0	21142.7	21142.7
Technical Assistance	11890.0	0.0	0.0	0.0	11890.0	0.0	11890.0
Evaluations/Audits/ Studies	972.5	1350.0	0.0	200.0	972.5	1550.0	2522.5
Private Sector	6392.0	0.0	0.0	478.1	6392.0	478.1	6870.1
Administration/Infla./ Contingency(10%)	7186.8	1190.5	360.6	360.6	7547.4	1551.1	9098.5
Total	<u>42243.3</u>	<u>15009.9</u>	<u>4775.9</u>	<u>21240.5</u>	<u>47019.2</u>	<u>36250.4</u>	<u>83269.6</u>

B. RECOMMENDATIONS

The USAID/Honduras Project Committee has determined that the proposed activities are technically, administratively, economically, financially, environmentally and socially sound. The specific analyses carried out during the intensive review indicated that all identified obstacles can be overcome. It is the Committee's judgement that the project, as designed, can and will achieve its purpose.

The Project is in conformity with the Agency's policies on child survival, health, nutrition, population, and water and sanitation, and environmental protection. It is also consistent with the USAID/Honduras Action Plan objectives of increasing life expectancy and child survival.

C. ISSUES

1. Grant Financing

USAID is requesting approval of a total of \$57.3 million in grant funds for the implementation of this project. Based on PPC's Policy Guidance, "Terms of AID" of October 1985, grant financing is justified for the following reasons:

a. The Project will clearly yield "broadly diffused social benefits for which full cost recovery is not practical." The project is aimed at dramatically lowering infant mortality rates by (a) expanding coverage of child survival interventions, (b) improving institutional structures in both the public and private sectors, (c) promoting further adoption of lower cost health and child survival technologies, and (d) upgrading management systems and human resources.

As is suggested by the nature of these project interventions, the social value of project benefits exceed their market value. More specifically, the project generates benefits that are either undervalued, that are received by beneficiaries who do not have the financial resources to pay for them, and

that are shared so broadly and indirectly across the population as to render them non-marketable from the perspective of cost recovery.

b. A.I.D. has a strong proprietary interest in child survival activities in Honduras and wishes to exercise substantial leverage in its implementation and results. Despite progress over the past six years, Honduras still has one of the highest infant mortality rates in the Western Hemisphere. Further dramatic breakthroughs will require implementation of a decentralized system of health care management. All grant funding will provide the leverage that can result in a significant expansion in child survival interventions so as to make this a model for the USG's Child Survival Program.

In addition to the above PPC policy guidance considerations, all grant financing will facilitate project implementation and disbursements since GOH bureaucratic and legal requirements for the administration of grant funds are far less onerous than those for loan funds. Furthermore, Honduras is an IDA country that is already experiencing serious debt service problems. The GOH is currently unable to service its IMF, IBRD, and IDB loans and has fallen substantially behind in making loan repayments to all USG agencies including AID. Given this situation, and the humanitarian and institution-building nature of this Project, USAID believes it is entirely consistent with USG foreign policy and development objectives to fully grant fund this project.

2. Size of Project

This Project Paper reflects a significantly greater amount of AID financing than originally presented in the PID approved by AID/W in March 1987. The Project has increased in size from \$33 million in the PID to the \$57.3 million presently requested. The principal reasons for the increase are as follows: (1) private sector opportunities were greater than anticipated and increase from \$0.5 million in the PID to \$6.4 million in the PP; (2) greater needs for rural water and sanitation increased this component from \$7.5 million in the PID to \$13.5 million in the PP, and (3) further intensive review analyses, in part recommended by AID/W guidance, indicated that the financing of a number of project activities were seriously underfinanced.

It should also be noted that the Health Sector II Project to be implemented in 1988-95 provides similar amounts of AID funding as during 1981-88. In the latter period, AID provided Honduras with a total of \$54 million through the Health sector I and Rural Water and Sanitation Projects. When compared in real terms, phase two of USAID's twenty-year health strategy (1988-95) represents a decrease in AID funding when contrasted with phase one (1980-88).

Finally, when broken into its component parts, the size of the Project is actually smaller than the projects financed in the 1980-88 period. Just over \$13.5 million will be directed towards establishing water and sanitation systems as compared to almost \$20 million in the previous project. The private sector component of this Project totals \$6.4 million which includes private sector efforts in support of both child survival and rural water activities. The child survival component, which consists of approximately \$29 million for this 7 year Project, is actually less than the over \$34 million budgeted for Health Sector I.

In sum, the financing requested herein is lower than similar funding provided in the 1980-88 period, is fully justified by the analyses carried out during the intensive review and is required for achieving GOH and USAID child survival and health sector objectives during 1988-95.

3. Recurrent Costs

A complete assumption of recurrent costs by the GOH is not considered feasible because of economic and budgetary problems that Honduras confronts in the coming years. In 1988-89, the GOH will probably be implementing a new agreement with the IMF that will require budgetary reductions, not only in 1988-89 but throughout the implementation of this Project, to get the fiscal deficit down from 6.9% to approximately 4.5%. Given this situation, the Mission believes it is unreasonable to expect the GOH to absorb the full recurrent costs by the end of the Project.

In addition, recent statutory requirements raising physicians' salaries were forced on the GOH, resulting in pressures on the MOH budget. Nevertheless, a five year recurrent cost plan prepared by the MOH and approved by USAID indicates that, given a series of cost containment and cost recovery measures and taking into account the new statutes on physicians' salaries, the primary health care program can be adequately implemented and financed. To ensure this, funds disbursement is conditioned in such a way as to require the GOH to assume 75% of the recurrent costs for child survival activities by the end of the Project. This strategy is considered to be more realistic than a 100% assumption of recurrent costs by the PACD, which was discussed at the PID review.

The MOH recognizes the critical importance of the recurrent cost issue. It is addressing this issue within a policy framework of cost recovery and cost containment. A series of meetings have been held over the past several years between GOH health and finance officials to reach agreement on these matters. USAID/Honduras will continue to ensure that cost containment, cost recovery and recurrent cost issues will be made the agenda of an on-going working group of MOH, Ministry of Finance, and USAID officials. Furthermore, language in the Project Agreement will require that the assumption of recurrent costs be reflected in annual budget submissions of the Ministry of Health. Performance with respect to the realization of these recurrent cost measures will be reviewed on an annual basis. The budget submissions will be based on the recurrent cost plan contained in the Financial Analysis section and annex of the PP.

II. BACKGROUND

A. HONDURAN ECONOMIC AND SOCIAL PICTURE

1. Social Profile

As reflected in virtually all social indicators, Honduras is one of the least developed countries of Latin America. Per capita GDP was \$800 in 1986. Life expectancy is estimated at 62 years and the infant mortality rate is estimated at 70 per 1,000 live births. Many primary school age children do not complete

the sixth grade (28% in 1984). Only one out of four Hondurans has access to indoor piped water and toilets; 75% of the available housing units require either replacement or upgrading. Unemployment affects 20 to 30% of the labor force. A population growth rate of about 3% a year makes it difficult for Honduras to maintain much less improve its quality of life.

2. Macro Economic Picture

Honduras' rate of real GDP growth reached 3% in 1984 and held steady at that rate for 1985 and 1986, following years of negative economic growth in the early 1980s. Employment grew moderately over the last three years. Nevertheless, with labor force growth outpacing real GDP growth, the unemployment rate has continued to rise. Similarly, real per capita income has declined or remained stagnant since 1980 due to population growth rates at or exceeding the real rate of GDP growth. Inflation, which has steadily declined over the previous three years, rose slightly in 1986 to 5%, compared to 3.6% in 1985.

3. Sectoral Economic Problems and GOH Response

Problems in a number of sectors of the Honduran economy are key constraints to Honduras' overall economic growth. Agriculture is the largest sector of the economy, but low levels of technology, a lack of infrastructure, and inefficient marketing services have kept average yields of basic grains and export crops lower than all other Central American countries. Export earnings are insufficient to meet the demands for imports on which Honduras is heavily dependent, and the industrial sector is very weak due to the highly protective tariff structure and low levels of private investment.

The human resource sector is equally problematic. The primary school system is inefficient. Drop out and repetition rates are high and 12 teaching years are required to produce one sixth grade graduate. A lack of trained manpower also seriously inhibits the productivity and growth of industry. High budget deficits and inefficiently managed social service programs are very serious problems in the public sector.

The GOH has taken some initial measures to resolve the country's economic and social difficulties. The Central Government budget has been held constant over the last five years and an effort was launched to balance the budgets of autonomous GOH entities. The GOH is limiting the expansion of net domestic credit and improving its international reserves position. The A.I.D. Economic Support Fund (ESF) Program has assisted in this effort. New incentives have been approved to promote exports; tariff legislation was recently approved to help develop a more competitive production and export base.

Despite these positive steps, prospects for sustained economic revival and political stability are directly tied to the GOH's capacity to broaden the participation of all social sectors in economic growth. Achieving this will entail designing policies to facilitate the desired economic expansion, and implementing sector specific programs to ensure that the benefits of such expansion are distributed equally. The combination of policies and programs

must reduce unemployment, provide for a minimum level of food security and provide for the provision of basic needs, particularly in the area of primary health care.

III. PROGRAM FACTORS

A. RELATIONSHIP TO HOST COUNTRY POLICY AND STRATEGY

This Project is fully consistent with the GOH National Development Plan for 1987-1990 and the health sector policy statement developed by the current Honduran administration in March 1986 and published in the document entitled "Política Nacional de Salud". This document confirms and underscores the policy of extending primary health care services to the rural population, a policy to which the Ministry of Health has been committed and has supported with significant financial resources for the previous fifteen years.

The March 1986 Policy states that priority will be given the isolated rural populations and to those groups at the highest health risk, i.e., children under the age of five, pregnant and lactating women, and laborers. The Policy also states that primary attention will be given to those diseases which are most prevalent, such as transmissible diseases which can be dealt with by simple technological solutions and environmental sanitation activities.

The MOH Policy Paper identifies basic programs, describes the strategies to be used for implementing these programs, and stresses the importance of strengthening the basic health system itself. These programs are maternal and child health (defined as prenatal attention, breastfeeding, childbirth and postnatal care, growth and development monitoring and family planning), targeted nutrition and feeding, diarrheal disease control with emphasis on oral rehydration, rural water and sanitation, acute respiratory infections, immunizations, and malaria control.

The strategies for implementing these programs include community participation, inter and intrasectorial coordination, health education aimed at modifying behaviors, strengthening of the health systems (as described below), use of appropriate technology, human resource development, improvement in the logistics system, and making more effective use of external financing and technical assistance.

In terms of the health system itself, the policy guidelines, while allowing for some expansion in infrastructure, give emphasis to the development of decentralized management systems which permit a realization of efficiencies in already constructed health facilities. The policy also calls for the identification of flexible, functional, nontraditional sources of income for cost-recovery purposes. Specific aspects of the system to receive attention are: decentralization of planning, programming and execution; strengthening of planning and administration (local programming), with its components of supervision and information, and logistics.

Similarly, the GOH is committed to providing improved sources of safe water and sanitary disposal systems to the rural poor. This was officially articulated in the GOH's first five year plan for water and sanitation in 1979. An updated version of this plan, outlining proposed achievements for a

period of 10 years, was published in April 1983. This plan (Plan Nacional de Agua y Saneamiento) articulates a strategy for providing access to potable water for 90% of Honduras' rural population by the beginning of the 1990s. Similarly, the strategy seeks to provide sanitation facilities to 80% of the rural population by the beginning of the 1990s.

The GOH's strategy to realize these objectives is based upon the utilization of appropriate technology for water and sanitation, active community participation in the placement of systems as well as the operation and maintenance of these systems, and finally, health education campaigns for the beneficiary population. The National Autonomous Service for Water and Sewerage (SANAA) is to take the lead in implementing this strategy with the Ministry of Health playing a public health communications role.

B. RELATIONSHIP TO AID POLICY AND PROJECT STRATEGY

1. AID Policy

The December 1986 AID Health Assistance Policy Paper identifies the Agency's health sector goal as being that of improving health status in AID-assisted countries, which will be reflected in increased life expectancy. The paper points out that, over the past decade, AID's health programs have focussed on developing primary health care systems designed to achieve broad coverage of developing country populations with low cost basic health services. This has involved support for disease control activities, research aimed at understanding the characteristics of communicable diseases and expanding access to domestic water and sanitation services. The paper emphasizes that "priority will be given to support for child survival and improved maternal and child health." This is consistent with the goal of the Health Sector II Project. Each of the Agency's five specific health sector objectives, will be addressed in this Project. These objectives are to:

- reduce infant and early childhood mortality and morbidity through the child survival interventions;
- reduce maternal mortality and morbidity through birth spacing, birthing during the safest part of a women's reproductive life, pre-natal and post-natal care, safe delivery practices and adequate maternal nutrition;
- institutionalize child survival interventions as the basis for health care services;
- ensure the sustainability of child survival interventions; and
- develop and transfer new technologies and improved health service delivery mechanisms.

As can be observed, the AID policy and the GOH policy are fully congruent. As will be shown below, the Health Sector II Project is designed to support these policies.

2. Central American Initiative

The National Bipartisan Commission on Central America recommends a series of measures for improving health in the Central American region. All of the recommendations are addressed in this Project. The first is that technical assistance programs supported by A.I.D. be expanded and concentrated on health care systems, management, planning and health economics. In addition, an expanded role for private voluntary organizations in development programs is recommended. The Commission also recommends a renewed commitment to vector control programs, (currently being done under the Health Sector I Project). The third recommendation deals with oral rehydration therapy and immunizations, both of which also have been important parts of Health Sector I. Another recommendation deals with support for population and family planning programs. These issues will be dealt with in this Project in the context of child spacing with an emphasis on a health, rather than demographic, rationale. The Commission's recommendation that the training of primary health care workers be encouraged is one currently being supported by the Health Sector I Project and which AID will continue to support in this Project. The Commission also recognized the importance of water and sanitation and its relationship to infant mortality. The timing of the implementation of this Project is such that it will enable the Mission to meet its targets in water and sanitation as called for in the recent stretch out exercise. Finally, the Commission's call for the integration of public and private sector financing is addressed under both private sector involvement in this project and the MOH's policy to search for alternative financing mechanisms.

3. Health Sector II Strategy

a. GOH Objectives

The GOH's health objectives are largely those established by the Pan American Health Organization for the countries of the Americas for the year 2000. They are to:

- reduce the infant mortality rate (IMR) to at least 30/1000 live births;
- increase life expectancy to at least 70 years;
- reduce the child mortality rate to at least 2.4/1000;
- provide vaccinations against measles, polio, diphtheria, pertussis, tetanus and tuberculosis to 90 percent of children less than 1 year of age;
- increase immunization against tetanus to 90 percent of women in the fertile age group;
- provide access to clean water and sanitation to an additional 900,000 rural residents thereby achieving 75 percent coverage;

- increase contraceptive prevalence to 60 percent of women in union in the fertile age group.

The following are the GOH's and USAID's benchmarks for monitoring progress in the attainment of these objectives:

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
INFANT MORTALITY (per 1000)	90	70	55	40	30
LIFE EXPECTANCY (years)	55	61	65	68	70
IMMUNIZATION (0-1)	20%	55%	75%	90%	90%
WATER/SANITATION (coverage)		45%	55%	65%	75%
CONTRACEPTIVE PREV.	25%	35%	45%	53%	60%

b. USAID Strategy (1980-2000)

The USAID/Honduras health strategy is in complete agreement with Agency policy which emphasizes the importance of child survival services as key to reducing infant mortality and morbidity.

The USAID strategy is designed to assist the GOH to achieve its health objectives, i.e., to lower infant and child mortality rates and increase life expectancy through the delivery of a sustainable package of child survival and primary health care services. The strategy has a twenty year horizon (1980-2000) and is to be implemented in three distinct phases. Each phase has a slightly different focus and builds on the gains made under the previous phase.

Phase One (1980-1988): This phase coincides with Health Sector I (Project No. 522-0153). It has addressed the most pressing systems problems (i.e., the lack of effective management, and the planning and logistical services needed to maintain a primary health care program) identified in the 1980 Health Sector Assessment. In summation, the following advances were realized in the health status of the general population during the period of 1980-1986. The Health Sector I Project has been a major contributor to these achievements:

- a 40 percent reduction in deaths from diarrhea;
- over 80 percent immunization levels for polio, measles and DPT in children under the age of five;
- a 40 percent decline in the number of cases of malaria throughout Honduras since 1981;
- a reduction in IMR from 90 in 1980 to an estimated 70/1000 in 1985.
- an increase in contraceptive use from 27 percent to 35 percent of women in union between 1981 and 1984;
- a reduction in the unit cost of medications;

- an increase in the number of outpatient visits handled by the MOH;
- an increase of the mean duration of breastfeeding in urban areas by one month;
- The establishment of national diarrhea, family planning and breast feeding programs;
- The improved functioning of the cold-chain at all levels.

Phase Two (1988-1995): This Phase coincides with the proposed Health Sector II Project and will introduce new elements of the overall strategy as well as build upon the foundations laid in Phase One. While the main focus in Phase One was on management improvements at the central level, in the Phase Two focus will be on the sustainable implementation of these system improvements at the regional and subregional level. Special attention will be given to logistics, local programming (decentralized decision-making and management), health and management information systems, training, maintenance and education/communication. The issues of health financing will be given increased emphasis, particularly with respect to long term financial planning, budget preparation and management, improved operating efficiency, hospital cost recovery and the sale of drugs and health services. Those elements of the child survival package which are least developed, such as nutrition (growth monitoring and targeted supplemental feeding) and acute respiratory infections will receive special attention. The provision of basic water and sanitation services in the rural areas and water quality testing is a major component of Health Sector II. The development of water and sanitation systems will work in concert with and complement child survival activities, and the health impact of such services will be closely monitored. Greater participation in the health sector by private entities, particularly PVOs, will be an important feature of this Project. Private Voluntary Organizations deliver primary health care services in areas underserved by the public sector. Funding will be provided to increase coverage of sustainable child survival interventions and water and sanitation systems by PVOs.

Phase Three (1995-2000): The centerpiece of this phase will be a Health Sector III Project which will consolidate the gains of Phases I and II. It is anticipated Health Sector III will continue strengthening logistics, health and management information systems, local programming and financial management. The delivery of technical services (i.e., child survival packages and rural water and sanitation interventions) will be expanded. The private sector will play an increased role in delivering these services. A major evaluation to be conducted in 1993 will guide the design of this third and final Phase so as to assure the GOH's ability to meet its objectives for the year 2000.

c. Relationship to other Donors' Programs

The primary donors presently active in the health sector in Honduras, in addition to A.I.D., are the European Economic Community (EEC), the Swiss

Government, the Spanish Government, the Interamerican Development Bank (IDB), the French Government, the Japanese Government, the United Nations Fund for Population Activities (UNFPA), the Central American Bank for Economic Integration (CABEI), UNICEF and the Panamerican Health Organization (PAHO).

The IDB's major activities in the health sector consist of 1) a new health infrastructure development loan agreement signed in February 1987 and 2) a \$1,400,000 loan agreement signed in August 1985 for water and sanitation projects in the Marcala-La Paz Region. The health infrastructure agreement provides \$27 million to complete the construction and equipping of hospitals in the towns of San Pedro Sula, Gracias, La Esperanza and San Marcos de Ocotepeque; to begin construction of hospitals in Health Region No. 1 in the North; to finish the equipping of the Comayagua hospital, and to remodel the hospitals in El Progreso and Puerto Cortés. Communication and coordination with the IDB regarding the health portfolio is maintained on a regular basis, especially with respect to the impact that their activities might have on the MOH budget for primary health care. USAID personnel reviewed and consulted with the IDB teams throughout the development of the health infrastructure project. In particular, the Mission's concerns on recurrent costs were taken into consideration and incorporated into the design of this major project.

The French Government signed an agreement with the MOH in August 1983 for \$15,500,000 for the purchase of equipment for the new regional hospital in San Pedro Sula.

The Japanese Government is providing US\$2,250,000 for malaria studies and insecticides, equipment and supplies, and \$300,000 for the construction and equipping of rural health centers in Yusguare and Marcovia in Choluteca and Los Prados and El Transito in Valle of Health Region No. 4, in the southern part of the country. A donation of 20 Toyota pick up trucks for the MOH's Division of Vector Control is included in this financing.

The Swiss Government is donating \$1,526,500 for water and sanitation projects in the Subregions of Marcala and Goascoran in the West, \$1,031,400 for water and sanitation in Cortés and Yoro of the northern zone and \$171,750 for water quality control equipment. In this last project, the Pan American Health Organization (PAHO) is participating through a supporting contribution of \$37,800.

The West Germans and the Swiss, is supporting water and sanitation projects in Santa Barbara, Intibuca and La Paz departments, areas where infant mortality rates are among the highest in the country. The Health Sector II Project will provide water and sanitation interventions in Santa Barbara and eight other departments where infant mortality rates are equal to or greater than those found anywhere else in the country.

UNICEF, with the support of the EEC and the Italian Government, is also providing \$4,271,000 to the MOH as a contribution to the Child Survival effort over the period 1986-1990. These funds are specifically directed

to support immunizations, oral rehydration, acute respiratory infections, growth monitoring and breastfeeding. Financing includes salary payments for Maternal Child Health Division personnel, training of institutional and community personnel, supervision and supplies (vaccines, ORS, small surgical equipment and medicines). It also supports the USAID local currency funded breastfeeding program known as PROALMA. A financial support agreement has been signed between UNICEF and the MOH to enable the Metropolitan Region (Distrito Central) to extend coverage of services into a marginal area of Tegucigalpa, providing \$100,000 annually for three years (1987-1989)

Finally, PAHO will continue to provide long-term technical assistance in the development of human resources, water and sanitation, epidemiology, maternal and infant health, vector control in addition to ad hoc short-term technical assistance in other health areas. The Mission coordinates with PAHO and UNICEF in those sectors where interests coincide and has maintained regular contact with the majority of other donors to avoid duplication of efforts.

In addition to this, USAID has an extensive portfolio of health activities with a number of U.S. and Honduran PVOs.

To achieve the most efficient use of resources, the Mission, assisted by the Health Sector I technical assistance team, has worked closely with the MOH to coordinate donor interventions. A process of bi-monthly donor coordination meetings, consisting of representatives from the PAHO, IDB, UNICEF, A.I.B. and the GOH, has been established to promote complementarity and avoid duplication. These meetings will continue throughout the period of this new Project and beyond.

IV. PROBLEMS AND CONSTRAINTS IN THE HEALTH SECTOR

A. THE PROBLEM

The infant mortality rate (IMR) is widely regarded as the most sensitive and comprehensive indicator of overall health conditions in a country.

Honduras continues to have one of the highest IMR's in the Americas, cited variously from 71 infant deaths per 1000 live births, from the National Maternal Child Health Survey (Encuesta Nacional de Salud Materno-Infantil, ENSMI, 1984) to 85 infant deaths per 1000, from the Second National Demographic Survey (EDENH II, 1983). Clearly, children bear the burden of death and disease in Honduras. It is estimated that children under the age of one year account for approximately 4% of the population yet account for over one-third of the total deaths. The Population Reference Bureau's 1986 World Population Data Sheet lists only Bolivia and Haiti with higher IMRs of 82. This is compared with 53 for Mexico, 67 for El Salvador and 18.6 for Costa Rica. Although Guatemala and Nicaragua are reported with lower rates, they are in the same general category as Honduras, with rates of 71 and 76 respectively.

Another noteworthy aspect of health status in Honduras becomes apparent when the rural/urban differences are examined. The 1972 First National

Demographic Survey (EDENH I) showed an IMR of 127 in rural areas and 86 in the urban areas. The 1984 ENSMI survey demonstrated a reduction of 50% in the IMR in urban areas (dropping to the low 40's) while a reduction of 35% (still high, in the upper 80s) was indicated in rural areas. While these downward IMR trends are encouraging, the rural/urban differential appears to be widening.

Interestingly, a 1983 Latin American Demographic Center (CELADE) survey highlighted the enormous influence which education of the mother has on the IMR, irrespective of socio-economic status. In Honduras the child of a woman with no education is three times as likely to die as the child of a woman with at least seven years of education. As educational levels increase, infant mortality decreases even at lower levels of education, as indicated below.

TABLE No. 1
 INFANT MORTALITY RATE (IMR)
 related to the education of the mother
 HONDURAS 1967 - 1981
 (per 1000 live births)

WITHOUT EDUC.		1 - 3 YEARS		4 - 5 YEARS		7 AND MORE	
YEAR	IMR	YEAR	IMR	YEAR	IMR	YEAR	IMR
1967	121.4	1968	92.0	1968	80.5	1971	50.2
1970	132.8	1971	71.0	1971	82.3	1974	46.2
1973	124.9	1973	93.1	1974	74.5	1976	43.0
1976	118.4	1976	80.3	1976	67.1	1978	42.0
1978	119.0	1979	88.2	1979	75.1	1980	39.9
1981	110.1	1981	89.1	1981	74.1	1981	30.2

Source: National Demographic Survey, Honduras 1983 (EDENH II), CELADE

The principal pathologies underlying these high mortality rates are acute respiratory infections and diarrheal diseases. These, in turn, are exacerbated by the lack of basic health services and water and sanitation facilities.

Although malnutrition does not show up as a principal cause of mortality, it is without doubt the single most important underlying cause because of the contribution it makes to turning what might be relatively minor intestinal and respiratory problems into fatal diseases. While not a particularly important immediate cause of death, it is a corollary to diarrhea and acute respiratory infections which are the leading causes of death and disease among children and adults. This is illustrated in the Tables below.

Moderate to severe malnutrition affects 44% of children under the age of five according to the recently completed National Nutrition Survey (10/15/87). The worst affected area of the country is the mountainous

west, particularly the Departments of Lempira, Intibuca, Santa Barbara, Copan and La Paz, all in Health Regions 5 and 2. Approximately 60% of the children under the age of five in Region 5 show growth stunting as measured by height for age and 54% show chronic wasting as measured by weight for age. Region 2 is the next worst in regard to stunting with 52% while Region 4, in the southern part of the country, which has suffered a recent severe drought, is the next worse with respect to wasting.

TABLE No. 2
TEN LEADING CAUSES FOR GENERAL DEATHS
HONDURAS 1983

CAUSE	NO. OF DEATHS	%
Intestinal infection, unclearly defined (Diarrhea)	1,370	13.7
Cardiac Arythmia	662	6.6
Heart diseases, unclearly defined	514	5.1
Pneumonia, causal organism not specified	390	3.9
Other means, not specified	357	3.6
Other accidental and environmental causes not specified	343	3.4
Other cerebral-vascular diseases, not specified	340	3.4
Malignant tumor, non-site specific	278	2.8
Fire-arms, explosives	270	2.7
Other perinatal infections, unclearly defined	260	2.6

Source: Statistics Dept., Planning Division, MOH.

TABLE No. 3
TEN LEADING CAUSES OF CHILD DEATH
HONDURAS 1983

CAUSE	NO. OF DEATHS	%
Intestinal infection, unclearly defined	560	29.0
Other infections, unclearly defined in perinatal period	260	13.5
Premature birth, low weight at birth	122	6.3
Pneumonia, causal organism unclearly defined	121	6.3
Bronchitis not specified, either acute or chronic	102	5.3

CAUSE	NO. OF DEATHS	%
Other respiratory infections of the fetus and new born	87	4.5
Infections of the perinatal period	81	4.2
Cardiac arhythmia	67	3.5
Whooping cough	55	2.9
Bronchial pneumonia, causal organism not clearly defined	43	2.2

Source: Statistics Dept., Planning Division, MOH.

Diarrhea and acute respiratory infections accounted for 80% of all visits by infants to health centers in Honduras in 1986 (Statistical Report for 1986, MOH). In this same age group, acute respiratory infections are the leading cause of reported morbidity, accounting for 14.2% of all illnesses. This was confirmed by data from the National Nutrition Survey of 1987, such that the last illness suffered by one-third of the children was an acute respiratory infection (ARI) and approximately 70% of all children had suffered from ARI within the last fifteen days. In addition, about 40% of ARI was classified as moderate or severe, both of which require professional treatment. Acute respiratory infections also account for approximately 18% of all deaths among infants reported in Honduran hospitals.

Diarrhea is the leading reported cause of death, attributed directly to 29% of all infant deaths. A report done in 1985 by CELADE attributed between 30 and 50% of all infant deaths to diarrhea. Diarrhea is also the third leading cause of hospital admissions. The 1987 Nutrition Survey showed that about 30% of children under the age of five years had suffered from diarrhea in the last 15 days. Unpublished studies done in Honduras have shown that a child has an average of three diarrheal episodes per year. Not surprisingly, diarrhea is directly related to whether or not there is water and a toilet in the home. The 1984 ENSMI showed that diarrheal incidence peaked at or slightly before age one and declined thereafter.

Normal childbirth is the most frequent reason for hospital admission for the population at large. The second most frequent reason is for complications of abortion (spontaneous or induced), which indicates the need for improved birthspacing promotion and more family planning services. Thirty percent of all births occur within intervals of less than 24 months (ENSMI unpublished data). Recent worldwide studies have shown that infants born at either the beginning or end of a birth interval of less than two years are one and a half to two times more likely to die than other children born at greater intervals.

The population growth rate in Honduras continues to be one of the highest in the Americas, cited variously as being between 3.0 and 3.5%. ENSMI data show the total fertility rate at 5.5, while 60% of women with three children want no more.

The immunopreventable diseases are gradually being brought under control. Pertussis continues to rank among the ten leading causes of death among infants; measles contributes to ARI deaths by creating the conditions for pneumonia. A measles epidemic occurred in 1984-1985 with over 5,000 cases in both of those years. Honduras also has had polio epidemics, recording over 450 cases in 1979 and over 54 in 1984.

Malaria continues to be a problem, contributing to both infant and adult mortality and morbidity. Over 90% of the country is potentially malarious and some 80% of the population lives in that area. Of the 29,130 cases of malaria reported in 1986, 18% affected children under the age of five years. A perspective on the Honduran situation can be gained by comparing Honduras data to that of other countries such as El Salvador (23,953 cases in 1986), Guatemala (42,609 cases in 1986) and Nicaragua (20,130 cases in 1986).

Two other vector borne diseases impact on the health of the Honduran population. One is dengue which, while endemic at very low levels, assaults the country periodically with epidemics, the last being in 1978 when more than 100,000 cases were registered. Much less dramatic, but perhaps of more importance is Chagas Disease, the extent of which was uncovered in a 1983 study carried out by the Ministry of Health. That study indicated a national prevalence of trypanosome infection of 7.2%, or 250,000 persons. Almost seven of every 100 houses had infected vectors.

The lack of full coverage of water and sanitation services also contributes to mortality and morbidity, especially that related to diarrheal disease and malnutrition. Safe water supplies and adequate sanitation services in conjunction with primary health care services will have a greater impact on health status than either of them alone. Waste disposal systems helps protect water sources and reduces the opportunities for exposure to diarrheal disease germs and parasites. The following chart drawn from the recent National Nutrition Survey lays out the current water and sanitation situation in Honduras by Health Region:

Table No. 4
WATER
(Per Cent Coverage)

SOURCE	REGIONS								
	METRO	1	2	3	4	5	6	7	NATIONAL
In House	43.3	3.7	9.8	26.8	2.9	15.2	7.6	1.0	18.5
On Property	36.0	43.6	42.8	38.8	26.7	32.0	21.1	45.5	35.6
Public Tap	20.4	8.1	13.2	10.2	10.2	12.7	11.5	16.2	12.5
Well	0.2	14.8	15.2	6.6	36.9	9.7	31.6	14.1	13.8
River/Stream	0.2	29.9	19.0	17.5	23.3	30.4	27.7	23.0	19.5

SANITATION

Toilet	68.7	6.7	10.1	36.2	3.7	13.2	12.7	2.6	25.8
Water Seal Let.	3.3	0.0	1.7	7.6	0.5	9.4	4.9	0.0	4.5
Latrine	23.9	37.2	26.4	23.1	19.3	17.4	32.6	43.5	25.9
None	4.1	56.0	61.8	33.2	76.5	60.0	49.8	53.9	43.8

Source: MOH National Nutrition Survey (1987)

As can be seen from the above, Region 5, the same region with the highest mortality statistics and the worst malnutrition, continues to be among the worst in water and sanitation infrastructure. In the nine departments encompassed by regions 3, 5 and 6 and where AID water programs have been focussed over the last seven years, there are about 900 localities with populations between 200 and 2000 inhabitants which still do not have a water system.

B. IMPORTANT ACHIEVEMENTS

Despite these current problems, the health situation in Honduras is improving. This is best seen in the decline of the infant mortality rate. The 1972 EDENH I study indicated an infant mortality rate of 117 infant deaths per 1000 live births. The national MCH/FP survey conducted by the MOH in 1984 showed IMR having dropped to 78/1000.

During the same 1972 - 1986 period, the World Bank estimates that life expectancy in Honduras has risen from some 53 years to 62 and the crude mortality rate decreased from 14 deaths per 1000 population to about 9.

In addition to the overall improvement in infant mortality and life expectancy, various studies and surveys permit identification of specific areas of improvement. The most noteworthy is in the area of diarrhea mortality. The MOH, with AID assistance, began a mass media campaign project in 1981 to introduce the use of ORS for treatment of diarrhea. The MOH program began nationwide in 1982. A recent evaluation of that project carried out by Stanford in 1983 showed a 40% decline in diarrhea-related mortality in the study area. Subsequently, MOH statistics show a decline in reported mortality from diarrhea at a national level from about 1400 deaths per year of children under the age of five in the years 1978 -1982 to about 560 in 1983-1984. Unfortunately, statistics for following years are not available due to changes in the GOH vital statistics registration system.

Another area of specific improvement has been in the vaccination program. The Westinghouse Survey in 1981 showed complete actual coverage in children under the age of five years to be 35% for polio, 33% for DPT, 52% for measles, and 42% for BCG. The ENSMI survey, carried out three years later, showed 82% coverage for polio (95% with at least one dose), 67% for DPT, 82% for measles and 69% for BCG. The 1987 Nutrition Survey showed similar coverage with 86% properly vaccinated against polio, 87% against DPT, 90% against measles and 83% against BCG. The 1986 Health Sector I Evaluation demonstrated that the cold chain was functioning adequately at the time of the evaluation,

supporting the basic assumption that well stored vaccines were more likely to be viable and effective.

The promotion of breastfeeding is another area where improvements have been made. Beginning in 1982 with the AID assisted PROALMA project, more than 1000 professional nurses and 260 physicians were trained in the techniques and importance of breastfeeding. This has been accompanied by a decline in the percentage of mothers introducing the bottle in the first month of life from 78% to 47%.

Contraceptive prevalence among fertile age women in union has increased from 27% in 1981 to 35% in 1984. It is anticipated that the 1987 Epidemiological Study will show a prevalence increase to at least 40%. This is because of national promotion campaigns conducted by both the private sector family planning association (ASHONPLAFA) and the MOH and the increase in availability of oral contraceptives which were previously (1986) unavailable in 60% of health centers.

Regarding malnutrition, preliminary data from the Nutrition Survey indicate that there has been no significant change in the nutrition situation of the under five population in the last twenty years. Other recent nutrition surveys of primary school age students conducted by the Ministry of Education show that 40% suffer from moderate to severe malnutrition on a national level, with rates reaching up to 80% in some of the western parts of Honduras. The recent dramatic advances in ORT, immunizations and breastfeeding have probably not had time to show impact on the overall levels, but within the next few years, some impact may be evident, assuming economic conditions do not deteriorate.

Indications are that the malaria program has been quite successful, based on decreasing numbers of cases from over 50,000 in 1981 to less than 30,000 in 1986. In 1987, cases had dropped to 18,000. Such a decline has been made possible by dynamic leadership, maximizing the effectiveness of current resources through improved targetting based on epidemiologic and entomologic information. By concentrating vector control efforts and presumptive treatment measures on selected targets, the program has been able to limit transmission significantly.

The MOH's tuberculosis program is one that has also benefitted from dynamic leadership. As a result of an improved case finding and information system, 80% of identified cases are being treated and 80% of suspected cases are being correctly diagnosed.

An excellent tuberculosis information system has been developed and is operational. A similar system for vaccinations has been designed and is being put in place. The initial steps in development of a diarrhea information system have begun. A financial information system is partially functioning and has already resulted in the improved tracking of budget expenditures.

There have been other important advances in the MOH support systems. The elements of a logistics system are in place, including kardex inventory controls, a computerized information system, bulk purchasing. A basic drug

list for all levels of the health system has been developed and medical and insecticide warehouses have been constructed.

There is a nation-wide cold chain system in operation, which did not exist before the implementation of the Health Sector I Project. In addition, a new employee supervision system is partly designed and implemented.

In human resource development, in-service training coordinators have been trained and are assigned to each health region, responsible for the design and coordination of training courses for their regions. Self-instructional training modules in the child survival areas have been developed and are in use on a pilot basis. As of October 1987, 85% of the MOH auxiliary nurses had been trained in vaccinations, 88% in diarrhea control, 86% in acute respiratory infections, 52% in malaria, 78% in tuberculosis, 85% in supply management, 84% in cold chain operation and maintenance, and 64% in supervision.

Highly successful mass media campaigns have been carried out under the programs on ORT, breastfeeding, malaria, vaccinations, and tuberculosis.

Operations research studies have been conducted on nutritional status, the performance of traditional birth attendants, tuberculosis case finding, health care user expenditures, and the activities of the private sector health providers. Findings from these studies have been incorporated into the design of this Project.

In health financing, important advances in hospital cost recovery have taken place since 1984, when the MOH announced a policy decision that each MOH hospital was expected to generate a progressively larger percent of its operational expense budget through charging for services. As a result of this, average hospital generated income as a percentage of total nonpersonnel operating budgets rose from about 12% to 15% from 1984 to 1985.

Advances in basic health infrastructure have also played a central role in the MOH expansion of coverage program. From 1978 to 1987, health centers manned by auxiliary nurses increased from 379 to 533; health centers with physicians increased from 76 to 116; and hospitals increased from 16 to 21.

Access to water and sanitation facilities has been another significant feature of the MOH's extension of coverage program in which improvements have been made. The GOH estimates that in 1973 only 12% of the rural population had easy access to water. The 1983 EDENH II showed 39% and the ENSMI a year later 48%. AID's Rural Water and Sanitation (522-0166) Project contributed to this improvement through the construction of 430 aqueducts and 1,800 wells serving 450,000 people. In regard to sanitation, in 1973 it was estimated that only 11% of the rural population had some kind of sanitary facility. By 1983 it was 34% and by 1984, 46%. The WASH report published in November 1987 shows rural water coverage as 54% in 1986 and rural sanitation coverage as 52%. For urban areas, the WASH report cited urban access to water, defined as being within 200 meters of a safe water source, at 81% and access to urban sanitation services at 79%, all data for 1986.

The two major actors have been SANAA (the National Autonomous Authority for Water and Sewers) and the MOH. The MOH has concentrated on the smaller, more dispersed populations with simpler technologies such as wells and pit latrines. At the same time, SANAA, through A.I.D. support for the Rural Water and Sanitation Project (522-0166), has concentrated on larger populations with aqueducts and water seal latrines. Since SANAA's creation in 1961, it has, with assistance from international donor agencies, established aqueducts in population centers between 500 to 5,000 inhabitants. The number of aqueducts in the country has gone from 150 in 1961 to over 1,800 at the present time.

Similarly, the Ministry of Health, mainly through its program of basic sanitation (PROSABA) during the 1970s and more recently through the Division of Environmental Health, has concentrated on water and sanitation provision to smaller communities. From 1974 through 1985, the Ministry established over 200 aqueducts, 13,000 wells and over 200,000 latrines throughout the neediest areas of the country.

C. CONSTRAINTS

1. Institutional Constraints

a. Ministry of Health

The mainly centralized planning and decision-making process within the MOH continues to create serious implementation bottlenecks, such as prioritizing activities. The major policy decisions, giving priority to primary health care over hospital based care, have been made and maintained at the central level, as they should be. Important programmatic priorities, however, sometimes get lost in the process of having to constantly manage crises. The result is that some important initiatives tend to move slowly from the normative stage to the implementation stage. Among them are supervision, the continuing education modules, management training, the management information system, and cost recovery.

A major institutional constraint is the lack of strong regional structures. The regions receive inadequate support from the central level, particularly regarding delegated decision-making authority and budget control through the use of regional revolving funds. Budget levels for the region are sometimes adjusted unilaterally at the central level, making the planning of activities difficult if not impossible. Another problem at the regional level is the lack of capacity to adequately analyze and make use of data generated by the MOH's health and management information systems. A related problem is the lack of development of the area level. Adequate support of as many as 95 health centers in a region has required the division of the regions into areas and, in some cases, division of the areas into sectors. While this has been more or less effective for the purposes of supervision, the area level receives little administrative support.

A final problem at the regional and area level is an aging vehicle fleet, placing in jeopardy the region's capacity to meet a number of supervision and supply obligations.

A related constraint is a suboptimal logistical system. Procurement and the storage and distribution of pharmaceuticals is still less than efficient, in spite of some recent improvements (e.g., 93% of all health centers are now stocked with oral rehydration salts and 85% gave benzathinic penicillin drugs critical to treating some diarrheas and most acute respiratory infections, the two most serious health problems affecting children). Although there have been improvements in purchasing, resulting in a cost savings of some 15% per year, pharmaceutical procurement, storage capacity and the inventory information system must be upgraded. The MOH assures quality control of pharmaceuticals by subcontracting private sector laboratories to conduct biochemical analyses.

As with the regional and area levels, the Ministry's vehicle fleet and medical equipment at the central and hospital levels are characterized by a chronic lack of replacement parts - a reflection of the low budgetary priority given to maintenance, inadequate preventive maintenance programs and procurement planning, and limited attention to standardization. Building maintenance is also inhibited by the lack of funds.

b. SANAA

SANAA, too, suffers from the cumbersome administrative and operational procedures inherent in most large bureaucracies. This manifests itself in complicated hiring practices, inefficient use of personnel, poor maintenance procedures, and centralized decision making.

Maintenance operations present a particularly salient constraint. Aqueducts constructed for instance under the Rural Water and Sanitation Project are the responsibility of OMUR, SANAA's operations and maintenance branch. While a maintenance plan is developed and followed by SANAA for construction works, the efficiency of its implementation must be increased.

Presently SANAA has five employees or "TEOMARS" (Tecnicos de Operacion y Mantenimiento Regionales) assigned to rural water system operation and maintenance. In addition to their maintenance functions, they are also in charge of organizing a community "junta" which collects a monthly fee for a regional maintenance fund. Communication and transportation problems, however, have inhibited the smooth functioning of this element.

2. Financial Management Constraints

a. Ministry of Health

The GOH recognizes the importance of primary health care. While funding levels have been in accordance with the MOH's primary health care policy, the macro economic picture does not look bright for the future and funding levels for health may suffer from overall fiscal tightening measures.

The MOH receives a significant share of the overall national budget. While 12 percent is the usual figure cited as the MOH annual share, this percent has varied with the performance of the Honduran economy. Since 1981, the health budget, as a percent of the national budget, has declined from a high of 14.9% to 8.3% in 1985. The 1986 share of 12.4% must be seen as somewhat unusual

given that it represented a large amount of internal transfers and external assistance. The budget for 1986 also indicated an increase resulting from higher personnel costs, mainly attributable to the approval of the Estatuto Medico which provides for higher salaries for physicians. Not counting salary increases, the MOH budget in 1987 was 11.7% of the national budget. The operating budget from 1981 through 1986 averaged 65% of the total MOH budget. The principal uses of the operating funds are for the recurrent costs of hospital services and primary health care. It is estimated that the unit recurrent costs for primary health care paid by the MOH are about \$11 per person per year.

According to the report by Massey and Forgey of July 1987, the incremental recurrent costs for primary health care programs growing out of Health Sector I and this Project should not pose any major budgetary or financial management problem for the MOH. In fact, the intention of this Project is that the reverse will be true: in the long run, the costs and benefits derived from the programs developed by this Project will produce substantial savings in the operating costs of the health system, contingent on overcoming key financial management constraints. These are:

- the passage of legislation (Decreto 112) in May 1987 which requires generated funds through fees for services to be returned to the Treasury. This legislation, although expired, could be reenacted. If so, it could act as a disincentive to cost recovery. Mission staff have been assured by GOH officials that language will be built into the Pro Ag exempting the MOH and SANAA from any such provisions.
- centralized financial control which currently prohibits the setting up of regional revolving funds. Such control inhibits the flow of funds to the operational levels and their efficient use. Again, the GOH has agreed that the establishment of regional revolving funds will be an implementation mechanism described in the Pro Ag.
- centralized procurement authority which results in long delays and cost overruns. Legislation proposing the creation of a special MOH procurement unit is before Congress. Assuming the law is approved, the MOH will require about a year to set and staff such an office. Short-term technical assistance will be provided. In the meantime, the normal A. I. D. and GOH procurement channels will be used.

b. SANAA

SANAA, while receiving its main operating budget from annual government revenues, has been dependent over the past few years for many of its projects on external assistance. SANAA's main income is generated through charging for water services. This activity alone generates approximately 20.7 million lempiras annually. After operating costs, however, which amount to about 20 million lempiras, only 600,000 lempiras remains, most of which goes for debt servicing. This results in small budgets for maintenance and operations of the water and sanitation systems, which SANAA has been installing in rural areas. Collection of fees from users has been implemented as part of an overall maintenance plan, but the efficiency of such collection can be improved.

3. Technical Constraints

a. Child Survival Program

Despite the noteworthy progress of the last several years, major problems still confront the MOH child survival and primary health care programs. Notwithstanding the recognition of the effectiveness of ORT for treating dehydration caused by diarrhea by the scientific community worldwide, some Honduran physicians remain resistant to the use of ORS. Salts were used in only 20% of cases of diarrhea according to the ENSMI results of 1984. Distribution is currently limited to official MOH channels, although private sector channels will be used under this Project.

The Acute Respiratory Infections (ARI) program suffers from the lack of a simple and tested technological solution, such as ORT or vaccinations. It must depend upon a well functioning referral system, which the MOH still lacks. The nutrition study showed that 40% of all cases of ARI required professional care. There is a large knowledge gap on the part of the general public regarding the importance of ARI and the proper means for treating it. Also, there remains some confusion regarding ARI program norms, especially regarding the proper treatment medications.

Despite high vaccine coverage rates, the under one year old population suffers from a lower coverage rate than the one to five population. The cold chain, while vastly improved, requires constant attention through maintenance, supervision and the provision of a regular supply of vaccines. Increased efforts should be made through regular testing programs to assure that vaccinated children are reliably immunized.

Birth spacing and family planning programs, while established GOH policy, encounter implementation obstacles. The concept of birth spacing and its impact on the health of the mother and child are not fully appreciated. Shortcomings in the logistics system affect family planning services. In 1986, contraceptives were only available in approximately 40% of MOH health centers.

The nutrition program suffers from the lack of a coherent strategy and norms. Growth monitoring remains sporadic. The Nutrition Survey shows that 42% of the under five population suffers from moderate to severe malnutrition, indicating that nutrition status in Honduras has not improved in the last 20 years. As nutrition status is a function of poverty and dependent on programs beyond the health sector, a target of reducing malnutrition is not planned. This Project will, however, seek to improve growth monitoring and targeting.

The breastfeeding program faces the constraint posed by rapid urbanization and the changing role of women which takes them much more frequently into the formal job market. The leading cause of premature cessation of breastfeeding is female employment away from the home. The ignorance of many health care professionals, particularly at the hospital level, about the importance of breastfeeding are also constraints.

b. SANAA - Water and Sanitation Program

It was with an AID loan that the GOH created SANAA (Servicios Nacional Autonomo de Aqueductos y Alcantarillados - National Autonomous Water and Sewerage Service) in 1961.

SANAA's mandate is to specifically take responsibility for all water and sanitation efforts throughout the country. At the same time however, the Ministry of Health is responsible for providing a normative function with regard to water quality standards. While in theory SANAA is to work closely with the Ministry in coordinating its activities, in practice it seldom does mainly due to the different nature of their activities. This is in spite of the fact that organizationally, SANAA is subordinate to the Minister of Health. This organizational dysfunction was enhanced somewhat by the establishment in 1974 in the Ministry of Health of PROSABA, an implementing unit charged with administering and promoting rural environmental sanitation outreach programs. Its main activities have been directed toward the installation of hand pumped wells and the promotion and construction of latrines in dispersed rural communities. Although SANAA's mandate directs it to do these activities, PROSABA's creation has, it might be argued, prevented it from doing so. Consequently, SANAA has concentrated on the construction of aqueducts in larger communities and sewerage systems for urban areas. This artificial division of responsibilities has resulted in inefficiencies in the establishment of water and sanitation facilities throughout the country.

Although now there is a growing sense among a largely illiterate rural population regarding the importance of clean water and its relationship to health status, a concerted effort must continue to increase the coverage of and access to water and sanitation systems. This is essential for an improvement in infant mortality.

4. Policy Constraints

There are no fundamental policy constraints to primary health care in Honduras. As mentioned in other sections, the GOH has maintained a policy commitment to primary health care since the early 1970's, and has backed it up with budgetary support. Instead, the constraints are operational in nature, as described in the financial management constraints section.

V. PROJECT DESCRIPTION

A. INTRODUCTION

This Project represents a major new initiative in health in Honduras. For the first time, child survival, rural water and sanitation and private sector activities will be placed under a single project, directed at reducing infant mortality. More than a continuation of Health Sector I, it will focus on decentralizing decision-making and management, enabling planning, programming, and implementation decisions to be made at the operational levels of the MOH. Such decentralized decision-making and management will take place through what the MOH calls local programming (one of the major components described in detail below), and it will result in more rational and cost effective use of health resources.

The comprehensive analytical base for this Project began in 1978 with a two year Assessment of the Public Health Sector in Honduras (1975-1985), prepared by the Mission's Health Division. The content of the assessment was drawn from reports prepared by the Centers for Disease Control, Management Sciences for Health (MSH), the US Public Health Service, INCAP, and Community Systems Foundation. Its recommendations centered on strengthening the support systems at the central level of the MOH and formed the basis for Health Sector I. This Project is also based on extensive analytical reports prepared by MSH throughout the life of Health Sector I on the MOH's logistical, planning, maintenance, human resource, and health information systems. Studies on health financing and mass media promotion were also used as basis for the design of this Project. National epidemiological studies on mortality, morbidity, fertility and nutrition carried out in 1983, 1984, and 1987 provided comprehensive base line data so that expected targets could be carefully quantified. Following recommendations from two evaluations of Health Sector I, this Project is more focused, having 13 components, not counting private sector and rural water and sanitation services, as compared to 20 previously. Studies done during the intensive review on recurrent costs and MOH institutional capacity also have provided the Mission with information and recommendations that have been incorporated into the design of this Project. The MOH and SANAA formed a Project design committee, composed of several planners, division chiefs, and contract personnel, which over a 9 month period developed the core elements of this Project in a highly collaborative process with Mission staff. The private sector section is based on a three month survey, contracted with Mission funds, of private sector health providers.

The rural water and sanitation component of this Project reflects analysis done by the National Water and Sewer Authority (SANAA) regarding demand for such services. A technical assistance team from WASH recommended in June 1987 that SANAA implement this element of the Project since it is the GOH entity responsible for such works and because of its experience and capability. This implementation arrangement is consistent with recommendations from the evaluation of the Rural Water and Sanitation Project conducted in December 1985 and from the RIG audit of early 1987.

B. GOAL

The goal of the Project is to contribute to the improvement of the health of the Honduran people, especially pregnant and lactating women and children under the age of five years. The achievement of the goal will be measured by a reduction in the infant mortality rate from 70/1000 live births to 40/1000 and an increase in life expectancy from 62 years to at least 68 by the end of the Project in 1995. These goals are part of the Mission's Health Strategy (1980-2000), of which Health Sector I represented the first phase, Health Sector II represents the second phase, and a planned Health Sector III will represent the third phase. The assumptions underlying these goals are economic and political stability, a continued priority of primary health care services particularly child survival and water and sanitation activities, a reasonable degree of personnel continuity, particularly at the time of the change in government in 1990, and effective coordination among the major international donors in the health sector.

C. PROJECT PURPOSE

The purpose of the Project is to support, strengthen and continue the process of extension of coverage of efficient, sustainable and effective primary health care and rural water and sanitation services, with an emphasis on child survival interventions. The focus will be on the sustainable implementation of decentralized management systems in support of primary health care at the operational levels: regional, area and health center. The Project is divided into two components: the child survival program, and the rural water and sanitation program. Private sector health activities are included in this Project, but as they are considered means to accomplish objectives rather than ends in themselves, such activities are integrated into each component.

Honduras is on the Agency list of child survival special emphasis countries, based on the criteria that the infant mortality rate is high; the GOH is committing its own resources to child survival improvements; A.I.D.'s sizable in-country presence; and the good collaboration with other donors.

D. CHILD SURVIVAL: SUSTAINABLE SUPPORT SYSTEMS

In conjunction with Phase II of the Mission Health Strategy, this component will focus on enhancing the effectiveness of the health service support systems at the operational levels which are necessary for the sustained and efficient delivery of child survival services. The purpose of these support systems is to assure that MOH staff, particularly at the health center level, will have the physical, financial, promotional, and technical resources needed for institutionalizing sustainable health care in the rural areas. These support systems include local programming, logistics, maintenance systems, health and management information systems, human resource development, health financing and mass media promotion.

1. Local Programming

This component is of critical importance to the Project as local programming is the means through which decentralized management and decision-making are to be accomplished. The policy goal of decentralized management and decision-making was stated in a MOH national health policy statement in the spring of 1986. Local programming was first defined in a document published by the MOH in August of 1985 (Proceso de Programacion Local: Documento Basico). A manual for how local programming is to be implemented at the operational levels was published in November of 1986 (Manual de Programacion Local para los Niveles Operativos). These publications span two Ministers of Health. The Health Sector I technical assistance team has played a central role in the development of all of them.

For the purpose of decentralizing management, decision-making and budget authority, a local programming model will be implemented at the operational level, in accordance with the documents mentioned above. This model will give greater capacity to the regional level to assure:

- adequate distribution of drugs and materials to each service delivery site;
- more effective placement of operational level personnel;

- adequate monitoring and evaluation through health information systems of the various child survival programs;
- greater discretionary programming and budget authority; and
- control of supervision visits and other related supporting activities.

The foregoing points are important because they specify which management decisions are to be decentralized to the operating levels and because they explain how MOH staff at these levels will be enabled to program, implement, monitor and evaluate health resources. The authority to manage revolving funds at the regional level is critical to local programming.

The concept of local programming evolved out of the experience of Health Sector I. During most of that project, technical assistance was focused on development of support systems at the central level. By September 1986, however, there was evidence that the implementation of several of these support systems required more intensive technical assistance at the operational level, that is, at the regional level and below. At that time, the MOH decided to implement a local programming model in Health Region 6, in accordance with the above documents, using one long-term advisor under Health Sector I. The general purpose was to assist regional staff to adapt and apply the support systems developed for the regional level. Priority was given to logistics, health and management information systems and supervision.

As part of the local programming process, Health Region 6 has begun the physical reorganization of pharmaceuticals and medical supplies. About one third of the health centers have been reorganized and have adopted the simplified inventory control system. Redistribution from overstocked health centers to understocked health centers is being implemented as part of this process. Region 6 has conducted an inventory of human resources at each health center and a family census to determine health priorities and drug requirements. Regional health personnel have been trained in the use of micro-computers in order to use management and health information systems.

This experience has satisfied the MOH and USAID/Honduras on the desirability and feasibility of such technical assistance at the regional level. Important lessons include the following:

- technical assistance specialized in one area of support systems could function effectively over a wide range of functional areas;
- institutional development is more rapid at the regional level, but is still a long-term process;
- the central level frequently underestimates the difficulties that confront the operational levels;
- central level concerns about delegation of authority to the regional level are still sufficiently strong that it is essential to keep the central level informed about and involved in the changes being implemented at the operational level;
- the regional level has a need and a demonstrated ability to manage computerized health and management information systems.

As a result of this experience, the MOH and A.I.D. have agreed to a strategy under this Project that will focus approximately 40% of the long-term technical assistance resources directly at the regional level. The general

purpose will be the same as for Health Region No. 6: that is, to assist operational level staff adapt and apply the central and regional support systems designed under Health Sector I and to implement local programming. The remaining 60% of the technical assistance resources will continue to be based at the central level in order to continue the process of institutional strengthening and the refinement/implementation of the management systems begun under Health Sector I. Central level technicians will have the additional responsibility of assuring the collaboration and coordination between central level and operational level technical assistance. Although these technicians will be based at the central level, they will be expected to spend considerable time at the operational level, providing technical support in their area of expertise, in order to facilitate the local programming process.

For local programming and decentralized decision-making to function well, technical and administrative MOH personnel at the operational levels need to be capable of making rational decisions in accordance with and linked to the management and health information provided under the local programming model. To assure that the local programming model is fully operational, the Project will support on-the-job management improvement training (through technical assistance), workshops, and seminars at the regional level and below. Such training will focus on how to recognize and identify typical problem areas; enhancing the quality and quantity of supervision; strengthening administration at the health center level; and the use of the management information systems. Efforts will be made to strengthen the management skills of the MOH staff of the first line back-up and support points to the primary health care providers. These support points consist of 34 health areas and 66 health sectors into which the eight health regions are divided.

Operational research studies will continue in order to identify, for example, the most cost effective mix of management and support personnel needed at the area level. In one model currently being tried on a pilot basis in Health Region 6, one administrator per area is responsible for supply distribution, administrative supervision, vehicle use, and the scheduling of preventive maintenance and repairs. A variation of this model to be tested will involve the assignment of two auxiliary nurses to each health center who divide their time between outreach activities and health center management in order to develop more efficient uses of personnel. If this pilot proves feasible and the MOH agrees to assign two auxiliary nurses to each center, the Project will finance the in-country training of such additional nurses. Additional operations research will examine the efficiency of various ways to improve referral systems.

The Project will support long-term technical assistance to work with central and regional level counterparts to reinforce management skills. The Project also will support the Science and Technology Office in the MOH with long-term technical assistance in operations research and some medium and long-term third country training. Short-term in-country management training will be provided.

At present, regional level demand for local programming exceeds the central level's capacity to support more rapid implementation. In order to ensure success of local programming activities, at least four long-term technical

advisors (27 person years for a LOP total of \$4.3 million) will be provided for improved management and supervision; for continued support for in-service training programs; and for computerization of regional management and health information systems. To support these efforts, micro-computers will be purchased, in accordance with a needs assessment conducted under Health Sector I. Regional personnel will be trained to manage and use the model's management and health information systems. Supervision will be aided by the procurement of 43 pickup trucks and counterpart funded per diem support. A total of \$6.3 million in A.I.D. funds will support this component.

Under the Health Sector II Project, the implementation of local programming will be expanded in a phased manner to include all health regions. By the end of the Project, local programming will be completed in three regions and partially implemented in the remaining five. In the three regions,

- a computerized inventory of their personnel and financial resources will have been completed;
- a family census to determine the size and composition of the target groups will have been conducted;
- annual plans to meet the health needs of these target groups, including the drug and medical supply needs, will have been prepared;
- regional revolving funds providing adequate discretionary budget authority (approximately 25% of total regional budget as compared with a rough estimate of less than 10% now) will be in use to support the implementation of these annual plans.

By the end of the Project, in the three regions, in order to monitor the progress of these analyses as well as to provide back-up support as needed,

- 80% of health center staff will be conducting supervision visits to oversee the activities of community health workers within their area of responsibility at least four times a year (about 30% in 1987);
- 80% of the health centers will receive supervision visits by area level staff and area level facilities by regional level staff at least three times a year (about 30% in 1987);
- 80% of regional establishments will receive supervision visits from the central level at least three times a year (about 40% in 1987);
- and 100% of the health areas will have access to a vehicle for supervision purposes (about 70% in 1987).

By the end of the Project, all eight health regions will have in place an operational computerized health and management information system.

2. Logistics Administration

Improvements in the logistics system will focus on rationalizing the purchasing, distribution, and use of medical equipment and supplies.

In order to facilitate more rapid and rational purchases of medical equipment and supplies, the establishment of a special procurement office within the MOH is being studied. It is expected that the creation of this office will help overcome the difficulties encountered with current procurement practices (e.g., delivery of products with inappropriate specifications, inordinate

delays in product delivery, and unreasonably higher prices than neighboring countries pay). Through small studies showing evidence of the waste and delays of the existing system, already initiated under Health Sector I, the Project will support the establishment of this office which is expected to be responsible for the efficient procurement of approximately \$25,000,000 in medicines and supplies every year.

As part of local programming, the distribution and use of medical equipment, supplies, and pharmaceuticals will be improved through the development of simplified inventory control systems. The Project will continue efforts to improve the organization of the newly-constructed central and regional warehouses, and will construct 34 additional small medical supply and equipment storage rooms (LOP total \$1 million), built with local materials and labor, for use at the subregional levels. These storage rooms will be managed by existing MOH staff so there will be no additional recurrent cost implications to this effort. The programming and distribution of supplies is integrated into the local programming model and will be implemented nationally during Health Sector II.

Presently, all regional offices, except that of Health Region 3, lack water testing equipment and adequate laboratory facilities, which prevents the MOH from carrying out its normative role in water quality testing. Regional offices are located on cramped hospital grounds where the constant presence of patients, frequent interruptions, and overcrowded, noisy, and unventilated conditions impede efficient functioning. Lack of adequate space also affects the quantity and quality of training. The Project will therefore fund the construction of three integrated regional centers (LOP total \$617,100) for the purposes of improving working conditions, logistics management, and to provide training and laboratory facilities. These centers will be constructed on the sites where medical warehouses were built under Health Sector I. As in the case of the storage rooms above, existing MOH staff will occupy these centers so there will be no additional recurrent cost implications.

Finally, the Project will support operations research into the feasibility of sustainable drug-sale rotating funds at the community level. For continued development, adjustment and implementation of the administration and logistics systems, long-term technical assistance (5 person years) and training will be provided. Micro-computers and pickup trucks will be provided to the area level to support logistics activities (budgeted under management and health information systems). A total of \$3.1 million will be provided in support of logistics improvements.

By the end of the Project,

- an effective computerized inventory control system will be developed and in operation for warehouses at the central and regional levels;
- 34 area level drug and medical supply storage facilities will have been established;
- 80% of the health centers will have been renovated to permit the physical reorganization of pharmaceuticals and other supplies (see Maintenance section);

- these health centers will be using a simplified drug and medical supply control system which will show that 90% of their drug and medical supply requirements are on hand.

The logistics administration improvements are part of the local programming model and will be linked with the computerized inventory system at the regional and central levels.

3. Maintenance Systems

Highest priority under this effort will be given to the sustainability of cold chain operations for vaccinations through the development of an optimal spare parts inventory. Second priority will go to vehicle and motorcycle maintenance. Special attention will be given to the MOH's spare parts acquisition and inventory maintenance system, as part of the activities described in the logistics section. Other maintenance activities will include facility upkeep through improved community participation. Such activities will take place primarily at the health center level, organized by the health center nurse, and will include local labor combined with funding of materials for minor repairs, installation of storage shelves, and cleaning supplies so that health centers meet MOH standards.

For continued support of cold chain and vehicle and other maintenance activities, short-term technical assistance (budgeted under other sections), training, spare parts and funds for renovations and minor repairs will be provided. A total of \$604,000 is budgeted for maintenance systems.

By the end of the Project,

- 80% of the national cold chain system will be functioning adequately (65% in 1987);
- 90% of the operational levels will have trained maintenance personnel provided with basic tools (50% presently); and
- 80% of the health centers (426, at a cost of \$568,000) will be renovated and upgraded (presently there is no such program).

4. Management and Health Information Systems

Design and preliminary implementation of management and health information systems have taken place under Health Sector I. Central level computerized information systems for tuberculosis and vaccinations are approaching complete implementation, although additional follow-up is required to assure optimal use of such information for planning and decision-making.

The Health Region 6 experience has demonstrated that health and management information is as important as financial authority in the process of decentralization. In the past, the operational level collected data for central level analysis but this did not translate into programming-related information, because the operational level did not participate in data analysis. The Region 6 experience also has demonstrated that micro-computers can help change this situation. There, a single micro-computer has been used to support the implementation of local programming, simplified logistics operations, and financial management. Users at the regional level have

expressed interest in using microcomputers in many other areas. Successful decentralization of decision-making depends on access to good data. Microcomputers will play a critical role in this decentralizing process.

Additional health and management information system components for family planning, ARI, growth monitoring, vector control, supply management, and human resource development will be developed and integrated into both the local programming model and the larger system in order to provide more comprehensive indicators for program planning, monitoring and evaluation. At the same time, partially computerized information systems for vaccinations, diarrhea disease control, and financial monitoring will be fully developed and adapted to the needs of the operational levels for management decision-making.

Long-term technical assistance (12 person years for a total of \$1.9 million) will support the development of computerized health and management information systems at all levels in order to permit better tracking of logistical, personnel, financial, epidemiological and service delivery data, thereby reinforcing the local programming model and facilitating more effective linkages between the MOH's normative divisions at the national level and the operational divisions at the levels below. Micro-computers (46 for a total of \$161,000) and related equipment and supplies as well as software will be provided by the Project. A total of \$3.5 million is budgeted, which includes \$1.1 million for operations research and other mortality/morbidity studies.

The process of adapting health and management information systems and training staff in their use will be continued in the health regions so that by the end of the Project:

- an integrated series of health and management information networks at the central level will be in place, capable of providing reliable and timely information for decision-making and planning at the top administrative levels of the MOH;
- these systems will be linked with the central level systems, data processing will be decentralized to the regional level under the local programming model, and the specific components of the information system mentioned in previous sections will be integrated into this generalized system

5. Human Resource Development

The development of self-instruction modules for in-country training was begun under Health Sector I. Eleven modules were developed and nine have been validated. These include modules for tuberculosis, vaccinations, control of diarrheal disease, ARI, the cold chain, and four maternal and child health modules.

Implementation has begun in one health region, where three modules have been field tested. This involves a pre-test of the nurses' knowledge, an orientation of the module, a month of self-study, and a post-test. The self-study is encouraged during the regular supervisory visits. Initial evaluation results are promising. The use of these modules, when supported by adequate supervision and management information systems, could reduce continuing education costs significantly, thereby enabling the MOH to conduct

its continuing education program on a sustainable basis. In addition, the process of self-study does not require the nurse to be absent from the health center to attend a 2-5 day training course. The health center remains open and health services can be delivered without interruption.

The Project will support the continuous evaluation and refinement of existing training modules and the development of new modules. Project supported management and health information systems will provide data used to assess the impact of the self-instruction modules.

The development of a MOH staff resource register is well advanced under Health Sector I. The register will consist of a constantly updated record of all continuing education received by MOH staff, their job assignments, and the jobs they actually perform. The purpose is to limit duplication of courses, to plan future courses rationally in accordance with clearly identified needs and to become an effective personnel management system. It will provide information on the use of the self-instruction modules, and for the monitoring of Project objectives. By December 1988, initial data collection, data entry and data cleaning will be completed.

Long-term technical assistance (6 person years) is required to assist in the implementation and evaluation of the self-instructional modules and in the use and refinement of the staff resource register.

Continuing education programs in-country of up to 10 days for MOH staff primarily at the health center level in the child survival areas will be supported. The training curricula and teaching modules have been developed under Health Sector I. Per diem support for the continuation of this training will be provided under this Project (\$1.7 million).

Long and short-term training will be funded (\$960,000). Up to 10 masters degree candidates will be financed each year by the Project. The great majority of these degrees will be in public health. A smaller number may be in management, business administration, epidemiology, survey statistics, etc., to meet specific needs. Such training will be for physicians, nurses, engineers, planners and administrators and will take place in Mexico, Puerto Rico, and Colombia. Short term training primarily in the U.S. in administration, monitoring and supervision, health and management information systems, as well as in the child survival areas, will also be supported. Priority selection of candidates will be based on Project's regional local programming focus. A total of \$3.65 million is budgeted.

By the end of the Project, the staff resource register will be fully operational and data generated by it will be used in the programming of training. Self-instructional modules in the child survival interventions and support systems will be in use.

6. Health Financing

To ensure the sustainability of child survival activities, A.I.D. will assist the MOH to improve its financial management and cost recovery programs. First, the central level computerized financial information system of the MOH designed and implemented under Health Sector I will be further developed and

linked to regional level systems. This system is currently used more for control purposes than for operational decision-making. Current and future efforts are focused on increased analysis of recorded data to develop management information to support improved operational decision-making. Second, the MOH's capacity for short, medium, and long-term financial analysis and planning, (an area which received little support under Health Sector I), will be enhanced through the provision of long-term technical assistance. Specific areas to be addressed will be: expenditure analysis, budget preparation, fiscal control, and financial planning.

Operations research studies will provide information on the cost effectiveness of programs as well as to define and assess various alternative cost saving measures, in order to enhance the sustainability of child survival activities. To expand the MOH's cost recovery programs, operational research studies also will be directed at the feasibility of drug sale rotating funds managed at the health center and community levels.

According to the study "User Fees in Honduran Hospitals and Health Centers", 9/87, by Catherine Overholt under the Reach Project, cost recovery in 1985 by all MOH hospitals averaged about 12% of their nonpersonnel operational cost budgets. In two hospitals, however, cost recovery reached 19% and 20%, suggesting how much more could be achieved in the others with some assistance. Cost recovery is accomplished through use of fees for services (such as maternity care, laboratory services, X-rays, minor surgery, dental care, and blood transfusions).

Long-term technical assistance (6.75 person years) and selected short-term training programs will support these health financing activities. A total of \$1.215 million is budgeted.

By the end of the Project,

- greater use of out-patient consultation fees at all levels of the health care system, both for improved utilization of health resources and for income generation, will be operational;
- through wider and more regularized use of fee for services, cost recovery by hospitals will increase on the average by 2% per year, reaching 25% of nonpersonnel operating budgets (12% in 1985).

7. Educational/Promotional System (Mass Media)

The MOH public education and communication effort at present is limited and needs to be consolidated into a more operational and efficient programming process.

A health communications methodology has been institutionalized, technically and logistically. It was first tested out in Honduras in 1980 for the introduction of ORT and ORS promotion. It successfully changed behaviors related to the treatment and prevention of infant diarrhea in rural areas. The target behaviors included treatment of severe cases, diarrhea preventive actions that mothers could take, and related nutritional and breastfeeding activities. ORS packets were manufactured in-country with the WHO formula and distributed to government clinics through the MOH's logistical supply system.

Under the Health Sector I Project, the communications component is providing technical assistance through a buy-in contract with the Academy for Educational Development (AED) to promote four priority child survival interventions: ARI, expanded program of immunization (EPI), growth monitoring and ORS. The latter now includes implementation in the public sector and in the future will support the private sector. Each intervention bases its public health communications activities on a methodology which pre-tests promotional messages and audio visual materials, trains MOH personnel in their use, evaluates the results of the educational campaigns, and which makes changes accordingly. A partially developed radio production studio has been established. Under this Project, the studio will be fully equipped, capable of producing and broadcasting public health messages.

The ARI communication plan places emphasis on home treatment when infants suffer from mild ARI and immediate referral to health centers when ARI conditions worsen. It includes a reward system (public recognition, achievement certificates and prizes) for mothers when they demonstrate appropriate knowledge on infant ARI prevention and treatment.

The ORS communications plan foresees the expansion of the 4,500 Litrosol (local name for ORS) distribution points to more than 25,000. This includes community health personnel training, production of audio-visual materials, distribution site identification with Litrosol signs and a mass media educational component. The Project will also support promotional activities for ORS marketing and distribution through the private sector, using ORS products that meet WHO standards. The products will be sold through the private distribution system and be available over the counter in drugstores, grocery stores and other commercial establishments.

The Expanded Program for Immunizations (EPI) communications plan places major emphasis on a strategy aimed at the eradication of the wild polio virus, maintaining diphtheria at zero and increasing immunization coverage throughout the country. EPI program will teach mothers through mass media techniques, through face-to-face communication, through training of health center and community workers that the oral/Sabin polio vaccine is available and accessible at the health center and community level through community health workers, and that it does not have side effects. It also will teach mothers that DPT, BCG, and measles vaccines have mild side effects, but that the risk of death or sickness of the diseases themselves is far worse. By the end of the Project, 30 different radio messages on EPI will have been developed and broadcast.

Growth monitoring is the single most important mechanism that provides timely information about infant growth and development. Promotion efforts will be directed at mothers to inform them about the use of arm circumference measurements, proper breastfeeding and weaning practices. Promotional efforts will also instruct mothers about the existence of supplemental feeding programs. Mothers will be taught, through mass media and interpersonal methods, how to make better use of available food staples, such as beans, corn, whole rice, and green vegetables. Promotion efforts will teach mothers that children with growth problems should be referred to health centers for adequate treatment and therapeutic supplementary feeding. By the end of the Project, 20 radio messages will have been developed and broadcast. The growth

monitoring chart will be used by 80% of all mothers visiting a health center.

The Project will provide technical assistance (5 person years), educational materials (\$244,000), and funding of broadcasting time (\$549,100) to achieve planned goals. A total of \$1.9 million is budgeted.

By the end of the Project,

- one MOH radio production studio will be in full operation;
- 20 promotional TV spots on ARI, ORS, EPI, and growth monitoring will have been broadcast;
- 200 radio messages on child survival interventions will have been broadcast;
- 4 flip charts for these same interventions will be in use;
- 4 manuals for health personnel on the norms for detection, prevention, and treatment for child survival interventions will have been prepared and will be in use;
- 4 similar brochures for mothers' use will be in use.

E. CHILD SURVIVAL: HEALTH TECHNOLOGIES

The major focus of this section will be in support of specific health technologies, which are included under the rubric of child survival interventions (oral rehydration therapy, immunizations, acute respiratory infections, birth spacing, and breastfeeding), but with the addition of three supporting programs (malaria, tuberculosis, and AIDS). Generally, except for AIDS, each of these programs is established at the central level in terms of policy direction, organizational structure, and staffing. More efficient and effective decentralized management of these program resources, carried out in accordance with the structural and administrative activities outlined above, will enable the MOH to achieve Project objectives.

1. Diarrheal Disease Control and Oral Rehydration Therapy (ORT)

The specific objective of the diarrhea disease control program will be to reduce mortality due to diarrhea in children under the age of five from approximately 99/100,000 population in 1987 to no more than 40/100,000 by 1995. The strategy for achieving this will be through increasing the accessibility of oral rehydration salts (ORS), expanding access to clean water and appropriate sanitation facilities (see the rural water and sanitation component), extending the initiation and duration of breastfeeding and encouraging the adoption of positive health behaviors through promotional and training activities.

Increased accessibility to ORS will be achieved through expanding both public and private distribution networks. Increased public sector distribution will occur through improved functioning of the logistics system and through wider use of the over 10,000 community level health personnel as distributors.

Operations research studies will be carried out to determine why certain segments of the population are not using ORS. Using these studies as a basis, this Project will continue to support the use of public health education through both mass media and personal contact to effect necessary behavior

changes such as continuing feeding during diarrhea, hand washing prior to eating and after defecating, and the use of clean techniques in food preparation. Training and ORT promotion will be directed to groups such as physicians and ward nurses who continue to pose obstacles to ORT program implementation, as well as to community level personnel.

Private sector distribution will occur through commercial channels which will receive support for the design and execution of marketing strategies. A feasibility study for private sector social marketing of ORS was conducted as a part of the Health Sector I Project. This study analyzed the Honduran private sector capacity in ORS production, distribution, and promotion. It made a series of recommendations concerning types of production and distribution models, assistance needed by the private sector in implementing ORS marketing, and the role of the Ministry of Health in this initiative, which will assist in registering the product and obtaining foreign currency for the purchase of raw materials, and in coordinating private sector promotion strategy with that of the MOH.

By the end of the Project, the amount of packets to be sold commercially would range between 1.5 and 3 million packets per year.

Both rural water and sanitation and breastfeeding will be discussed separately, although one of their principal impacts is on reducing the incidence of diarrhea.

Educational materials, utensils, and ORS will be supplied under the Project. A.I.D. will provide \$315,500 in support of this component.

By the end of the Project,

- 45% of all diarrhea cases nationwide will be treated with ORS (about 20% in 1987);
- 90% percent of the health centers will have ORS in stock (about 80% in 1987);
- 90% of children with diarrhea attending a health center will receive ORS (about 80% in 1987).

2. Immunopreventible Diseases

Support to the immunization program will be directed toward eradicating polio and diphtheria and to reducing the incidence of the following diseases: measles from 31/100,000 (1987) to approximately 5/100,000; pertussis from 11.1/100,000 (1987) to 2/100,000; and tetanus from 1.4/100,000 (1987) to 0.5/100,000. The means for achieving these objectives will be through increasing the vaccination coverage of children under the age of one year.

Achievement will depend upon strengthening the on-going routine vaccination services at the health center level coupled with periodic national campaigns. The Project will continue to focus on maintenance of the cold chain, the training of epidemiologists, public health physicians, cold chain information specialists, and supply managers, and the development of effective monitoring and evaluation systems. Mass media and other forms of education will be supported. As part of an improved information base, the Project will study

the use of heat sensitive markers to better track vaccine viability, conduct immunological surveys to determine to what degree vaccination is equivalent to immunity, and will make better use of the vital registration system through the health information systems for obtaining a more accurate population base for planning and evaluation purposes. The Project will also strengthen administrative support through the local programming model at the health centers in planning and implementing vaccination activities.

The vaccine program under this Project is part of the expanded program of immunization (EPI) five year agreement signed by the MOH, PAHO, UNICEF, Rotary International, and A.I.D. in July 1987, under the LAC Regional Accelerated Immunization Project (598-0643) and the Central American Regional Child Survival/Immunization Project (597-0005). Over the next five years, A.I.D. will provide through this Project and through central funds approximately \$3.8 million.

Short-term technical assistance (budgeted under the support systems component) will support the development of the vaccine information system so that there will be an increased capacity to plan and monitor vaccination activities at the regional level. Cold chain equipment and laboratory supplies (\$593,000) will be purchased. The total A.I.D. contribution is \$790,500.

By the end of the Project,

- 90% of children under one will have had three doses against polio and there will have been no cases of polio for three consecutive previous years (64% in 1987);

- 80% of the under ones will have had one dose against measles (60% in 1987), and three doses of the vaccine against diphtheria, pertussis and tetanus (63% in 1987), in accordance with vaccination standards.

3. Acute Respiratory Infections

The Project will assist the Ministry of Health in reducing the mortality from acute respiratory infections (ARI). This will be measured by a decrease in the reported hospital mortality of acute respiratory infections in children under the age of five from 18.3% of deaths to no more than 8% by 1995. Acute respiratory infections will be reduced through a dual strategy. The first will be through improved management of ARI in the home. Improved home management of ARI will be aimed at developing norms for teaching appropriate treatment measures for mothers. For example, continued breastfeeding, and recognition of disease signs such as rapid respirations, stridor, intercostal retractions or fever which indicate the need for referral are two such measures. This will be accomplished largely through mass media and personal communication at the community and health center level. The second part of the strategy to be accomplished is through improved MOH management of ARI, i.e., through strengthening the supply system, improving the MOH's referral system, in-service education, and improvement of the information system.

370 respiratory therapy inhalers (\$466,000) for clinical treatment of ARI will be made available to the health centers and small hospitals which serve as first line referral back-up for the rural health centers.

By the end of the Project,

- the percentage of families nationwide adequately treating ARI at home will grow from 10% to 40%;
- over 85% of the health centers will have humidifiers in use (almost none at present).

4. Birth Spacing

Birth spacing will be approached through an integrated program of maternal care, including both the pre and post natal period. Attention will be focussed on women at high reproductive risk. This includes those women with children under the age of 18 months; pregnant women under the age of 20 and over the age of 35; and those who have four or more children. Health and family planning education on the risk factors associated with pregnancy, both through mass media and through personal contact at health center and community level, as well as family planning counseling and contraceptives will be made available. These efforts alone should achieve an estimated reduction in infant mortality by 5% per year.

Contraceptives will be provided (\$1.35 million). The MOH's logistic system will be improved so that contraceptives are regularly supplied to the service delivery points. Long-term technical assistance (6 person years) and the provision of computers mentioned in other sections will help strengthen the health information and supervision systems that will support this program. Operations research (\$60,000) will study the increased use of local personnel such as traditional birth attendants to also serve as contraceptive distributors and family planning educators. Birthing equipment and cytology lab supplies for health centers and rural hospitals will be purchased (\$393,300).

Project support to the MOH will complement the major private sector family planning effort sponsored by A. I. D to ASHONPLAFA (Honduran Family Planning Association). ASHONPLAFA has played an active role in providing family planning in Honduras, serving more than 50% of contracepting couples. There is already active collaboration between ASHONPLAFA and the MOH: ASHONPLAFA has trained MOH staff in IUD insertions and voluntary sterilization procedures and provides medical equipment and supplies and collaborates in the technical supervision of sterilizations done in MOH hospitals.

By the end of the Project,

- the percent of mothers who have access to appropriate prenatal, birth, postnatal and family planning services will increase from 50% to 70%;
- the percent of all high risk pregnancies receiving proper referral services will increase from 12% to 90%;
- 90% of the health centers will be distributing contraceptives (40% in 1986); and
- contraceptive prevalence for women in union will have increased from 35% in 1984 to 50%.

5. Breastfeeding, Growth Monitoring and Nutrition

Proper breastfeeding practices play a powerful reinforcing role in support of ORT, birth spacing, and to some extent, ARI activities. During the last three years of Health Sector I, progress was made in integrating breastfeeding norms and procedures into the MOH national program, with an emphasis on hospitals, through a special activity called PROALMA. Under this Project, the breastfeeding component will focus on health centers and the communities they serve. A public health communications program aimed at the community level will stress exclusive breastfeeding for the first four months of the infant's life, and continued feeding in the first year and more intensively during diarrheal and acute respiratory episodes.

By the end of the Project, the percentage of mothers who exclusively breastfeed for the first four months will be increased from 28% to at least 40% and the percentage of mothers who continue to breastfeed for at least a year from 24% to at least 50%. This will be done through community-based and in-service training at the health center level, as well as making use of the MOH staff trained by PROALMA in the regional hospitals to continue to promote proper breastfeeding practices at all levels of the health system.

Nutrition activities under the Project will focus on improved growth monitoring and targeting in order to identify the most nutritionally at risk groups. In those health centers where growth monitoring now exists, it works fairly well. The task of this Project is to expand coverage. Mother controlled charts, such as those used in the vaccination program, will be improved and studied for effectiveness (\$60,000). Other activities include the development of norms on nutrition surveillance and targeting, in-service training, supervision, and improvements in the health information system. To expand targeting of the most at risk children, the Project will provide anthropometric equipment and supplies (\$190,000), training of administrative and distribution personnel, and educational and surveillance materials such as growth monitoring charts. Improvements in weaning practices and feeding as well as improved maternal nutrition will be achieved through mass education programs and the provision of iron and vitamins. Long-term technical assistance budgeted under birth spacing as well as 13.5 months of short-term assistance will support these activities.

The Mission believes that an important tool to address malnutrition will be continued use of the supplemental feeding activities under the PL-480 Title II programs. Such programs will reach 110,000 nutritionally at risk children under five years and pregnant and lactation women, identified by the improved targeting activities, at MOH health centers and National Welfare Board distribution points. The Project will assist with improving the developmental impact of the PL 480 program and will strengthen education, counselling and referral and improved targeting.

The problem of malnutrition, to which many factors outside of the health sector contribute, will be addressed through the measures described above, as well as through the mass media, birth spacing, immunization and diarrhea control programs, all of which will contribute to improvements in nutritional status. The Project will seek to identify and operationalize improved nutrition linkages with specific child survival interventions.

By the end of the Project, the following activities will be achieved:

- improved growth monitoring will be established by assuring that 80% of children under the age of five who visit a health center have growth and development charts (13% in 1987);
- 80% of mothers with children under one year will understand appropriate weaning practices (20% in 1987);
- 80% of CESAR's will have the required anthropometric equipment and supplies to carry out the growth monitoring program (40% in 1987).

6. Other Programs: Vector Control, Tuberculosis, and AIDS

Three other programs, not core elements of the child survival package, but nonetheless important in the Honduran context, to be supported under the Project are the vector control program, the tuberculosis program and the AIDS program. The vector control program will address both malaria and chagas diseases.

From 1976 to 1987, malaria case levels have fluctuated, although the trend has been downward, from a high of 57,000 per year to a low of 18,000 in 1987. Malaria incidence by region also varied significantly during this period: from 16/1000 on the coasts to 7/1000 in the mountainous areas. The objective of the support to the malaria program will be to reduce incidence of malaria by the end of the Project from 18,000 reported cases in 1987 to no more than 8,500 annual cases, 47% of 1987 levels (8,500 cases per year translates into an incidence rate of 1.5/1000 compared to 7/1000 in 1986). These objectives are based upon an expected 10% annual decline. The latter reduced rate of decline is because of improved case finding; incremental gains will be progressively harder to achieve as incidence rates go down. The strategy is to use a continued integrated approach of physical, chemical and biological control measures, as well as therapeutic means, to attack the parasite, thus breaking the cycle of transmission.

Sprayers, vehicles, and earth moving equipment for larval control will be purchased (\$1.7 million). Larvacides (BTI-\$1 million) and miscellaneous supplies for field sprayers (\$198,700) will also be procured.

Chagas disease control operations will concentrate on case finding and treatment, chemical control through wall spraying, and the conduct of surveys (\$50,000) to better define the geographical distribution of the vector and its incidence of infection. By the end of the Project, house infestation rates will be reduced by 50%, the number of new infections will be reduced by 25%, and more the 90% of infected patients will be receiving treatment.

The tuberculosis effort will aim to decrease the incidence from the current level of 77 cases to 50 cases per 100,000 population. The incidence is not expected to drop more substantially because improved case finding will continue to identify new cases of tuberculosis. Regional workshops (\$100,000) will be conducted to review epidemiological data and to adjust case finding techniques accordingly. By the end of the Project, 90% of diagnosed TB cases will be undergoing treatment, and the rate of case desertion will drop to 10%.

Honduras reportedly has the highest rates of confirmed AIDS cases in Central America: approximately 75 reported cases with 30 fatalities. In response, the MOH has formed an AIDS task force. This task force requested assistance under the Health Sector I Project in 1986 to help conduct an analysis of blood banks, the purpose being to determine the scope and geographical distribution of the AIDS virus. Reagents and lab equipment were provided. The Health Sector I Project supported a teleconference on AIDS attended by private physicians and MOH epidemiologists, pathologists, and other specialists. Also under Health Sector I, condoms have been provided.

Short-term technical assistance from centrally-funded contracts (e.g., AIDS COM) will be sought. More reagents and condoms will be provided (\$336,600). The Project will support mass media campaigns and the development of educational materials (budgeted under the education/promotional program section) to inform the public on the causes of AIDS and the appropriate preventive measures.

7. Private Sector

Private sector health activities do not account for a large share of the coverage of the modern health care system in Honduras. Approximately 15% of the population receive health care from private sector providers. (The MOH reaches about 70% of the population, the social security system about 8%. It should be noted there is considerable overlap in both users and providers in these figures, i.e., private sector users also receive MOH services and vice versa, while MOH physicians often have private practices. It should also be noted that coverage figures are misleading in that the MOH vaccine programs reach almost 90% of the population while aspirin sold through private outlets may reach the same proportion.) Most of the private sector effort is urban based and is directed towards curative care. In terms of primary health care and child survival interventions, the MOH has been out in front of the private sector since the early 1970s. Only Meals for Millions can compete with the MOH in unit recurrent costs. The potential for private sector primary health care for the rural areas, therefore, is limited.

During the design of this Project, a team was contracted to study the extent of child survival activities that private organizations undertake. The survey was divided in two phases. The first phase was to identify all private sector groups involved in health services in Honduras, voluntary as well as commercial. The second phase consisted of interviews with PVOs, peasant union groups and pharmaceutical companies.

a. PVOs

Private Voluntary Organizations (PVOs) have played an important role in providing basic health services to Hondurans in some rural communities, including a few remote areas not served by public sector health programs. Among the advantages of working with PVOs are that they have in place administrative systems, core staff financial support, networks of promoters in rural communities, and a history of working well in rural communities or marginal urban areas. They provide maternal child health care, vaccination coverage, basic sanitation, potable water systems, health education, nutrition, and family planning services. This Project will strengthen the

efforts of these already established private organizations and they will participate in implementing child survival interventions and water and sanitation systems.

Eighty-three PVOs providing health services in Honduras were identified in phase one. From the 83, a sample of 24 PVOs were interviewed in depth as potential candidates for support through this Project because they were carrying out primary health care services. According to the survey, 22 PVOs expressed a willingness to work on any child survival intervention (Table 1 of Private Sector Annex). They serve a total population of 690,000 beneficiaries (including CARE, which has over 125,000 beneficiaries alone in its PL480-II supplemental feeding programs). Of this group, 9 were identified by regional personnel as being particularly successful. These 9 PVOs currently serve a total of 286,900 beneficiaries (Table 1D Private Sector Annex). It is with this group that the Project will work.

The following are suggested PVO selection criteria for financing under this Project:

- legal status in Honduras;
- successfully established projects in rural communities;
- good working relationship with the MOH particularly regional personnel;
- an interest in working with USAID;
- geographic focus that coincides with gaps in MOH coverage;
- absorptive capacity;
- a low cost delivery model replicable by the MOH.

To date, PVOs have operated in Honduras by contract agreements with the MOH for health programs. After the agreements are signed, projects are then implemented with little or no monitoring on the part of the MOH. The valuable contribution that PVOs make in extending health coverage in the country often goes unnoted. Under this Project, the MOH Planning Office will have overall responsibility for monitoring the PVOs. To assist the Planning Office in this monitoring, a computerized data management system will be developed jointly by the Mission and the MOH planning office to catalogue PVOs by type of health work, region and area where they work and population that they serve. Health region personnel will be informed of the PVOs working in their region and will monitor and coordinate with field personnel. (In fact, many PVOs work closely with MOH personnel at the local area, but this coordination has not been adequate at the central level.)

During the contract negotiation phase between PVOs/MOH, PVOs will present proposals that include benchmarks for child survival interventions. Progress toward attainment of the benchmarks will be reported regularly to regional offices and the Project coordinating unit.

The local programming methodology mentioned earlier will be used to optimize the resources that PVOs can provide to any given area and to fill in coverage gaps. Regional personnel have identified priority areas for increased PVO support and have designated those remote areas underserved by the public sector as optimal sites for more PVO work. For example, Region V has 84% rural population and has identified areas for PVO work to complement that region's efforts in child survival interventions. Region I, which covers the

Mosquitia, has identified several PVOs which could include child survival interventions in the package of services that they deliver.

Monitoring the contributions that PVOs make toward the attainment of Project outputs and purposes will be simplified through local programming. Periodically scheduled meetings will take place at local health facilities with MOH institutional personnel and community volunteers to assess progress.

Regional personnel will train PVO promoters in the appropriate use of ORS, and these promoters will train community beneficiaries in their correct use. Referral of diarrheal cases to MOH facilities will be included in the training.

Support for immunizations will be carried out through community promotion and referral to the MOH permanent services for vaccination of children under five. During vaccination campaigns, PVOs will be asked to participate in promotion activities, provision of vehicles, and staffing of the vaccination brigades. PVOs working at the community level will be supplied with MOH vaccines and will make use of the MOH cold chain system. Those PVOs that have hospitals or clinics will be included in the cold chain, supplied with vaccines and have their personnel trained by the MOH.

PVOs will include child spacing as part of their maternal child health program, identifying women at high reproductive risk according to MOH norms and referring them to MOH health facilities. Three of the PVOs interviewed provide natural family planning training and sex education to their beneficiaries. Several PVOs (CEDEN, Foster Parent Plan, Meals for Millions) already coordinate with ASHONPLAFA promoters to provide modern contraceptives and family planning counseling to the communities in which they work.

Many PVOs already take an active part in referring children under five for growth monitoring programs in health centers. Breastfeeding, however, has not been adequately promoted. PVO personnel will be trained by MOH staff, assisted by PROALMA advisors, in the promotion of exclusive breastfeeding for the first four to six months of the infant's life, and continued interval feeding during the infant's first year and more intensively during diarrheal and acute respiratory episodes. This training will contribute to the MOH's efforts to increase exclusive breastfeeding from current levels. PVO personnel will also be included in the training of growth monitoring programs that MOH personnel receive. PVOs working in community programs will refer acute respiratory infections to MOH facilities.

Under this component, the focus will be on quality of services to optimize health impact. Beneficiaries will receive much improved primary health care services, with a focus on child survival interventions. A 10% increase in the number of beneficiaries, however, is a feasible objective to be reached by the end of the Project. \$1.45 million is budgeted to support PVO child survival activities.

b. Commercial Private Sector

1) Cooperatives and Private Companies

According to the private sector survey, some Honduran worker and peasant

cooperatives have established prepaid medical plans. Multinationals, such as the banana companies, have private health programs that include clinical and hospital services. However, to date, prepaid schemes are not a well developed service delivery mechanism. The survey team interviewed 22 worker unions, including unions working for multinationals, to determine extent of involvement in health care delivery and how these unions might implement child survival interventions in their health programs. Below are the major conclusions from the study.

- Of the cooperatives interviewed, 88% depend on government services either through MOH facilities or the Instituto Hondureno de Seguridad Social (IHSS). Only 12% of workers' unions interviewed have access to either private prepaid plans or, as in the case of the banana companies, to their own health facilities. Among peasant groups interviewed, only 5% have access to private prepaid plans operated by businesses or cooperatives.
- While directors of peasant groups feel that prepaid plans are desirable because of the lack of full coverage of government curative health services, workers find costs too high to participate in the plans. An indicative example is the following: a peasant affiliated with the COAPALMA cooperative earns an average monthly salary of L420. To belong to a prepaid health plan a COAPALMA family of four must pay a monthly fee of L144, a prohibitively high amount.
- Health services through cooperatives are curative. None of the prepaid plans provide immunizations, ORT, child spacing, or growth monitoring services. The report does indicate, however, that peasant cooperatives are positively disposed to pay for services in all of these child survival technologies.

2) HMOs and Insurance Companies

Honduras has five insurance companies that provide insured health services. In addition, four companies provide specialized health care services under prepayment schemes. These prepaid plans are a new concept in Honduras and thus are not widely used. Approximately 21,000 Hondurans are served by this delivery system in the major urban centers of Tegucigalpa, San Pedro Sula and La Ceiba. Services provided under these health plans are comprehensive but concentrated on curative services. Immunizations are provided but not as a routinely offered service (only on demand). Pre-natal and maternity services are available to beneficiaries. These health plans are considered to be too expensive to be available to large segments of the population. In addition, they are exclusively urban-based. The potential role of HMO type health care institutions in Honduras appears, therefore, to be relatively limited, especially as low cost option for the rural poor. A possible HMO model which was nonetheless considered during project design was PRASALUD, an HMO developed under the USAID/Bolivia project, Self-Financing Primary Health Care. Preliminary results from that pilot project indicate that, under certain conditions, an HMO may be able to deliver a combination of primary and curative health care services on pre-paid or fee-for-service bases to low income groups. USAID/Honduras will closely monitor the performance of PRASALUD over the next two to three years to determine if that activity is

feasible and sustainable on a long-term basis, and whether it develops into an institution genuinely different from the middle class small delivery systems characteristic of Honduras. If the PROSALUD approach does appear feasible, USAID/Honduras will reconsider the adoption of an HMO component.

3) Private Clinics and Doctors

The survey identified 728 medical clinics throughout Honduras. Of these, 48% operate in Tegucigalpa and 23% in San Pedro Sula. The remaining 29% are virtually all located in the secondary urban centers. There are over 500 unemployed Honduran physicians.

4) Pharmaceutical Companies and Drug Distributors

The Honduran pharmaceutical industry is dependent on importation of raw material for production of medicines. Locally produced pharmaceuticals meet only 20% of the national demand. Tax legislation favors the importation of finished products, because these imports are not subject to duties that are levied on imported raw materials. Production is limited to popular palliatives that do not require medical prescriptions such as vitamins and cough syrup. Quality control standards are not adequately developed to guarantee the end product.

c. The Social Security System

The Honduras Social Security System (IHSS) presently provides curative care from 3 hospitals in the country, covering only approximately 8% of the population. Plans contained in proposed legislation, however, are massive in scope. Under consideration is the placement of curative medicine under a single system, which would involve the gradual absorption of the 21 MOH hospitals by the IHSS system, to be operated on a prepaid, fixed quota basis. Also under consideration is an expansion of the user base. Presently, only salaried employees may participate as IHSS users. The proposed legislation would enable anyone, even those from rural areas, to participate, within a 10 year period, provided he pays a regular, fixed quota. The taking over of curative care by IHSS would enable the MOH to focus its attention and resources on primary health care, a desirable outcome. If the proposed legislation were to be approved, which is by no means certain, it would impact on private sector health as well. A good deal of unmet demand from private sector users for quality curative care could theoretically be met by IHSS. Whatever the outcome of this legislation, it is not expected that it will impact adversely on the outputs of this Project.

It appears from the analysis done during the intensive review that the prospects for affordable child survival interventions within prepaid schemes are not bright. The great majority of cooperatives are already covered under the IHSS system. For those that are not, costs seem to be prohibitively high. Nonetheless, the Project will support small, highly targeted studies to determine the potential market among interested peasant cooperatives for affordable prepaid health programs offering at least some child survival interventions.

Feasibility studies will explore the possibility of using Project funds to assist unemployed physicians to start a practice, on condition they deliver a package of MCH/FP services in accordance with MOH norms.

Regarding local drug production, only under stringent conditions would it be feasible to contract pharmaceutical companies to produce oral rehydration salts, with distributors packaging and distributing the salts under commercial brand names. Given the potentially explosive issue of poor quality control of locally produced ORS, the Project will study private sector quality control measures carefully and engage in local production policy discussions with the MOH before any funding decisions are made. Short-term technical assistance (directly or through a buy-in to a central contract such as REACH or SOMARC) will assist the MOH to develop appropriate regulatory actions such that quality control measures are in place and followed during ORS production.

F. RURAL WATER AND SANITATION

Honduras has the unfortunate distinction of having one of the highest national infant mortality rates in the western hemisphere. The principal reason for this is the high incidence of water borne diseases. While the quality as well as the quantity of water are factors in the disease cycle, greater health benefits seem to result from assured supplies of safe water than from more limited supplies of potable water. This is because health benefits derive from the hygienic use of water for food washing, preparation and storage, handwashing and bathing, as well as direct consumption. Water provided in the home where it is readily available cuts down on the likelihood of contamination of the total home environment and should be provided wherever it is affordable. This is consistent with A.I.D.'s Health Sector Policy Paper and with World Bank findings based on extensive studies in this field.

Notwithstanding the accomplishments realized under both the Health Sector I and Rural Water and Sanitation Projects (No. 522-0166) in the area of environmental health over the past few years, the number of communities without access to a regular and safe supply of water continues to be large, with recent surveys indicating that in the Project's target area of 9 departments, over 900 are in need of potable water. Implementation of these two projects made it clear that a good deal of coordination between health and sanitation activities is required to effectively deal with a major killer, diarrhea. That is, treat the symptoms and stem/replenish the loss of fluids while the environmental/sanitation factors that give rise to the situation are resolved. Such a strategy is supported not only by GOH development policy but also by a recent study by the World Health Organization which shows that water supply sanitation programs typically have large impacts on diarrheal disease morbidity, and even larger impacts on diarrheal disease mortality. Consequently, under this Project, the GOH and the Mission will take an integrated approach to child survival which improves the environment while it treats the disorders primarily responsible for infant and child morbidity and mortality.

1. Strategy and Geographic Area

Presently, only 22% of the rural population in the north and northwest of Honduras, the primary geographic focus of water and sanitation efforts under

this Project, have what can be called adequate water supply and sanitation (WS&S) services. This translates into hundreds of villages with populations less than 2,000 that do not have adequate WS&S services.

This component of the Project will be simultaneously implemented in Health Regions 3, 5, and 6. These regions cover the Northwestern and Northern Departments of the country (see Annex N, map and following table). The 3rd Health Region is formed by the Departments of Santa Barbara, Cortés, and Yoro. The 5th health region is composed of the Departments of Lempira, Ocotepeque and Copan. The 6th Health Region is made up of the Departments of Atlántida, Colón and the Bay Islands. Health Regions 5 and 6 represent the areas with the highest rates of infant mortality due to water-borne diseases and Regions 3 and 5 the highest rates of malnutrition. All three have the highest population concentrations per square kilometer and thus are the priority regions under this Project. While other areas of the country are in need of water and sanitation services, PVOs and donors such as the EEC, IDB, the Germans and the Japanese already have similar development interventions in operation, involving wells and water systems. In region 2 for instance, PVOs contracted with SANAA under Project 522-0166 have been installing water systems. Region number 4, in the South, which suffers from perennial drought, has high rates of infant mortality. The low water table in this area, however, makes the cost of drilling wells prohibitively high. Water sources that are available are currently being harnessed for simple water and sanitation systems with ESF generated local currency administered by the GOH Planning Ministry (SECPLAN) with assistance from CARITAS. In addition to these efforts, the German Development Bank (KfW) is funding a project in this region directed towards both urban and rural beneficiaries for the placement of water and sanitation facilities. It is expected that this project will benefit approximately 60,000 inhabitants in 46 communities. For these reasons, Region 4 has not been included in the Project area.

This component of the Project will focus on providing services through the rural water supply and sanitation division of the National Autonomous Water and Sewer Authority (SANAA), with similar but less broader efforts being made by the Environmental Health Division of the Ministry of Health (MSP-DSA), which concentrates on water quality norms, and certain private voluntary organizations.

Under Project 522-0166, Rural Water and Sanitation, the institutional capabilities of SANAA were developed to such a degree that it is now quite capable of assuming increased implementation responsibilities for the placement of water and sanitation facilities in the priority areas of the country. More importantly, after executing projects in this region of Honduras, SANAA has established itself as an important part of the GOH to which those communities without access to water now look for assistance.

SANAA has a number of field engineers, promotores sanitarios (promoters) and other support personnel working out of Tegucigalpa and their field station in El Progreso. A support warehouse has been created in El Progreso which has the capability of providing materials to project sites efficiently and quickly. This warehouse, which currently stores materials for the outreach capabilities of SANAA, is also the main center for maintenance materials in the north and northwest of Honduras.

The Inter-American Development Bank is currently financing the construction of three new regional offices for SANAA which will be strategically located within the geographic focus of this component in the towns of La Entrada, El Progreso and La Ceiba. Except for overall program direction, most planning and decision-making for the placement and maintenance of water and sanitation systems will take place at the regional office level. Since the regional offices will be closer to the project sites, the time required to get to and from the office to the projects will be significantly lowered.

Under this Project, AID and the GOH will build on the existing experience and create operating field/site work groups which will consist of a field engineer and three promoters. Each promoter will be responsible for three projects at a time, meaning that each team will have responsibility for nine projects. It is estimated that the nine projects can be completed in six months. Therefore, a team can build 18 systems per year. SANAA will reassign existing engineers and hire necessary new ones to head 15 field teams, and 36 new promoters will be added to the current roster of nine, bringing the total to 45. The field engineer will have the following job description:

- a) Carries out site feasibility study;
- b) Has necessary land surveying and water testing done;
- c) Prepares design and material requirements;
- d) Orients promoters;
- e) Arranges for contracting of system components requiring skilled labor (storage tanks, pressure relief tanks, filters, dams, etc.);
- f) Routinely supervises promoters and monitors progress of projects;

The promoter will have the following job description:

- a) Organizes and trains village water board;
- b) Follow-up on materials/supply logistics;
- c) Supervises work of skilled laborers;
- d) Organizes the community in non-skilled labor schedules, gathering of locally available materials, etc;
- e) Is responsible for the overall smooth flow of site construction;
- f) Organizes latrine construction simultaneously with construction of water system;
- g) With materials developed by the health education group of the Ministry of Health, instructs villagers in proper use of water, latrines, etc.

In an effort to more efficiently use the time and talents of SANAA personnel, the tasks of the new promoters will involve some of those currently being implemented by the engineer under the Rural Water and Sanitation Project. The engineer is paid more than three times what a promoter is paid. Yet there are many tasks currently assigned to the engineer for which he has little time and which the promoter can accomplish. It is estimated that there will be a significant reduction in the cost of technical supervision per system by increasing the number of promoters and adapting the job responsibilities for both the promoter and engineer according to the technical requirements of each system.

The Central SANAA office in Tegucigalpa will provide general program guidance and financial management. Design and construction will be carried out in the field by both private contractors and SANAA. Designs will be reviewed by the appropriate SANAA office, central or regional, before actual construction begins.

SANAA will construct systems in villages with more than 200 inhabitants. The systems will typically consist of a source of water, a chlorinator, a storage tank, a distribution system, and patio taps. Each house will have a pour-flush latrine. At the end of construction, SANAA will transfer the system to the community water board which will be responsible for minor operation and maintenance efforts and basic administrative tasks. The water board will be primarily responsible for system operation and maintenance, although SANAA O&M personnel will periodically supervise water system operations, and render assistance with problems that are too difficult for the water board to solve.

In each specific project, AID funds will cover the cost of all major construction materials and skilled labor. SANAA will provide all technical designs, construction supervision, community promotion and health education. The communities will provide unskilled labor and locally available materials (e.g. sand, gravel).

Although SANAA is the primary actor in water and sanitation activities in Honduras, the Division of Environmental Health within the Ministry of Health (MSP-DSA) works through a network of health promoters in the field in the construction of latrines and wells with handpumps. They are also capable of building rudimentary water systems for very small villages. Under this Project, funds will be provided to this section of the Ministry of Health to carry out this activity in villages with populations of less than 200 inhabitants.

In an effort to eventually house all water and sanitation responsibilities under one GOH entity, support to the Ministry for its WS&S activities will be terminated by the last year of the Project with the expectation that SANAA will handle all such activities thereafter. This scenario should play itself out in accordance with a letter of late October 1987 from the Minister of Health which formally requested a phase out plan from the MSP-DSA describing how it will withdraw from water and sanitation efforts. The impetus for this move by the Minister is based upon the desire of many within the GOH to enhance the Ministry of Health's capability as a normative institution for water quality standards while delegating responsibility to SANAA for water construction works, which were undertaken by other government entities in the past. While the Ministry has performed admirably in the placement of small rural aqueducts, the Minister believes it makes eminent sense to charge SANAA with the responsibility of continuing these efforts in the future. The Mission plans to support the Ministry in this effort, and the Project has been budgeted to reflect that support.

The same operating scheme utilized by SANAA for work in the villages will be followed by the MSP-DSA and the PVOs in regard to community contribution of unskilled labor and locally available materials. The Ministry or the PVO will provide the supervision, and Project funds will finance the purchase of pipe,

valves, cement, etc.

Currently SANAA has 50 water systems already designed and ready to be constructed in the regions' communities. These systems can be constructed in the first few months of Project implementation. The selection of sites will be based to some degree on statistical indicators of morbidity and mortality for each region. Community reports prepared by the promoters will describe present sanitary conditions, the type of water resources available and indicate a judgement as to the degree of interest shown by the people regarding the construction, operation, and maintenance of a water supply system. While incidence of water-borne disease in a community would constitute a very important reason for providing WS&S services, it is recognized that the interest of the community in the water system and their willingness to collaborate in the construction will have a very important bearing on the selection process. Also, the availability of an adequate source of water will be crucial in determining the feasibility of a project.

In communities of more than 200 inhabitants, water systems with household connections will be installed. In communities with less than 200 inhabitants, except in special cases of concentrated clusters of houses and the ready availability of clean surface water sources, wells equipped with hand pumps will be installed. The inhabitants will directly participate in the selection of the sites where the patio connections will be installed or where wells are to be excavated.

Communities in the project site areas will be selected on the basis of their requests taking into consideration the following criteria for selection:

- a) Incidence of water borne diseases (determined by MOH data);
- b) Interest of the community in the project as expressed in their willingness to provide unskilled labor and locally available materials, and their commitment to charge water fees and assume responsibility for operation and maintenance of the system (as determined by community petition);
- c) Existence of an adequate supply of water within a reasonable distance (determined by SANAA survey);
- d) Per capita cost (determined by SANAA);
- e) Ease of accessibility to village.

The following table using SANAA data indicates the beneficiary universe which will be affected by the establishment of rural water and sanitation systems.

Table No. 5

RURAL POPULATION WHICH DOES NOT HAVE ACCESS TO WATER

Department	RANGE										TOTAL
	1 to 50	51 to 100	101 to 150	151 to 200	201 to 250	251 to 500	501 to 750	751 to 1000	1001 to 1500	1500 to 2000	
REGION 3											
CORTES	7,040	10,001	9,052	7,134	8,251	32,364	15,375	7,740	16,856	6,984	120,797
SANTA BARBARA	17,886	18,031	12,524	11,658	7,805	22,620	7,995	2,580	2,408	0	103,507
YORO	13,222	14,600	15,004	10,266	6,690	16,008	14,760	12,040	10,336	6,984	120,410
TOTAL	38,148	42,632	36,580	29,058	22,746	70,992	38,130	22,360	30,100	13,968	344,714
REGION 5											
COPAN	11,132	13,213	10,912	13,398	9,143	24,360	9,840	3,440	3,612	0	99,050
LEMPIRA	22,814	25,696	18,972	15,486	8,697	15,660	615	0	0	0	107,940
OCOTEPEQUE	9,042	7,519	4,216	2,958	2,007	3,480	315	0	0	0	29,837
TOTAL	42,988	46,428	34,100	31,842	19,847	43,500	11,070	3,612	0	236,827	
REGION 6											
ATLANTIDA	5,126	7,227	7,564	8,332	7,359	26,100	12,300	4,300	13,244	1,746	93,318
COLON	3,872	3,285	2,232	4,524	3,122	15,600	13,530	6,020	8,428	10,476	71,149
BAY ISLAND	946	584	496	348	446	0	1,230	0	1,204	0	5,254
TOTAL	9,944	11,096	10,292	13,224	10,927	41,760	27,060	10,320	22,876	12,222	169,721
TOTAL	91,080	100,156	80,972	74,124	53,520	156,252	76,260	36,120	56,588	26,190	751,262

SANAA Study, August, 1987.

2. Technical Considerations and Maintenance

The seemingly arbitrary limit of 2,000 is actually the official GOH definition of what constitutes the beginning of an urban settlement. The Project will attend to communities under 2,000 inhabitants in the site area with respect to the establishment of waste disposal systems, such as septic tanks and dry pit latrines. Water systems will not be established in communities of over 2,000 because more sophisticated technology is needed for these systems, longer conduction lines are required and water sources must have larger flow volumes.

The recurring costs for operation and maintenance of water systems will be borne by the communities themselves. After completing the construction phase of the water systems, the system itself will be turned over to the community to be administered and maintained. The communities will charge user fees to finance a regional operations and maintenance fund (see below) and pay for the salary of the local operator who will perform minor maintenance.

User fees, which are currently 2.5 lempiras (\$1.25) per month per connection are considered adequate for operations and maintenance purposes for this component of the Project. This fee is based on an analysis of what is required for the operation and maintenance of the systems. Data for that analysis has been provided by both the IDB and SANAA. Complete recovery of investment costs for these systems is not intended nor deemed feasible under this Project. (See Economic Analysis Annex).

The regional offices, established by IDB, will have a warehouse for replacement parts, equipment for maintenance and training and tools. It will also serve as the base for a regional maintenance technician known by the Spanish acronym of TEOMAR. To finance this structure, a regional operation and maintenance fund will be established from the fees collected by the communities for technicians, a regional maintenance team, regional storage costs, an accountant/statistician and a regional supervisor. The principal bond between the community (Water Board) and SANAA's regional office for Rural Water Systems will be the TEOMARs, whose functions will be to regularly visit assigned communities and perform the following actions:

- a) Review the operating condition of the water systems and work with local personnel to correct any deficiencies and at the same time train them in maintenance techniques.
- b) Review the community financial situation and work with the Board to correct any problems.
- c) Assist the Board in all those administrative and accounting matters so as to permit a smooth functioning.
- d) Participate in training and educational sessions in sanitary education in the community.

3. Health Education and Water Quality Control

A key feature ensuring the sustainability and impact on childhood morbidity and mortality is health education. The promoter will be specially trained in

health education with emphasis on the need for and correct use of the new water supply and sanitation facilities. The promoter will physically live in or near the community where the water system is being constructed.

A recognized problem in Project 522-0166 was the difficulty in coordination between the Ministry of Health health promoters and the SANAA construction activities. The local MOH health promoter (who has a number of health related functions as opposed to the SANAA sanitation promoter described for this Project) had a variety of materials available to him for providing health education to the communities. However, it was difficult to match his schedule with that of the SANAA group. Therefore, the construction of water systems carried out by SANAA will be complemented by their own health education and promotion efforts. These efforts will be based upon the health policy and normative guidance of the Ministry of Health, as they have been under Project 522-0166.

The health education materials previously prepared by the MOH for Project 522-0166 are field tested, appropriate and will be used by the new sanitation promoters in their work. The materials address various problems encountered at the village level such as proper use of a latrine, cleaning the latrine, the need to wash hands, bathe, and maintain a level of personal hygiene, how to keep the water from becoming recontaminated, the need to maintain the water system, etc. This, of course, is not an all-inclusive list, and there are many other messages that the promoter will communicate to the villagers. Experience in other countries has shown that over time, a cadre of very dedicated promoters develops who take great pride in accomplishing both the "bricks-and-mortar" construction as well as the equally important educational activities. The health promoters will be trained not only in the use of these materials but also in how to transfer knowledge and effect behavior change among community members.

In rural water supply system construction programs, it is easy to concentrate on water quantity at the expense of water quality. The present project (522-0166), was and is mainly concerned with providing safe water to beneficiary populations. Water quality is essentially based on an examination of the suitability and cleanliness of the water sources. Health Sector II will place more emphasis on water quality. This is not to suggest that an expensive, technologically sophisticated monitoring system will be funded. Costly improvements in water quality should not be allowed to stand in the way of water quantity improvements. It would hardly seem wise for instance to withhold water from needy people until every trace of chemical contaminant, no matter how mild, has been removed. On the other hand, no rational person would be content with a situation where water is plentiful but infected with pathogens. In the real world, some degree of water quality is accepted as essential. The debate is over the balance between quality and quantity. In developed areas with long histories of water supply improvements, some fairly exotic minerals may be cited to show poor water quality. In the LDCs where water related diseases are widespread, water that is simply free of contamination from excreta may be judged acceptable. The point here is simply that the debate over quality versus quantity is largely theoretical and need not prevent or constrain efforts at providing beneficiaries with water and sanitation systems. Safe water sources will be used for the systems and water

quality control will be an integral part of the Project, more so than it has been under past or ongoing USAID funded efforts.

There is a water quality laboratory in Tegucigalpa which processes water samples from remote project sites. Because of the long distance required for transporting the samples, it is infrequently used. Consequently, a dual approach for quality testing will be used. Laboratories capable of conducting complete physical, chemical and bacteriological tests of water will be established in the three regional MOH offices to be constructed under the Project. These offices will be responsible for water quality testing coming from existing systems. If the quality of water provided by aqueducts established by SANAA falls below acceptable levels, the MOH will notify SANAA to proceed immediately to rectify the problem. At the same time, and as part of determining the appropriate site for a water system, work teams from SANAA will be equipped with portable bacteriological testing kits, enabling them to conduct on-site tests and determine the suitability of a water source quickly.

Standards established by the World Health Organization for testing water will be used by the Ministry of Health for water quality testing. In order to maintain high water quality, water system designs will incorporate measures to protect water from contamination at all points. Water systems also will be chlorinated to ensure water quality. SANAA will purchase this chlorine for the communities from the communities' monthly fees. The chlorine will be delivered and installed with the assistance of the TEOMAR who will also train a local operator in the use of the chlorinator. Educational activities will promote clean and safe water supplies, and such efforts will be linked with and complement those under the MOH's diarrheal disease control program. The MOH's program stresses treatment while SANAA's stresses prevention of diarrheal disease.

4. Training Activities

Funds will be provided under the Project for training activities, which will be conducted in-country by SANAA personnel. The new promoters will require basic training, and in-service refresher training to maintain their skills. Water system operators and other water board personnel will be trained in the operation of water systems. Engineers will receive skills refresher training in appropriate technologies for water supply and sanitation. Additionally, the new laboratory technicians will be trained in water testing procedures. Other field personnel will require periodic refresher training.

5. Private Sector Participation

Under the Rural Water and Sanitation Project (522-0166), PVOs, both local and international, have engaged in the establishment of water and sanitation systems. These PVOs have provided a means by which cost effective community-based water and sanitation systems have been introduced to small and isolated settlements throughout the country. Under this Project, approximately 25% of the rural aqueducts (100) planned for completion by 1995 will be constructed by PVOs. This is based on experience under the Rural Water and Sanitation Project in which PVOs have, over a period of the last two years, constructed a total of 40 water systems. A survey conducted as part of the WASH study of July 1987 indicated that this number of systems is well

within the capacity of PVOs currently working in water and sanitation in Honduras.

Funds will be provided to these PVOs according to negotiated agreements with SANAA based on proposals submitted, which is consistent with existing arrangements under Project 522-0166. PVOs with long-standing working relationships with SANAA which have already expressed a desire to continue such efforts under Health Sector II are CARE, Agua para el Pueblo, Save the Children, FEDECOH and the Pan American Development Foundation. SANAA will continue to approve designs and monitor construction efforts by these PVOs, under what will be contracts which will follow host country contracting procedures (HB 11). SANAA will thus be responsible for reviewing completed works by the PVOs yet allow USAID to make a direct payment to the PVO. Such an arrangement is preferred by the PVOs as it diminishes the time required for payment for services. Approximately \$2.65 million from the Rural Water and Sanitation component will be used for PVO activities.

In addition to the participation of PVOs in this component of the Project, local private firms will be contracted by SANAA to undertake the placement of approximately 60 pumping systems for an equal number of water systems. This will require the drilling of deep wells, the hiring of local skilled labor, the engineering design and installation of the well casing and appropriate pumps. The estimated amount for contracting private firms for this particular aspect of the Project is \$352,000.

Of the 500 water systems to be placed by SANAA, the private sector will be contracted for the design of at least 200 of these systems. For budgetary planning purposes, \$729,300 has been earmarked for this activity. Finally, SANAA will hire skilled labor for the purpose of directing the installation of the water systems. This will require the employment of approximately \$937,500 worth of local personnel specifically for this purpose and on a contractual basis. Summarizing then, \$6.392 million from the Rural Water and Sanitation component will be utilized by the private sector.

G. PROJECT INPUTS

To achieve the desired outputs, the Project will finance a mix of technical, material, and financial inputs.

A combination of long-term and short-term technical assistance will be provided to help the MOH and SANAA to develop the institutional capacity to plan and implement the various components of the Project. Under the child survival components of the Project, a 10 member long-term technical assistance team will be contracted. The composition of the team is as follows:

- 4 local programming advisors based at the regional level;
- 1 logistics advisor (central level);
- 1 management and health information systems advisor (central level);
- 1 operations research advisor (central level);
- 1 human resource development advisor (central level);
- 1 management/health financing advisor (central level);
- 1 child survival-MCH/FP advisor (central level).

Of the 6 advisors based at the central level, the contract team will determine one who will also be the chief of party and another who will also be the deputy, if needed. The 6 specialty advisors will backstop the 4 local programming advisors, who will be public health generalists with a basic grounding in health planning, management, logistics, information systems, maintenance systems, and continuing education. The 6 specialty advisors will have the additional responsibility of overseeing the appropriate linkages between the support systems developed at the central level and those at the operational levels, which will necessarily entail spending considerable time at the operational level. 95 person/months of short-term technical assistance will be made available for more highly technical support as needed.

In order to assure that the MOH takes over an increasing share in the overall technical direction of the primary health care program, the technical assistance effort will be partially phased out during the life of this Project. The advisors to be phased out include those in logistics, management and health information systems, operations research, and in maternal child health/family planning.

The Project will also fund an administrative and technical support staff of four PSCs to help the Mission manage the Health Sector II Project. This staff consists of an administrative officer, an administrative assistant (to handle the additional work load of private sector and rural water and sanitation), a rural water/sanitation specialist, and a health technical support officer, all of whom will work under the direction of the Mission's Health and Population Officer, with the exception of rural water/sanitation specialist, who will report to the Engineering Office on engineering matters. In addition, the Engineering Office will provide a rural water/sanitation engineer, already OE-funded; and the Human Resource Development Office will provide an administrative assistant, already OE-funded. Health Sector II, thus, will be managed by a technical and administrative support staff of six, which represents no net increase in staff from the antecedent projects.

Commodity inputs include but are not limited to:

- Automated data processing equipment;
- Pick-up trucks, dump trucks and flat bed trucks;
- Motorcycles;
- Construction materials;
- Spare parts for vehicles and medical equipment;
- Cold chain equipment and supplies;
- Water pumps;
- Medical equipment;
- Growth monitoring equipment;
- Heavy earth-moving equipment;
- Larvacides;
- Laboratory equipment and supplies;
- Radio equipment.

The pickup trucks will be used by the field engineers to monitor the water systems. The dump trucks will transport construction materials to the sites. The flatbed trucks will be used to transport materials from the warehouse to the sites. The motorcycles will be used by the MOH, SANAA and the TEOMARs.

Training activities will be primarily in-country, and will consist of on-the-job training, workshops, seminars, self-instruction, as well as formal courses of up to 10 days. Long-term training will also be supported, both in the U.S. and third countries.

VI. FINANCIAL PLAN AND ANALYSIS

The total cost of the Health Sector II Project is \$83.3 million, consisting of a \$57.3 million A.I.D. grant and a \$26 million GOH counterpart contribution.

These funds will finance a large, long-term technical assistance effort that will primarily extend the efforts of the Health Sector I Project from the central to the regional level and, to a somewhat lesser degree, build upon the successes of the Health Sector I Project at the central level. A.I.D. will finance commodity procurement including cold-chain equipment, laboratory equipment and supplies, microcomputers, and related software and supplies for setting up a network of regional health and management information systems for priority health technologies of the MOH. Vehicles, including earth moving equipment for vector larval control activities, will also be procured. Additional A.I.D. support consists of the new construction of regional headquarters in three health regions of the country that will include training centers and laboratories. Under the Rural Water and Sanitation component, A.I.D. funds will finance, among other things, the construction of aqueducts, community wells and water-sealed latrines. Short term technical assistance will also be provided. Finally, under the Private Sector component, A.I.D. will provide \$6.4 million to support, through private sector channels, PVO grants, storage rooms, marketing and distribution of oral rehydration salts, and private sector construction of water systems.

The GOH counterpart contribution to the Project consists of a cash contribution of \$26 million, considered necessary to the success of the Project because the vast majority of these funds will be used to finance procurements of essential drugs, including ORS packets and larvacide for MOH vector control activities, as well as supervision and in-country training costs. The in-kind contribution primarily consists of administrative and operational support to the rural water and sanitation component of the Project.

Costs associated with technical assistance, A.I.D. personal services contractors and any commodity procurement carried out directly by A.I.D. at the GOH's request will be paid by A.I.D. to the supplier. A series of rotating funds will be established with local currency funds from the A.I.D. Economic Stabilization Program to finance costs of the Project as follows: 1) one in the Ministry of Finance and Public Credit that will finance all Project costs incurred at the central level and the costs associated with new construction; 2) one in the Project's Coordination Unit managed by the Project Coordinator that will finance per diem costs associated with supervision and training activities; and 3) seven regional rotating funds that will finance per diem costs associated with supervision and training costs at the regional, area and health establishment levels and costs associated with the physical maintenance of health centers. All project rotating funds will be replenished periodically at the request of the Ministry of Finance and Public Credit with project dollar resources in accordance with A.I.D. Controller's Office procedures.

Below is a summary cost estimate and financial plan, as well as an obligation schedule according to functional account and fiscal year. Annex D to this Project Paper presents a more detailed estimate of Project costs.

SUMMARY OF EXPENSES BY YEAR

CATEGORY BY SUBCOMPONENT:	(Partial)								TOTAL AID		GOH COUNTERPART			TOTAL PROJECT
	CY1988	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	(PARTIAL) CY1995	(\$000)	IN-KIND	CASH	TOTAL		
Local Programming	0.0	860.3	1150.4	1185.9	830.9	821.4	811.3	608.7	6168.9	0.0	716.3	716.3	6985.2	
Logistics	0.0	604.3	729.3	979.3	604.3	180.0	20.0	15.0	3132.2	0.0	0.0	0.0	3132.2	
Maintenance	0.0	114.0	109.7	87.6	83.2	79.0	74.7	55.8	604.0	0.0	1548.0	1548.0	2152.0	
Management Information Systems	0.0	717.2	617.2	492.2	492.2	742.2	385.0	15.0	3461.0	0.0	0.0	0.0	3461.0	
Human Resources Development	0.0	609.3	596.8	584.7	572.0	559.8	547.1	179.2	3648.9	0.0	1080.8	1080.8	4729.7	
Health Financing	0.0	180.0	180.0	180.0	180.0	180.0	180.0	135.0	1215.0	0.0	0.0	0.0	1215.0	
Education/Promotional Programs (Mass Media)	0.0	399.7	318.1	312.0	305.4	319.1	132.5	98.3	1865.6	0.0	469.7	469.7	2355.3	
Diarrhea Control	0.0	75.5	40.0	85.0	40.0	40.0	35.0	0.0	315.5	0.0	565.0	565.0	880.5	
Immunopreventable Diseases	0.0	259.0	284.0	137.5	37.5	37.5	35.0	0.0	790.5	0.0	1577.5	1577.5	2368.0	
Acute Respiratory Infections	0.0	129.0	154.0	270.5	37.5	37.5	10.0	0.0	638.5	0.0	25.0	25.0	663.5	
Birth Spacing	50.0	573.6	448.6	598.6	417.5	417.5	390.0	105.0	3000.8	0.0	25.0	25.0	3025.8	
Breastfeeding & Growth Monitoring	0.0	127.5	152.5	57.5	57.5	57.5	55.0	15.0	522.5	0.0	1429.5	1429.5	1952.0	
Other Programs: Vector Control & Tuberculosis	0.0	1249.7	286.9	1137.8	287.5	287.5	250.0	37.5	3536.9	0.0	3287.5	3287.5	6824.4	
Rural Water and Sanitation (SANAA)	0.0	1348.6	1154.2	2033.5	1352.9	1513.9	1350.5	865.0	9618.6	0.0	11060.9	11060.9	20679.5	
Rural Water and Sanitation (MOH)	0.0	467.2	859.4	921.9	513.5	480.3	394.3	208.4	3845.0	0.0	3032.0	3032.0	6877.0	
Private Sector	0.0	440.1	792.3	1108.3	1158.4	1108.4	1085.7	698.8	6392.0	0.0	478.1	478.1	6870.1	
Admin/Inflation and Contingency (10%)	<u>252.5</u>	<u>1327.0</u>	<u>1348.3</u>	<u>1468.2</u>	<u>1148.0</u>	<u>1137.2</u>	<u>1026.6</u>	<u>669.5</u>	<u>8377.3</u>	<u>0.0</u>	<u>721.2</u>	<u>721.2</u>	<u>9098.5</u>	
TOTALS	302.5	9482.0	9221.7	11640.5	8118.3	7998.8	6782.7	3706.7	57253.2	0.0	26016.5	26016.5	83269.7	

PROJECTION OF OBLIGATIONS
(\$000)

	FY88	FY89	FY90	FY91	FY92	FY93	FY94	FY95	TOTAL
<u>Project Expenditure Totals</u>	0.0	7414.0	9286.8	11035.8	8998.9	8028.7	7086.7	5402.4	57253.2
<u>Obligation by Account</u>									
Population	1240.0	1790.0	0.0	0.0	0.0	0.0	0.0	0.0	3030.0
Health	1870.0	1650.0	5600.0	3800.0	3800.0	3800.0	3480.0	0.0	24000.0
Child Survival	<u>4000.0</u>	<u>4700.0</u>	<u>1000.0</u>	<u>5100.0</u>	<u>5100.0</u>	<u>5100.0</u>	<u>5223.2</u>	<u>0.0</u>	<u>30223.2</u>
Total	<u>7110.0</u>	<u>8140.0</u>	<u>6600.0</u>	<u>8900.0</u>	<u>8900.0</u>	<u>8900.0</u>	<u>8703.2</u>	<u>0.0</u>	<u>57253.2</u>

A. RATIONALE FOR GRANT FINANCING

Guidance from PPC of October 1985, states that individual projects, or specific components of projects may be grant financed, if among other considerations, that project will yield broadly diffused social benefits for which full cost recovery is not practical. Clearly, the focus of the Health Sector II Project is on realizing benefits through the institutional strengthening of the health system. The amount, as well as the terms of funding for this development intervention, is entirely consistent with the humanitarian and social focus of the Project.

The Mission believes that financing this Project exclusively from grant funds is entirely appropriate given its social focus, and the serious economic recession and debt service problems that Honduras has experienced in recent years. Indeed, Honduras' economic and social indicators reflect a situation similar to that being experienced by those countries classified as poorer than Honduras. Its current economic performance over the past decade has not kept pace with its population growth rate. It is classified as an IDA country, thereby making it eligible for the soft loan window at the World Bank.

From a practical standpoint, the use of grant financing will allow a more facilitative implementation process. Honduran Congressional approval, required for loan funded projects, can be waived for all grant funded projects, thereby obviating the need for what has been in the past a review exercise lasting weeks if not months. This will save valuable time in the important initial implementation stages, particularly with respect to procurement actions. Similarly, grant funding permits the establishment of rotating funds for the regions, which is critical to local programming.

It should be noted too, that Honduras, one of the poorest countries in Latin America, has absorbed a disproportionate share of loan funding in comparison to other countries in the LAC Bureau in recent years. For instance, in FY 87, Honduras' DA portfolio represented just over 50% of the Bureau's loan funds and 18% of the Agency's loan funds. For FY 88, USAID Honduras' DA portfolio consists of 30% of LAC loan funding. This is an inordinate amount of loan funding for a country whose foreign exchange earning potential is limited. This is all the more striking in light of the relatively recent approval by AID/W of an all grant funded \$48 million health project for El Salvador and a large all grant funded health project for Peru.

Loan funding of this Project would only add to Honduras' already serious difficulties in meeting its international debt service obligations. Honduras' debt service ratio has deteriorated considerably in recent years. The proportion of Honduras' exports of goods and services which has gone into debt servicing was approximately 25% in 1984, 30% in 1985 and will approach 34% for 1987. These figures, which do not reflect recent increases in payment arrears, suggest a mounting difficulty to service external debt.

B. RECURRENT COSTS

Cost containment, cost recovery, and their relationship to recurrent costs are recognized by the MOH as crucial to primary health care financing, primarily as a result of studies conducted under Health Sector I when the IDB hospital

loan proposal was first presented in 1984.

1. Cost Containment

In response to IDB's hospital construction program, MOH/USAID persuaded IDB through a series of meetings to change the details of this program in such a way as to not adversely affect the MOH's primary health care budget. Specifically, the number of hospitals in the project was reduced from eight to five and a strategy of phased as well as partial hospital openings was agreed on. USAID believes that these measures have further sensitized the MOH to the importance of cost containment and cost savings measures and their relationship to the resources available for primary health care.

This dialogue resulted in a five year recurrent cost plan (1987-1992) prepared by the MOH which indicates how the primary health care budget will be protected in the future from the cost implications of the hospital program as well as from the Estatuto Medico. This MOH recurrent cost plan, approved by USAID in September 1987, states that, under a series of reasonable conditions, primary health care programs can be more than adequately implemented and financed. The conditions, all of which the Ministry is prepared to meet, have the following cost containment measures:

- a gradual, staged opening of the San Pedro Sula hospital, over a period of two years;
- the opening of no more than two hospitals per year;
- hospital budgets will be straight lined in 1989.

In addition to these hospital cost-containment measures, the decentralized management changes under the local programming section are designed to produce more timely and cost-effective decisions over the use of health resources which will contain primary health care costs. The financial analysis report for the design of this Project indicates that management improvements would produce substantial savings in primary health care operational costs.

2. Cost Recovery

Under the five year recurrent cost plan submitted by the MOH, the following cost recovery measures will be carried out:

- cost recovery for the San Pedro Sula Hospital will reach 15% of total operating costs in 1988 and will rise to 20% in 1992;
- cost recovery as a percentage of total operating costs for the rest of the hospital sector will grow by 1% per year;

Such hospital cost recovery will come from expanded use of fees for X-rays, lab services, minor surgery, blood bank use, maternity services, and out patient consultations.

Primary health care cost recovery will be generated from out patient consultation fees collected at the health center level and from the use of rotating drug funds at the community level.

3. Recurrent Costs

An acceptable policy framework exists within the MOH to effectively address the issue of recurrent costs. To quote from the Ministry's plan, "We believe that these conditions are feasible and can be reached." Recurrent cost policy dialogue under the Health Sector II Project will be directed at assisting the MOH carry out this five year plan. Continued technical assistance in operations research under Health Sector II will insure that efforts toward this goal become institutionalized.

The MOH already spends about \$11 per person per year on primary health care recurrent costs. Significant issues need to be resolved before a more complete analysis of primary health care recurrent costs can be done. These include the pilot stage of the self-instruction training modules, which if successful, could reduce in-country training costs significantly; uncertainties about the future financial implications of the Estatuto Medico; the lack of knowledge of what an optimal level of supervision requirements would entail; and the lack of sufficient financial analysis on primary health care costs which separates out overlapping uses of health resources for hospital care.

Of these, the financial implications of the Estatuto Medico are the most problematic. The provisions of this law amount to a 100% pay raise for physicians spread over four years. (In the absence of such a large and unexpected raise, which amounts to about 4% of the annual MOH budget, the MOH would have been in a much better position to absorb the full recurring costs of this Project before its PACD). While the GOH is attempting to roll back some of the provisions of the law, other health care providers could well follow in the footsteps of the physicians to demand large pay increases for themselves. As these uncertainties become resolved, they will be analyzed, along with the other issues mentioned above, and the MOH will be requested to prepare a plan, within the first two years of the Project, with input from the TA team, showing how recurrent costs will be fully absorbed and by when. Recurrent cost funding by A.I.D. will end no later than by the middle of Phase III of the health strategy, a much more realistic time frame than by the end of this Project.

The incremental recurrent costs internal to the Project are contained in a table below. As can be seen, they have been calculated by component and totalled by source: AID and GOH. The total recurrent costs of the Project are \$32.7 million. Of this amount, the AID share is \$6.6 million and the GOH share is \$26.1 million, or almost 80%.

Looking at just the child survival components, which is the principal focus of the recurrent cost issue, the total recurrent costs are \$15.1 million. This amount includes the costs of supervision, maintenance of vehicles and facilities, in-country training, public health communications, ORS procurement, fuel and oil, insecticides, and lab supplies. Of this amount, the AID share is \$4.4 million while that of the GOH is \$10.7 million, or 71% of the total. For the first year, the AID share is \$.74 million while that of the GOH is \$1.4 million, or 66% of the total. For the final year of the Project, however, the AID share drops to \$.576 million while that of the GOH rises to \$1.7 million. Thus, by the end of the Project, the GOH will be financing 75% of the recurrent costs of child survival services.

Because the strategy of the rural water and sanitation component is to use SANAA as a contracting agency to install water systems, the recurrent costs of the component are not at issue. Moreover, the recurrent cost budget reflects a phaseover from the MOH to SANAA of rural water and sanitation activities that begins immediately and continues throughout the Project, which is in line with a new policy direction by the Minister of Health.

In summary, USAID attaches the highest importance to these aspects of health financing. Recurrent costs, cost containment and cost recovery are all important issues which the MOH has adopted as part of its overall health strategy. USAID will ensure that these issues will be part of an ongoing process of policy dialogue in regular meetings of an already established working group consisting of MOH, USAID and Ministry of Finance personnel. A condition precedent to disbursement requiring an annual review of recurrent cost containment performance and plans for each subsequent year will be included as part of the Project Agreement. We believe that the plan presented here for dealing with recurrent costs is, given GOH budgetary considerations and the macro economic forecasts, a very realistic one. The GOH will assume all recurrent costs before the end of the final phase of the Mission's health strategy.

C. AUDITS

The GOH Controller General is responsible for auditing the A.I.D. Projects. However, because of inadequate human and other resources the Controller General is unable to perform audits on a timely basis. To assure audits are made of the Project, the amount of \$125,000 has been budgeted for the auditing costs during the life of the Project. In addition, the A.I.D. Inspector General will schedule periodic audits to determine compliance and the efficiency and effectiveness of the use of Project funds. Also the Office of the Controller will make financial reviews to assure accounting and internal controls are established that should insure Projects assets are safeguarded.

SUMMARY: RECURRENT COSTS BY SUBCOMPONENT	(Partial) FY1988	FY1989	FY1990	FY1991	FY1992	FY1993	FY1994	(Partial) CY1995	TOTAL (\$000)
<u>LOCAL PROGRAMMING</u>									
AID Funds	0.0	220.3	210.4	200.9	190.9	181.3	171.4	128.8	1304.0
GOH Funds	<u>0.0</u>	<u>52.0</u>	<u>70.2</u>	<u>88.8</u>	<u>106.6</u>	<u>125.2</u>	<u>144.0</u>	<u>129.6</u>	<u>716.4</u>
Total	0.0	272.3	280.6	289.7	297.4	306.5	315.4	258.4	2020.3
<u>MAINTENANCE SYSTEMS</u>									
AID Funds	0.0	96.0	91.7	87.6	83.2	79.0	74.7	55.9	568.0
GOH Funds	<u>0.0</u>	<u>228.6</u>	<u>236.5</u>	<u>244.7</u>	<u>252.4</u>	<u>260.6</u>	<u>268.7</u>	<u>56.6</u>	<u>1548.0</u>
Total	0.0	324.6	328.2	332.2	335.6	339.6	343.3	112.5	2116.0
<u>HUMAN RESOURCES DEVELOPMENT</u>									
AID Funds	0.0	279.3	266.7	254.7	242.0	229.9	217.2	163.9	1653.8
GOH Funds	<u>0.0</u>	<u>91.2</u>	<u>114.4</u>	<u>138.1</u>	<u>160.7</u>	<u>184.4</u>	<u>208.3</u>	<u>183.7</u>	<u>1080.7</u>
Total	0.0	370.5	381.1	392.8	402.7	414.3	425.6	347.7	2734.6
<u>EDUCATIONAL/PROMOTIONAL PROGRAMS</u>									
AID Funds	0.0	144.7	138.2	132.0	125.4	119.1	112.6	83.8	855.7
GOH Funds	<u>0.0</u>	<u>34.1</u>	<u>46.0</u>	<u>58.2</u>	<u>69.9</u>	<u>82.1</u>	<u>94.4</u>	<u>85.0</u>	<u>469.8</u>
Total	0.0	178.8	184.2	190.2	195.3	201.2	207.0	168.8	1325.5
<u>DIARRHEA CONTROL</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>80.0</u>	<u>92.5</u>	<u>80.0</u>	<u>92.5</u>	<u>80.0</u>	<u>80.0</u>	<u>60.0</u>	<u>565.0</u>
Total	0.0	80.0	92.5	80.0	92.5	80.0	80.0	60.0	565.0

SUMMARY: RECURRENT COSTS BY SUBCOMPONENT

	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993	FY1994)	CY1995	(\$000)
<u>IMMUNOPREVENTIBLE DISEASES</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>230.0</u>	<u>242.5</u>	<u>230.0</u>	<u>242.5</u>	<u>230.0</u>	<u>230.0</u>	<u>172.5</u>	<u>1577.5</u>
Total	0.0	230.0	242.5	230.0	242.5	230.0	230.0	172.5	1577.5
<u>ACUTE RESPIRATORY INFECTIONS</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>0.0</u>	<u>12.5</u>	<u>0.0</u>	<u>12.5</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>25.0</u>
Total	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
<u>BIRTH SPACING</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>0.0</u>	<u>12.5</u>	<u>0.0</u>	<u>12.5</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>25.0</u>
Total	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
<u>BREASTFEEDING AND GROWTH MONITORING</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>208.1</u>	<u>220.6</u>	<u>208.1</u>	<u>220.6</u>	<u>208.1</u>	<u>208.1</u>	<u>156.0</u>	<u>1429.4</u>
Total	0.0	208.1	220.6	208.1	220.6	208.1	208.1	156.0	1429.4
<u>OTHER PROGRAMS: VECTOR CONTROL, TB,AIDS</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>483.3</u>	<u>495.8</u>	<u>483.3</u>	<u>495.8</u>	<u>483.3</u>	<u>483.3</u>	<u>362.5</u>	<u>3287.5</u>
Total	0.0	483.3	495.8	483.3	495.8	483.3	483.3	362.5	3287.5

SUMMARY: RECURRENT COSTS BY SUBCOMPONENT	(Partial)								TOTAL (\$000)
	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993	FY1994)	CY1995	
Subtotal CHILD SURVIVAL AID	0.0	740.3	707.0	675.2	641.4	609.3	575.8	432.5	4381.5
Subtotal CHILD SURVIVAL GOH	<u>0.0</u>	<u>1407.3</u>	<u>1543.5</u>	<u>1531.1</u>	<u>1665.9</u>	<u>1653.7</u>	<u>1716.8</u>	<u>1205.9</u>	<u>10724.3</u>
Total CHILD SURVIVAL	0.0	2147.6	2250.5	2206.3	2307.3	2263.0	2292.6	1638.4	15105.8
<u>RURAL WATER AND SANITATION (SANAA)</u>									
AID Funds	0.0	160.4	160.4	160.4	160.4	160.4	160.5	114.9	1077.6
GOH Funds	<u>0.0</u>	<u>1635.0</u>	<u>1647.5</u>	<u>1635.0</u>	<u>1647.5</u>	<u>1635.0</u>	<u>1635.0</u>	<u>1226.2</u>	<u>11060.9</u>
Total	0.0	1795.4	1807.9	1795.4	1807.9	1795.4	1795.5	1341.1	12138.5
<u>RURAL WATER AND SANITATION (MOH)</u>									
AID Funds	0.0	185.7	177.3	169.4	160.9	152.9	144.4	108.3	1098.9
GOH Funds	<u>0.0</u>	<u>373.8</u>	<u>408.8</u>	<u>420.2</u>	<u>457.3</u>	<u>471.3</u>	<u>499.4</u>	<u>401.5</u>	<u>3032.1</u>
Total	0.0	559.5	586.1	589.5	618.2	624.1	643.8	509.8	4131.0
Subtotal RURAL WATER AND SANITATION AID	0.0	346.1	337.8	329.8	321.3	313.3	304.9	223.2	2176.5
Subtotal RURAL WATER AND SANITATION GOH	<u>0.0</u>	<u>2008.8</u>	<u>2056.3</u>	<u>2055.1</u>	<u>2104.7</u>	<u>2106.2</u>	<u>2124.3</u>	<u>1627.7</u>	<u>14093.0</u>
Total RURAL WATER AND SANITATION	0.0	2354.9	2394.0	2384.9	2426.0	2419.5	2439.2	1850.9	16269.5
<u>PRIVATE SECTOR</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>70.8</u>	<u>70.8</u>	<u>70.8</u>	<u>70.8</u>	<u>70.8</u>	<u>70.8</u>	<u>53.1</u>	<u>478.1</u>
Total	0.0	70.8	70.8	70.8	70.8	70.8	70.8	53.1	478.1

SUMMARY: RECURRENT COSTS BY SUBCOMPONENT	(Partial)								(\$000)
	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993	FY1994)	CY1995	
<u>INFLATION/CONTINGENCY</u>									
AID Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOH Funds	<u>0.0</u>	<u>120.2</u>	<u>120.2</u>	<u>120.2</u>	<u>120.2</u>	<u>120.2</u>	<u>120.2</u>	<u>90.2</u>	<u>811.4</u>
Total	0.0	120.2	120.2	120.2	120.2	120.2	120.2	90.2	811.4
GRAND TOTAL	0.0	4693.5	4835.6	4782.3	4924.4	4873.5	4922.9	3632.6	32664.8

VII. PROJECT ANALYSES

A. PROJECT TECHNOLOGIES

1. Child Survival Technologies

The child survival technologies proposed in this Project are effective and proven methodologies, having been applied worldwide in numerous programs. The implementation by the MOH of these technologies is, in fact, fairly well established at the central level. This Project proposes to extend and consolidate these practices in a decentralized fashion at the regional levels. Not only is the approach being taken here considered feasible by A. I. D. in its programs, but the child survival techniques incorporated in the project are endorsed by the WHO through its sponsorship of the "GOBI-FF" health strategy:

- Growth monitoring (related to nutritional development)
- Oral rehydration therapy
- Breastfeeding
- Immunizations
- Family planning and birth spacing
- Feeding practices

Application of oral rehydration salts, vaccines and contraceptives are all long-standing, proven technologies.

In addition to the child survival interventions the malaria and tuberculosis programs will utilize technologies already in practice. The only possible exception is in the malaria program which will supplement the traditional insecticide spraying approach to containment with newer larval control methods. Although aspects of the latter are somewhat experimental, the Vector Control Division of the MOH has shown flexibility in adapting physical, chemical and biological methods to the Honduran program and the Mission will take the appropriate steps to assure that the Division's approach will be technically sound.

2. Rural Water and Sanitation Technologies

The inclusion of the Rural Water and Sanitation component in this Project originates from the recognition that access to potable water and avoidance of fecal contamination through proper waste disposal impacts significantly on health status, particularly of children. As in the child survival interventions, proven and appropriate technologies in developing water supply and sanitation systems will be employed. The debate on cost effectiveness of including water supply and sanitation in basic health care programs stems from the difficulty in evaluating its impact on health. Measurement of health benefits is a costly and lengthy proposition which requires an analysis of positive changes due to the contribution of increased access to potable water and sanitation services in isolation from other factors, such as vaccine coverage, food availability, improvement in income levels, etc. In any case, although the magnitude of the impact may be argued, there is little disagreement that a linkage between the quantity/quality water and sanitation factor and health status exists.

Water systems will be built using the most appropriate technology to meet the particular requirements of each community. SANAA has established design criteria derived from standard practices in developing countries. While not rigid, the following technologies are utilized in order of preference as listed:

Source

- (1) Spring, high quality, no treatment required
- (2) Surface water, minor treatment required
- (3) Ground water, no treatment required
- (4) Ground water, minor treatment required
- (5) Surface or ground water, major treatment required

Energy Requirements

- (1) Gravity fed, no pumping required
- (2) Single pumping required
- (3) Multiple pumping required

A typical water system will have a source such as a spring, creek, or well, a supply line to a storage tank, a distribution network, and household connections. In most cases a chlorinator will be installed at the water storage tank. When necessary, minor treatment including such processes as filtration or sedimentation will be incorporated into the system. The guiding principle in final design is that the system work efficiently, but minimize operation and maintenance problems and expense. More information on these technologies is contained in Annex F.

B. SOCIAL SOUNDNESS ANALYSIS SUMMARY

The social analysis focuses on the interrelationship between the MOH personnel (including SANAA) working at the community level and community people working with MOH/SANAA programs. These include the Auxiliary Nurse and the Promoter/MOH from the MOH; the Midwife, the Guardian, the Health Representative, and the Malaria Volunteer from the community; the SANAA Promoter and the TEOMAR from SANAA and the community members of the water system construction and administration committees; the health centers with physicians, called CESAMO's, and rural health centers, called CESAR's where medical attention is provided by auxiliary nurses (auxiliares de enfermería). The supervision of the CESAR and CESAMO is carried out by the Area Chief, a medical doctor, and the Area Nurse, a graduate nurse. There are approximately 115 CESAMOs and 533 CESAR's at the present time.

1. Principal MOH Outreach Personnel

The Auxiliary Nurse (AN) is the principal community level health service provider in the MOH. The AN's have a substantial number and variety of tasks and responsibilities which include the following: implementation of vaccination campaigns, collection of specimens for TB analysis, treatment of acute respiratory infections, dispensing oral rehydration salts, management of prenatal and well-baby clinics, recruitment and supervision of the activities of community health volunteers, dispensing medicines, maintenance

of the cold chain at the community level, collect health information from the Area and Region; and much more. They must periodically visit the outlying villages and meet once a month with the area officials. In addition, they organize, collect census data, and educate the local community. They serve as the keystone of the MOH health delivery system.

One of the important tasks of the AN is to identify and recruit candidates for training as community level volunteer health workers (VHW): These include Guardians, Midwives, Representatives, and Malaria Volunteers. It is also the AN's responsibility to organize supervisory meetings which are usually held once a month, during which she collects information, provides refresher training, and motivates them to continue their work. These meetings are crucial for the successful operation at the base level of the health system and the provision of the front-line primary health care services to the community.

The Health Promoters (HP) are specifically assigned water and sanitation responsibilities as well as human waste disposal. Although HPs work with the same community as the ANs, coordination of their tasks is not necessarily assured. For example, for a CESAR to function, there must be at least one AN assigned, but this need not be an HP. The HPs have no administrative ties with the CESARs.

The HP activities are directed toward the placement of potable water and latrines in those communities lacking them. The HP will construct small aqueducts serving roughly from 10 to 30 families and wells to serve clusters of houses numbering less than 10 as well as help construct water seal latrines where water is available, and traditional latrines where it is not.

The HP works through a process of consciousness-raising and community health education. They visit a community, in order to organize groups and identify community water needs. Once this process is complete and the community has made a commitment to the development of water and/or sanitation facilities, the HP assists with design, supervision, construction and training for maintenance of the system. A community Water Administration Committee is formed to take over long term operation and maintenance responsibility.

2. MOH Community Level Volunteer Health Workers

There are four types of community level VHW's: the midwives, the Guardians, the Representatives, and the Malaria Volunteers. Midwives have traditionally existed in Honduran communities to assist women giving birth. The MOH has built upon this traditional role and provided better training and supervision (through the ANs) to enable the midwives to gather information on births, to refer high risk women to local health facilities and to improve the quality and the safety of the services they provide.

The MOH has tried to expand the role of the midwife to include simple basic health education and the use of such basic non-medical products as oral rehydration salts. There is evidence that midwives are sought by women for treatment not related to pregnancy and to treat basic child health problems.

The Guardians, unlike the midwives, were originated by the MOH. The Guardians are unpaid volunteers who detect, treat, and/or make referrals in cases of diarrhea; identify persons requiring vaccinations; detect and refer possible cases of TB; treat acute respiratory infections, though not with antibiotics; provide first aid; provide basic health education; carry out the family health census; and maintain communications with the AN at the nearest CESAR. Between 1981 and 1986, 1,295 new Guardians were trained; there were 2,113 active Guardians 1986. The Guardians are important as the initial treatment or referral point for sick children under five years of age.

The Representatives are the primary responsibility of the HP with a water and sanitation focus. They are unpaid volunteer workers for the MOH. There have been fewer Representatives trained and placed than other volunteer health workers. Many Auxiliary Nurses meet regularly with the Representatives in their area of influence. They are charged with recruiting Representatives for the system, and many Auxiliary Nurses already have candidates ready for the next training program. To the extent possible, the role of the Representative, their relationship to the CESARS and the regional apparatus and the issue of their supervision will be studied and redefined.

3. SANAA Community Level Personnel

SANAA is an institution which began in 1961 and which is responsible for small rural aqueducts and sanitation systems, and functions as an semi-autonomous entity under the formal direction of the MOH. (See Administrative Analysis section for further description of SANAA.)

The focus of SANAA's Project funded water and sanitation activities is limited to the nine northern and western departments of Honduras. The Health Sector II Project contemplates the continuance of SANAA projects in communities of over 200 inhabitants. Virtually none of these communities will have more than 2,000 inhabitants.

It was recently estimated that there are some 900 communities of this size in the region, and SANAA expects to be able to complete about 600 projects during the life of Health Sector II. Taking an average of 60 families per community, this would mean the construction of approximately 36,000 water seal latrines during the six year time period of the Project by SANAA.

There are two types of community level workers in SANAA: SANAA Promoters (SP) and maintenance technicians, called TEOMAR (Operational Maintenance Technician for Rural Water Systems - *Tecnico en Operacion y Mantenimiento de Aqueductos Rurales*). The SPs are promoters who have received essentially the same training as the HPs in the MOH, and most began working with the MOH and later moved over to SANAA. The SP goes into an area, checks the local municipal books to find out which communities do not have water systems, visits the community and organizes a meeting to talk about water system construction and promote the need for it, and if the response is positive, begin the organizational efforts necessary for its construction.

4. Cultural Feasibility of Improved Health Services to be Provided

The test of appropriateness of this Project in socio-cultural terms is whether it contains methodologies which will result in greater utilization of MOH health services and water and sanitation systems and thereby will improve the health status of users. Cultural distance between health workers and health system clients; lack of information, both among health workers and among potential clients; and unreliability of the services offered are the principal factors preventing utilization of services by the target group. The mechanisms tending to encourage utilization of services are: (a) improvement of the supervision of health workers; (b) improvement and expansion of the skills of health workers through training; (c) improvement in the performance of support systems to make primary health care services more reliable; (d) community participation in the placement, operation and maintenance of water and sanitation systems. The Project provides the financial support needed to allow for the implementation of these mechanisms.

5. Cultural Acceptability of Technologies

No major obstacles are foreseen because of the lack of cultural acceptance of the different medical or water and sanitation technologies proposed.

(a) Malaria control has been practiced in Honduras for decades. No cultural resistance towards chemotherapy or spraying is anticipated.

(b) Vaccination, and shots in general, have been accepted into cultural beliefs as a form of magic.

(c) Recent efforts to introduce oral rehydration as a technology against diarrheal diseases through radio messages and interpersonal communication have proven to be successful in increasing public awareness and in promoting the use of Litrosol, particularly when mothers must deal with serious cases of diarrhea.

(d) The main resistance to TB treatment procedures observed in the past has been related to the isolation of patients in sanatoriums, particularly among tightly knit families. Under new norms, however, treatment of all but those cases with extra-pulmonary involvement or other severe disease will be treated as out patients.

(e) A high demand for contraceptive services has been detected among married women of reproductive age who do not want to have any more children, but who do not use any birth control mechanisms. Family planning programs in the past, however, have confronted high attrition problems. This has occurred in part because of poor geographical access to family planning services, the quality of services provided, and the cost of services available. Through this project, many of these problems should be overcome. Educational campaigns about responsible parenthood and promotional campaigns about contraceptive usage, carried out through complementary A.I.D. activities in Honduras, are likely to have an impact among couples breaking away from traditional attitudes about parenthood.

These are associated with machismo among males and the need to bear children to get recognition and respect among women.

(f) The success of the Acute Respiratory Diseases component will depend more on the institutionalization of norms to treat them, including adequate referral by health guardians, rather than from specific socio-cultural variables.

(g) It is clear that there is an unmet demand for water and sanitation systems which this Project will help to satisfy. Water systems constructed under Project 522-0166 have been readily accepted by beneficiary communities. Sanitation systems have also been readily accepted although there has been resistance regarding the placement and use of dry pit latrines because of their bad odor and potential danger. Because of this, SANAA and the MOH will emphasize the installation of water seal latrines.

6. Water System Acceptability

Measured against standards derived from studies of other similar projects and based on experience in Honduras, the Project design includes the necessary elements to assure a high adoption rate, both in securing community participation in construction work and in the use of water and sanitation facilities. While it is very difficult to bring about changes in socio-cultural sanitary practices of villagers, the Project has been designed to produce as great an impact as possible on villagers' hygienic habits. It still cannot be guaranteed that all villagers will use the latrines constructed and the water systems properly, but the role of the Promotors guarantees that villagers will be made aware of the need for changes in habits in order to improve their health, and of the need to properly use latrines, aqueducts and wells in order to obtain maximum benefits from them.

7. Cultural Feasibility of Fee Collection

Fee collection for health services and operation and maintenance of water and sanitation systems has been an important part of both the Health Sector I and the Rural Water and Sanitation projects. Experience and studies have shown that while economic factors may sometimes inhibit the efficient collection of fees, beneficiaries are aware of the importance of fees for these services and are willing to pay for them.

8. Role of Women

The participation of women in the activities of this Project was considered throughout Project design. First, MOH women were direct participants in the project design as they were members of the committees that were organized to produce reports and recommendations for Project components such as private sector, child survival technologies and nutrition. Women participated in the decision making process regarding specifics of the Project. More importantly, it should be remembered that auxiliary nurses who staff the rural health centers are the backbone of the Ministry of Health Primary Health Care system. Over 90% of these nurses are women and, as such, will benefit from the training components in the Project. Nurses will benefit

from in-service education and other short term training courses in country. Long term participant training is to be provided under the Project and women employees of the MOH will have equal access to this training.

The Project activities of improving the health of women by reducing maternal mortality rates, increasing length of exclusive breastfeeding and extending the interval length between births ensures that women will be direct beneficiaries of services provided under this Project. Also, given what will be an increased access to safer water in rural communities, the performance of everyday domestic tasks will be made easier, thus benefitting women, who are primarily responsible for these efforts.

9. Presence of Foreign Technical Advisors within the MOH

In light of the absence of scientific and technical research in Honduras in practically all fields, for many MOH officials foreign technical assistance allows the GOH to keep up with scientific progress elsewhere. To fulfill this expected role, however, foreign technicians should be not only highly trained, but also have substantial field experience. The latter allows the technician to have an adequate background in problem analysis and in proposing solutions to be implemented in environments with many financial and institutional constraints.

Because foreign technical assistance is conceived as part of a technology transfer process, foreign technicians also are expected to be didactic as well as supportive and cognizant of any local initiative to solve problems. Because they are foreigners, however, there is an expressed preference for them to play essentially the role of catalysts that step aside when appropriate, of being subordinate to government officials, and/or of being respectful of the existing hierarchical structure within the MOH. Technical assistance provided through the Health Sector I Project has fully met these expectations. In order to assure that TA under the new Project continues to meet expectations, GOH officials will participate fully in the review of bid proposals.

The Health Sector II Project is socially sound. It has been developed in an environment of previous project successes as recounted in the "Important Achievements" section of this paper and the important social elements follow paths which indicate that it will continue to be operationally effective.

C. ADMINISTRATIVE ANALYSIS SUMMARY

The Health Sector II Project is the second stage of a 20 year plan aimed at improving the health status of the Honduran people through increased effectiveness, efficiency, coverage and use of the health care delivery system. Given the sectoral approach of the Project, the scope of the strategy, and the geographic focus of the activities, this effort encompasses most of the administrative structure of the Ministry of Health (MOH), whether at a central or regional level. In addition to the planned activities supporting and strengthening the efforts begun under the Health Sector I, this project will incorporate rural water and sanitation activities which are the responsibility of the National Autonomous Service for Water and Sewage (SANAA).

Any approach requires strong administration, (i.e. human resources and systems capabilities) to achieve its objectives. When considering this approach, which incorporates the use of two major institutions, several activities, and outreach to some of the most underdeveloped and isolated areas, the requirements are magnified. This section summarizes the administrative capabilities of the participating institutions to carry out the project in terms of administrative structure and functions, staff planning and monitoring and procurement.

1. Ministry of Health

a. Organizational Structure and Functions

The MOH accommodates a complex organizational structure reflecting the diversity of programs and the nationwide focus of its institutional mission. The key actor and power figure is the Minister, who quite naturally holds the ultimate responsibility for decision-making. The Minister is supported by the Vice-Minister and several staff offices. Within the framework of the MOH, the key figure for assuring the functioning of line activities is the Director General (DG). The DG has a direct linkage to the Minister's office and directly controls all line activities at the Central and Regional Levels. This span of control encompasses 17 divisions and units as well as the regional offices. It also encompasses managing the following MOH personnel: 928 physicians, 433 licensed nurses, 3,205 auxiliary nurses, 783 medical technicians, 12,000 traditional birth attendants, and approximately 6,000 community health workers. Although the DG has been delegated significant authority to carry out his responsibilities, the current structure has seriously overloaded the capabilities of the office to supervise and function in an efficient manner.

The regional offices play the key outreach role for the MOH. The offices are patterned after the central level structure with the Regional Director as the main decision-maker. This evolution has occurred without formal operational decisions nor support documentation in terms of regulations and functions to define norms, hierarchical dependence, lines of articulation, coordination and so on.

The final level of importance in the administrative framework is the area office. An office usually consists of a chief who is a physician, graduate nurses, auxiliary nurses and the linkage mechanism with the populace, i.e., the promoters. The Area Chief reports to the Regional Director and in some cases, to the Director of the Division of Hospitals. As in the earlier examples, the Areas lack administrative regulations and documentation clearly defining roles and responsibilities.

The administrative structure of the MOH can be counted on to assist in the execution of activities in the Project based on the following conclusions and necessities. First, the system and the individuals have gained unique and pertinent experience implementing the Health Sector I Project over the past eight years. Their familiarity with the objectives, the programs and procedures of A.I.D. will serve to ease the transition to this Project and will enable participating health officials to continue known and understood activities. Second, many of the relationships between individuals and

offices have developed informally, due to the lack of written procedures. This system, although not ideal and in need of formalization, has helped the Health Sector I Project perform in a more than satisfactory manner. The system is known and appreciated by the employees and will continue to function if it is formalized. Third, the Ministry has taken initial steps in decentralization, despite the concentration of authority in the DG office. To make Health Sector II more successful, the decentralization process will be encouraged and utilized. Through the local programming component and increased TA and training to the regional levels, delegation of authority to the region will become a reality.

One way this will be accomplished under Health Sector II is through the use of rotating funds and other available mechanisms at the central level and the regional level to expedite implementation and buttress administrative decentralization within the MOH.

b. Planning and Monitoring

Planning with the MOH takes place at the central level, i.e., the DG/divisions and the regional/local levels. However, despite varying planning schemes, the offices still follow the familiar governmental course of expending money as rapidly as possible in order to ask for more funds, irrespective of the agreed upon plans. Through Health Sector I, the MOH has managed to begin a bottom-up approach (local programming), which if strengthened, will facilitate better planning and monitoring and more efficient use of resources in the long-term. Currently however, the central/divisional and regional/local planning systems do not adequately interact. That is, the planning process occurs concurrently, but with different scopes, different numbers and without sharing of generated information. This process implies lack of coordination, creates a needless duplication of work and causes the PCU to play the unwanted role of intermediary between various MOH offices - which it neither desires to do nor should do. The differences are reconciled in the project coordination unit (PCU) in the MOH.

The Project will build upon the local programming model by rationalizing data-gathering forms, introducing greater use of computers and integrating the sharing of health and management information between the central and regional offices. This will create a useful information feedback loop allowing officials to get a better idea of what is required for the year and when, how and in what way finances will be expended.

Since the health and management information system forms a crucial linkage in planning and monitoring, whether for a particular project or for the MOH normal operating procedure, the Project will work to rationalize the monitoring system so that it more closely conforms with the planning system. Given the positive movement on the planning side and the involvement across-the board of the same officials, the changes in the monitoring system will be easily adaptable and will provide a stronger administrative system for the Project and the MOH.

c. Procurement

The procurement process within the MOH functions under the guidelines governing all GOH Ministries. Thus, it is cumbersome and complicated, and it has been cited as the prime cause for most implementation delays. For example, upwards of 27 discrete steps must be taken for a purchase of under L10,000 until the goods are received and the suppliers are paid. Although the process has caused delays, all problems in procurement cannot be attributed solely to that source. Particularly troubling is the lack of forward planning and supply management processes within the MOH system.

Health Sector I utilized several mechanisms to avoid the problematic GOH procurement system. First, the project set up a rotating fund. Although this functioned to some degree, actual usage was impaired by bonding regulation. This regulation requires the official managing a financial mechanism to purchase a large insurance bond with personal finances to dissuade potential corrupt practices. The bonding criteria, because of its financial size, limits the number of people who could be in charge of the mechanism. Second, USAID's Commodity Procurement Office handled much of the international procurement load. Although this is a relatively efficient mechanism, USAID's staff resources are limited. Third, the Mission contracted a Procurement Services Agent (PSA) to obtain spare equipment and vehicle parts. This particular PSA failed to fully comply with several orders and their performance actually hindered implementation.

The Health Sector II Project will undertake several steps to realize an improved procurement situation. As mentioned earlier, the Project will advocate decentralization, including the use of rotating funds. Smaller rotating funds will be made available at the regional level based on well-defined procurement plans to facilitate implementation at the operational level. The smaller rotating funds will make the bonding requirement easier. Second, the Project will explore the use of special accounts that will reduce the time lag from request to receipt of local goods to less than one week. This mechanism requires only post-transaction accounting controls. Finally, the planning process will assist in the rationalization of the supply management system. Supplies will be allocated to the regions in need based on advance inventory plans, rather than to regions that make more vocal requests. All of this will be part and parcel of a special procurement office, the viability of which is being currently studied under Health Sector I and will be supported under Health Sector II.

2. SANAA

SANAA was created by decree in 1961 and was instituted as a semi-autonomous dependency of the MOH. In recent years, the organization has evolved into an independently administered agency which takes little direction from the MOH. The institution is charged with the development of water and sanitation systems and networks for towns with more than 200 people. SANAA currently has approximately 1,400 employees, the majority of whom are stationed in the capital. SANAA's Department of Works and Maintenance of Regional Aqueducts has 200 personnel assigned to regional offices. It is these offices which will implement the activities to be financed under this Project, specifically the installation of piped water systems and waste

disposal systems. Detailed design work will be done at the central office level where most of the 120 engineers, 40 draftsmen, 12 topographers and other specialists work.

Over the years, SANAA has grown in power relative to its relationship with the MOH. SANAA will play a key implementing role in the execution of this Project. The water and sanitation activities envisioned will be implemented separately by the participating institutions. The Project will not require a high level nor a formalized mechanism for coordinating the activities of SANAA and the MOH.

a. Administrative Structure and Functions

SANAA is headed by a Board of Directors which includes the Minister of Health, the Minister of Natural Resources, a civil or sanitary engineer, a doctor or surgeon and a representative from the municipalities. The day-to-day operations chief is the General Manager. The General Manager is assisted by a deputy and support staff. The General Manager's office is supported by five advisory divisions including planning, public relations, promotion, training and general counsel. The General Manager's office also directly supervises nine line offices, which includes three project implementation units for specific international donor activities.

SANAA is a very centralized organization. The regions are subsumed in a central unit which is oriented to operating and maintenance activities. The real initiative and outreach emanates from the project units. These units, specifically charged with carrying out various projects, have the financing and the personnel to act as the impetus in programming and project implementation. These units identify potential sites for water systems and initiate activities.

The line offices of SANAA will remain the primary implementors of this element of the Project. The Project will work to strengthen the line units relating to operation and maintenance to enhance their capabilities. To facilitate implementation, short-term technical assistance will study ways to enhance decentralization and reform so that SANAA has greater impact in its outreach activities and more efficiency in implementing its programs.

b. Planning and Monitoring

The planning system in SANAA is also centralized. Decision-making authority is in the General Manager's office. To reach decisions, the General Manager relies on information from the project units, from the line offices and from the Ministry of Health. The information may come to light through meetings, monitoring reports, or unofficial sources.

Despite centralized planning, SANAA has a relatively good basis for a monitoring system. It relies on the local community and the promoter. With each water system, the community sets up a local committee with the help of a water system promoter. The promoter links the community and the supervisory regional/central office. Therefore, a monitoring system exists which utilizes a bottom-up approach, starting with the community committee, the promoter and the regional/central office. The sustainability of the

Project will be supported by strengthening, through the provision of periodic short-term TA, the planning and monitoring systems in SANAA.

c. Procurement System

SANAA must follow the guidelines relating to the general laws of procurement in Honduras. However, due to its semi-autonomous status, SANAA may use its own procurement system without working with or through the General Services Agency (Proveduria General, the COH equivalent of the GSA in the United States). This means procurement actions move more rapidly than is the case of a direct line governmental ministry, such as the Ministry of Health.

Generally, SANAA utilizes two procedures: negotiated procurement and sealed bidding. The negotiated procurement mechanism can be used for purchases up to L50,000 without a formal requirement to publicize the prospective purchase. A procurement between L10,000-L50,000 requires 17 steps within SANAA, and lesser value purchases require fewer steps. This contrasts with the 27 steps required in the MOH for purchases over L1,000. Needless to say, this process, which involves only SANAA and the provider, permits more expeditious implementation.

The sealed bidding mechanism pertains to purchases over L50,000. It requires publication in the newspaper and, if necessary, publication in international commercial newspapers/journals to encourage proposals from overseas providers. This process requires 23 steps which is still less than the requirements of the direct line Ministry.

The Project will continue to use the system currently employed. The use of regional rotating funds will be supported to further facilitate procurement. The semi-autonomous status of SANAA allows for much more flexibility in the use of financial mechanisms, particularly in having lower-level employees control certain funding resources. The Project will explore ways to encourage this decentralization as it relates to finances and procurement to improve implementation.

In summary, the Health Sector II Project will face many of the administrative obstacles that have affected the Health Sector I Project. Nevertheless, the administrative analysis has shown the following: the administrative structure is capable; the financial systems have improved; the planning system has demonstrated innovation; and the monitoring system can be enhanced. This analysis provides sufficient evidence that crucial administrative factors are in place and/or will be modified to assure proper implementation of the Health Sector II Project.

D. ECONOMIC ANALYSIS SUMMARY

The economic analysis of the project consists of two basic components: (1) construction of water systems to provide potable water to rural dwellers and (2) Institutional Development, Child Survival Technologies, and Waste Disposal Systems all of which more directly help to prevent disease and premature deaths. This analysis is summarized below, and a detailed presentation of the Economic and Financial rates of return (EIRR, FIRR), methodologies, etc. is contained in the Economic Analysis Annex.

1. Potable Water

There are two main identifiable benefits from the provision of water systems. The first is the savings in time, effort and resources previously spent obtaining water, and the second is the expansion in the consumption of water which brings about better hygiene and living conditions. These benefits are captured by the user's demand or "willingness to pay" function, which shows the amount users are willing to pay for different amounts of potable water delivered to their homes. Such demand function was obtained from a survey run by the IDB through rural Honduras in 1985 ("Honduras: Programa de Aqueducts Rurales, III Etapa, BID/HO-92"). The amount users are willing to pay for each liter of water delivered by the water system shows the value of benefits, obtained from the water provided by the new systems as perceived by the users themselves. Therefore, expected economic benefits from the provision of potable water are represented by the area under the demand curve. Investment, operation, maintenance, management and expansion costs for typical systems were obtained also from a representative sample of designed water systems completed by the IDB in its 1985 study.

Comparing the benefits with the costs of the water systems, which were assumed to have a twenty year useful life, the analysis shows a Financial Internal Rate of Return (FIRR) of 26 percent. Using economic instead of financial prices for foreign exchange and unskilled labor cost components, the Economic Internal Rate of Return (EIRR) was calculated giving a very attractive 24 percent rate of return. Sensitivity analyses showed that even if, simultaneously, benefits fall by 20 percent and investment costs increase by 20 percent,--a highly unlikely outcome--this project component still results in a very promising 15.6 percent EIRR.

2. Health Interventions

A wide variety of activities and interventions form the Institutional Development, the Child Survival Technologies, and the Sanitation Components of the Project. The main quantifiable benefit from all these interventions is a reduction in infant mortality.

However, the number of infant lives saved as a result of total Project costs and, hence, average cost per life saved, is uncertain. In the main, this reflects the association of activities funded by the Project with other activities and the mutually reinforcing character of all of them in achieving a reduction in infant mortality.

For example, the timely contributions of other international organizations and efforts of the GOH will also be instrumental in obtaining the maximum possible mortality reductions. At this stage it is not possible to establish with any precision what the Project average expenditure will be per infant death averted by health interventions.

In view of this uncertainty, we have calculated what the Internal Rate of Return would be for different average Project costs per life saved. This has been done, moreover, for two alternative project beneficiaries, one with

a sixth grade education and the other with no education. The results are set forth in Table "a":

Table "a"

<u>Internal Rate of Return for Alternative Average</u> <u>Costs per Life Saved</u>		
Average Cost (Lempiras of 1987)	Internal Rate of Return	
	Educated Beneficiary (Percentage)	Non Educated Beneficiary (Percentage)
0	13.33	7.07
1,000	12.27	6.54
2,000	11.49	6.11
3,000	10.87	5.74
4,000	10.36	5.43
5,000	9.92	5.15
7,000	9.21	4.68
10,000	8.39	4.12
15,000	7.41	3.40
20,000	6.68	2.85
30,000	5.65	2.04

As is clear from Table "a", the EIRR of this project's Health Expenditures is quite sensitive to the level of education that is achieved by the typical project beneficiary. In fact, the EIRR for a beneficiary with a sixth grade education is about twice as high as that for one with zero grades of education completed, and this is the case at all levels of cost per life saved.

Furthermore, the EIRR of expenditures to save the lives of people with no access to education are extremely low. The implication should be obvious. The economic justification of this Project would be improved by complementing health interventions with education programs aimed at providing at least six grades of formal education to the typical beneficiary. USAID currently has a major project with the Ministry of Education to strengthen primary education.

According to the best available estimate of health experts, the Project will help to save around 8,400 lives along a six year period. Assuming that all those lives are saved thanks to this project health interventions, and that their economic cost is L60 million, the cost per life saved is in the order of L7,000. Since expected improvements in the spread of education opportunities through rural and urban Honduras suggest that the typical project beneficiary will be somebody with completed primary education, the EIRR is on the order of 9.2 percent. However, if the typical project beneficiary were a person with no access to education whatsoever, Table "a" figures present a much lower 4.68 percent EIRR.

Since economic benefits are only one dimension of the benefits gained through saving a life and since there are other benefits not taken into account including prevention of illnesses not leading to death, the 9.2 percent rate seems to justify the expenditures in this health interventions component of the project.

The methodology applied here for the quantification of costs and benefits includes considerations and assumptions that could be easily modified. Without disclaiming the ethical problems in attaching a value to human life, we have valued human life from a purely economic point of view by measuring the cost and income flows of the typical project beneficiary. For this purpose costs have been limited to (a) Essential private expenditures, (b) GOH expenditures in Health, and (c) GOH Education expenditures. Benefits are measured by the expected income estimated to be earned during the life span of the typical project beneficiary. Subtracting costs from benefits, net benefits are calculated, and Internal Rates of Return are obtained for net benefits of the typical beneficiary considering alternative project expenditures to save the beneficiary's life during his/her first year of life.

VIII. IMPLEMENTATION ARRANGEMENTS AND EVALUATION SCHEDULE

A. IMPLEMENTATION

The Project will consist of a single authorization, with one obligating agreement, although two distinct budgets will be included: one for the Ministry of Health (MOH) which will be responsible for implementing the child survival component of the Project; and the other with the National Autonomous Service of Aqueducts and Sewerage Systems (SANAA) which will be responsible for the rural water and sanitation component. Given that both of these Honduran entities are organizationally within the same Ministry, there will be communication between them regarding the focus and scope of activities under this Project. Experience under the Rural Water and Sanitation Project, however, has shown that predicating the success or failure of a development intervention on a formal and structured coordination between these two entities is probably not realistic. The difficulty of formalizing coordination between SANAA and the Ministry became apparent during project design. Meetings with both organizations as well as very considered judgements from outside consultants (WASH Team interim report of June 1987) indicated that coordination could not be imposed, nor for that matter is it critical to the success of this Project. SANAA, it was suggested, should be allowed to do what it does best - construct water systems - while the Ministry should concentrate on primary health care and child survival technologies. Both endeavors will together lead to an overall improvement in the rates of infant mortality and morbidity.

A Project Coordination Unit, similar to that which has functioned well under Health Sector I, will continue to serve as the principal coordinating entity for both components. It is responsible for facilitating Project implementation with a variety of other administrative, budgetary, and oversight offices both within the MOH (budget office, legal office, administrative office and technical

divisions) and with the Ministry of Finance (office of public credit, office of the budget, and the project control unit). This Unit will consist of a Project coordinator who will be directly responsible to the Director General of Health and to the Mission; a Project administrator with appropriate support staff to monitor and manage financial aspects of the Project; a Project technical monitor who would monitor implementation, the adherence to work plans and the attainment of benchmarks; and a secretarial support staff. The PCU is responsible for submitting quarterly financial reports to the Mission and for preparing progress reports following each monitoring field visit (eight per year). During the monitoring field visits, an information gathering form will be used which tracks implementation progress according to log frame indicators.

Under the Health Sector I Project, the Project Coordination Unit has had to cope with cumbersome contracting requirements and slow moving financial mechanisms, both the consequence of GOH budgetary requirements. Project implementation was affected as a result. Under Health Sector II, the prospects for improved performance are brighter for two reasons. Health Sector II will be grant funded, thereby diminishing Ministry of Finance scrutiny of project activities and expenditures. Second, the GOH has agreed to multi-year contracting of MOH personnel with Project funds. Previously, such personnel were required to terminate their contracts at the end of each Honduran fiscal year and to obtain the necessary approvals for recontracting each following year, a process which usually took two or three months and which meant there were only nine or 10 months of effective project implementation within any 12 month period.

There are other GOH imposed procedures that hinder project implementation. One of these is the annual liquidation of all revolving funds at the end of each fiscal year. This is another process that takes two or three months to complete and it effectively puts revolving funds and the activities they support out of business for that period of time each year. The Mission Controllers office has agreed to advance funds to cover revolving fund operations during this down period. A second hindrance is the bonding requirement for all GOH personnel who manage revolving funds. In order to be bonded, such personnel must put up their own money or their personal property, in amounts equivalent to the size of the revolving fund, to be held as collateral by a bank in the event of an irregularity.

As this Project calls for decentralized management and larger discretionary budget authority at the regional level, a much wider use of regionally managed revolving funds is planned. Although the Mission is discussing with the Ministry of Finance ways to relax bonding requirements, the problem of finding people to manage these funds who will agree to the current requirements is one that could hinder implementation. An interim solution to the problem, as suggested in discussions with the Ministry of Finance, would be for the coordinator of the Project Coordination Unit, who will be bonded and will manage the revolving fund, to set up smaller revolving funds for the regions from

his/her project account. This is permissible under Ministry of Finance procedures. The use of Project-funded regional revolving funds has the advantage of granting discretionary budget authority to the regional level, an essential element of the local programming model, and it buys time so that institutional changes regarding the control of funds can be discussed and negotiated.

The majority of technical assistance under the Project will be openly competed and provided through a single firm in order to assure coordination and coherence in the technical assistance efforts. The chief of the technical assistance team will be responsible to the Director General of Health within the MOH and to the USAID Project Manager and will keep the Project Unit coordinator informed as needed. An implementation plan with a tracking system and benchmarks will be prepared early in the Project and will be updated and revised annually. Quarterly reports keyed to the implementation plan will be prepared and will track the attainment of outputs and EOPs.

The Mission's Health and Population Officer within the Human Resource Development Office will be the Project manager. He will be aided by a technical officer (physician), an administrative officer and an administrative assistant, all Project-funded PSCs. To monitor the rural water and sanitation component, a rural water specialist will be hired as a Project-funded PSC and will report to the Health and Population Officer. He will be assisted by a rural water engineer from the Engineering Office. Additional technical assistance in child survival could come through the Child Survival Fellow Program. The Project manager will thus have an administrative and technical staff of at least six.

B. PROCUREMENT PLAN

1. PROCUREMENT RESPONSIBILITY AND PROCEDURES

a. Ministry of Health

In view of the complex procurement system of the MOH/GOH, the procurement to be done directly by the MOH will be limited to local purchases of goods, training, construction, studies/evaluations and services in accordance with A.I.D. Handbooks 11 and 15, and applicable GOH regulations. Procurement has been cited by most evaluation reports on the Health Sector I Project as a prime cause of delays in project implementation. Most of these delays are attributable to extremely time consuming procedures of the GOH's General Procurement Office (Proveduria General). Unless special procedures are agreed upon, all purchases in excess of 10,000 lempiras (\$5,000) must be made through this office. From actual purchase request to payment of the supplier involves some twenty seven steps, if all goes well and documentation does not require any changes. This rarely happens and as a result procurement delays have come to be expected. Given the extent of problems and delays encountered under Health Sector I in using the GOH procurement office, it is intended to hold the direct purchases by the MOH to within their authorized

contracting authority. As technical assistance efforts at strengthening the MOH procurement capabilities take effect, more local services might be contracted by the host country if a reevaluation of their procurement so warrants.

b. SANAA

As SANAA's procurement system is the least complex within the GOH (they are not required to pass through Proveeduría General) and given their demonstrated ability to determine their needs, solicit competition and purchase under the Rural Water and Sanitation Project, they will contract either locally or off-shore for the construction materials for the water and sanitation activities. These materials will include such items as PVC, galvanized iron pipe and accessories, cement, re-bar, bricks, wood, hardware, windmills, etc. To use the resources for this component most efficiently, a staggered procurement schedule will be used. This will avoid overstocking and prevent Project funds from being overcommitted on materials that may have a very specific use. SANAA's procurement will be performed in accordance with A.I.D. Handbooks 11 and 15 and applicable SANAA/GOH procurement regulations.

c. Private Voluntary Organizations

Although it is intended to use PVOs to implement discrete components, it is difficult to estimate the extent of their procurement needs at this time. However, the PVO will be responsible for its own procurement both local and off-shore. As GOH subcontractors, financed with project funds, their procurement will be done in accordance with Handbooks 11 and 15 and the SANAA/GOH procurement regulations.

d. USAID/Honduras

The bulk of the procurement of off-shore commodities as well as off-shore technical assistance will be performed by the USAID/Honduras procurement Branch. All off-shore goods will be purchased C.I.F., Tegucigalpa, Honduras and A.I.D. will ensure their clearance through customs. All goods and services will be procured in accordance with the Federal Acquisition Regulations, the A.I.D. Acquisition Regulations, and, when applicable, the Federal Information Resource Management Regulations.

Hardware and software requirements have been identified, but will be finalized by the Project's technical assistance contractor. Compatibility with the existing ADP equipment must be ensured. When the configurations and specifications have been finalized, the Mission will determine whether to use the Federal Supply Schedules or solicit bids/offers directly. Coordination for these purchases will take place with IRM in AID/W.

Contraceptives, condoms, and medical equipment to support the birth spacing and AIDS' support components will be purchased. It is contemplated that S&T/POP's centrally funded contracts will be used. Those items not available from these sources will be procured directly by the Mission on the open market.

e. Special Considerations/Gray Amendment

Pharmaceuticals, pesticides and oral rehydration salts will not be financed with Project funds. These items will be provided by the GOH as part of their contribution to the Project. The only exception to this might be project funding for the basic ingredients to manufacture oral rehydration salts, if the private sector feasibility studies to be performed under the Project are positive.

The Mission intends to comply with the requirements of the Gray Amendment to the maximum extent possible. At this time, it is the Mission's belief that, given the scope and nature of the technical assistance to be provided under this project, a firm other than one as defined under Section 8(a) of the Small Business Act must be contracted. Nevertheless, the solicitation will require each offeror to submit an acceptable subcontracting plan to provide opportunities for minority and 8(a) firms to participate. As regards the A.I.D. direct commodity purchases, all synopses of availability are submitted to OSDBU/MRC for dissemination to the minority and/or small and disadvantaged firms on their mailing list as well as others.

2. Equipment and Commodity List

Items contained in a chart showing general equipment commodity and services needs (see Annex S) will be purchased with project funds. Refinement of this chart may result in minor shifts from one commodity to another, or substitutions. Exact details and specifications could be subject to change based upon any unforeseen circumstances or contingencies which may arise during Project implementation. SANAA, the MOH and the technical assistance team will consult regularly with USAID's Office of Procurement to ensure that all purchases are done in a timely manner. This chart will be periodically updated throughout Project implementation.

Approximately 100 pick ups are to be purchased under this Project and will be used by both the MOH and SANAA. In addition, motorcycles will be purchased (see below) for both SANAA and MOH promoters. Specifications for these vehicles have been developed. The USAID contracts Office can handle this relatively straight forward purchase which will be done in lots on a yearly basis. This will make the tracking of procurement status relatively easy.

3. Source and Origin

The authorized source and origin of the vehicles and trucks will be A. I. D. Geographic Code 000. Except for waivers as described below, all other material and equipment, as well as services purchased with foreign exchange will have their source and origin in the United States and the CBI designated Central American Common Market countries, except as A. I. D. may otherwise agree in writing.

4. Local Cost Financing

a. Imported Shelf Item Procurement

Imported shelf items are goods that are normally imported and kept in stock, in the form in which imported, for sale to meet a general demand in the country for the item; they are not goods which have been specifically imported for use in an A. I. D. -financed project. Any imported component from a non-free world country makes the imported shelf items ineligible for A. I. D. financing. It is A. I. D. 's policy not to finance identifiable customs duties to the extent practical. Therefore, "notas de crédito" will be obtained from the GOH to the maximum extent possible or the GOH will be required to pay in with other than Project funds.

b. The following items will be purchased in Honduras or countries of the Central American Common Market through a series of discreet procurements throughout the life of the Project. USAID approval of tender documents and contracts will be required only for contracts exceeding the equivalent of \$100,000. USAID will perform cursory quarterly audits and detailed annual audits of MOH files to assure compliance with AID requirements. Any transaction not meeting AID requirements will be disallowed.

ITEM	QUANTITY	ESTIMATED COST
Construction Materials, Misc.	1 lot	3,184,100
Educational materials, printed	1 lot	205,000
Office furniture and equipment	1 lot	25,000
Fuel and lubricants	1 lot	484,100
Misc/Contingency		305,300
TOTAL		4,203,500

c. Other Local Costs

Other local currency costs will include charges for the following:

Vehicle maintenance	569,000
Personnel	632,500
Training, in-country	1,504,400
Construction/Renovation	2,733,300
A&E Services	36,000
Investigations/Studies	1,050,000
Education/Promotional (Mass Media)	1,290,000
Office, Coordination Unit	63,000
Maintenance, "CESAR"	568,000
Supervision/Monitoring	1,168,200
Contingency/Misc	357,500
Total Other Local Costs	9,971,900

All of these costs, as well as those for the entire Project are based on an analysis of past experience in procurement of similar items and reflect input from both SANAA and the Ministry of Health for which documentation is available in the Mission.

d. Waivers

The Project proposes to fund the purchase of approximately 335 off-road, street legal motorcycles for both SANAA and MOH promoters. Given the relative isolation of Project beneficiaries and the impracticality of vehicle transportation, motorcycles are the most practical means of transportation. Under Health Sector I, the Ministry of Health purchased over 175 motorcycles for their Vector Control Division personnel. At the time of this purchase in 1984 it was determined that the only available source of these motorcycles was Japan (code 899). According to a May 1987 cable, this still appears to be the case. Consequently, USAID hereby requests that a waiver for the purchase of motorcycles be granted and reflected in the Project Authorization. A draft waiver for this action is contained in Annex S.

Similarly, the Project will fund the purchase of approximately 200 refrigerator/freezers and miscellaneous spare parts for use in the MOH's cold chain. These units will be of code 899 source and origin and will be of the Electrolux brand. The MOH has standardized all of its equipment around this brand, which has enabled it to develop a universal maintenance program. Again, a draft waiver for this purchase is contained in Annex S. Justification for both of these waivers is based upon Section 4C2D1 (a) of Handbook I which authorizes the waiver of U.S. source and origin requirements when the commodity is not available from countries or areas included in the authorized geographic code.

C. EVALUATION SCHEDULE

A total of \$875,000 has been budgeted for evaluations and health impact studies for the life of the Project. USAID and the GOH will conduct two Project reviews, utilizing both in house and external resources which will be funded under the Project. Baseline data has been gathered in 1984 and 1987 through two rounds of a national MCH/FP survey. A third round is planned for 1990-1991 and a fourth round will be conducted in 1993-1994. Baseline data is also gathered on an annual basis through the MOH's health and management information system and through the hospital service data collection systems. This data will be supplemented by other morbidity and mortality studies as needed.

The first evaluation is scheduled for 20 months after signature of the Project Agreement. This evaluation will measure progress in the delivery of commodities and planned improvements in the acquisition and management of drugs and medical supplies; compare efficiency of the maintenance systems for equipment and facilities before and during Project implementation; measure progress in the extension of health services to rural areas; compare the status of the establishment of the local programming model with the implementation plan; and review the quality of the training programs and operations research studies undertaken by the MOH.

A second and final impact evaluation is planned for the final year of the Project. This evaluation will measure, in addition to output level indicators measured throughout Project implementation, attainment of the purpose and contribution to Project goal. Specifically, the final evaluation will assess the data generated on the increased availability and use of primary health care services, including water and sanitation facilities, vaccine coverage, ORS usage rates, improvements made in the decentralized decision-making capabilities of the MOH and SANAA as demonstrated through identifiable changes in resource allocation, programmatic use of the health and management information systems, logistics improvements, and reduction in infant and child mortality and disease incidences.

Evaluations will be carried out by a team of specialists, including external consultants. Evaluation services will be contracted by USAID/Honduras utilizing Project funds, under authority contained in the Project Agreement.

IX. ENVIRONMENTAL CONSIDERATIONS

As a part of this Project, vector control activities will play an important role in the overall health strategy. An environmental examination will be needed in order to assess the effects of any chemicals which may be used in malaria control programs, even though the purchase of such commodities is not planned under the Project.

The Health Sector I malaria control program has been highly successful in lowering the incidence of the disease. The characteristics of malaria control efforts under Health Sector II will be modified. Emphasis will be on physical control of the malaria vector. Direct interventions will include drainage of low water catchment areas near rural settlements and the placement of concrete piping to facilitate this drainage. Although swamp drainage was anticipated under malarial control efforts and was so stated in the PID IEE, such actions will not take place as they are considered unnecessary for controlling the vector.

Accordingly, and to assure that ecological concerns are given serious consideration before any physical control measures are undertaken, a contract team will carry out an Environmental Assessment to review the overall impact implications in this area plus those related to the water and sanitation systems. To the extent possible, the Environmental Assessment will be based upon recommendations and experiences gleaned from malaria control measures and the rural water and sanitation activities implemented under the Health Sector I Project and will include an assessment of chemical and physical vector controls proposed in the Project, and the physical interventions contemplated under the rural water and sanitation component. In addition to the overall assessment work, the team will develop an environmental review document (ERD) which will be used to carry out a review prior to individual malaria and water and sanitation activities. The ERD will follow the procedures used in other projects in Honduras such as Rural Roads (522-0214) and Irrigation Development (522-0268). This document will assist evaluators to identify major direct and indirect environmental effects that might occur with a given malaria control intervention thereby providing a basis for eliminating the intervention or for designing the intervention in such a way as to minimize its impact. The ERD

will consist of a matrix, a section for comments and recommendations, and space for an environmental determination (positive or negative) signed by the field evaluator and reviewed by the Project Officer.

While it is not expected that any of the simple interventions contemplated under the water and sanitation component will result in damage to the environment, a matrix will also be developed for determining the potential impacts of such interventions. For both components of the Project, funds disbursement will be predicated upon (Conditions Precedent) the completion of environmental assessments. Short term technical assistance will be used to develop this matrix as well as to provide guidance in its use during the initial stages of Project implementation.

X. CONDITIONS AND COVENANTS

Additional Conditions and Covenants beyond those normally contained in the standard A.I.D. Project Agreement will be as follows:

A. CONDITIONS PRECEDENT TO DISBURSEMENT

1. Prior to disbursement of funds or the issuance of any commitment document under the Project Agreement for implementation of vector control activities and the rural water and sanitation component of the Project, an environmental assessment will be carried out which will examine the potential impact of malaria and chagas vector control and rural water and sanitation activities on the environment. This environmental assessment will develop an environmental review system which will be employed by the MOH and/or SANAA personnel prior to the initiation of any specific malaria or chagas intervention, or any rural water or sanitation infrastructure effort.

2. With respect to the local production of oral rehydration salts, before any amounts may be disbursed or any commitment made to provide any funds, the Cooperating Country shall provide to A.I.D. evidence, in form and substance satisfactory to A.I.D., that the salts meet all appropriate and applicable specifications and that a safe and effective quality control production system has been developed, is in place, and is properly functioning. Minimum specifications may be set forth in Project Implementation Letters.

B. COVENANTS

1. The Cooperating Country agrees that all fees and costs recovered as part of any activity described in this Agreement shall be retained by the operational level for its discretionary use and shall be in addition to any amounts budgeted by the Cooperating Country for that operational level.

2. The Cooperating Country agrees that maximum efforts will be made to ensure the efficient and rapid flow of funds to the regional level, including the establishment of regional revolving funds.

3. The Cooperating Country shall submit to A.I.D. annual budgets for child survival related activities in form and substance satisfactory to

A. I. D., by no later than January 31 of each year of the Project beginning with the year 1989, unless A. I. D. otherwise agrees in writing. Beginning with the budget due January 31, 1990 and for each Project year thereafter, each budget shall include evidence that all amounts designated in the Cooperating Country's previous budget for the child survival related activities were made available for those activities in a timely and satisfactory manner. Additional requirements with respect to the form of the budget may be set forth in Project Implementation Letters.

The Cooperating Country shall make every effort to ensure that all funds designated for child survival activities are made available in a timely and satisfactory manner. Should the Cooperating Country fail to make available all amounts designated in the budget or fail to make those amounts available in a timely and satisfactory manner, as determined by A. I. D. in its sole discretion, A. I. D. may suspend assistance to those activities, except for technical assistance and commodities, until such time as A. I. D. shall determine that the assistance may be continued or that the child survival related activities be terminated.

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SUBJECT: HONDURAS HEALTH SECTOR II PROJECT (522-0215)

1. THE PROJECT IDENTIFICATION DOCUMENT (PID) FOR THE SUBJECT PROJECT WAS REVIEWED BY THE LAC BUREAU DEVELOPMENT ASSISTANCE EXECUTIVE COMMITTEE (DAEC) ON MARCH 26, 1987.

2. THE PID WAS APPROVED AT THE DAEC. IN APPROVING THE PID, THE DAEC CONCLUDED, AND MISSION REPRESENTATIVES CONCURRED, THAT BASED ON THE PROPOSED SCOPE AND LEVEL OF FUNDING ANTICIPATED UNDER THE PROPOSED PROJECT, THE PROJECT PAPER SHOULD BE REVIEWED AND APPROVED IN A.I.D./WASHINGTON.

3. IN PREPARING THE PROJECT PAPER, THE MISSION IS REQUESTED TO TAKE INTO ACCOUNT THE FOLLOWING UNDERSTANDINGS REACHED WITH MISSION REPRESENTATIVES DURING THE REVIEW.

4. GRANT VERSUS LOAN. THE PROJECT WILL BE DESIGNED TO

CAN FUND COMMODITY, CONSTRUCTION, AND THE LOCAL COST ELEMENT OF THE RURAL WATER SUPPLY AND SANITATION COMPONENT TO THE EXTENT THAT THE PUBLIC SECTOR INSTITUTION SANAA IS THE MAIN IMPLEMENTING INSTITUTION. TO THE EXTENT THAT THIS PROJECT COMPONENT IS IMPLEMENTED BY PRIVATE VOLUNTARY ORGANIZATIONS (PVOS) AND LOCAL COST ELEMENTS ARE PICKED UP BY THE GOVERNMENT OF HONDURAS' (GCH), GRANT FUNDING IS CONSIDERED APPROPRIATE. RATIONALE FOR GRANT FUNDING P PRIVATE SECTOR PARTICIPATION P.

5. FUNDING LEVELS. OVER-ALL FUNDING LEVELS REQUIRED TO SUPPORT THE SCOPE OF ACTIVITIES INCLUDED IN THE PID WILL BE RECONSIDERED. THE MISSION ALSO AGREED TO REVISE THE PROPOSED BUDGET TO INDICATE THE PLANNED FUNDING SOURCES (PRIVATE SECTOR, GCH, A.I.D.). IN THE PROCESS, THE MISSION WILL: SEE FINANCIAL ANALYSIS ANNEX D.

- DETERMINE IF SOME LOCAL COST ELEMENTS COULD BE ABSORBED BY THE GCH; SEE RECURRENT COSTS

- RE-EXAMINE THE PROPOSED FAMILY PLANNING ACTIVITIES, AND REVISE THE BUDGET TO ACCURATELY REFLECT PLANNED

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ATTACH.	4/16/87	
INITIALS	4/20/87	

POPULATION COMMODITIES PROCUREMENT NEEDS AND OTHER ACTIVITIES EXPECTED TO BE FUNDED FROM THE POPULATION ACCOUNT; SEE ANNEX D, FINANCIAL PLAN.

- EXPLORE THE POSSIBILITY OF USING OTHER SOURCES OF A.I.D. FUNDING (PI-482) FOR SOME PROPOSED ACTIVITIES, AS APPROPRIATE; AND SEE BREASTFEEDING/GROWTH MONITORING

- REVIEW THE RESOURCE NEEDS TO FUND EXTERNAL ASSISTANCE FOR PROJECT PAPER DEVELOPMENT TO ENSURE THAT SUFFICIENT FUNDS EXIST TO ADDRESS ISSUES SUCH AS MALARIA, AIDS, ENVIRONMENTAL CONCERNS, ESTABLISHMENT OF HEALTH MAINTENANCE ORGANIZATIONS (PMCS), AND PRIVATE SECTOR PARTICIPATION. THIS HAS BEEN ADDRESSED THROUGH OUTSIDE TA AND INTERNAL AUDIT

6. PROJECT SUSTAINABILITY. THE MISSION WILL EXPAND ON THE DISCUSSION OF ITS HEALTH SECTOR STRATEGY AND THE PROJECT'S ROLE IN THE STRATEGY IN THE PROJECT PAPER. PARTICULAR ATTENTION WILL BE GIVEN TO PHASE-OVER TACTICS TO ENSURE THAT THE PROJECT CONTRIBUTES TO THE DEVELOPMENT OF SUSTAINABLE HEALTH CARE DELIVERY AND WATER SUPPLY AND SANITATION SYSTEMS ONCE A.I.D. PROJECT ASSISTANCE ENDS. MISSION REPRESENTATIVES AGREED TO EXAMINE THE MERITS OF INCLUDING MEASURES IN THE PROPOSED PROJECT AGREEMENT TO REFLECT GCF ASSUMPTION OF RECURRING AND OPERATING COSTS AS A.I.D. CONTRIBUTIONS DECLINE THROUGH THE LIFE OF THE PROJECT. IT IS EXPECTED THAT

SEE PROJ. INP.

A.I.D. CONTRIBUTIONS TO PUBLIC SECTOR RECURRING AND OPERATION COSTS WILL REACH ZERO APPROXIMATELY ONE YEAR PRIOR TO THE PACD. SEE PAGE 84, RECURRENT COST

7. COST RECOVERY EFFORTS. DURING INTENSIVE REVIEW, THE MISSION WILL GIVE SPECIAL ATTENTION TO THE AREA OF COST RECOVERY AND WILL LAY OUT A PLAN IN THE PROJECT-PAPER FOR TIMING OF OBLIGATION TO INTEGRATE THE EXPERIENCE OF THE HEALTH SECTOR PROJECT INTO THE PROPOSED PROJECT. IN ADDITION TO MISSION PILOT EFFORTS IN ACTIVITIES SUCH AS COMMUNITY PHARMACIES, THE PROJECT PAPER WILL DISCUSS CONSIDERATIONS GIVEN TO A.I.D. EXPERIENCE IN OTHER COUNTRIES.

SEE COST RECOVERY;

8. POLICY DIALOGUE. A POLICY DIALOGUE STRATEGY ON SUCH ISSUES AS COST RECOVERY, RECURRENT COSTS, AND PRIMARY CARE BUDGET ALLOCATIONS WILL BE SET FORTH IN THE PROJECT PAPER.

SEE CONCLUSION OF RECURRENT COST SECTION AND CONDITIONAL SECTION.

9. INSTITUTIONAL ANALYSIS. THE INSTITUTIONAL ANALYSIS WILL EXAMINE THE FULL IMPLICATIONS OF THE DECENTRALIZED APPROACH TO PRIMARY HEALTH CARE DELIVERY, INCLUDING PERSONNEL ASSIGNMENT, AUTHORITIES DELEGATED, RECURRENT

SEE ADMINISTRATIVE ANALYSIS SUMMARY.

COST IMPLICATIONS, ETC.

10. IMPLEMENTATION PLAN/PROCUREMENT PLAN. DURING INTENSIVE REVIEW, AN IMPLEMENTATION PLAN WILL BE DEVELOPED TO ADEQUATELY ADDRESS MANAGEMENT AND ACCOUNTABILITY REQUIREMENTS, PROCUREMENT PLANNING, AND LOGISTICS PLANNING. THE PLAN WILL INCLUDE EVALUATIONS, AND AUDITS AND WILL BE SET FORTH IN ENOUGH SPECIFICITY TO PERMIT ACCURATE COST ESTIMATES. MISSION REPRESENTATIVES WERE PROVIDED A COPY OF AN EL SALVADOR HEALTH SYSTEMS SUPPORT PROJECT PAPER AS AN EXAMPLE IN PREPARING THE PROCUREMENT PLAN. ISSUES SUCH AS APPROPRIATE TECHNICAL ASSISTANCE IN ESTABLISHMENT OF SOUND ACCOUNTING SYSTEMS FOR EACH PROJECT COMPONENT, QUALITY CONTROL MEASURES FOR THE ORAL REHYDRATION SALTS COMMERCIALIZATION EFFORT, AND ALL PHARMACEUTICAL PROCUREMENT REQUIREMENTS WILL BE SPECIFICALLY ADDRESSED.

SEE IMPLEMENTATION PLAN IN ANNEX. SEE AND ANNEX.

SEE IMPLEMENTATION PLAN IN ANNEX.

SEE CONDITIONALITY AND PRIVATE SECTOR

11. PRIVATE SECTOR INVOLVEMENT. THE PROJECT PAPER WILL INCLUDE A SECTION INDICATING HOW THE PROJECT DESIGN HAS INCORPORATED LAC BUREAU EXPERIENCE TO DATE IN PRIVATE SECTOR ACTIVITIES SIMILAR TO THOSE IDENTIFIED IN THE PROPOSED PROJECT. SPECIFICALLY, THE PROJECT PAPER WILL IDENTIFY THROUGH THE RESPECTIVE INSTITUTIONAL MECHANISMS WHICH WOULD BE USED IN WORKING WITH FOR-PROFIT VERSUS

SEE PRIVATE SECTOR AND ANNEX.

NOT-FOR-PROFIT ENTITIES. ALSO, THE PROJECT PAPER WILL EXAMINE THE LEVEL OF RESOURCES PLANNED FOR THE PRIVATE SECTOR ACTIVITIES IN RELATION TO THE PROBABLE RESOURCE REQUIREMENTS FOR UNDERTAKING THESE ACTIVITIES.

12. WATER SUPPLY AND SANITATION - USE OF PREVIOUS EXPERIENCE. THE MISSION WILL ENSURE THAT A.I.D. EXPERIENCE WITH WATER SUPPLY AND SANITATION PROJECTS IN PREVIOUS PROJECTS IN HONDURAS AND IN OTHER COUNTRIES IN THE REGION ARE TAKEN INTO ACCOUNT IN THE PROJECT DESIGN. SPECIFICALLY, THE PROJECT PAPER INTENSIVE REVIEW WILL INCLUDE THE FOLLOWING ANALYTICAL EFFORTS:

WASH TEAM BROUGHT WITH THEM CONSIDERABLE EXPERIENCE IN THIS AREA.

A. EXAMINATION OF WHETHER THIS COMPONENT NEEDS TO BE EXPANDED USING AS A BASIS THE FINDINGS OF THE CAI STRETCH OUT STUDY CURRENTLY IN PROGRESS;

COMPONENT HAS BEEN EXPANDED.

B. DEVELOPMENT OF A STRONG PROJECT IMPLEMENTATION AND COORDINATION MECHANISM, WHICH THE PROJECT PAPER WILL DESCRIBE IN DETAIL;

WASH TEAM RECOMMENDS AGAINST COORDINATION

C. AN INSTITUTIONAL ANALYSIS TO DETERMINE THE MOST APPROPRIATE ADMINISTRATIVE ARRANGEMENT FOR THE COMPONENT AND ITS RELATION TO THE ADMINISTRATIVE ARRANGEMENTS FOR THE OVERALL PROJECT;

N/A

D. DEVELOPMENT OF A DETAILED IMPLEMENTATION PLAN FOR WATER SUPPLY AND SANITATION ACTIVITIES IN CONSULTATION WITH ALL INVOLVED AGENCIES TO ENSURE AGREEMENT ON ACTIVITIES AND PRIORITIES;

SEE IMPLEMENTATION PLAN ANNEX.

E. THE PROJECT DESIGN WILL GIVE APPROPRIATE, BALANCED

EMPHASIS TO COMMUNITY PARTICIPATION AND HEALTH PROMOTION
ACTIVITIES AND ENSURE THEIR INTEGRATION WITH FRCPCSET
CONSTRUCTION ACTIVITIES;

THROUGH

F. DISBURSEMENT PROCEDURES WILL BE FULLY EXPLAINED
BASED ON REALISTIC ESTIMATES OF DOCUMENTATION FLOW
REQUIREMENTS;

SEE IMPLEMENTATION
ARRANGEMENTS

G. THE MISSION WILL EXAMINE THE OPPORTUNITIES FOR
COMMUNITIES TO PARTICIPATE IN MAINTENANCE THROUGH A
LOCALLY MANAGED TARIFF PROGRAM;

SEE THROUGH

H. THE PROJECT PAPER WILL FULLY DISCUSS HOW THE PROJECT
WILL ENSURE PROPER MAINTENANCE OF WATER SYSTEMS;

I. SELECTION CRITERIA FOR COMMUNITIES TO BENEFIT FROM

SEE THROUGH

EXPLICITLY STATED TO THE EXTENT POSSIBLE IN EMPIRICAL
TERMS; AND

J. THE PROJECT PAPER WILL INCLUDE A DISCUSSION OF WATER
QUALITY AND QUANTITY ALONG WITH OTHER DESIGN STANDARDS
AND THE RATIONALE FOR THEIR SELECTION. WHITEHEAD

SEE

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ANNEX B

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Life of Project:

From FY 88⁹ to FY 95

Total U.S. Funding \$

PAGE 1

Project Title & Number: Health Sector II 522-0216

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
GOAL:			
A. Improve the health status of the Honduran people, especially children under the age of five years and women, 15-45 years of age.	1.1 Reduction of the infant mortality rate from 70/1000 live births to 60/100 in 1990 and 47/1000 in 1993.	1.1.1 Surveys, Reports	1. Continuation of current health policies of future governments.
	1.2 Increase life expectancy from 62 to 67 years.	1.2.1 Annual Statistical Reports	2. Continuation of external cooperation to M.O.H.
	1.3 Decrease the maternal mortality rate from 200/100,000 live births to 40/100,000	1.3.1 Population Census	3. A better national budget allotment for M.O.H. 4. Favorable measures from the Executive Branch for the Ministry of Health Budget.
PROJECT PURPOSE:			
B. To consolidate and continue the process of extending coverage of efficient, sustainable and effective primary health care services with primary emphasis on child survival interventions and secondary emphasis on rural water and sanitation.	1.1 40% reduction of the child mortality rate (1-4 years) from 4.3/1000 to 2.6/1000.	1.1.1 Epidemiology Supervision Report	1. The M.O.H. budget will remain at 8-12% of GDP.
	1.2 Polio eradication.	1.2.1 Evaluation of five year plan for immunizations	2. The primary health care portion of the M.O.H. budget will not decrease over life of project.
	1.3 An 80% decrease in the morbidity rate of the following diseases: Measles (13.4 cases/100,000), Whooping cough (7.4/100,000), Tetanus (1.6/100,000), maintain Diphtheria at 0.	1.3.1 Epidemiology Supervision Report 1.3.2 Surveys 1.3.3 Operations Research	3. Child survival interventions will remain a GOH priority.

PROJECT DESIGN SUMMARY

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____

Project Title & Number: Health Sector II 522-0216

LOGICAL FRAMEWORK

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	1.4 Decrease acute respiratory infections as the principal cause of mortality in the country's hospitals from 18.7 to 8.0% of cases.	1.4.1 M.O.H. Statistical Annual Reports	
	1.5 40% of mothers breastfeed exclusively up to 4 months (current 24%).	1.5.1 Growth Monitoring Charts 1.5.2 Project's monitoring reports	
	1.6 Decrease in the percentage of births with intervals less than 2 years from 30% to 15%.	1.6.1 Surveys 1.6.2 Operations Research	
	1.7 Increase in contraceptive use prevalence nationwide from 35% (1984) to 45% in 1990 and 50% in 1993.	1.7.1 National Epidemiology (MCE/FP) Surveys	
	1.8 Reduction of annual new cases of malaria from 29,000 (1986) to 8,500 (1993). (Incidence decrease from 7/1000 to 1.5/1000).	1.8.1 Epidemiology surveillance Reports	
	1.9 Decrease in the cases of infections by chagas.	1.9.1 Surveys	
	1.10 Reduction in the tuberculosis morbidity rate from 77/100,000 to 50/100,000 (slight apparent drop due to improved case finding).	1.10.1 Epidemiology Supervision Reports	
	1.11 Local programming model fully operational in 3 regions and partially implemented in 5 others.		

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PROJECT DESIGN SUMMARY

Life of Project:

From FY 88 to FY 95

Total U.S. Funding \$ _____

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LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	1.12 70% of the rural population in Health Regions 3, 5 and 6 in communities with 2,000 or fewer people have access to potable water and latrines.	1.12.1 MOH and SANAA Reports 1.12.2 Sample Surveys	

I CHILD SURVIVAL:
SUSTAINABLE SUPPORT SYSTEMS

OUTPUTS:

1. Local programming model implemented.	1.1 Three regions have fully implemented the model, having done an inventory of personnel and financial resources, conducted a family census and prepared annual plans, including drug and medical supply needs; the other 5 regions have partially implemented the model.	1.1.1 Project's Monitoring Reports
	1.2 In three regions, the supervision system is fully implemented, with:	
	1.2.1 80% of Nurse Aides from CESARs and CESAMOs supervise the health volunteers under their program responsibility four times a year.	1.2.1 Monitoring Reports of Local Programming
	1.2.2 80% of CESARs and CESAMOs receive area supervision visits three times a year. (30% in 1987)	1.2.2 Area Supervision Reports

PROJECT DESIGN SUMMARY

Life of Project:

From FY 88 to FY 95

Total U.S. Funding \$

LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	1.2.3 80% of area level establishments receive supervision visits by regional staff three times a year. (30% in 1987)	1.2.3 Region' Supervision Reports	
	1.2.4 80% of region level establishments receive supervision visits from central staff three times a year. (40% in 1987)	1.2.4 Supervision Reports on Central Level	
1.3	All (8) regions have in operation computerized Management Information Systems (MIS) and have increased discretionary expenditure authority to 25% of their operating (non-personnel budgets (from a current maximum of about 10%).	1.3.1 Analysis of MOH Budget	
1.4	426 CESARS (80% of total) are renovated and have implemented local programming supply system.	1.4.1 Project's Monitoring 1.4.2 MOH's Supervision and Evaluation Reports	
1.5	All regions have staff with on-the-job training in problem-solving, supervision, administration and use of information systems	1.5.1 MOH Reports 1.5.2 Project's Monitoring Reports 1.5.3 Contractors' Reports	

PROJECT DESIGN SUMMARY

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____

LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216

PAGE 5

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
2. Improved logistics system in place	1.6 Operations research studies done on assigning of two auxiliary nurses per CESAR, variations of referral systems, and cost effectiveness of personnel mixes at area level.	1.6.1 Studies completed and results applied to regions, as appropriate	
	2.1 Special procurement office is established within MOH.	2.1.1 Project Reports	
	2.2 Simplified inventory control systems for medical equipment, supplies, and pharmaceuticals are in use at regional, area and local levels.	2.2.1 Monitoring Reports 2.2.2 Administration Division Records.	
	2.3 Computerized inventory controls are operating in central and regional warehouses.	2.3.1 Monitoring Reports 2.3.2 Contractor Reports.	
	2.4 34 area level storage facilities are established.	2.4.1 Monitoring Reports	
	2.5 Three integrated centers for regional staff with training and laboratory facilities are established.	2.5.1 Engineering Inspector's Reports.	

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216Life of Project:
From FY 88 to FY 95
Total U.S. Funding \$

PAGE 6

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. Maintenance systems strengthened	3.1 80% of cold chain system is adequately working. (65% in 1987)	3.1.1 Maintenance Reports. 3.1.2 Immunization Reports.	
	3.2 90% of health areas have trained maintenance personnel, basic tools and access to a vehicle. (50% in 1987)	3.2.1 Maintenance Reports. 3.2.2 Project Monitoring Reports.	
4. Management and health information systems being used	4.1 Computerized systems for tuberculosis, immunizations and diarrhea disease control information are fully operational at central and regional levels.	4.1.1 Contractor Reports	
	4.2 Data processing is decentralized to regional levels.	4.2.1 Monitoring Visits	
5. Training capability strengthened	5.1 Eleven self-instruction modules on TB, EPI, control of diarrhea disease, ARI, cold chain, MCH and others are being used.	5.1.1 Monitoring Reports	
	5.2 Staff Resource Register is fully operational and being used to program training.	5.2.1 Human Resources Development Division Reports	
	5.3 50 MOH professionals have received Master's degrees.	5.3.1 AID Records (PIO/Pa)	
	5.4 3855 person/weeks for professional staff and 6800 p/w for community volunteers of refresher training being given each year.	5.4.1 MOH Human Resources Development Division Records	

PROJECT DESIGN SUMMARY

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____

LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216

PAGE 7

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
5. Health financing analysis and planning capability in place at central level and supporting regional levels.	6.1 MOH Planning Division doing expenditure analyses and budget preparations.	6.1.1 Planning Division Records	
	6.2 Operations research study done on feasibility of drug sale rotating funds at community levels.	6.2.1 Study available and pilot begun, if feasible	
	6.3 Cost recovery by hospitals at 25% of non-personnel operational costs (current: 12%).	6.3.1 Hospital financial records	
7. Educational/promotional activities being supported through mass media and community efforts.	7.1 A radio and T.V. stations contract system in operation, which includes audience research, setting up of selection criteria and broadcast monitoring	7.1.1 Copy of contracts signed	
	7.2 80% of radio and all T.V. stations broadcasting messages are monitored on monthly basis	7.2.1 Monthly monitoring reports, one per health region 7.2.2 Monthly broadcasting programming schedules provided by stations	
	7.3 Four child survival manuals for health personnel at regional, area, and local levels produced and distributed.	7.3.1 Pre-test and distribution reports	
	7.4 70% of educational material designed, pre-tested and produced at the central level and distributed to regions	7.4.1 Communication plans and implementation programming 7.4.2 Formative evaluation reports 7.4.3 Production reports, including listing of programs produced 7.4.4 Station monitoring reports and broadcast	
	7.5 One MOH radio production studio in full operation	7.5.1 200 radio programs and spots produced yearly	

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>I. CHILD SURVIVAL HEALTH TECHNOLOGIES</p> <p><u>OUTPUTS</u></p> <p>1. Activities expanded for treatment against childhood dehydration caused by diarrheal diseases.</p>	<p>7.6 A systematic and permanent communications planning system being directed by the Division of Health Education.</p>	<p>7.6.1 Written plans for each MCH program or major child survival activity approved and funded at the beginning of each calendar year</p>	
<p>1.1.1 Research Studies</p> <p>1.1.2 Surveys</p>	<p>1.1 45% of cases of diarrhea at national level are treated with ORS. (Current level: 20%)</p>	<p>1.1.1 Research Studies 1.1.2 Surveys</p>	
<p>1.2 90% of children with diarrhea who are attended at the Health Centers (CESARs, CESAMOS) receive ORS.</p>	<p>1.2 90% of children with diarrhea who are attended at the Health Centers (CESARs, CESAMOS) receive ORS.</p>	<p>1.2.1 Direct Supervision Reports 1.2.2 Operational Investigations 1.2.3 Surveys</p>	
<p>1.3 90% of the Health Centers have adequate supplies of ORS in stock.</p>	<p>1.3 90% of the Health Centers have adequate supplies of ORS in stock.</p>	<p>1.3.1 Project's monitoring reports</p>	
<p>2. Polio vaccination coverage increased.</p>	<p>2.1 90% of children of 1 year vaccinated with 3rd dose of polio vaccination. (Benchmark: 64%)</p>	<p>2.1.1 M.O.H. Statistical Reports 2.1.2 Evaluations of the Five Year Immunization Plan</p>	
	<p>2.2 No cases of polio reported for 3 consecutive years.</p>		

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PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____

Project Title & Number: Health Sector II 522-0216

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. Immunization coverage of basic vaccines increased.	3.1 80% of children 1 year old vaccinated with D.P.T., measles and B.C.G. in accordance with immunization standards. (Benchmarks: DPT = 63%; Measles = 60%; BCG = 75%)	3.1.1 Statistical Reports of MOH 3.1.2 Serum-epidemiology Surveys	
4. Home treatment of mild ARI being done correctly, according to program standards.	4.1 40% of families adequately treat mild ARI in households. (Benchmark: 10%)	4.1.1 Surveys 4.1.2 Operations Research	
5. Technical capability of health services in treating moderate to severe ARI, strengthened.	5.1 90% of CESAMOs and 50% of CESARs have vaporizer/humidifiers. (None presently)	5.1.1 Surveys 5.1.2 Investigations 5.1.3 Reports	
6. Prenatal care, childbirth, and postnatal care, activities expanded.	6.1 70% of pregnant women that visit health centers (CESAR and CESAMO) will receive attention in compliance with program norms. (Benchmark: 12%)	6.1.1 Statistical Reports 6.1.2 Surveys	
	6.2 90% of pregnant women detected in the high risk group are attended to by health system. (40% in 1986)	6.2.1 Reference reports	
	6.3 60% of beneficiaries of the maternal care programs will have vaginal cytologies performed at intervals prescribed by MOH norms.		

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PROJECT DESIGN SUMMARY

Life of Project:
 From FY 88 to FY 95
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Project Title & Number: Health Sector II 522-0216

LOGICAL FRAMEWORK

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
7. Child spacing - family planning practices expanded.	7.1 90% of CESAR's will be distributing temporary contraceptive methods. (40% in 1986)	7.1 Surveys	
	7.2 60% of the voluntary personnel (Traditional Midwives and Health Guardians) will be distributing oral contraceptives and condoms. (None presently)	7.2 Surveys	
	7.3 50% of women of fertile age are aware of health risks of short intervals (under 2 years) between pregnancies.	7.3 KAP Surveys	
8. Promotion of breastfeeding increased.	8.1 50% of the mothers continue interval breastfeeding for up to 12 months. (current 24%)	8.1.1 Surveys	
		8.1.2 Field investigation	
9. Growth monitoring activities for children under five years to detect and treat malnutrition expanded health system.	9.1 80% of children under five years (at CESAR, CESAMO, CHA levels) have growth monitoring charts being appropriately used (baseline: 13.4% - 1987).	9.1.1 Program report on Monitoring and supervision	
		9.1.2 Surveys	
	9.2 80% of CESARES, CESAMOS, CHA have anthropometric equipment. (40% in 1986)	9.2.1 Program reports on Monitory and supervision	

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Project Title & Number: Health Sector II 522-0216

Life of Project:
From FY 88 to FY 95
Total U.S. Funding \$ _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	9.3 80% of mothers with children under 1 year know appropriate feeding practices. (20% in 1986)	9.3.1 Surveys	
10. Malaria and chagas control activities maintained and more targeted.	11.0 90% of areas indicated for spraying are covered. (90% in 1986)	10.1.1 Program Evaluation Report 10.1.2 Project monitoring reports	
	10.2 90% of activities planned for larval control will be accomplished. (90% in 1986)	10.2.1 Program Evaluation Report	
	10.3 Refresher training in case detection and treatment given to 5,000 volunteer collaborators	10.3.1 MOH Reports 10.3.2 Monitoring Reports	
	10.4 Household infestation rate for chagas vectors in targeted susceptible areas will be reduced by 50%		
11. Tuberculosis detection and control activities made more efficient.	11.1 90% of diagnosed cases being treated. (80% in 1986)	11.1.1 Program Evaluation Report 11.1.2 Statistical Reports of MOH	
	11.2 A reduction in rate of abandonment of treatment to 10%. (20% in 1986)		

PROJECT DESIGN SUMMARY

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$
 PAGE

Project Title & Number: Health Sector II 522-0216

LOGICAL FRAMEWORK

NARRATIVE SUMMARY III. RURAL WATER AND SANITATION	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUTS			
1. Expanded access to and use of safe water systems and human waste disposal systems in rural Honduras	1.1 500,000 more rural people have access to safe water in target regions.	1.1.1 Population Census and Surveys	
	1.2 530 aqueducts constructed by SANAA and 30 by MOH in project area and supported by PVO's	1.2.1 Field Visits 1.2.2 SANAA and MOH Reports	
	1.3 1600 wells with handpumps built and 400 wells improved by MOH		
	1.4 57,000 water seal latrines built (37,000 SANAA and 20,000 MOH)		
	1.5 20,000 pit latrines built by MOH		
	1.6 73 septic tanks installed (50 SANAA and 23 MOH)		
2. SANAA's maintenance capability for rural areas upgraded and further institutionalized.	2.1 TEOMAR maintenance technicians functioning and supported by SANAA field office.	2.2.1 Project Data and Field verification	
3. SANAA's promotional/educational capability for rural areas is upgraded and further institutionalized.	3.1 36 additional promoters are hired, trained and placed by SANAA.	3.1.1 Project Data and Field Verification 3.1.2 Evaluation of impact of health education component.	
	3.2 6 personnel of SANAA trained in sanitary engineering	3.2.1 Project Data	
4. Water quality practices institutionalized in SANAA and standards approved by MOH.	ing safe bacteriological standards and equipped with water treatment apparatus	Water sources for systems exceed-	4.1.1

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____

Project Title & Number: Health Sector II 522-0216

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
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IV. PRIVATE SECTOR

OUTPUTS

- | | | | |
|---|---|------------------------------------|--|
| 1. Participation by PVOs in supporting Child Survival and Rural Water and Sanitation activities | 1.1 A minimum of 5 and a maximum of 12 Private Voluntary Organizations will be receiving OPG support from the Project for Child Survival and RW&S activities. | 1.1.1 PVO progress reports | |
| 2. Packaging and distribution capacity for commercialization of oral rehydration salts established. | 2.1 Local private company has included ORS in its retail product line. | 2.1.1 Survey of Commercial outlets | |
| 3. Studies conducted on feasibility of establishing child survival health programs with (a) workers' unions and cooperatives, (b) private physicians and insurance companies (HMOs) | 3.1 Interest expressed by various medical services/investor groups as result of study. | 3.1.1 Studies available | |

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Life of Project:
 From FY 88 to FY 95
 Total U.S. Funding \$ _____
 PAGE 1

Project Title & Number: Health Sector II 522-0216

NARRATIVE SUMMARY		OBJECTIVELY VERIFIABLE INDICATORS				MEANS OF VERIFICATION		IMPORTANT ASSUMPTIONS
INPUTS	AID FUNDS		GOV FUNDS		PROJECT TOTAL		GRAND TOTAL	Continued availability of A.I.D. funding.
	FX	LC	FX	LC	FX	LC		
Commodities	6881.3	0.0	4415.3	1500.0	11296.6	1500.0	12796.6	
Vehicles	3394.5	0.0	0.0	0.0	3394.5	0.0	3394.5	
Construction	4776.2	6485.4	0.0	284.0	4776.2	6769.4	11545.6	
Training	750.0	2256.0	0.0	1003.1	750.0	3559.1	4009.1	
Supervision/Other								
Local Costs	0.0	3728.0	0.0	17414.7	0.0	11142.7	21142.7	
Technical Assistance	11890.0	0.0	0.0	0.0	11890.0	0.0	11890.0	
Evaluations/Audits/ Studies	972.5	1350.0	0.0	200.0	972.5	1550.0	2522.5	
Private Sector	6292.0	0.0	0.0	478.1	6292.0	478.1	6870.1	
Administration/Infra./ Contingency(10%)	7186.8	1190.5	360.6	360.6	7547.4	1551.1	9098.5	
Total	42243.2	15009.9	4775.9	21240.5	47019.2	36250.4	83269.6	



**SECRETARIA DE HACIENDA Y CREDITO PUBLICO
REPUBLICA DE HONDURAS**

programas a nivel regional y de área.

En espera de una solución favorable a la presente
solicitud, me suscribo de usted muy atentamente,



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SECRETARIO DE HACIENDA Y CREDITO PUBLICO
FRANCISCO BIRON

GC/CC/ream



4/11/87

SECRETARIA DE ESTADO
EN EL
DESPACHO DE SALUD PUBLICA
República de Honduras, Centro América

Tegucigalpa D.C. 3 de Noviembre de 1987

No. 3171-87

Señores

Dr. Benjamín Rivera

Ing. Juan Rafael Del Cid

Dr. Carlos Godoy Arteaga

Lic. Josefina Paz

PRESENTE.

✓ Proyecto A.T.D.

Estimados Señores:

Por el presente comunico a ustedes que esta Secretaría en sesión del CONSUMI celebrada el día de hoy martes 3 de Noviembre decidió iniciar un proceso de análisis del traslado del componente de Agua y Saneamiento del Ministerio de Salud Pública al Servicio Autónomo Nacional de Acueductos y Alcantarillados (SANAA), por lo que muy atentamente les solicito elaborar borrador de nota que enviaré al Señor Ministro de Planificación, Coordinación y Presupuesto (SECPLAN) y al Señor Gerente del SANAA que deberá contener en forma resumida:

- a) Antecedentes de la atención de los problemas de agua y saneamiento por parte de nuestro Ministerio,
- b) Planteamiento del problema que hasta ahora ha representado el manejo del componente de agua y saneamiento.
- c) Justificaciones de orden técnico, administrativo y legal que avalan esta decisión,
- d) Implicaciones que se prevén en la aplicación de esta decisión y
- e) Propuestas de etapas, pasos y estrategias que deberán ejecutarse en un tiempo estimado para negociar el traslado de esta responsabilidad y función.

Esta nota deberá ser elaborada en términos de una propuesta a aquellas autoridades, de una idea para que sea analizada por sus respectivas instancias y conocer sus opiniones al respecto y solicitarles el nombramiento de uno o dos funcionarios técnicos (o el número que ustedes crean conveniente) para que integren la comisión que de común acuerdo se crearía para analizar la posibilidad de trasladar la responsabilidad del componente de agua y saneamiento al SANAA.

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SECRETARIA DE ESTADO
EN EL
DESPACHO DE SALUD PUBLICA
República de Honduras, Centro América

No.

Mucho agradeceré me hagan llegar el borrador antes del día viernes 13 del presente mes para someterla a consideración del CONSUMI en su sesión del martes 17 del presente.

Atentamente,

DR. RUBEN VILLEDA BERMUDEZ
MINISTRO



SECRETARIA DE ESTADO
EN EL
DESPACHO DE SALUD PUBLICA
República de Honduras, Centro América

Tegucigalpa D.C. 28 de Diciembre de 1987

No. 3504-87

Señor Ministro:

El mejoramiento del estado de la salud de la población hondureña constituye una de las más altas prioridades del actual Gobierno de la República definida en el Plan Nacional de Desarrollo y, acorde con el compromiso contraído con la OMS de "Salud Para Todos en el Año 2,000", meta que solo puede alcanzarse mediante el mejoramiento de las condiciones de vida y salud de la población rural y urbano-marginal.

En 1981 el Gobierno de Honduras y la A.I.D. suscribieron un convenio de préstamo y donación para el Desarrollo Institucional del Ministerio de Salud Pública, a través del cual se reforzó la política de la extensión de la cobertura de salud mediante la estrategia de atención primaria y el fortalecimiento del sistema administrativo, gerencial, de la logística y del mantenimiento.

Los logros obtenidos a través de esta iniciativa han impactado positivamente en el incremento de los niveles de salud del pueblo hondureño tal como lo reflejan los indicadores de morbi-mortalidad disponibles en nuestro departamento de estadísticas y encuestas realizadas durante el desarrollo del Proyecto; sin embargo, es imperativo darle continuidad a este esfuerzo y enfocar las acciones del Ministerio de Salud hacia la descentralización administrativa-gerencial que permita la toma de decisiones en forma oportuna, efectiva y eficiente en apoyo a los programas a nivel regional y de área, niveles que en definitiva son los ejecutores de la política de salud del Ministerio de Salud Pública y son los que brindan los servicios directos a la población.

Consciente de esta necesidad y con el apoyo del personal nacional técnicamente calificado, la participación activa de los diferentes niveles técnicos y ejecutivos correspondientes, y de técnicos de la Agencia para el Desarrollo Internacional (A.I.D.), el Ministerio de Salud Pública elaboró un anteproyecto que refleja las áreas críticas y necesidades reales que deben ser apoyadas para consolidar y fortalecer las acciones iniciadas durante el Proyecto Sector Salud I.

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SECRETARIA DE ESTADO
EN EL
DESPACHO DE SALUD PUBLICA
República de Honduras, Centro América

No.

Es importante señalar que el Ministerio de Salud Pública considera como actividad central del proyecto el proceso de programación local, alrededor del cual giran programas tales como saneamiento básico y supervivencia infantil. También el proyecto tendrá un componente de apoyo al sector privado en respaldo a las acciones de salud.

Se calcula que el costo total de estos esfuerzos es de aproximadamente----- L. 150,000.000, de los cuales el Gobierno de la República de Honduras aportará una proporción acorde con los fondos presupuestados para 1988, y completados con las proyecciones de recursos para los próximos 4 años, y contemplados en el Plan Nacional para el Sector Salud.

Por lo anteriormente expuesto y considerando la crítica situación financiera por la que atraviesa el país, el Ministerio de Salud Pública por este medio solicita a la Secretaría de Hacienda y Crédito Público en representación del Gobierno de Honduras, que a su vez solicite de la Agencia para el Desarrollo Internacional el otorgamiento de una donación por L. 110.000.000 a ser usados para financiar lo que sería la consolidación y fortalecimiento de las acciones del Proyecto Sector Salud I.

En espera de su atención, lo saluda cordialmente,

R. Villeda
DR. RUBEN VILLEDA BERMUDEZ
MINISTRO

AL SEÑOR MINISTRO DE HACIENDA Y
CREDITO PUBLICO
ABOG. EFRAIN BU GIRON
SU DESPACHO

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HEALTH SECTOR II PROJECT NO. 522-0216
TABLE
METHODS OF IMPLEMENTATION AND FINANCING
(\$,000)

Date: MARCH 10, 1988.

<u>METHOD OF IMPLEMENTATION</u>	<u>METHOD OF FINANCING</u>	<u>APPROXIMATE AMOUNT (DOLLARS)</u>
<u>TECHNICAL ASSISTANCE</u>		
<u>PROJECT ASSISTANCE SERVICES</u>		
- Direct Personnel	Direct Payment	1,950.0
- Direct Profit Making Contractor	Direct Payment	656.2
- Host Country Profit Making Contractor	Direct Reimbursement	383.0
- Host Country Personal Service Contractor	Direct Reimbursement	2,801.2
- Host Country Non Profit Contractor*	Direct Reimbursement	900.0
- Direct Non Profit Contractor **	Direct Payment	10,243.4
- PVO ***	Direct Payment	2,985.0
<u>Commodities:</u>		
- Purchase Order	Direct Payment	190.0
- Host Country Profit Making Contractor	Direct Reimbursement	3,818.2
- Direct Profit Making Contractor	Direct Payment	14,892.0
<u>Construction</u>		
- PVO	Direct Reimbursement	5,852.0
- Host Country Profit Making Contractor	Direct Reimbursement	4,354.0
<u>Training</u>		
- Personal Service Contractor	Direct Payment	303.1
- Host Country Contract	Direct Reimbursement	2,219.0
- Direct Placement	Direct Payment	500.0
Contingency & Inflation		5,206.1
TOTAL PROJECT		<u>57,253.2</u>

- * Includes Investigation/Studies for nutrition and epidemiology and others which will be contracted locally.
- ** Includes all long and short term TA to be contracted with U.S.A. institutional contractors or others.
- *** Includes all personnel which will be contracted by PVO.

PROJECTION OF EXPENSES BY FISCAL YEAR

COMPONENT/SUBCOMPONENT	CY1988	CY1989 - CY1994							CY1995 (Partial)	TOTAL AID (\$000)	GOM COUNTERPART			TOTAL PROJECT
		CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	In-Kind			Cash	TOTAL		
1 - CHILD SURVIVAL: SUSTAINABLE SUPPORT SYSTEMS (Partial)														
01 - Local Programming														
1. Supervision & Monitoring Visits at the following levels:														
Health Center - Community	0.0	122.3	116.8	111.5	106.0	100.7	95.1	71.4	723.8	0.0	398.1	398.1	1121.9	
Area - Health Center	0.0	71.5	68.3	65.2	61.9	58.9	55.6	42.0	423.4	0.0	231.4	231.4	654.8	
Region - Area	0.0	15.8	15.1	14.4	13.7	13.0	12.3	8.9	93.2	0.0	51.0	51.0	144.2	
Central - Region	0.0	10.7	10.2	9.8	9.3	8.8	8.3	6.4	63.5	0.0	35.8	35.8	99.3	
2. Pick-up Trucks, 414 (43)	0.0	0.0	300.0	345.0	0.0	0.0	0.0	0.0	645.0	0.0	0.0	0.0	645.0	
3. TA (4 Local Programming Advisors)	0.0	640.0	640.0	640.0	640.0	640.0	640.0	480.0	4320.0	0.0	0.0	0.0	4320.0	
Sub-Total	0.0	860.3	1150.4	1185.9	820.9	821.4	811.3	608.7	6268.9	0.0	716.3	716.3	6985.2	
02 - Logistics/Administration														
1. Construction of Regional Offices with Laboratory and Training Center (3)	0.0	154.3	154.3	154.3	154.3	0.0	0.0	0.0	617.2	0.0	0.0	0.0	617.2	
2. Area level storage facilities (34)	0.0	270.0	270.0	270.0	270.0	0.0	0.0	0.0	1030.0	0.0	0.0	0.0	1030.0	
3. Equipment for new buildings	0.0	0.0	125.0	375.0	0.0	0.0	0.0	0.0	500.0	0.0	0.0	0.0	500.0	
4. TA (Logistics/Administration Advisor)	0.0	160.0	160.0	160.0	160.0	160.0	160.0	0.0	890.0	0.0	0.0	0.0	890.0	
5. Short-term TA (13.5 pers./mo. @ \$10,000/mo.)	0.0	20.0	20.0	20.0	20.0	20.0	20.0	15.0	135.0	0.0	0.0	0.0	135.0	
Sub-Total	0.0	604.3	729.3	979.3	604.3	180.0	20.0	15.0	3132.2	0.0	0.0	0.0	3132.2	
03 - Maintenance Systems														
1. Repair of CESARES (284)	0.0	96.0	91.7	87.6	83.2	79.0	74.7	55.8	568.0	0.0	312.7	312.7	880.7	
2. Misc. Medical Equipment & Vehicle Spare Part	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1235.3	1235.3	1235.3	
3. Contracting of Engineer/Const. Supervisor	0.0	18.0	18.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0	0.0	0.0	36.0	
Sub-Total	0.0	114.0	109.7	87.6	83.2	79.0	74.7	55.8	604.0	0.0	1548.0	1548.0	2152.0	
04 - Management Information Systems														
1. Nutritional Investigations/Studies	0.0	40.0	40.0	40.0	40.0	40.0	0.0	0.0	200.0	0.0	0.0	0.0	200.0	
2. Epidemiological Investigations/Studies	0.0	125.0	125.0	0.0	0.0	250.0	0.0	0.0	500.0	0.0	0.0	0.0	500.0	
3. Community Notating Fund Study	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	
4. Other Investigations/Studies	0.0	50.0	50.0	50.0	50.0	50.0	50.0	0.0	300.0	0.0	0.0	0.0	300.0	
5. Microcomputers (46)	0.0	32.2	32.2	32.2	32.2	32.2	0.0	0.0	161.0	0.0	0.0	0.0	161.0	
6. Computer Software & Misc. Supplies	0.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	
7. TA (Health Information Systems & Operations Research Advisor)	0.0	320.0	320.0	320.0	320.0	320.0	320.0	0.0	1920.0	0.0	0.0	0.0	1920.0	
8. Short-term TA (23 pers./mo. @ \$10,000/mo.)	0.0	40.0	40.0	40.0	40.0	40.0	15.0	15.0	230.0	0.0	0.0	0.0	230.0	

ANNEX D

05 - Human Resources Development	CY1988 (Partial)	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	CY1995 (Partial)	TOTAL AID (\$000)	GOM COUNTERPART			TOTAL PROJECT
										In-Kind	Cash	TOTAL	
1. Training Per Deim in the following areas:													
-Child Survival	0.0	68.3	65.2	62.3	59.2	56.2	53.1	40.2	404.5	0.0	223.2	223.2	627.7
-Malaria & Chagas	0.0	6.7	6.4	6.1	5.8	5.5	5.2	4.1	39.8	0.0	22.0	22.0	61.8
-Maintenance	0.0	11.2	10.7	10.2	9.7	9.2	8.7	6.4	66.1	0.0	35.8	35.8	101.9
-Local Programming	0.0	18.8	18.0	17.1	16.3	15.5	14.6	10.9	111.2	0.0	62.0	62.0	173.2
-Administration & Management	0.0	55.6	53.2	50.9	48.3	45.9	43.4	33.1	320.7	0.0	181.8	181.8	512.5
-Midwives	0.0	101.1	96.6	92.2	87.6	83.2	78.6	59.4	594.7	0.0	329.3	329.3	926.0
-Health Guardians	0.0	17.4	16.6	15.9	15.1	14.3	13.5	10.1	102.9	0.0	57.9	57.9	160.8
2. Long-Term Scholarships Abroad	0.0	160.0	160.0	160.0	160.0	160.0	160.0	0.0	600.0	0.0	0.0	0.0	600.0
3. Short-Term Training/Observation Visits	0.0	50.0	50.0	50.0	50.0	50.0	50.0	0.0	300.0	0.0	0.0	0.0	300.0
4. Course Materials	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	168.8	168.8	168.8
5. TA (Human Resources Advisor)	0.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	600.0	0.0	0.0	0.0	960.0
6. Short-term TA (13.5 pers./mo. @ \$10,000/mo.)	0.0	20.0	20.0	20.0	20.0	20.0	20.0	15.0	135.0	0.0	0.0	0.0	135.0
Sub-Total	0.0	609.3	596.8	564.7	572.0	559.8	547.1	179.2	3648.9	0.0	1060.8	1060.8	4729.7
06 - Health Financing													
1. TA (Management/Health Care Financing Advisor)	0.0	160.0	160.0	160.0	160.0	160.0	160.0	120.0	1080.0	0.0	0.0	0.0	1080.0
2. Short-term TA (13.5 pers./mo. @ \$10,000/mo.)	0.0	20.0	20.0	20.0	20.0	20.0	20.0	15.0	135.0	0.0	0.0	0.0	135.0
Sub-Total	0.0	180.0	180.0	180.0	180.0	180.0	180.0	135.0	1215.0	0.0	0.0	0.0	1215.0
07 - Education/Promotional Programs (Mass Media)													
1. Contracting of Radio Announcements	0.0	103.4	98.7	94.3	89.6	85.1	80.4	60.3	611.6	0.0	336.1	336.1	947.9
2. Audio-visual Equipment	0.0	75.0	6.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	75.0
3. Printing Costs of Educational Materials	0.0	41.3	39.4	37.7	35.6	34.0	32.1	23.5	243.8	0.0	133.6	133.6	377.4
4. Technical Assistance	0.0	180.0	180.0	180.0	180.0	180.0	180.0	0.0	900.0	0.0	0.0	0.0	900.0
5. Short-term TA (5.5 pers./mo. @ \$10,000/mo.)	0.0	0.0	0.0	0.0	0.0	20.0	20.0	15.0	55.0	0.0	0.0	0.0	55.0
Sub-Total	0.0	399.7	316.1	312.0	305.4	319.1	312.5	96.8	1865.6	0.0	469.7	469.7	2355.3
Total Sustainable Support Systems	0.0	3484.8	3701.5	3621.7	3069.0	2881.5	2150.6	1107.5	20215.6	0.0	3814.8	3814.8	24030.3

II - CHILD SURVIVAL: HEALTH TECHNOLOGIES	CY1988 (Partial)	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	CY1995 (Partial)	TOTAL	SDH COUNTERPART			TOTAL
									AID	COUNTERPART		PROJECT	
									(\$000)	In-kind	Cash	TOTAL	
8 - Diarrhea Control													
1. Purchase of ORS Packets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	540.0	540.0	540.0
2. Purchase of Educational Materials & Utensils (water filters, pots, cups, spoons & others)	0.0	45.0	0.0	45.0	0.0	0.0	0.0	0.0	90.0	0.0	0.0	0.0	90.0
3. Start-up of Program in Private Sector	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	15.5
4. Follow-up to 3. above	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
5. Operations Research	0.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	60.0	0.0	0.0	0.0	60.0
6. Project Evaluations/Studies	0.0	0.0	25.0	25.0	25.0	25.0	25.0	0.0	125.0	0.0	25.0	25.0	150.0
7. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
Sub-Total	0.0	75.5	40.0	85.0	40.0	40.0	35.0	0.0	315.5	0.0	565.0	565.0	680.5
9 - Immunopreventable Diseases													
1. Purchase of Laboratory Supplies	0.0	50.0	50.0	100.0	0.0	0.0	0.0	0.0	200.0	0.0	0.0	0.0	200.0
2. Purchase of Cold-Chain Equipment	0.0	196.5	196.5	0.0	0.0	0.0	0.0	0.0	393.0	0.0	0.0	0.0	393.0
3. Kerosene for cold-chain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	337.5	337.5	337.5
4. Per Diem for detection & vaccination of unprotected children by Aux. Nurses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1215.0	1215.0	1215.0
5. Operations Research	0.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	60.0	0.0	0.0	0.0	60.0
6. Project Evaluations/Studies	0.0	0.0	25.0	25.0	25.0	25.0	25.0	0.0	125.0	0.0	25.0	25.0	150.0
7. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
Sub-Total	0.0	259.0	284.0	137.5	37.5	37.5	35.0	0.0	790.5	0.0	1577.5	1577.5	2368.0
10 - Acute Respiratory Infections													
1. Purchase of humidifiers for CESAMOS (103) & CESARES (267)	0.0	116.5	116.5	233.0	0.0	0.0	0.0	0.0	466.0	0.0	0.0	0.0	466.0
2. Operations Research	0.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	60.0	0.0	0.0	0.0	60.0
3. Project Evaluations/Studies	0.0	0.0	25.0	25.0	25.0	25.0	0.0	0.0	100.0	0.0	25.0	25.0	125.0
4. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
Sub-Total	0.0	129.0	154.0	270.5	37.5	37.5	10.0	0.0	638.5	0.0	25.0	25.0	663.5
11 - Birth Spacing													
1. Contraceptives	50.0	200.0	200.0	200.0	200.0	200.0	200.0	100.0	1350.0	0.0	0.0	0.0	1350.0
2. Equipment & Supplies	0.0	31.1	31.1	31.1	0.0	0.0	0.0	0.0	93.3	0.0	0.0	0.0	93.3
3. Supplies for Cytologies (Slides, Cytology Spray, Spatula Ayre, Diamond Pencils, etc.)	0.0	150.0	0.0	150.0	0.0	0.0	0.0	0.0	300.0	0.0	0.0	0.0	300.0
4. TA (Child Survival w/emphasis in MCH/FP)	0.0	160.0	160.0	160.0	160.0	160.0	160.0	0.0	960.0	0.0	0.0	0.0	960.0
5. Short-term TA (12.5 pers./mo. @ \$10,000/mo.)	0.0	20.0	20.0	20.0	20.0	20.0	20.0	5.0	125.0	0.0	0.0	0.0	125.0
6. Operations Research	0.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	60.0	0.0	0.0	0.0	60.0
7. Project Evaluations/Studies	0.0	0.0	25.0	25.0	25.0	25.0	0.0	0.0	100.0	0.0	25.0	25.0	125.0
8. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
Sub-Total	50.0	573.6	448.6	598.6	417.5	417.5	390.0	105.0	3000.8	0.0	25.0	25.0	3025.8

	CY1988 (Partial)	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	CY1995 (Partial)	TOTAL AID (4000)	BHM COUNTERPART			TOTAL PROJECT
										In-kind	Cash	TOTAL	
12 - Breastfeeding & Growth Monitoring													
1. Purchase of Infant tape measures, scales, tape measures, incubators, bronchoscopes	0.0	95.0	95.0	0.0	0.0	0.0	0.0	0.0	190.0	0.0	0.0	0.0	190.0
2. Vitamins, iron & other pharmaceuticals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1125.0	1125.0	1125.0
3. Program Materials	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	139.7	139.7	139.7
4. Equipment & Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	139.8	139.8	139.8
5. Operations Research	0.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	60.0	0.0	0.0	0.0	60.0
6. Project Evaluations/Studies	0.0	0.0	25.0	25.0	25.0	25.0	25.0	0.0	125.0	0.0	25.0	25.0	150.0
7. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
8. Short-term TA (11.5 pers./mo. @ \$10,000/mo.)	0.0	20.0	20.0	20.0	20.0	20.0	20.0	15.0	135.0	0.0	0.0	0.0	135.0
Sub-Total	0.0	127.5	152.5	57.5	57.5	57.5	55.0	15.0	523.5	0.0	1429.5	1429.5	1952.0
13 - Other Programs: Vector Control, TB & AIDS													
Vector Control:													
1. Vehicles: -Pick-up Trucks, 414 (34)	0.0	204.0	0.0	204.0	0.0	0.0	0.0	0.0	408.0	0.0	0.0	0.0	408.0
-Yamaha 185cc Motorcycles (175)	0.0	306.3	0.0	306.3	0.0	0.0	0.0	0.0	612.5	0.0	0.0	0.0	612.5
-Dump Trucks, 414 (4)	0.0	70.0	0.0	70.0	0.0	0.0	0.0	0.0	140.0	0.0	0.0	0.0	140.0
-Front Loaders (4)	0.0	70.0	0.0	70.0	0.0	0.0	0.0	0.0	140.0	0.0	0.0	0.0	140.0
-Backhoe Loaders with tracks (2)	0.0	75.0	0.0	75.0	0.0	0.0	0.0	0.0	150.0	0.0	0.0	0.0	150.0
-Front Loaders with tracks (2)	0.0	75.0	0.0	75.0	0.0	0.0	0.0	0.0	150.0	0.0	0.0	0.0	150.0
-low boy trailer with tractor (1)	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
2. Hudson Spart Sprayers (300)	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	0.0	0.0	0.0	37.5
3. BTI (Bacillus thuringiensis israelensis)	0.0	100.0	100.0	200.0	200.0	200.0	200.0	0.0	1000.0	0.0	0.0	0.0	1000.0
4. Equipment & Accessories (knapsacks, raincoats, canteens, hoots, folding cots (1,200 ea.))	0.0	99.4	99.4	0.0	0.0	0.0	0.0	0.0	198.8	0.0	0.0	0.0	198.8
5. Fuel & Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1350.0	1350.0	1350.0
6. Insecticide (Fenitrothion)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1350.0	1350.0	1350.0
7. Lab Materials (lancets, micro slides, & reagent)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	562.5	562.5	562.5
8. Operations Research (Chagas)	0.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0
9. Project Evaluations/Studies	0.0	0.0	25.0	25.0	25.0	25.0	0.0	0.0	100.0	0.0	25.0	25.0	125.0
10. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5
Sub-sub-total	0.0	1149.6	256.9	1037.8	237.5	237.5	209.0	0.0	3099.3	0.0	3287.5	3287.5	6386.8
Tuberculosis Control:													
1. Regional workshops (Epi. Evaluations)	0.0	50.1	0.0	50.1	0.0	0.0	0.0	0.0	100.1	0.0	0.0	0.0	100.1
AIDS Support:													
1. Purchase of Condoms	0.0	25.0	25.0	25.0	25.0	25.0	25.0	18.8	168.8	0.0	0.0	0.0	168.8
2. Purchase of Reagents (Elisa/Western Blot)	0.0	25.0	25.0	25.0	25.0	25.0	25.0	18.8	168.8	0.0	0.0	0.0	168.8
Sub-total	0.0	1249.7	286.9	1137.8	287.5	287.5	250.0	37.5	3536.9	0.0	3287.5	3287.5	6824.4
Total Health Technologies	50.0	2414.3	1366.0	2286.9	877.5	877.5	775.0	157.5	8804.7	0.0	6909.5	6909.5	15714.2

****TOTAL CHILD SURVIVAL****

50.6	5879.0	5067.5	6108.5	3945.5	3759.0	2925.6	1265.0	29020.2	0.0	10724.3	10724.3	39744.5
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III - RURAL WATER AND SANITATION

14 - Rural Water & Sanitation (SANAA)	CY1988		CY1989						CY1990		TOTAL AID (\$000)		GDM COUNTERPART		TOTAL PROJECT
	(Partial)	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	(Partial)	In-kind	Cash	TOTAL				
1. Design and Construction	0.0	87.1	135.0	190.0	190.0	190.0	190.0	100.0	1082.1	0.0	0.0	0.0	1082.1		
2. Construction Materials	0.0	507.9	781.3	1000.0	1000.0	1000.0	1000.0	650.0	5935.0	0.0	0.0	0.0	5935.0		
3. Vehicles	0.0	278.1	0.0	278.1	0.0	0.0	0.0	0.0	586.2	0.0	0.0	0.0	586.2		
4. Equipment (Lab. Equip., radios, air conditioner)	0.0	200.0	0.0	200.0	0.0	0.0	0.0	0.0	400.0	0.0	0.0	0.0	400.0		
5. Tools	0.0	116.5	0.0	202.5	0.0	86.0	0.0	0.0	405.0	0.0	0.0	0.0	405.0		
6. Contracting of Vehicle Repair Services	0.0	40.1	40.1	40.1	40.1	40.1	40.1	30.0	270.6	0.0	150.2	150.2	422.8		
7. Purchase of Fuel & Lubricants	0.0	34.8	34.8	34.8	34.8	34.8	34.8	25.0	230.7	0.0	101.4	101.4	365.1		
8. Training	0.0	42.8	42.8	42.8	42.8	42.8	42.8	20.0	266.6	0.0	161.2	161.2	447.8		
9. Office Supplies & Other Operational Expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	249.8	249.8	249.8		
10. Salaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8691.7	8691.7	8691.7		
11. Health Education	0.0	40.6	40.6	40.6	40.6	40.6	40.6	20.0	266.6	0.0	161.2	161.2	447.8		
12. Per Diem	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1466.4	1466.4	1466.4		
13. Project Evaluations/Studies	0.0	0.0	75.0	0.0	0.0	75.0	0.0	0.0	150.0	0.0	25.0	25.0	175.0		
14. Audits	0.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	12.5	0.0	0.0	0.0	12.5		
Sub-Total	0.0	1346.6	1154.2	2633.5	1352.9	1513.9	1250.5	865.0	9617	0.0	11060.9	11060.9	20679.6		
15 - Rural Water & Sanitation (RWH)															
1. Construction Materials	0.0	281.5	181.6	400.0	250.0	250.0	250.0	100.0	1913.0	0.0	0.0	0.0	1913.0		
2. Equipment	0.0	0.0	75.0	75.0	0.0	0.0	0.0	0.0	150.0	0.0	0.0	0.0	150.0		
3. Vehicles	0.0	0.0	172.9	200.0	0.0	0.0	0.0	0.0	372.9	0.0	0.0	0.0	372.9		
4. Tools	0.0	0.0	75.0	75.0	0.0	0.0	0.0	0.0	150.0	0.0	0.0	0.0	150.0		
5. Contracting of Vehicle Repair Services	0.0	50.0	47.6	45.6	43.3	41.2	38.8	29.0	295.7	0.0	167.6	167.6	458.3		
6. Purchase of Fuel & Lubricants	0.0	27.7	26.0	24.4	22.7	21.1	19.3	21.6	222.7	0.0	120.6	120.6	345.3		
7. Training	0.0	45.0	46.8	44.7	42.5	40.2	38.1	26.9	290.3	0.0	159.7	159.7	450.0		
8. Salaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	787.6	787.6	787.6		
9. Per Diem	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	637.8	637.8	637.8		
10. Office Supplies & Other Operational Expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	123.7	123.7	123.7		
11. Health Education	0.0	49.0	46.6	44.7	42.5	40.2	38.1	26.9	290.3	0.0	161.0	161.0	350.3		
12. Project Evaluations/Studies	0.0	0.0	75.0	0.0	0.0	75.0	0.0	0.0	150.0	0.0	25.0	25.0	175.0		
13. Audits	0.0	0.0	2.5	2.5	2.5	2.5	0.0	0.0	10.0	0.0	0.0	0.0	10.0		
Sub-Total	0.0	467.2	859.4	921.9	513.5	460.2	394.2	208.4	3845.0	0.0	3032.0	3032.0	6877.0		
Total Rural Water and Sanitation	0.0	1813.8	2013.6	2955.4	1866.4	1974.1	1744.7	1073.4	13462.0	0.0	14092.9	14092.9	27556.5		

IV - PRIVATE SECTOR	CY1988 (Partial)	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	CY1995 (Partial)	TOTAL AID (\$000)	GDM COUNTERPART			TOTAL PROJECT
										In-kind	Cash	TOTAL	
16 - Private Sector													
1. Child Survival													
-ORS Distribution (PVO's & Commercial Firms)	0.0	15.8	21.0	21.0	21.0	21.0	21.0	15.8	176.5	0.0	0.0	0.0	136.5
-Support to PVO's	0.0	100.0	250.0	250.0	250.0	250.0	250.0	100.0	145.0	0.0	478.1	478.1	1928.1
-External Audits of PVO's	0.0	5.0	6.7	6.7	6.7	6.7	6.7	5.0	36.7	0.0	0.0	0.0	36.7
-Exploring Private Sector Alternatives	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
2. Rural Water and Sanitation													
-Support to PVO's	0.0	150.0	150.0	500.0	500.0	500.0	500.0	350.0	2650.0	0.0	0.0	0.0	2650.0
-Well Drilling	0.0	36.0	48.0	64.0	64.0	64.0	48.0	28.0	352.0	0.0	0.0	0.0	352.0
-Skilled Laborer Salaries	0.0	75.0	150.0	150.0	150.0	150.0	150.0	112.5	937.5	0.0	0.0	0.0	937.5
-Water Systems Design	0.0	58.7	116.7	116.7	116.7	116.7	116.7	87.5	729.3	0.0	0.0	0.0	729.3
Total Private Sector	0.0	440.1	792.0	1108.3	1158.4	1108.4	1085.7	698.8	6392.0	0.0	478.1	478.1	6870.1
V - Project Administration/Contingency/Inflation													
1. AID Personal Services Contractors (4)	225.0	300.0	300.0	300.0	300.0	300.0	300.0	225.0	2250.0	0.0	0.0	0.0	2250.0
2. Project Coordination Unit Personnel (10)	0.0	100.0	100.0	100.0	100.0	100.0	100.0	75.0	675.0	0.0	0.0	0.0	675.0
3. Per Diem for 2. above	0.0	10.0	10.0	10.0	10.0	10.0	10.0	7.5	67.5	0.0	0.0	0.0	67.5
4. Office Equipment	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0
5. Vehicles (2)	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	30.0
6. Contingency/Inflation(102)	27.5	862.0	938.3	1058.2	738.0	727.2	616.6	362.0	5329.8	0.0	721.2	721.2	6051.0
Sub-Total	252.5	1327.0	1248.3	1468.2	1148.0	1137.2	1026.6	669.5	8377.3	0.0	721.2	721.2	9098.5
TOTAL PROJECT COSTS	302.5	9481.9	9221.8	11640.6	8118.3	7998.7	6762.7	3706.6	57253.2	0.0	26016.5	26016.5	83269.6

RECURRENT COSTS BY SUBCOMPONENT	CY1988 (Partial)	CY1989	CY1990	CY1991	CY1992	CY1993	CY1994	CY1995 (Partial)	TOTAL (\$000)
LOCAL PROGRAMMING									
AID Funds:									
1. Supervision & Monitoring Visits at the following levels:									
Health Center - Community	0.0	122.3	116.8	111.5	106.0	100.7	95.1	71.4	723.8
Area - Health Center	0.0	71.5	68.3	65.2	61.9	58.9	55.6	42.0	423.4
Region - Area	0.0	15.6	15.1	14.4	13.7	13.0	12.3	8.9	93.2
Central - Region	0.0	10.7	10.2	9.8	9.3	8.8	8.3	6.4	63.5
Sub-Total AID	0.0	220.3	210.4	200.9	190.9	181.3	171.4	128.8	1304.0
GOH Funds:									
1. Supervision & Monitoring Visits at the following levels:									
Health Center - Community	0.0	28.9	39.0	49.4	59.2	69.6	80.0	72.0	398.1
Area - Health Center	0.0	16.8	22.7	28.7	34.4	40.5	46.5	41.9	231.4
Region - Area	0.0	3.7	5.0	6.3	7.6	8.9	10.2	9.2	51.0
Central - Region	0.0	2.6	3.5	4.4	5.3	6.3	7.2	6.5	35.8
Sub-Total GOH	0.0	52.0	70.2	88.8	106.6	125.2	144.0	129.6	716.4
Total	0.0	272.3	280.6	289.7	297.4	306.5	315.4	258.4	2020.3
MAINTENANCE SYSTEMS									
AID Funds:									
1. Repair Maintenance of CESARES (284)									
	0.0	96.0	91.7	87.6	83.2	79.0	74.7	55.9	568.0
Sub-Total AID	0.0	96.0	91.7	87.6	83.2	79.0	74.7	55.9	568.0
GOH Funds:									
1. Repair of CESARES (142)									
	0.0	22.7	39.6	38.8	46.5	54.7	62.9	56.6	312.7
2. Medical Equip. & Vehicle Spares									
	0.0	205.9	205.9	205.9	205.9	205.9	205.8	0.0	1235.3
Sub-Total GOH	0.0	228.6	236.5	244.7	252.4	260.6	268.7	56.6	1548.0
Total	0.0	324.6	328.2	332.2	335.6	339.6	343.3	112.5	2116.0

HUMAN RESOURCES DEVELOPMENT

AID Funds:

1. Child Survival	0.0	68.5	65.2	62.3	59.2	56.2	53.1	40.1	404.5
2. Malaria & Chagas	0.0	6.7	6.4	6.1	5.8	5.5	5.2	4.1	39.8
3. Maintenance	0.0	11.2	10.7	10.2	9.7	9.2	8.7	6.3	66.1
4. Local Programming	0.0	16.8	18.0	17.1	16.3	15.5	14.6	10.9	111.2
5. Administration & Management	0.0	55.8	53.3	50.9	48.3	45.9	43.4	32.1	330.7
6. Midwives	0.0	101.1	96.6	92.2	87.6	83.2	78.6	59.4	598.7
7. Health Guardians	0.0	17.4	16.6	15.9	15.1	14.3	13.5	10.1	102.9
Sub-Total AID	0.0	279.3	266.7	254.7	242.0	229.9	217.2	163.9	1653.8

GDH Funds:

1. Child Survival	0.0	16.2	21.9	27.7	33.2	39.0	44.9	40.4	223.2
2. Malaria & Chagas	0.0	1.6	2.2	2.7	3.3	3.9	4.4	4.0	22.0
3. Maintenance	0.0	2.6	3.5	4.4	5.3	6.3	7.2	6.5	35.8
4. Local Programming	0.0	4.5	6.1	7.7	9.2	10.8	12.5	11.2	62.0
5. Administration & Management	0.0	13.2	17.8	22.5	27.1	31.8	36.6	32.9	181.8
6. Midwives	0.0	23.9	32.3	40.8	49.0	57.5	66.2	59.6	329.3
7. Health Guardians	0.0	4.2	5.7	7.2	8.6	10.1	11.6	10.5	57.9
8. Course Materials	0.0	25.0	25.0	25.0	25.0	25.0	25.0	18.8	168.8
Sub-Total GDH	0.0	91.2	114.4	138.1	160.7	184.4	208.3	183.7	1080.8

Total	0.0	370.5	381.1	392.8	402.7	414.3	425.6	347.7	2734.7
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EDUCATIONAL/PROMOTIONAL PROGRAMS

AID Funds:

1. Contracting of Radio Announcements	0.0	103.4	98.7	94.3	89.6	85.1	80.4	60.3	611.9
2. Printing Costs of Educational Materials	0.0	41.3	39.4	37.7	35.8	34.0	32.1	23.5	243.8
Sub-Total AID	0.0	144.7	138.2	132.0	125.4	119.1	112.6	83.8	855.7

GDH Funds:

1. Contracting of Radio Announcements	0.0	24.4	32.9	41.7	50.0	58.8	67.6	60.8	336.1
2. Printing Costs of Educational Materials	0.0	9.7	13.1	16.6	19.9	23.4	26.9	24.2	133.6
Sub-Total GDH	0.0	34.1	46.0	58.2	69.9	82.1	94.4	85.0	469.8

Total	0.0	178.8	184.2	190.2	195.3	201.2	207.0	168.8	1325.5
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DIARRHEA CONTROL

AID Funds:

Sub-Total AID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. ORS Packets*	0.0	80.0	80.0	80.0	80.0	80.0	80.0	60.0	540.0
2. Project Evaluations/Studies	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0

Sub-Total GOH	0.0	80.0	92.5	80.0	92.5	80.0	80.0	60.0	565.0
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Total	0.0	80.0	92.5	80.0	92.5	80.0	80.0	60.0	565.0
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IMMUNOPREVENTIBLE DISEASES

AID Funds:

Sub-Total AID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. Kerosene for Cold-Chain	0.0	50.0	50.0	50.0	50.0	50.0	50.0	37.5	337.5
2. Per diem for vaccination campaigns	0.0	180.0	180.0	180.0	180.0	180.0	180.0	135.0	1215.0
3. Project Evaluations/Studies	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0

Sub-Total GOH	0.0	230.0	242.5	230.0	242.5	230.0	230.0	172.5	1577.5
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Total	0.0	230.0	242.5	230.0	242.5	230.0	230.0	172.5	1577.5
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ACUTE RESPIRATORY INFECTIONS

AID Funds:

Sub-Total AID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. Project Evaluations/Studies	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
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Sub-Total GOH	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
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Total	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
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BIRTH SPACINGAID Funds:

Sub-Total AID

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. Project Evaluations/Studies

0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	25.0
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Sub-Total GOH

0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	25.0
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Total

0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	25.0
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BREASTFEEDING & GROWTH MONITORINGAID Funds:

Sub-Total AID

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. Prenatal Vitamins & Irons

0.0	166.7	166.7	166.7	166.7	166.7	166.7	166.7	125.0	1125.0
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2. Program Materials and Supplies

0.0	41.4	41.4	41.4	41.4	41.4	41.4	41.4	31.0	279.5
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3. Project Evaluations/Studies

0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	25.0
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Sub-Total GOH

0.0	208.1	220.6	208.1	220.6	208.1	208.1	208.1	156.0	1429.5
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Total

0.0	208.1	220.6	208.1	220.6	208.1	208.1	208.1	156.0	1429.5
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OTHER PROGRAMS: VECTOR CONTROL, TB & AIDSAID Funds:

Sub-Total AID

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. Fuel and Oil

0.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	150.0	1350.0
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2. Insecticides

0.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	150.0	1350.0
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3. Laboratory materials and reagents

0.0	83.3	83.3	83.3	83.3	83.3	83.3	83.3	62.5	562.5
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4. Project Evaluations/Studies

0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	25.0
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Sub-Total GOH

0.0	483.3	495.8	483.3	495.8	483.3	483.3	483.3	362.5	3287.5
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Total

0.0	483.3	495.8	483.3	495.8	483.3	483.3	483.3	362.5	3287.5
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Sub-total Child Survival (AID)	0.0	740.3	707.0	675.2	641.4	609.3	575.8	432.5	4381.5
Sub-total Child Survival (GOM)	0.0	1407.3	1543.5	1531.1	1665.9	1653.7	1716.8	1205.9	10724.5
Total Child Survival	0.0	2147.6	2250.5	2206.3	2307.3	2263.0	2292.6	1638.4	15106.0

RURAL WATER AND SANITATION (SAMAA)

AID Funds:

1. Contracting of Vehicle Repair Services	0.0	40.1	40.1	40.1	40.1	40.1	40.1	30.0	270.6
2. Purchase of Fuel & Lubricants	0.0	34.8	34.8	34.8	34.8	34.8	34.8	24.9	233.7
3. Training	0.0	42.8	42.8	42.8	42.8	42.8	42.8	30.0	286.6
4. Health Education	0.0	42.8	42.8	42.8	42.8	42.8	42.8	30.0	286.6
Sub-Total AID	0.0	160.4	160.4	160.4	160.4	160.4	160.5	114.9	1077.6

GOM Funds:

1. Salaries	0.0	1287.7	1287.7	1287.7	1287.7	1287.7	1287.7	965.8	8691.8
2. Contracting of Vehicle Repair Services	0.0	22.6	22.6	22.6	22.6	22.6	22.6	16.9	152.2
3. Purchase of Fuel & Lubricants	0.0	19.5	19.5	19.5	19.5	19.5	19.5	14.6	131.4
4. Training	0.0	23.9	23.9	23.9	23.9	23.9	23.9	17.9	161.2
5. Health Education	0.0	23.9	23.9	23.9	23.9	23.9	23.9	17.9	161.2
6. Administrative/Operational Costs	0.0	37.0	37.0	37.0	37.0	37.0	37.0	27.8	249.8
7. Per Diem	0.0	220.5	220.5	220.5	220.5	220.5	220.5	165.4	1488.4
8. Project Evaluations/Studies	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
Sub-Total GOM	0.0	1635.0	1647.5	1635.0	1647.5	1635.0	1635.0	1226.2	11060.9
Total	0.0	1795.4	1807.9	1795.4	1807.9	1795.4	1795.5	1341.1	12138.5

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RURAL WATER AND SANITATION (RWH)

AID Funds:

1. Contracting of Vehicle Repair Services	0.0	50.0	47.8	45.6	43.3	41.2	38.9	29.0	295.7
2. Purchase of Fuel & Lubricants	0.0	37.7	36.0	34.4	32.7	31.0	29.3	21.6	222.7
3. Training	0.0	49.0	46.6	44.7	42.5	40.3	38.1	28.9	290.3
4. Health Education	0.0	49.0	46.8	44.7	42.5	40.3	36.1	28.9	290.3
Sub-Total AID	0.0	185.7	177.3	169.4	160.9	152.9	144.4	103.3	1098.9

GMH Funds:

1. Salaries	0.0	116.7	116.7	116.7	116.7	116.7	116.7	67.5	787.6
2. Contracting of Vehicle Repair Services	0.0	11.8	15.9	20.2	24.2	28.4	32.7	29.4	162.6
3. Purchase of Fuel & Lubricants	0.0	8.9	12.0	15.2	18.2	21.4	24.6	22.2	122.6
4. Training	0.0	11.6	15.7	19.8	23.8	27.9	32.1	28.9	159.6
5. Health Education	0.0	112.0	123.2	135.5	149.1	164.0	180.4	148.6	1013.0
6. Supervision Per Diem	0.0	94.5	94.5	94.5	94.5	94.5	94.5	70.9	637.9
7. Office Supplies & Other Operational Expenses	0.0	18.3	18.3	18.3	18.3	18.3	18.3	13.8	123.8
8. Project Evaluations/Studies	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	25.0
Sub-Total GMH	0.0	373.8	408.8	420.2	457.3	471.3	499.4	401.5	3032.0

Total	0.0	559.5	586.1	589.5	618.2	624.1	643.8	509.6	4130.9
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PRIVATE SECTOR

AID Funds:

Sub-Total AID	0.0								
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GMH Funds:

1. Support to PVO's	0.0	70.8	70.8	70.8	70.8	70.8	70.8	53.1	478.1
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Sub-Total GMH	0.0	70.8	70.8	70.8	70.8	70.8	70.8	53.1	478.1
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Total	0.0	70.8	70.8	70.8	70.8	70.8	70.8	53.1	478.1
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INFLATION/CONTINGENCY

AID Funds:

Sub-Total AID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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GOH Funds:

1. Inflation/Contingency	0.0	120.2	120.2	120.2	120.2	120.2	120.2	90.2	811.4
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Sub-Total GOH	0.0	120.2	120.2	120.2	120.2	120.2	120.2	90.2	811.4
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Total	0.0	120.2	120.2	120.2	120.2	120.2	120.2	90.2	811.4
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Sub-total Rural Water and Sanitation (AID)	0.0	346.1	337.8	329.8	321.3	313.3	304.9	223.2	2176.5
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Sub-total Rural Water and Sanitation (GOH)	0.0	2008.8	2056.3	2055.1	2104.7	2106.2	2134.3	1627.7	14092.9
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Total Rural Water and Sanitation	0.0	2354.9	2394.0	2384.9	2426.0	2419.5	2439.2	1850.9	16269.4
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TOTAL AID	0.0	1086.4	1044.8	1005.0	962.7	922.6	860.6	655.7	6558.0
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TOTAL GOH	0.0	3607.1	3790.8	3777.3	3961.7	3950.9	4042.1	2976.9	26106.8
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GRAND TOTAL	0.0	4693.5	4835.6	4782.3	4924.4	4873.5	4922.9	3632.6	32664.8
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*May be financed through foreign donations and/or in-kind MOH funds.
The Project will require only that the commodities/services are provided.

1987

Engineering Analysis

1. General Description

The engineering and construction phase will entail routine planning, design, and construction of community water supply systems to serve the minimum domestic needs of rural communities ranging in size from 200 to 2000 inhabitants. The population of most of the communities where systems will be installed will be small. The project will install water seal latrines for dwellings in communities where piped water systems have been installed. Pit latrines will be installed in communities with hand pumps. Water treatment will be provided in cases where a naturally safe source cannot be provided.

2. Water Purity Standards

For all completed systems the Project will use SANAA standards for safe water. These standards place water sources into three groups based on turbidity, color and coliform count. The standards are:

	Turbidity Jackson Units	Color STd Units	Coliform (M.P.N.) No. per 100 Ml.
Safe	10 or less	10 or less	20 or less
Unacceptable	11-50	11-20	21-100
Polluted	51-200	21-50	101 or more

Efforts will be concentrated in the development of protected, safe water sources to minimize contamination hazards and reliance on treatment measures. When natural protection is not sufficient to guarantee water quality, treatment facilities will be installed to meet the standards. When an appropriate water supply exists, from either a protected or an unprotected source, aqueducts will be built. Unsafe water will be treated with either chlorine, biological contact filtration or slow sand filtration or a combination as required. In smaller communities hand dug wells with hand pumps will be installed. In others, where needed, mechanical drilled wells will be constructed equipped with pumps.

3. Technical Description of Water Supply and Human Waste Disposal Systems

a) Community Water Systems

1. Hand Pumped Water Supply Systems

There is a need for a well program for the smaller dispersed communities (which contain approximately half of the rural population) where aqueducts are not feasible or economical. Where community wells are installed, the selected site will take into consideration the center of usage to minimize the distance from the community well to individual houses. Each well will serve between five and seven families. Standard piston type hand pumps will be installed on

a concrete sealed wall cap, a concrete ring platform will provide for appropriate drainage away from the wall to avoid sub-surface water contamination. Wells will be installed where the hydrostatic level is less than 80 feet below the surface and where hand excavation is feasible. Acceptable sanitary engineering practice dictates that wells should be placed at least 30 meters from latrines. Under this Project such wells will be installed at an estimated unit cost of \$174 per family. The cost estimate is based on actual 0166 costs. This technology is simple and widely practiced in Honduras.

ii. Gravity Flow Aqueducts

These are constructed by tapping water sources above the community and piping the water to the village. The criteria permitting use of this alternative is a source at an elevation adequate to supply water to the village by gravity with a hydrostatic head of at least 10 (p.s.i.) in the last house, and a minimum quantity of water in the dry season of at least twice the community's daily needs. Calculations show the source can be as far away as four kilometers before the cost per person becomes economically prohibitive and another alternative must be considered. The gravity flow aqueducts without treatment are calculated to cost about \$330 per family to build for the average target village of 300 people. These costs are based on actual data from Project I (0166)

Where the surface water quality does not meet minimum standards, treatment will be provided which will increase the cost of the system by about \$85 per beneficiary family.

iii. Water Treatment Facilities

In arriving at a decision as to the source to be used, PRASAR will usually have more than one option. The preferred water source under this program will be a reliable, naturally safe source within a reasonable distance from the community. In most cases the quality of the surface water or well will be such that no chemical treatment of the water will be required. In these instances, the only requirement will be protection of the source and the supply system.

In some cases, aqueduct sources will not meet safe water standards. For such cases, IDB has assisted SANAA to design standard treatment units consisting of biological contact filters, slow sand filters, and chlorinators. Actual combinations of these technologies will be used to achieve safe water standards. For low turbidity and high coliform count, a slow sand filter will be used. For color or low turbidity and low coliform count, the biological filter will be used. In each case the treatment will bring the water to the excellent category standard. This project will use the same standards and designs developed for the IDB Project for treatment of waters in the unacceptable and polluted categories. Based on the SANAA designs, it is estimated that these filtration systems, employed singly or in combination would add, \$4,250 to the cost of 100 of the aqueducts.

ii. A water sealed latrine differs from the above since the concrete slab can be placed in front of a covered pit and the human excreta is actually flushed into the collection pit. The facility can be located adjacent to, or in, the house. Water sealed latrines may also be connected with multi-family septic tank systems or oxidation ponds. The cost of these latrines is \$84.

iii. Multi-family septic tanks, designed in accordance with standard sanitary engineering practices, may be constructed in communities served by aqueducts and individual taps where the houses are not widely dispersed. Each pour-flush latrine will be connected to a main sewer pipe line that will have a slope adequate to maintain a flow of two feet per second (solids settle out at a velocity under two feet per second) and will lead into the community septic tank, where settled solids (sludge) are held long enough to undergo digestion. Effluent water is passed into tile fields or absorption wells where it percolates into the subsoils. Effluents from septic tanks have the remote possibility of causing contamination of groundwater by bacteria and virus not killed off in the sludge digestion process. However, research has shown that these contaminants (bacteria and viruses) will be removed and the quality of the water improved by percolation through granular sands and soils. The design of the septic tanks and tile fields or absorption well will be adequate to handle the load for a population projected 20 years into the future. A multi-family septic system is estimated to cost \$490 per family.

4. Types of Approaches To Rural Water/Sanitation Maintenance:

- a) Maintenance by local authorities only.
- b) Maintenance by local authorities with support from a central office
- c) A multi-tiered system in which local efforts are supported by a regional organization and national level efforts are directed towards standards and supervision.

Under all of these schemes, the community is expected to pay for routine operation and maintenance. However, their capacity to do so is limited because of their low incomes and the cost of the backup and training systems that are needed.

Recent trends to have the local community self-sufficient in operation and maintenance matters have not been matched with financial schemes that reflect village incomes. The villager's income is very erratic. In addition villages often do not appreciate the importance of reserve funds for emergencies and repairs since traditionally, political and/or central office funds have addressed these needs.

It is for this reason that WASH report 129 presented to USAID/Honduras in September 1984 recommended that a formal system for maintenance be instituted in SANAA.

iv. Pumping Systems or Pumped Water Systems

In some cases, water sources will be at a lower elevation with respect to the community and pumping equipment will be needed to pipe the water to an elevation from which the village can be served by gravity. Calculations show the source can be as far away as 1.5 kilometers and a maximum of 60.0 meters below the point selected for the distribution tank, before the cost per person becomes economically prohibitive and another alternative must be considered. Electrical, gasoline or diesel powered pumps can be used for these systems.

v. Mechanically Drilled Wells

In areas where a source of water is not available to build one of the prior systems, mechanical drilled wells will be used where electricity can be obtained. Wells should be located at a distance of no less than 30 meters from latrines or any other possible source of contamination.

vi. Solar Powered Water Systems

Approximately eight solar powered water systems will be installed in communities ranging from 500 to 1,000 inhabitants. These solar powered water systems will be connected to a pump which will deliver water to a storage tank with capacity for a three day supply for the community. Water will be piped to individual patio taps. Solar pumps have proven to be easy to install and require little maintenance. In addition, they are considered reliable and do not represent a recurrent cost element.

b) Domestic Sanitation Systems

This Project applies the various alternative human water disposal systems found most acceptable to recipients consistent with their technical specifications and affordability. The most commonly employed alternative will be pit latrines for every household in recipient communities. Water sealed latrines will generally be installed in rural communities that are serviced with a piped water system serving individual family taps. In some communities, where economically feasible and technically desirable, multi-family septic tanks serving between four and forty families will be constructed. A description of these systems follows:

1. A simple pit latrine consists of a concrete slab provided generally with a cement commode placed over a 2'-8" x 2'-8" x 6' hole. Loan funds will finance the cement, iron re-bars, wooden seat cover and roofing sheets. Each recipient family will be expected to dig the hole, cast the slab and cement commode (if desired) and furnish the local materials to construct the house. These latrines will be located at least 30 meters from wells in communities where houses are dispersed and where soils allow hand digging and adequate percolation. The established cost per family is \$54.

SANAA consequently established a unit exclusively dedicated to ensuring that each water system receive the appropriate operation and maintenance necessary to:

- 1) supply adequate quantities of safe water to the users of the systems completed by SANAA, and;
- 2) collect sufficient funds from the users to pay operation and maintenance costs as well as SANAA's support services to the system.

A regional fund for operation and maintenance of rural water systems (FROMAR) will be established in the new Regional Offices and will be exclusively designated to provide operation and maintenance services to the communities. The funds for FROMAR will be collected from each community according to the water quantities used by them and the requirements for operational costs.

The payments made by the community will be deposited in the FROMAR and controlled by the Regional Supervisor of the Rural Aqueducts and the Regional Chief to pay for the Service of the TEOMAR, regional support equipment for operation and maintenance and storage services. FROMAR will pay salaries, per diem, travel expenses and support equipment. FROMAR will also pay for spare parts and storage.

5. Justification for Water Collection Rates

Under the Operation and Maintenance Plan for Rural Aqueducts, the fees collected will be utilized to pay for local operating costs (for example the cost of the operator and the purchase of chlorine) and maintenance costs. In carrying out the collection of fees, the treasurer of the Administrative Junta (who is freely elected by a popular assembly) receives 10% in compensation for collecting and accounting the fees.

Accordingly, SANAA will have the capacity to provide the following support:

- Training of community personnel (operators and treasurers);
- Supplying spare parts and material not available in the community;
- Periodic inspections and consulting services on technical, financial and administrative matters;
- Assistance to carry out preventive and corrective maintenance activities based on a fee of L2.50 (\$1.25) per month for each household. While WASH report 129 of September 1984 suggested a fee of 4.00 lempiras per family per month to cover operations and maintenance, resistance to this charge has been widespread in beneficiary communities. Recent economic analysis indicates however, that the charge of 2.50 is sufficient to cover operations and maintenance costs. Nevertheless, during the implementation of this Project, charges will have to be increased gradually in order to accomodate what will necessarily be a rise in costs throughout the life of the Project.

ANNEX G

ISSUE: USAID/Honduras hereby requests a waiver of A.I.D. origin requirements for the purchase of motorcycles and spare parts for the Health Sector II Project. Needed are 335 off/on road, four stroke, 185 to 200 cc motorcycles to be used by the Vector Control Division (VCD) of the Ministry of Health (MOH) and the National Autonomous Water and Sewerage Authority (SANAA). These vehicles are currently available in the United States but are manufactured in Japan.

A. Cooperating Country:	Honduras
B. Project:	Health Sector II
C. Description of Goods to be procured:	335 off/on road, four stroke, 185 to 200 cc motorcycles and spare parts
D. Estimated Cost of Goods:	\$995,000
E. Probable Source:	United States (000)
F. Probable Origin:	Japan (899)

BACKGROUND: The Vector Control Division (VCD) of the Ministry of Health (MOH) is charged with lowering the prevalence of malaria in Honduras, an activity assisted under the Health Sector I Project (522-0153). To achieve this goal the VCD has implemented a multifaceted attack against both the malaria parasite and its vector. A full description of the MOH's strategy is beyond the scope of this memo. Nevertheless, two important participants in that attack are VCD evaluators who supervise and supply the nearly 6000 voluntary collaborators present in practically every Honduran village and the 40 entomology auxiliaries who work in special study areas. The VCD, through the establishment of several study areas, is conducting long term studies of the malaria vector and the population at risk from the vector. These studies are providing up to date information which will allow the VCD to implement more efficient and cost effective control methods.

Similarly, sanitation promoters from SANAA's division of education and promotion are required to travel frequently to the countryside where they conduct regular community workshops on the importance of clean water and hygienic sanitation practices. Studies have shown that education and promotion efforts must go hand in hand with the construction of water and sanitation facilities if these systems are to be maintained and used effectively. Hence, it is essential that SANAA promoters maintain regular contact with the isolated beneficiary population of this Project.

Based on experience in the VCD and malaria programs in other countries, it has been determined that a standard, street legal motorcycle capable of off road use, equipped to carry two persons, and having a four cycle, air cooled, 185/200 CC gasoline engine with manual transmission is the most appropriate vehicle. This determination is based on the following:

Off road motorcycle: The vast majority of voluntary collaborators work in rural localities not serviced by paved roads. This requires that the vehicle be capable of fording streams, crossing muddy and rocky terrain, and traveling on narrow foot paths. This precludes the use of three or four wheel vehicles as well as motorcycles designed primarily for street use.

Street legal: While the vehicle must be capable of rough, off road use, it must also be driveable in normal traffic. The vehicle must be equipped with lights and turn signals so that it can be licensed for street use.

This precludes the use of three wheel vehicles, two wheel drive motorcycles, and other special purpose off road vehicles.

Four stroke engine: The VCD has had poor results with previously purchased two cycle engines for the following reasons: 1) the two cycle engine requires a special oil which is not readily available in Honduras and use of the available oil leads to excessive temperatures and premature engine failure; 2) these motorcycles will be used for extended periods, at low speeds, off road, and in hot climates which also leads to overheating and premature engine failure in the two cycle version; 3) because of the critical nature of the correct gas/oil mixture required by a two cycle engine, it requires more frequent maintenance than does the four cycle engine; and 4) if proper maintenance is not provided, the two cycle engine is more apt to suffer damage than a comparable four cycle engine.

185/200 CC engine: Previous VCD experience with smaller engine sizes has yielded poor results. The vehicle frequently must carry two persons plus equipment, and engines significantly smaller than 200 CC have not been strong enough to cross rough terrain, particularly steep inclines. The excessive demand placed on the smaller motors has also led to premature engine failure. At the same time, larger engines are not required as they will increase the cost of operation and maintenance.

Manual transmission: Because of the range of speeds at which the vehicle will be used, a manual transmission is needed. An automatic transmission also requires parts and maintenance not available in Honduras.

Standard Motorcycle: Because of the unavailability of parts and trained mechanics, speciality vehicles such as three or four wheel vehicles, two-wheel drive vehicles, vehicles with over-size tires and those designed specifically for off road use are not suitable.

Justification: Delegation of Authority No. 40 authorizes the Regional Assistant Administrator to waive source/origin requirements to \$3 million. AID Handbook 1, Supplement B, Section 4C2D1 (A) authorizes the waiver of the U.S. source and origin requirement when "The commodity is not available from countries and areas included in

the authorized geographic code." AID Handbook 1B Section 4C2D1 (A) authorizes waiver of U.S. source and origin for motor vehicles when there is an inability of a U.S. manufacturer to provide a particular type of vehicle needed, e.g. lightweight motorcycles. Furthermore, State 154061 of May 1987 indicates that SER/OP/COMS has checked with Harley Davidson International, the only known U.S. manufacturer of motorcycles regarding the availability of motorcycles in the 200CC engine class. Harley Davidson does not manufacture motorcycles of this size.

RECOMMENDATION: That you approve a source and origin waiver for the purchase of 335 off/on road, four stroke, 185/200 CC motorcycles under project 522-0216, Health Sector II certifying thereby that the "exclusion of procurements from free world countries other than the cooperating country and countries included in Code 941 would seriously impede attainment of U.S. foreign policy objectives and objectives of the Foreign Assistance Program."

Approved: _____

Disapproved: _____

Date: _____

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ISSUE: Source and origin waiver to permit procurement from a Geographic Code 899 (Free World) country.

FACTS:

(A) Cooperating Country	:	Honduras
(B) Authorizing Document	:	Project Agreement 522-0216
(C) Project	:	Health Sector II
(D) Nature of Funding	:	Grant
(E) Description of Goods to be purchased	:	Electrolux Electric Refrigerators/Freezers and spare parts
(F) Approximate Value	:	\$100,000
(G) Probable Source & Origen	:	Sweden (Geographic Code 899)

BACKGROUND: As part of the Health Sector II Project's continued support to the Ministry of Health's (MOH) Immunization Program, a procurement of approximately 200 refrigerator/freezers and miscellaneous spare parts is currently contemplated for use in their cold-chain. Due to significant advances in the electrification of large areas of the country, and the increased dependability of electric over gas/kerosene powered refrigerator/freezers (fewer spare parts and routine maintenance are required for electric refrigerator/freezers than for kerosene refrigerators), the units contemplated herein will replace the oldest, most worn, of the kerosene refrigerators currently in use, especially those other than Electrolux brand.

DISCUSSION: Electrolux equipment is used widely throughout the world in LDC countries where there is no electricity or only intermittent electrical service.

Electrolux brand equipment has been standardized by UNICEF. Originally, because UNICEF-provided equipment was found to be approximately fifty percent cheaper than all other suppliers, the MOH decided to standardize all of its cold-chain equipment around that provided by UNICEF. This has enabled the MOH to develop a universal maintenance program. Unlike the MOH Division of Transportation, where several different makes of vehicles must be maintained, and thus several different inventories of spare parts kept in stock, the Epidemiology Division has had to stock only one make of spare parts which are readily available on the local market. A complete inventory of spare parts has been maintained over the past few years which has directly contributed to significant increases in vaccination coverage in the under five age group.

Standardization has also enabled the MOH to design single training courses for refrigerator maintenance technicians which have been successfully implemented nationwide. These technicians, in turn, have trained auxiliary nurses who use this equipment in daily operations in the approximately 519 rural health centers located throughout the country for which they are directly responsible.

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AUTHORITY: Pursuant to HB 18, Chapter 5B 4 (a), a waiver may be granted when the commodities are not available from countries or areas included in the authorized geographic code. This waiver may be granted by the Assistant Administrator if the value of the waiver does not exceed \$5 million.

RECOMMENDATION: For the above stated reasons, it is recommended (1) that you waive the source/origin requirements set forth in HB 18 to allow procurement of Electrolux refrigerator/freezers and miscellaneous spare parts from countries included in Geographic Code 899, and (2) that you certify that exclusion of procurement from free world countries other than the cooperating country and countries included in Geographic Code 941 would seriously impede attainment of U.S. foreign policy objectives and objectives of the foreign assistance program.

Approved: _____

Disapproved: _____

Date: _____

G.

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Analytical Basis for PP Preparation

The following documents were consulted and served as a basis for this PP:

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3. Control de las Infecciones Respiratorias Agudas en los Niños, Pan American Health Organization, May 1986.
4. The Costs of Illness in Honduras, Hartman, Foreit, Garcia, November, 1984.
5. Lineamientos Generales para el Desarrollo del Area Social, CONSUPLANE, June, 1986.
6. Encuesta Nacional de Prevalencia del Uso de Anticonceptivos, 1983.
7. First External Assessment of Health Sector I, Honduras, Westinghouse, 1984.
8. Necesidades Prioritarias de Salud en Centro America y PAnama, Organizaci8n Panamericana de la Salud, 1984.
9. Child Survival: A Report to Congress on the A.I.D. Program, A.I.D./Washington.
10. Country Development Strategy Statement, FY 1986-90, Honduras.
11. Follow-on Recommendations for the Honduran Health Sector I Project Final Evaluation, September, 1986, Development Associates.
12. Political Nacional de Salud, Ministerio de Salud P8blica, February 1986.
13. Agency Health Financing Guidelines, A.I.D./Washington, July 1986.
14. The A.I.D. Child Survival Strategy, A.I.D./Washington, April, 1986.
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17. Documento de Observaciones que Creemos Importantes para la Nuevas Autoridades del Ministerio de Salud P8blica, Management Sciences for Health, February, 1986.
18. Boletfn de Estadistica e Informaci8n de Salud, Estadisticas de Atenci8n Ambulatoria, A8o 1985.

19. Boletín de Estadística e Información de Salud, Estadísticas Hospitalarias, Enero-Diciembre, 1984-1985.
20. Administrative Analysis Report of the Health Sector I Project, Birch & Davis, March, 1984.
21. Basic Medicine Supply Assessment Honduras, Development Associates, Inc. March, 1984.
22. Informe de la Segunda Evaluación Multidisciplinaria del Programa Ampliado de Inmunizaciones, Honduras, Diciembre, 1984.
23. Estado Mundial de la Infancia, 1986, James p. Grant, UNICEF.
24. Desarrollo de Salud Pública en Honduras (1940-1986), PPC Draft Report, November, 1986.
25. Diagnóstico de la Situación Económica y Social de Honduras, CONSUPLANE, June 1985.
26. Assessment of the Public Health Sector, 1975-1985, USAID/Honduras, June, 1980.
27. Final Evaluation of the Honduras Health Sector I Project, Development Associates, August 1986.
28. Salud, Derecho y Deber de Todos, Ministerio de Salud Pública, Septiembre, 1987.
29. Financial Analysis, Parke Massey, Larry Forgy, July 10, 1987.
30. Social Soundness Analysis, Stephen O. Stewart for John Snow Inc., September 25, 1987.
31. Interim Project paper Report for Health Sector II, Ing. Mauricio Escobar, Dr. Nancie Gonzales, Mr. Peter Kranstover, Ing. Carlos Solares, July 1987.
32. Administrative Analysis, Stephen Stewart, Bruce Newman, July 31, 1987
33. Operation and Maintenance of Rural Drinking Water and Latrine Programs in Honduras, Wash Field Report No. 129, September 1984.

PRIVATE SECTOR FINDINGS

During the design of the project, an MOH team (Private Sector/Health team) conducted a study to determine how the private sector could be involved in Health Sector II. The group divided their work in two phases. The first phase identified private sector groups involved in health services in Honduras. During this phase private hospitals, private clinics, pre-paid health plans, PVOs, HMOs, Worker and Peasants Organizations, and pharmaceutical and drug companies were interviewed. The second phase consisted of more indepth interviews with PVOs, Peasant Union Groups and Pharmaceutical Companies. 83 PVOs, providing health services in Honduras, were identified in phase one. From the 83 a sample of 25 PVOs were interviewed as potential candidates for support through this project. From this group 9 will be selected to carry out child survival interventions. This is based on information and preferences expressed by MOH regional medical personnel.

Following is a brief listing of conclusions and recommendations from Phase II findings.

CONCLUSIONS FROM THE PVO SURVEY

The 25 PVOs surveyed provide services to approximately 700,000 Hondurans. Table 1 illustrates PVOs willing to work on child survival interventions. The geographic area that these organization are already working in is listed under the column labeled "Department" of Table 1 through Table 3, and the number of beneficiaries already receiving services from the PVOs is listed under the "Population" column. Table 1A through 1C lists the PVOs that are interested in working in one of the 4 child survival intervention. Table 5 lists all the PVOs interviewed.

CONCLUSION FROM PHASE II PVO SURVEY

1. Using Local Programming, it is less complicated to start or strengthen activities, designated by the MOH as priority, in geographic areas where PVOs already have available resources.
2. The area covered by PVOs is geographically limited and usually concentrated to facilitate the implementation of projects or programs. PVOs do this in order to maintain an equilibrium between the needs to be covered in the communities and the human and financial resources they have available. Only Foster Parent Plan, CARE, FEMUC, Caritas and World Vision cover a moderate number of communities (between 100 to 600). See Table 4.
3. PVO programs and projects reach approximately 700,000 (see table 4) persons or about 17% of the total population; health services provided by these groups usually target high risk groups like mothers and children under five for supplementary feeding services. In addition they provide health education, preventive health care and enviromental improvements.

4. The principle rural and marginal urban beneficiaries are those with few economic resources and receive preventive health and community development services. Through the Evangelical and Adventist Hospital a paying minority of Hondurans receive hospital or clinic services. Other beneficiaries, served by PVOs, can be classified as middle class, public and private employees and small and medium farmers and merchants.
5. Some PVOs such as Save the Children Foundation, FEDECOH, Comision Cristiana, CEDEN, Meals for Million, San Jose Obrero, Embajada Cristiana and CARITAS dedicate their resources to implementation of integrated Child Survival programs that include nutrition interventions, vaccinations, oral rehydration therapy, birth spacing services, prenatal care and training of community volunteers.
6. 52% of the PVOs interviewed provide preventive health care through institutional personnel such as doctors and nurses and community personnel such as guardianas, health promoters and traditional birth attendants.
7. The majority of PVOs feel that nutrition programs should be based on integrated community development programs that include agricultural production and crafts and small industry. Projects designed with the integrated approach help families and communities achieve self-sufficiency and avoid scarcity in food production and consumption that may lead to malnutrition.
8. Self-financing was the most common method of payment for services, followed by credit, then recuperation fees and lastly paying for medications.
9. PVOs indicated that the most common forms of coordination with the Ministry of Health are referral, submission of statistical reports and provision of materials.
10. The majority of PVOs expressed an interest in improved coordination with the MOH and expect more technical assistance and training, particularly in the management of oral rehydration salts.
11. 83% of the PVOs interviewed are willing to strengthen their maternal child health programs. 35% are willing to work in vaccinations and 35% are willing to work in the distribution of oral rehydration salts.

TABLE No. 1

PVOE WILLING TO WORK ON ANY CHILD SURVIVAL INTERVENTIONS

<u>PVO NAME</u>	<u>DEPARTMENTS SERVED</u>	<u>POPULATION SERVED</u>
MOPAWI	GD	13,400
FED. DE DESARROLLO COMUNITARIO	LM	1,600
SAVE THE CHILDREN	FM IN CH	43,000
APOSTLES OF HEALTH	ALL EXC. LP IB GD LM IN CH	71,900
BRIGADAS DE AMOR	CT VL GD FM	3,600
CARE	OL CM LP IN EP FM YO	244,000
FEMUCH	CH VL EP OL CM IN CH SB FM LM	576
RED CROSS	FM CM AT CT	10,565
FED. ASOC. FEMENINAS DE HONDURAS	CT YO SB	576
ADVENTIST HOSPITAL	FM	80
EVANGELICAL HOSPITAL	CM	26,700
CHRISTIAN DEV. COMMISSION	SB OC IN VL CH	17,807
WORLD VISION	AT OL IB GD	37,000
IGLESIA CENTROAMERICANA	CH	475
SAN JOSE OBRERO	CH VL	6,000
CEDEN	CH AT CT OC	31,000
CARITAS	CP LM CH	41,700
FOSTER PARENT PLAN	FM CM LP IN CP LM	90,000
IGLESIA MENONITA	OC LM	12,375
HERMANDAD DE HONDURAS	OC LM CP	2,340
CLINICA DEL BUEN PASTOR	OL	19,200
MEALS FOR MILLION	OL	17,400
	TOTAL	<u>691,294</u>

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TABLE 1A

PVOS WILLING TO DELIVER ORAL REHYDRATION SALTS

<u>PVO NAME</u>	<u>DEPARTMENTS SERVED</u>	<u>POPULATION SERVED</u>
MOPAWI	GD	13,400
FED. DE DESARROLLO COMUNITARIO	LM	1,600
SAVE THE CHILDREN FOUNDATION	FM IN CH	43,000
APOSTLES OF HEALTH	ALL EXC. LP IB GD LM IN CH	71,900
CARE	OL CM LP IN EP FM YO	244,000
FEMUCH	CH VL EP OL CM IN CH SB FM LM	576
RED CROSS	FM CM AT CT	10,565
FED. ASOC. FEMENINAS DE HONDURAS	CT YO SB	576
ADVENTIST HOSPITAL	FM	80
EVANGILICAL HOSPITAL	CM	26,700
CHRISTIAN DEV. COMMISSION	CM	17,807
WORLD VISION	AT OL IB GD	37,000
SAN JOSE OBRERO	CH VL	6,000
CEDEN	CH AT CT OC	31,000
CARITAS	CP LM CH	41,700
FOSTER PARENT PLAN	FM CM LP IN CP LM	90,000
HERMANDAD DE HONDURAS	OC LM CP	2,340
CLINICA DEL BUEN PASTOR	OL	19,200
MEALS FOR MILLIONS	OL	17,400
TOTAL		<u>674,844</u>

TABLE 1B
PVOS WILLING TO PROVIDE CHILD SPACING SERVICES

<u>PVO NAME</u>	<u>DEPARTMENTS SERVED</u>	<u>POPULATION SERVED</u>
SAVE THE CHILDREN FOUNDATION	FM IN CH	43,000
FEMUCH	CH VL EP OL CM IW CH SB FM LM	576
FED. ASOC. FEMENINAS DE HONDURAS	CT YO SB	576
ADVENTIST HOSPITAL	FM	80
EVANGELICAL HOSPITAL	CM	26,700
CHRITIAN DEV. COMMISSION	SB OC IN VL CH	17,807
CEDEN	CH AT CT OC	31,000
CARITAS	CP LM CH	41,700
CLINICA DEL BUEN PASTOR	OL	19,200
MEALS FOR MILLIONS	OL	17,400
TOTAL		198,039

TABLE 1C
PVOS WILLING TO PROVIDE VACCINATION COVERAGE

<u>PVO NAME</u>	<u>DEPARTMENTS SERVED</u>	<u>POPULATION SERVED</u>
APOSTLES OF HEALTH	ALL EXC. LP IB GD LM IN CH	71,900
RED CROSS	FM CM AT CT	10,565
ADVENTIST HOSPITAL	FM	80
SAN JOSE OBRERO	CH VL	6,000
CARITAS	CP LM CH	41,700
CLINICA DEL BUEN PASTOR	OL	19,200
MEALS FOR MILLIONS	OL	<u>17,400</u>
		<u>166,845</u>

TABLE No. 20

PVO'S IN PRIVATE SECTOR SURVEY ALSO IDENTIFIED BY REGIONAL MOH PERSONNEL FOR
ADDITIONAL CHILD SURVIVAL WORK

<u>PVO NAME</u>	<u>DEPARTMENT SERVED</u>	<u>POPULATION SERVED</u>	<u>10% INCREASE</u>
FED. DE DESARROLLO COMUNITARIO	IM	1,600	1,760
SAVE THE CHILDREN FOUNDATION	FM IN CH	43,000	47,300
WORLD VISION	AT OL IB GD	37,000	40,700
SAN JOSE OBRERO	CH VL	6,000	6,600
CEDEN	CH AT CT OC	31,000	34,100
CARITAS	CP LM CH	41,700	45,870
FOSTER PARENT PLAN	FM CM LP IN CP LM	90,000	99,000
CLINICA DEL BUEN PASTOR	OL	19,200	21,120
MEALS FOR MILLIONS	OL	<u>17,400</u>	<u>19,140</u>
	TOTAL	286,900	315,590
		-----	-----

TABLE No. 2

PVOS WILLING TO WORK ON ALL CHILD SURVIVAL INTERVENTIONS

<u>PVO NAME</u>	<u>DEPARTMENTS SERVED</u>	<u>POPULATION SERVED</u>
ADVENTIST HOSPITAL	FM	80
CARITAS	CP LM CH	41,700
CLINICA DEL BUEN PASTOR	OL	19,200
MEALS FOR MILLIONS	OL	17,400
TOTAL		<u>78,380</u>

TABLE No. 3

PVOS WORKING ON WATER AND SANITATION PROJECTS

<u>PVO NAME</u>	<u>DEPARTMENTS SERVED</u>	<u>POPULATION SERVED</u>
MOPAWI	GD	13,400
FED. DE DESARROLLO COMUNITARIO	LM	1,600
SAVE THE CHILDREN FOUNDATION	FM IN CH	43,000
CARE	OL CM LP IN EP FM YO	244,000
FEMUCH	CH VL EP OL CM IN CH SP FM LM	576
NAT. COUNCIL OF CHURCHES	FM CM	12,000
CHRISTIAN DEV. COMMISSION	SB OC IN VL CH	17,807
WORLD VISION	AT OL IB GD	37,000
CEDEN	CH AT CT OC	31,000
CARITAS	CP LM CH	41,700
POSTER PARENT PLAN	FM CM LP IN CP LM	90,000
HERMANDAD DE HONDURAS	OC LM CP	2,340
MEALS FOR MILLIONS	OL	17,400
TOTAL		<u>551,823</u> -----

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TABLE 4
NUMBER OF COMMUNITIES THAT PVOS WORK IN

<u>PVO NAME</u>	<u>NUMBER OF COMMUNITIES</u>	<u>POPULATION SERVED</u>
MOPAWI	1	13,400
FED. DE DESARROLLO COMUNITARIO	16	1,600
SAVE THE CHILDREN FOUNDATION	96	43,000
APOSTLES OF HEALTH	38	71,900
BRIGADAS DE AMOR	3	3,600
CARE	256	244,000
FOPRIDEH	0	0
FEMUCH	380	576
NAT. COUNCIL OF CHURCHES	2	12,000
RED CROSS	34	10,565
CEPROD	0	0
FED. ASOC. FEMENINAS DE HONDURAS	34	576
ADVENTIST HOSPITAL	1	80
EVANGILICAL HOSPITAL	1	26,700
CHRISTIAN DEV. COMMISSION	54	17,807
WORLD VISION	116	37,000
IGLESIA CENTROAMERICAN	1	475
SAN JOSE OBRERO	37	6,000
CEDEN	24	31,000
CARITAS	99	41,700
FOSTER PARENT PLAN	650	90,000
IGLESIA MENONITA	16	12,375
HERMANDAD DE HONDURAS	11	2,340
CLINICA DEL BUEN PASTOR	40	19,200
MEALS FOR MILLIONS	22	17,400
TOTAL	1,932	703,294
	*****	*****

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TABLE 5

PVOS INTERVIEWED

<u>PVO NAME</u>	<u>DEPARTMENTS</u>	<u>POPULATION SERVED</u>
MOPAWI	GD	13,400
FED. DE DESARROLLO COMUNITARIO	LM	1,600
SAVE THE CHILDREN FOUNDATION	FM IN CH	43,000
APOSTLES OF HEALTH	ALL EXC. LP IB GD LM IN CH	71,900
BRIGADAS DE AMOR	CR VL GD FM	3,600
CARE	OL CM LP IN EP FM YO	244,000
FOPRIDEH	O	0
FEMUCH	CH VL EP OL CM IN CO SB FM LM	576
NAT. COUNCIL OF CHURCHES	FM CM	12,000
RED CROSS	FM CM AT OT	10,565
CEPROD	O	0
FED. ASOC. FEMENINAS DE HONDURAS	CT YO SB	576
ADVENTIST HOSPITAL	FM	80
EVANGILICAL HOSPITAL	CM	26,700
CHRISTIAN DEV. COMMISSION	SB OC IN VL CH	17,807
WORLD VISION	AT OL IB GD	37,000
IGLESIA CENTROAMERICAN	CH	475
SAN JOSE OBRERO	CH VL	6,000
CEDEN	CH AT CT OC	31,000
CARITAS	CP LM CH	41,700
FOSTER PARENT PLAN	FM CM LP IN CP LM	90,000
IGLESIA MENONITA	OC LM	12,375
HERMANDAD DE HONDURAS	OC LM CP	2,340
CLINICA DEL BUEN PASTOR	OL	19,200
MEALS FOR MILLIONS	OL	17,400
TOTAL		<u>703,294</u>
		=====

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LEGEND FOR DEPARTMENTS

AT - ATLANTIDA
CH - CHOLUTECA
CM - COMAYAGUA
CL - COLON
CP - COPAN
CT - CORTES
EP - EL PARAISO
FM - FRANCISCO MORAZAN
GD - GRACIAS A DIOS
IB - ISLAS DE LA BAHIA
IN - INTIBUCA
LM - LEMPIRA
LP - LA PAZ
OC - OCOTEPEQUE
OL - OLANCHO
SB - SANTA BARBARA
YO - YORO
VL - VALLE

SPECIFIC RECOMMENDATIONS ON PVOS

1. Conduct a preliminary meeting between the technical and normative levels of the MOH and directors of PVOs in order to have an exchange of information, knowledge and experiences that can lead to official coordination.
2. As a result of the meeting, form a committee composed of MOH and PVO personnel to design and implement a formal coordination mechanism for the implementation of child survival activities.
3. Establish a coordinating entity in the Division of Sectorial Planning that has responsibility for coordination and follow-up to PVO programs and projects.
4. The coordinating entity of the Ministry of Health should design work plans that designate geographic and health priority areas where PVOs might be interested in starting new projects or extending existing projects; respecting and recognizing the autonomy that PVOs exercise in decision making.
5. Strengthen and extend already identified coordinating mechanisms at the operating level (local reunions, submission of reports, referral of cases, provision of materials and equipment and community training) to those sanitary regions without them.
6. Strengthen existing programs in community development that focus on child survival activities (Comision Cristiana de Desarrollo, FEDECO, Save the Children Foundation, San Jose Obrero, Meals for Millions, CARITAS, Embajada Cristiana Internacional.)
7. Use local programming methodology as a tool for coordination and broader participation of PVOs in provision of basic health care.
8. Broaden participation of those PVOs that have exhibited efficiency and effectiveness in their health and development programs, in extending activities to other priority areas but maintaining the integrated community development focus.
9. Provide new PVOs with criteria for priority health actions to facilitate channeling their resources to preventive programs that stimulate community participation.
10. Food distribution should be assigned to those organizations that are community based and have MOH trained personnel or PVO trained volunteers e.i. housewives clubs and FEMUCH affiliates.
11. Because of the interest shown by PVOs in improving and establishing coordination relations with the MOH it is suggested that any technical and administrative support under Health Sector II be channeled through the MOH.

CONCLUSIONS ON PEASANT AND WORKER ORGANIZATIONS:

Approximately 32,000 workers benefit from prepaid life and accident benefits. Pre-paid medical care is a relatively new phenomenon and thus not widely known. Pre-paid health care is too costly for the average worker affiliated with peasant and worker organizations. Those groups that have opted for prepaid health plans have not all had positive experiences with these plans.

Table 6 lists the geographic distribution and type of organizations interviewed. Table 7 lists the type of health services that each organization provides to their members and Table 8 is a listing of average monthly income of the members by organizations interviewed.

1. Peasant and worker unions allow different forms of health services for their affiliates. 88% of these groups use the public services of the MOH and IHSS and 12% use their own institutions or the private commercial sector.
2. Of the 21 organizations interviewed, 62% are peasant organizations. Of this group only 5% have access to private health services operated by the cooperative or agroindustrial associations.
3. According to those interviewed, prepaid medical plans are a response to the dissatisfaction with the coverage of the MOH and the few institutions operated by the IHSS.
4. Private health services, mostly curative, are available to 12% of workers (118,871). Institutions providing these services have high operating and drug costs. Some of these institutions spend between 30,000 and 90,000 Lempiras monthly on medicines alone.
5. Several organizations that operate within private businesses are positively disposed to improving and offering additional health services that include maternal child health, vaccination, oral rehydration, birth spacing, pre natal care and growth monitoring.
6. Some of the organizations interviewed feel that private medical services are not accessible to the majority of workers and there is no guarantee of quality. Because of the high costs, services are accessible only through collective bargaining.

RECOMMENDATIONS ON PEASANT AND WORKER ORGANIZATIONS

The following recommendations are made with the intent to improve the conditions of medical services received by members of worker and peasant organizations and promote the provision of other services including child survival interventions.

TABLE No. 6
GEOGRAPHIC DISTRIBUTION AND TYPE OF WORKER,
PESEANT AND UNION ORGANIZATIONS
PRIVATE SECTOR STUDY ON HEALTH. MOH, HONDURAS 1987

ORGANIZATION	TYPE	LOCATION
1. Honduras Woorkers Confederation	Worker	Tegucigalpa
1.1 FECESITLIH	Worker	Tegucigalpa
1.2 FESITRNH	Worker-Peasant	San Pedro Sula Cortes
2. C.G.T	Worker-Peasant	Tegucigalpa
3. F.U.T.H	Worker-Peasant	Tegucigalpa
4. SITRATERCO	Worker	La Lima-Cortes
5. STENEE	Worker	Tegucigalpa
6. SITLAMASH	Worker	Tegucigalpa
7. SITRACENSA	Worker	San Pedro Sula
8. SITRAMEDYS	Worker	Choluteca
9. SUTRASFCO	Worker	Tegucigalpa
10. U.N.C.	Peasant	La Ceiba, Atlantida
11. U.N.A.C.H.	Peasant	Tegucigalpa
12. FECORAH	Peasant	San Pedro Sula
13. GUANCHIAS	Peasant	Tegucicalpa
14. E.A.C.I.	Peasant	Santa Rita, Yoro
15. COAPALMA	Peasant	Isletas, Colon
16. HONDUPALMA	Peasant	Tocoa, Colon
17. C.N.T.C.	Peasant	Guaymas, El Progreso, Yoro
18. COPEMH	Union	San Pedro Sula Cortes
19. COLPROSUMAH	Union	Tegucigalpa
20. PRICHMA	Union	Tegucigalp

TABLE No. 7

HEALTH SERVICES AVAILABLE FOR AFFILIATES TO WORKER, PEASANT AND UNION ORGANIZATIONS. PRIVATE SECTOR STUDY ON HEALTH. MINISTRY OF HEALTH, HONDURAS 1987

	PUBLIC		PRIVATE				
	IHSS	MOH	Hospl.	Clinics	Dispensary	Contracts Doctors Services	Pre-Pay or Insur.
1. Honduras Workers Conf.							
2. FECESITLIH							
3. FESITRANH							
4. CGT							
5. FUTH							
6. SITRATERCO			X	X			
7. STENEE	X			X		X	X
8. SITIAMASH	X				X		X
9. SITRACENSA					X	X	X
10. SITRAMEDYS	X						
11. SUTRASFCO			X				X
12. UNC		X					
13. ANACH		X					
14. FECORAH*		X					
15. GUANCHIAS COOPERATIVE					X		X
16. EACI			X		X	X	
17. COAPALMA					X	X	X
18. HONDUPALMA			X			X	X
19. CNTC		X					
20. COPEMH	X	X					
21. COLPROSUMAH	X	X					
22. PRICHMA	X	X					
TOTAL	6	7	4	2	5	5	7

*80% of affiliate cooperatives, excluding Cooperative Guanchias.

Source: Field investigation.

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TABLE No. 8
MONTHLY AVERAGE WORKER INCOME BY AFFILIATION TO PEASANT
OR UNION ORGANIZATIONS
(LEMPIRAS MONTHLY SALARY). PRIVATE SECTOR STUDY ON HEALTH, MINISTRY OF
PUBLIC HEALTH, HONDURAS 1987

	LEMPIRAS
1. SITRATERCO	720.00
2. STENEE	668.00
3. SITIAMASH	540.00
4. SITRACENSA	200.00
5. SITRAMEDYS	450.00
6. SUTRA\$FCO	480.00
7. UNC	150.00
8. ANACH	150.00
9. FECORAH	420.00*
10. COOPERATIVE GUANCHIAS	700.00
11. EACI	360.00
12. COAPALMA	420.00
13. HONDUPLAMA	420.00
14. CNTC	150.00
15. COPEMH	800.00
16. COLPROSUMAH	550.00
17. PRICHMA	500.00
TOTAL PERCENTAGE	455.00

*Salary percentage received by the African Palm Cooperative workers.

Source: Field investigation.

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1. Under the coordinating entity recommended for P/Os, provide technical assistance to private health institutions that work with peasant worker organizations.
2. Through the MOH provide preventive health services to worker peasant organizations.
3. Propose to the Office of Sectorial Planning of the MOH coordination mechanisms between the MOH and IHSS to extend health services to productive sectors in the country, especially peasant organizations of agroindustrial businesses.
4. Those institutions devoted to providing health care services should take into consideration the expense that private groups must incur in order to provide their workers with appropriate health services. The high cost of providing health services by these private groups is passed on to the consumer.
5. Because prepaid systems are not within the reach of the average worker, the following is suggested:
 - a. That a study be conducted to determine market potential and capacity for payment under prepaid medical schemes;
 - b. That experiences mentioned by some worker peasant organizations be taken into consideration;
 - c. That organizations that use prepaid health services use this mechanism as a complement to those services provided by social security.

CONCLUSIONS ON PHARMACEUTICALS

1. The national pharmaceutical industry depends almost exclusively on imported raw material.
2. The national pharmaceutical industry supplies only 20% of pharmaceuticals consumed in country.
3. National legislation favors the importation of finished products since these imports are not subject to duties imposed on raw materials.
4. The government does not have an adequate quality control system that guarantees both products produced in Honduras and those imported.
5. The pharmaceutical capacity cannot satisfy the demand of those medicines that the MOH considers priority.

6. There is an excessive concentration of distribution centers in Tegucigalpa and San Pedro Sula which leaves large segments of the population without access to proper medical supplies.

7. The price of medications, especially those that require prescriptions, are too costly to be within the reach of large segments of the population.

8. National production of medications is concentrated on the production of popular medicines that do not require doctor prescriptions.

RECOMMENDATIONS REGARDING DRUG PRODUCTION

1. The MOH will create mechanisms to insure efficient quality control that will allow locally produced medicines to be competitive with imported medicines.

2. The MOH and IHSS should give priority to the purchase of local products, if their quality is guaranteed.

3. National pharmaceuticals can be stimulated to expand their operations through loans and credit, in those areas that are of interest to the MOH, particularly in training of personnel, research, and use of national raw material.

4. Support research that some private institutions (CODE) are undertaking in the field of traditional medicine as an alternative source in using national raw material.

5. Review the feasibility study by HONDULAB and the possibility of working in the production of primary medicines.

6. The MOH should establish the necessary contacts with the pharmaceutical industry to commence production and commercialization of oral rehydration salts.

7. The MOH shall maintain open communications with the Colegio Químico Farmaceutico in order to be apprised of the problems the industry faces.

IMPLEMENTATION PLAN: LOCAL PROGRAMMING

Project Quarters	!	1	!	2	!	3	!	4	!	5	!	6	!	7	!	8	!	9	!	10	!	11	!	12	!	13	!	14	!	15	!	16	!	17	!	18	!	19	!	20	!	21	!	22	!	23	!	24	!	25	!	26	!	27	!	28	!	29	!	30	!
Calendar Years	!	1988			!	1989			!	1990			!	1991			!	1992			!	1993			!	1994			!	1995			!																												
Fiscal Years	!	1988		!	1989		!	1990		!	1991		!	1992		!	1993		!	1994		!	1995		!																																				

Project Quarters	!	1	!	2	!	3	!	4	!	5	!	6	!	7	!	8	!	9	!	10	!	11	!	12	!	13	!	14	!	15	!	16	!	17	!	18	!	19	!	20	!	21	!	22	!	23	!	24	!	25	!	26	!	27	!	28	!	29	!	30	!
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KEY INPUTS:

1. Supervision/Monitoring:
 - Health Center - Community -----x
 - Area - Health Center -----x
 - Region - Area -----x
 - Central - Area -----x
2. Pick-up Trucks, 4X4 (43)
 - x---x
 - x---x
3. Long-term TA -----x

OUTPUTS:

1. Local programming model implemented.

INDICATORS:

1. 80% of nurses aids from CESAR and CESAMO visit the population under their responsibility at least four times a year.
2. 80% of CESAR's (426) and CESAMO's (92) receive area supervision visits at least three times a year.
3. 80% of area level establishments (518) receive supervision visits by regional level at least three times a year.
4. 80% of regional level establishments receive supervision visits from central level at least three times a year.
5. Eight regions have computerized their information systems, completed an inventory of personnel and financial resources, and conducted a family census and prepared annual plans, including drug and medical supply needs.
6. 300 CESAR's (80% of total) are renovated and have implemented local programming supply system.
7. All eight regions have staff trained in problem solving, supervision, administration and use of information systems.
8. Operations research studies done on assigning two auxiliary nurses per CESAR, referral systems, and cost effectiveness of personnel mixes at the area level.

IMPLEMENTATION PLAN: MAINTENANCE

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Calendar Years	1988			1989			1990			1991			1992			1993			1994			1995								
Fiscal Years	1988			1989			1990			1991			1992			1993			1994			1995								

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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KEY INPUTS:

1. Mantenimiento de CESARES (426) x-----x
2. Contracting of Engineer to design and supervise new construction x-----x

OUTPUTS:

1. Maintenance systems strengthened.

INDICATORS:

1. 80% of CESAR's adequately maintained and operational.
2. 90% of health areas have trained maintenance personnel, basic tools and access to a functioning vehicle.

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IMPLEMENTATION PLAN: HUMAN RESOURCES DEVELOPMENT

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Calendar Years	1989			1989			1990			1991			1992			1993			1994			1995								
Fiscal Years	1988			1989			1990			1991			1992			1993			1994			1995								

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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KEY INPUTS:

1. Per diem for in-country training and refresher courses in the following areas: -Child Survival -Vector Control -Maintenance -Local Programming -Administration & Mgmt.	x-----x
2. Per diem for in-country training and refresher courses for the following community level personnel: -Midwives -Health Guardians	x-----x
3. Long-Term Scholarships	x-----x
4. Short-Term Scholarships	x-----x
5. Long-term IA	x-----x
6. Short-term IA	x---x x---x x---x x---x x---x x---x x---x

OUTPUTS:

1. Training capability strengthened.

INDICATORS:

1. Eleven self-instruction modules on tuberculosis, immunizations, diarrhea control, acute respiratory diseases, cold-chain, maternal/child health and others are being used.
2. Staff resource register is fully operational and being used to program training.
3. 50 MOH professionals have received master's degrees.
4. 3055 person/weeks for professional staff and 6800 person/weeks of community volunteers of refresher training being given each year.

IMPLEMENTATION PLAN: HEALTH FINANCING

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Calendar Years	1988			1989			1990			1991			1992			1993			1994			1995								
Fiscal Years	1988			1989			1990			1991			1992			1993			1994			1995								

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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KEY INPUTS:

- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|--|--|--|---|---|--|---|---|--|---|---|--|---|---|--|---|---|--|---|---|--|---|---|--|---|---|--|---|---|--|--|
| 1. Long-term TA | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Short-term TA | | | | x | x | | x | x | | x | x | | x | x | | x | x | | x | x | | x | x | | x | x | | x | x | | |

OUTPUTS:

- Health financing analysis and planning capability in place at central level and supporting regional levels.

INDICATORS:

- MOH Planning Division doing expenditure analyses and budget preparations.
- Operations research study done on feasibility of drug sale rotating funds at community level, and, if feasible, pilot effort begun.
- Cost Recovery by hospitals at 30% of non-personnel operational costs (currently 12%).

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IMPLEMENTATION PLAN: EDUCATIONAL/PROMOTIONAL PROGRAMS (MASS MEDIA)

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Calendar Years	1988			1989			1990			1991			1992			1993			1994			1995								
Fiscal Years	1988		1989		1990		1991		1992		1993		1994		1995															

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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KEY INPUTS:

1. Contracting of Radio Announcements	x-----x																													
2. Audio-visual Equipment	x-----x																													
3. Printing of Educational Materials	x-----x																													
4. Long-term TR	x-----x																													
5. Short-term TR																x---x			x---x			x---x								

OUTPUTS:

1. Educational/promotional activities being supported through mass media and community efforts.

IMPLEMENTATION PLAN: ACUTE RESPIRATORY INFECTIONS

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Calendar Years	1988			1989			1990			1991			1992			1993			1994			1995								
Fiscal Years	1988			1989			1990			1991			1992			1993			1994			1995								

Project Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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KEY INPUTS:

1. Purchase of Humidifiers for CESAMO's (267) & CESAR's (103) (represents 80% of existing health centers)
 - x-----x-----x-----
2. Operations Research
 - x-----
3. Project Evaluations/Studies
 - x-----
4. Audits
 - x-----

OUTPUTS:

1. Home treatment of mild ARI's being done correctly, according to program standards.
2. Technical capability of health services in treating moderate to severe ARI's, strengthened.

INDICATORS:

1. 40% of families adequately treat mild ARI in households.
2. 90% of CESAMO's and 50% of CESAR's have vaporizer/humidifiers.

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INDICATORS:

Malaria Control:

1. Reduction in annual cases of malaria from 29,000 to 3,000.
2. 90% of areas indicated for spraying are covered.
3. 80% of activities planned for larval control will be accomplished.
4. Refresher training in case detection and treatment provided to 5,000 volunteer collaborators.
5. Decrease in prevalence of malaria to 0.55/1000 (currently 7/1000).
6. Decrease in the cases of infections by chagas.

Tuberculosis Control:

1. Reduction in the tuberculosis morbidity rate from 77/100,000 to 50/100,000 (slight apparent drop due to improvements in case finding).
2. 90% of tuberculosis cases being treated.
3. A reduction in the rate of abandonment of tuberculosis treatment to 10%.

IMPLEMENTATION PLAN: ADMINISTRATION/CONTINGENCY

Project Quarters	!	1	!	2	!	3	!	4	!	5	!	6	!	7	!	8	!	9	!	10	!	11	!	12	!	13	!	14	!	15	!	16	!	17	!	18	!	19	!	20	!	21	!	22	!	23	!	24	!	25	!	26	!	27	!	28	!	29	!	30	!
Calendar Years	!	1988				!	1989				!	1990				!	1991				!	1992				!	1993				!	1994				!	1995				!																				
Fiscal Years	!	1988				!	1989				!	1990				!	1991				!	1992				!	1993				!	1994				!	1995				!																				

Project Quarters	!	1	!	2	!	3	!	4	!	5	!	6	!	7	!	8	!	9	!	10	!	11	!	12	!	13	!	14	!	15	!	16	!	17	!	18	!	19	!	20	!	21	!	22	!	23	!	24	!	25	!	26	!	27	!	28	!	29	!	30	!
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KEY INPUTS:

1. RID PSC's (4)	x-----x
2. PCU Personnel (10)	x-----x
3. Per Diem for 2. above	x-----x
4. Office Equipment	x---x
5. Vehicles (2)	x---x
6. Contingency/Inflation	x-----x

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Orin R

COST ESTIMATE FOR THE REGIONAL CENTERS
HEALTH SECTOR II PROJECT No. 522-0216

The preliminary cost estimate is based on the information presented in the sketches. Consequently, at this stage there are no details nor technical specifications. This required that the cost estimates be estimated using cost factors obtained through prior construction experiences.

The areas have been classified in four sections:

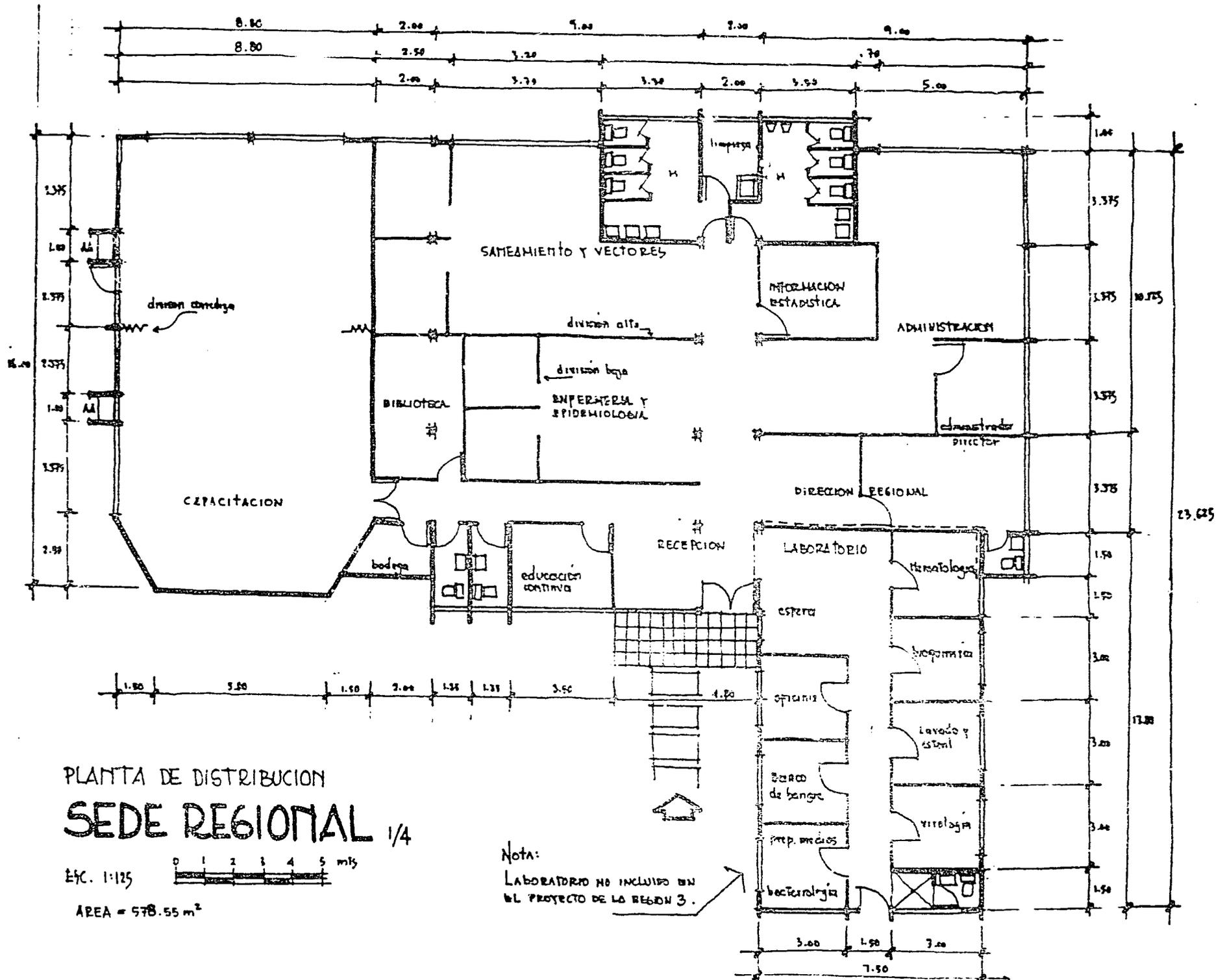
1. Laboratory (Note: the Regional Center in San Pedro Sula will not have a laboratory.)
2. Administration, infirmary and vectors
3. Rest-rooms
4. Training

In this classification the amount of interior walls, the location of the rest-rooms and the span between columns to support the roof will be considered as factors in determining the unit cost. We will assume a direct cost of L 400.00 per square meter (L 400/m²).

AREA	General Unit Cost Lps.	Area	Direct Cost Lps. (1)	10% Contingencies		TOTAL COST x 1.25 (ganacia)
				Lps. (2)	(1+2)	
1. Laboratory	L 400.00	101	48,480	4,848	53,328	66,660
2. Administration	381.00	290	110,490	11,049	121,539	151,924
3. Restrooms	400.00	48	48,000	4,800	52,800	66,000
4. Training Auditorium	<u>400.00</u>	137	<u>43,840</u>	<u>4,384</u>	<u>48,224</u>	<u>60,280</u>
		576	238,920	23,892	262,812	344,804
5. Exterior areas fence fence, water and sewage, electrical, sidewalk and water storage tank)		15%				60,869
6. Air conditioning Ton (120,000 BTU) 2x5						20,120
			TOTAL.....			Lps. <u>425,792</u>

Cost per m² = L 690.61

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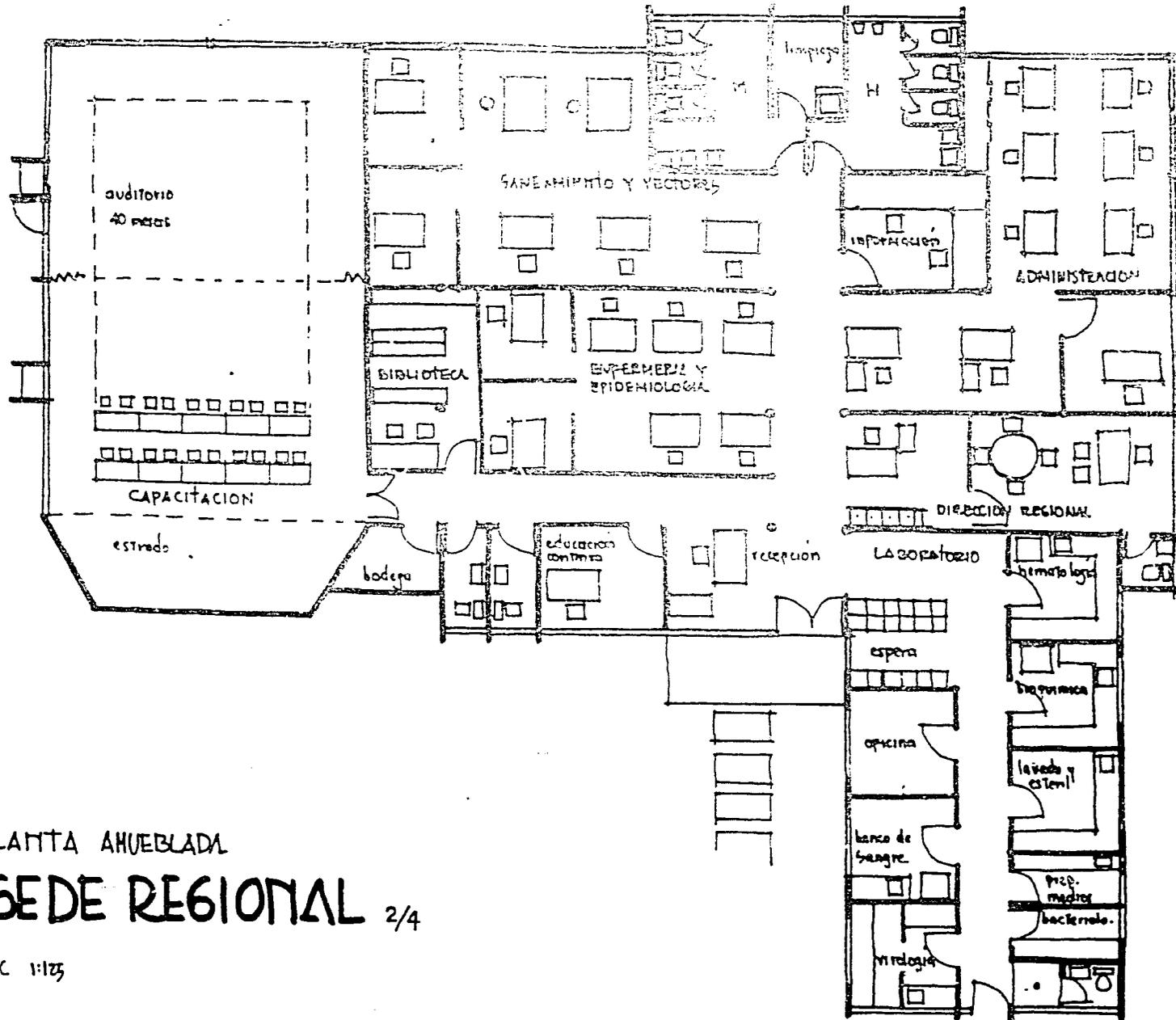


PLANTA DE DISTRIBUCION
SEDE REGIONAL 1/4

E.C. 1:125

AREA = 578.55 m²

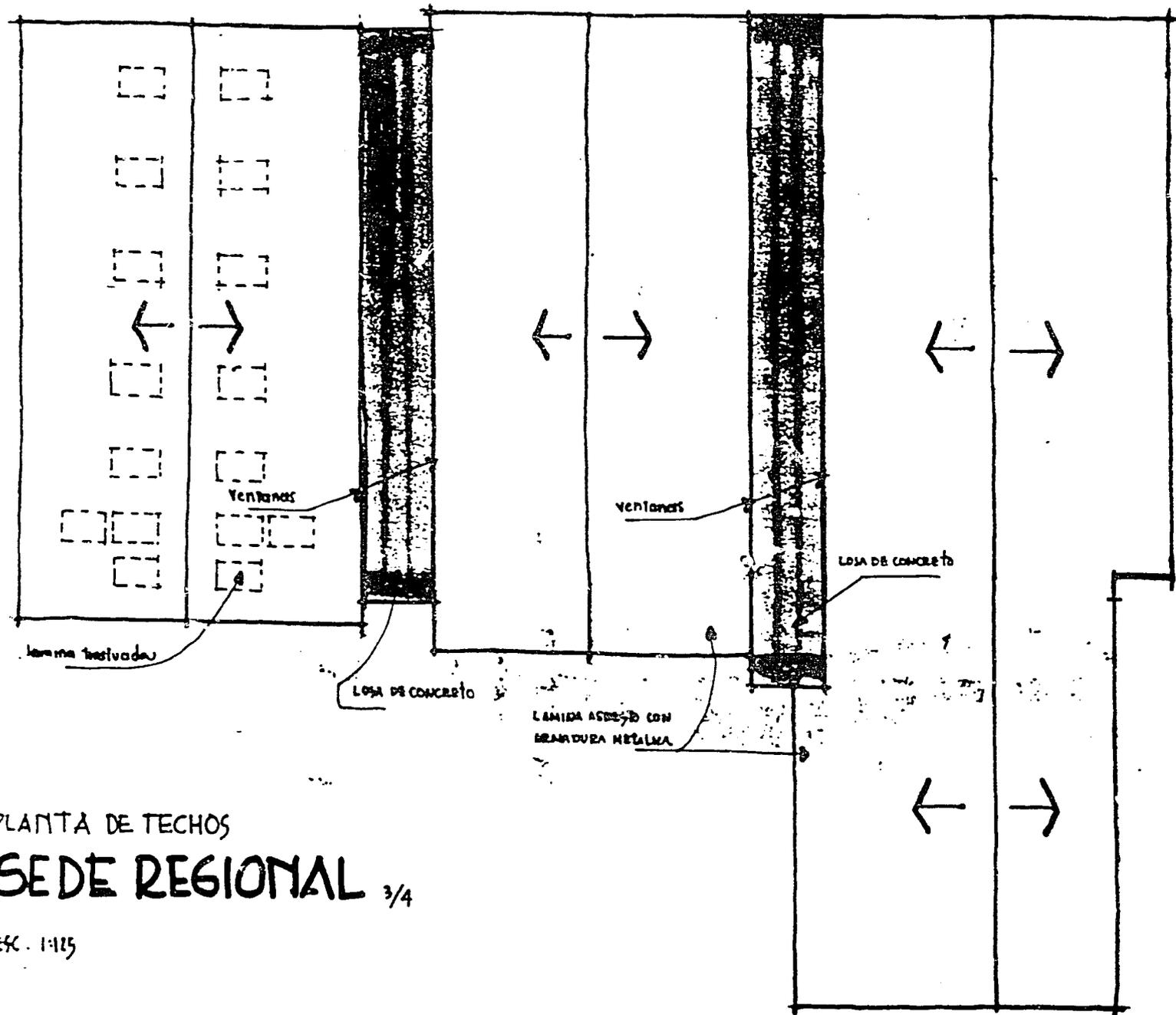
Nota:
LABORATORIO NO INCLUIDO EN
EL PROYECTO DE LA REGION 3.



PLANTA AHUEBLADA
SEDE REGIONAL 2/4

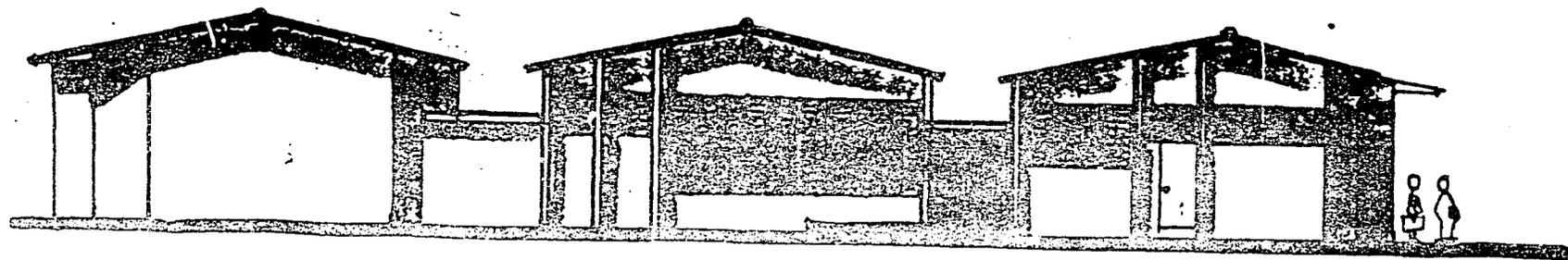
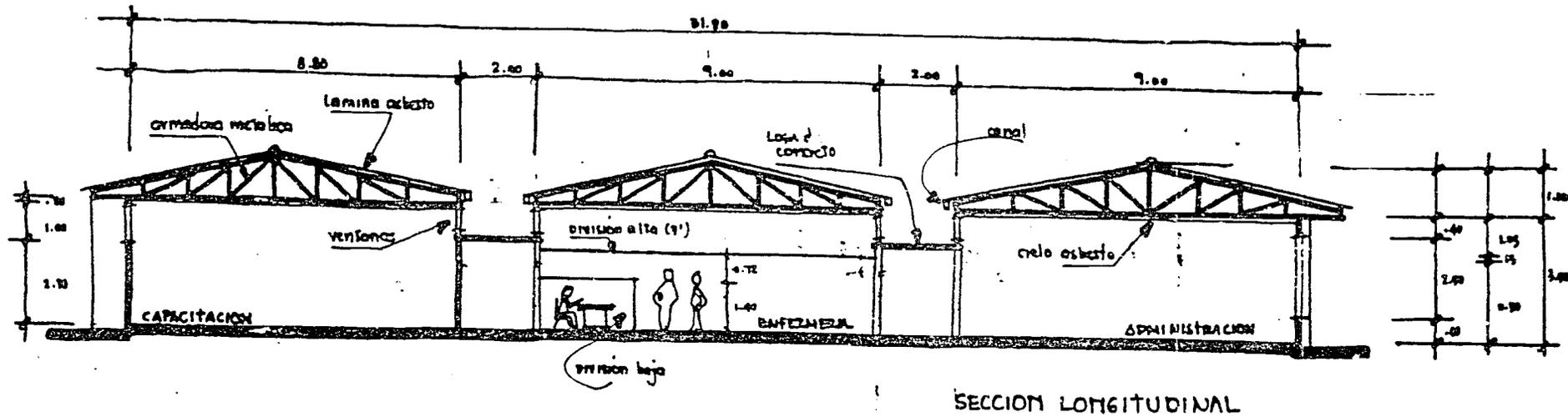
ESC. 1:125

B



PLANTA DE TECHOS
SEDE REGIONAL 3/4

ESC. 1:125



SEDE REGIONAL 4/4

FACHADA FRONTAL

EX 1:125

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UNIT COST

7/11/11

	QUALITY	PRICE	TOTAL AID	TOTAL GOH	TOTAL COMMUNITY	GRAND TOTAL
1. HAND DUG WELL						
1. Hand Pump	1	250.00	250.00			
2. Galv. pipe (1 1/4" x 20')	3	20.00	60.00			
3. Steel Bar (7/16" x 20')	3	13.00	39.00			
4. Coupling 7/16"	6	3.00	18.00			
5. Rebar (#2 x 30')	3	2.50	7.50			
6. Cement	25 bag	3.80	95.00			
7. Tiewire	4 lbs.	0.60	2.40			
8. Bolts 1/2"	9	1.20	10.80			
9. Teflon	0.25 roll	2.00	0.50			
10. Valve 1 1/4"	1	15.00	15.00			
11. Bricks	0.3	200.00	60.00			
12. Metallic cover	1	80.00	80.00			
13. Sand and gravel					30.006	
14. Hand labor to dig and build well					200.00	
15. Promotion and supervision				200.00		
T O T A L			638.20	200.00	230.00	1,068.20
2. HAND DRILL WELL						
1. Hand pump	1	250.00	250.00	250.00		
2. Galv. pipe (1 1/4" x 20')	3	20.00	60.00			
3. Steel bar (7/15" x 20')	3	13.00	39.00			
4. Couplig 7/16"	3	3.00	6.00			
5. Bolts 1/2" x 3"	9	1.20	10.80			
6. Valve	1	30.00	30.00			
7. PVC pipe 4" x 20'	3	20.00	60.00			
8. Teflon	0.2	2.00	0.40			
9. Cement	5	38.00	19.00			
10. Sand and gravel					15.00	
11. Hand labor					200.00	
12. Promotion and supervision				200.00		
T O T A L			475.20	200.00	215.00	890.20
3. DRIVEN WELL						
1. Hand pump	1	250.00	250.00			
2. Galv. pipe (1 1/4" x 20')	2	20.00	40.00			
3. Well point	1	100.00	100.00			
4. Bolts 1/2" x 3"	9	1.20	10.80			
5. Teflon	0.2	2.00	0.40			
6. Sand and gravel valve					15.00	
11. Hand labor					150.00	
12. Promotion and supervision				150.00		
T O T A L			401.20	150.00	165.00	716.20

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UNIT COST

	QUALITY	PRICE	TOTAL AID	TOTAL GOH	TOTAL COMMUNITY	GRAND TOTAL
<u>PIT LATRINE</u>						
1. Cement	2 bags	3.8	7.6			
2. Rebar (#2 x 30')	1	2.5	2.5			
3. Tiewire	0.1	0.60	0.06			
4. Roofing sheet	2	4.0	8.00			
5. Wood cover latrine	1	2.5	2.50			
6. Local materials					10.0	
7. Hand labor					35.0	
8. Promotion and supervision				30.0		
TOTAL \$			20.66	30.0	45.0	95.66

<u>WATER SEAL LATRINE</u>						
1. Sanitary bowl	1	4.0	7.5			
2. Cement	2.5	3.8	9.5			
3. Rebar (#2 x 30')	1	2.5	2.5			
4. Tie wire	0.2	0.60	0.12			
5. Roofing sheet	2	4.0	8.0			
6. PVC pipe 3"	0.3	15.0	4.5			
7. Local materials					10.0	
8. Hand labor					40.0	
9. Promotion and supervision				30.0		
TOTAL \$			32.12	30.0	50.0	112.12

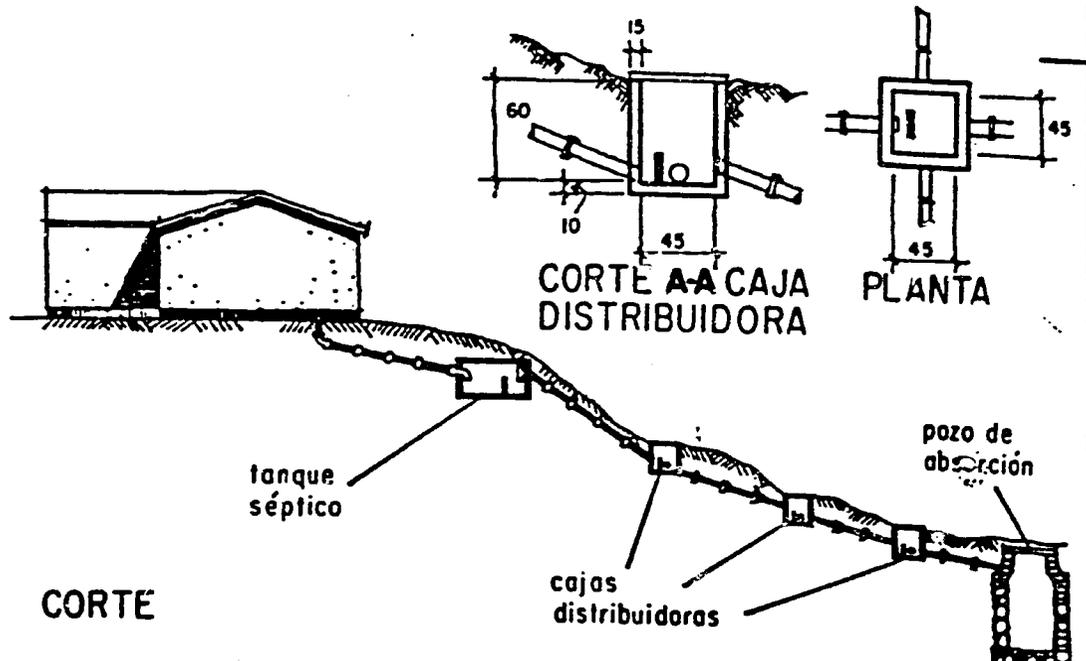
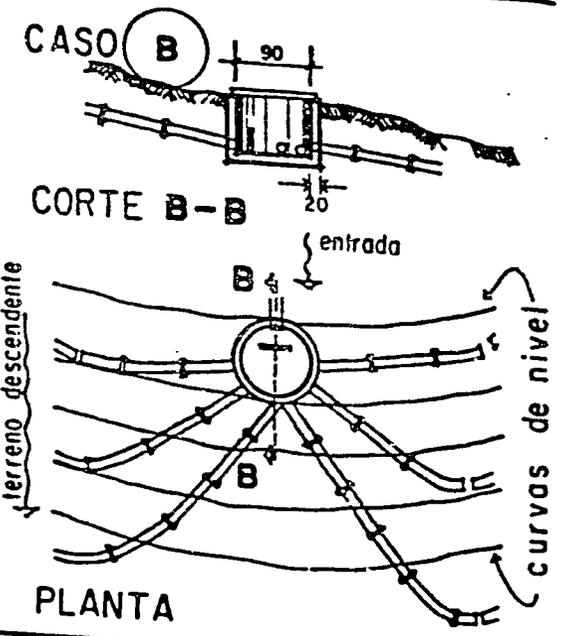
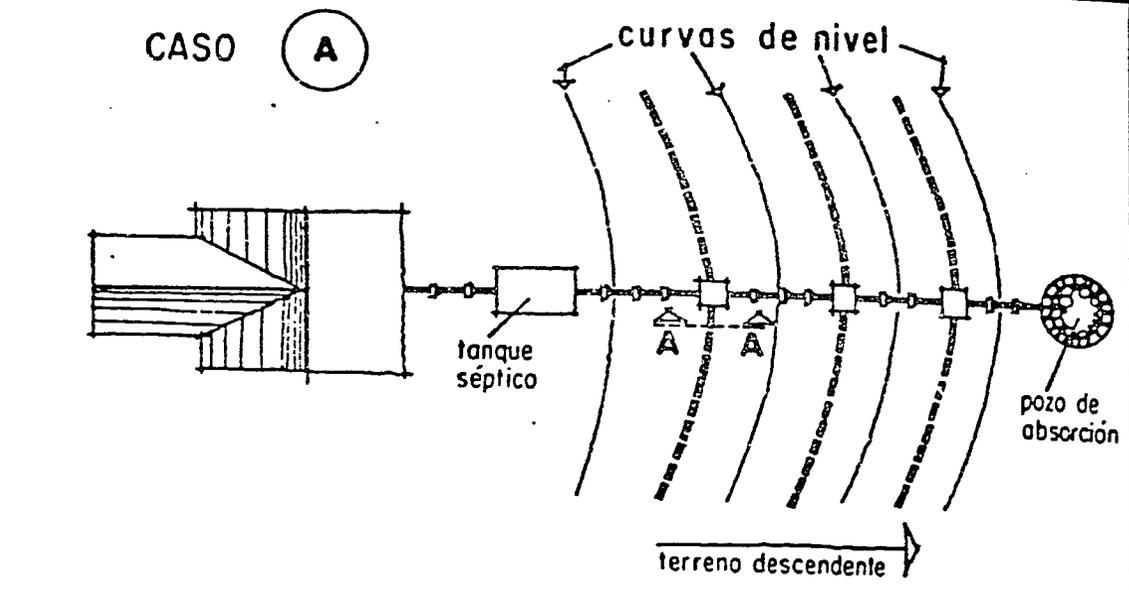
<u>SEPTIC TANK</u>						
1. Cement	95.0	3.80	361.0			
2. Rebar (#2 x 30')	25.0	2.50	62.5			
3. Rebar (#3 x 30')	20.0	2.90	58.0			
4. Tie Wire	5	0.60	3.0			
5. PVC pipe 4"	2	20.0	40.0			
6. PVC accesories	2	6.0	12.0			
7. Local materials					40.0	
8. Hand labor					100.0	
9. Promotion and supervision				200.0		
TOTAL \$			536.5	200.0	140.0	876.50

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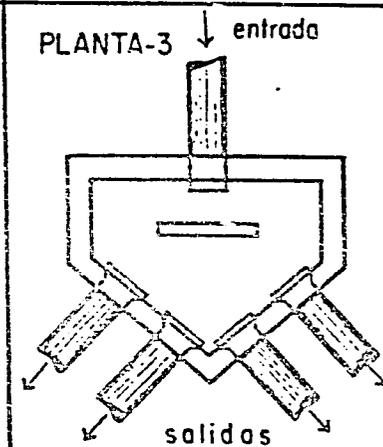
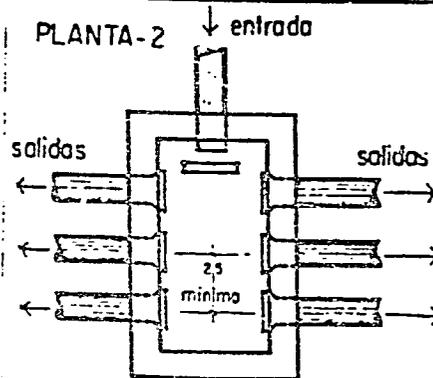
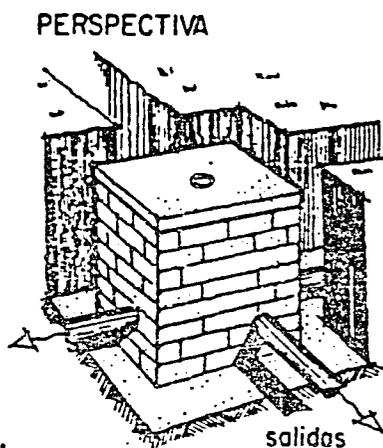
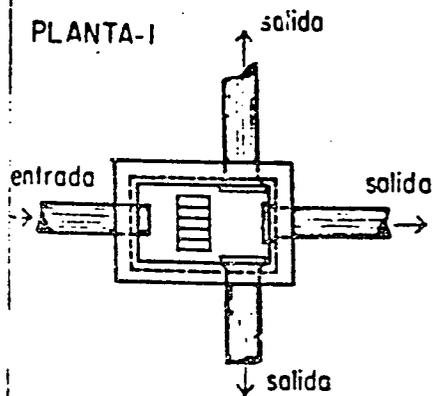
UNIT COST

	TOTAL AID	TOTAL COMMUNITY	TOTAL GOH	GRAND TOTAL
<u>WATER SYSTEMS: 500 people</u>				
1. Design	3,500.00	100.00	2,200.00	
2. Cement	525.00			
3. Pipe and accesories	11,200.00			
4. Rebar and other materials	852.00			
5. Tools and equipment	832.00			
6. Skilled labor	2,000.00			
7. Supervision			4,230.00	
8. Operation expenses	1,600.00			
9. Local materials		450.00		
10. Local hand labor		3,450.00		
11. Materials' transportation	1,090.00			
T O T A L.....	21,599.00	4,000.00	6,430.00	32,029.00
<u>2. WATER SYSTEMS: 1000 people</u>				
1. Design	4,935.00	141.00	3,102.00	
2. Cement	740.00			
3. Pipe and accesories	15,792.00			
4. Rebar and other materials	1,200.00			
5. Tools and equipment	1,173.00			
6. Skilled labor	2,200.00			
7. Supervision		5,800.00		
8. Operation expenses	2,256.00			
9. Local materials		634.00		
10. Local hand labor		4,830.00		
11. Materials' transportation	1,526.00			
T O T A L.....	29,822.00	5,605.00	8,902.00	44,329.00
<u>3. WATER SYSTEMS: 2000 people</u>				
1. Design	6,500.00	300.00	3,500.00	
2. Cement	990.00			
3. Pipe and accesories	21,200.00			
4. Rebar and other materials	1,600.00			
5. Tools and equipment	1,400.00			
6. Skilled labor	3,000.00			
7. Supervision			7,900.00	
8. Operating expenses	2,300.00			
9. Local materials		600.00		
10. Local hand labor		6,850.00		
11. Materials' transportation	2,100.00			
T O T A L.....	39,090.00	7,750.00	11,400.00	58,240.00

distribución del efluente de tanque séptico

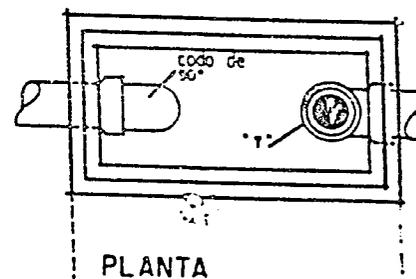


tipos de cajas de distribución

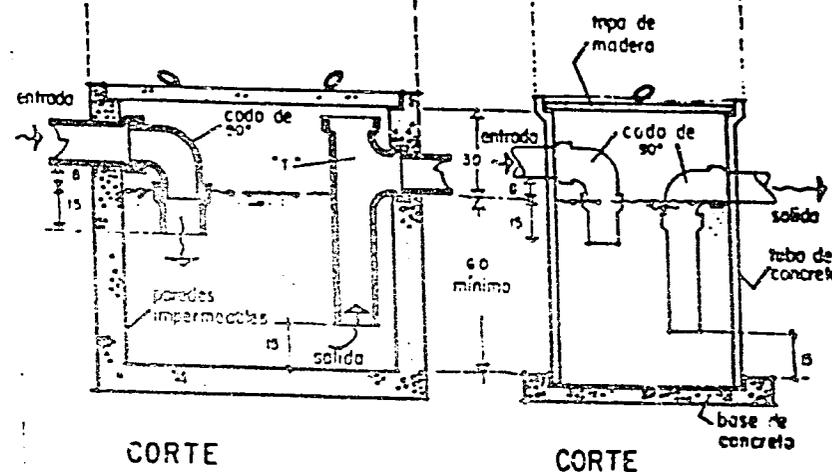
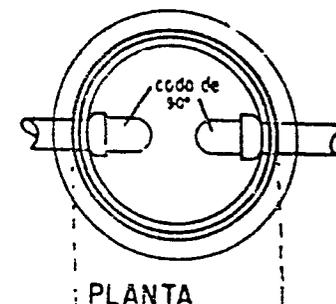


trampas para grasas

TRAMPA RECTANGULAR
(de tabique o concreto)



TRAMPA DE TUBO
DE CONCRETO

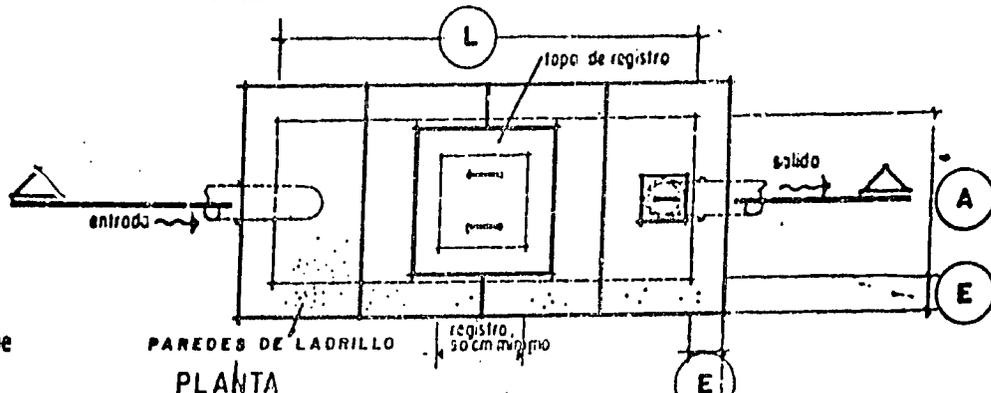


CORTE

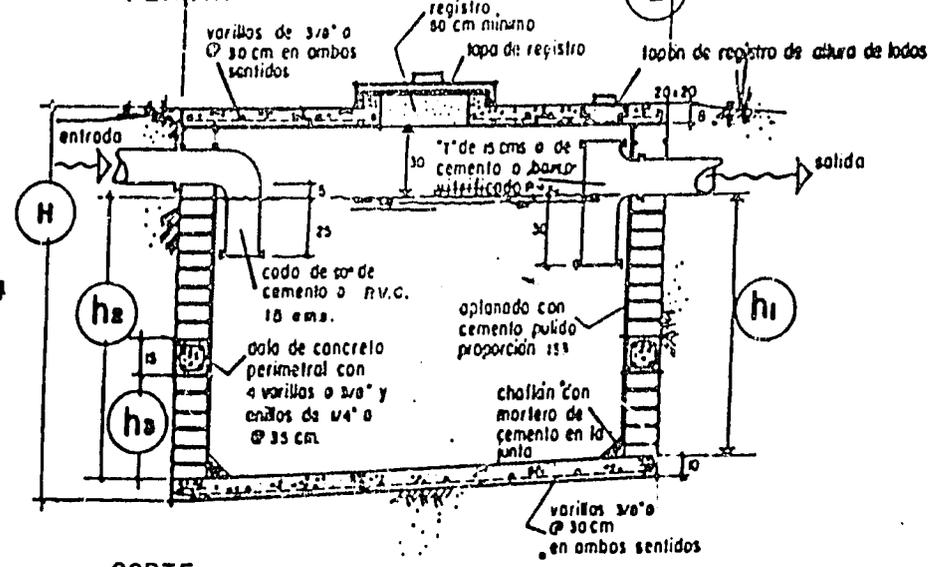
1992

tanques sépticos

PERSONAS SERVIDAS EN		CAPACIDAD DEL TANQUE EN LITROS	DIMENSIONES EN METROS							
servicio doméstico	servicio escolar externo		L	A	h ₁	h ₂	h ₃	H	E	
hasta 10	hasta 30	1,500	1.90	0.70	1.10	1.20	0.45	1.65	0.14	0.30
11 a 15	31 a 45	2,250	2.00	0.90	1.20	1.30	0.50	1.75	0.14	0.30
16 a 20	46 a 60	3,000	2.30	1.00	1.30	1.40	0.55	1.95	0.14	0.30
21 a 30	61 a 90	4,500	2.60	1.20	1.40	1.60	0.60	2.05	0.14	0.30
31 a 40	91 a 120	6,000	2.90	1.30	1.50	1.70	0.65	2.15	0.20	0.30
41 a 50	121 a 150	7,500	3.40	1.40	1.60	1.70	0.65	2.15	0.20	0.30
51 a 60	151 a 180	9,000	3.60	1.50	1.60	1.80	0.70	2.25	0.20	0.30
61 a 80	181 a 240	12,000	3.80	1.70	1.70	1.90	0.70	2.35	0.20	0.30
81 a 100	241 a 300	15,000	4.40	1.80	1.80	2.00	0.75	2.45	0.20	0.30



- (L) largo interior del tanque
- (A) ancho interior del tanque
- (h₁) tirante menor
- (h₂) tirante mayor
- (h₃) nivel de lecho bajo de dala con respecto a la parte de mayor profundidad del tanque
- (H) profundidad máxima
- (E) espesor de muros



OPCIONES PARA INSTALAR LA LETRINA DE CIERRE HIDRAULICO

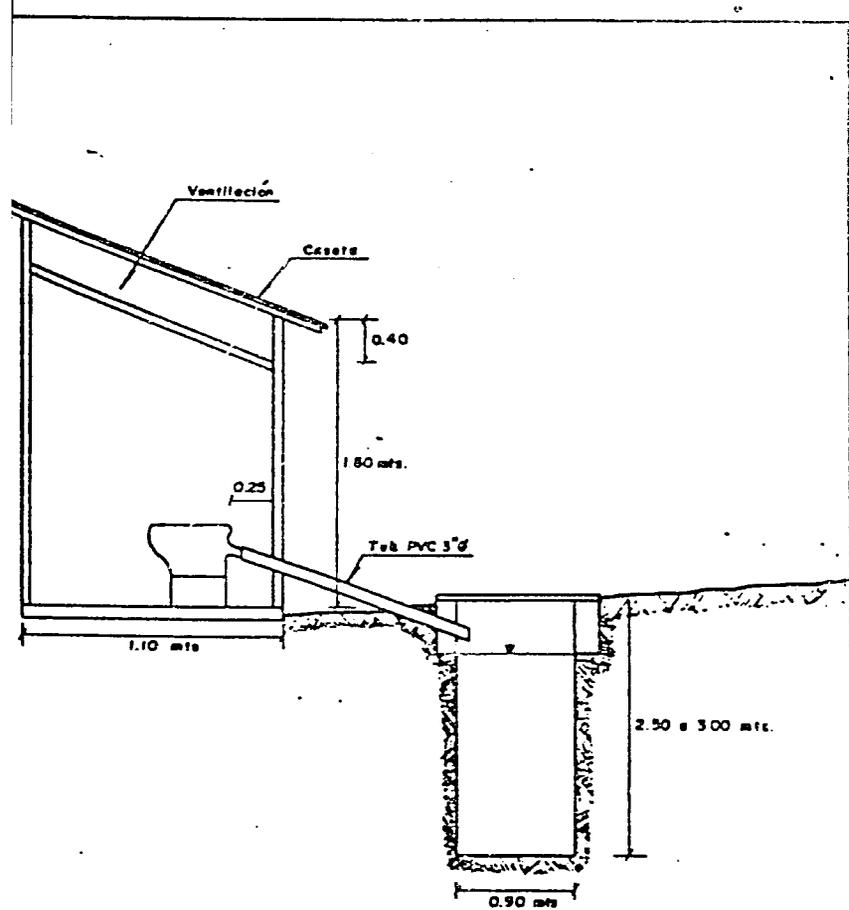


FIGURA No. 2

INSTALACION FUERA DE LA VIVIENDA

En este caso es necesaria la construcción de la caseta, la cual deberá tener las dimensiones dadas en la figura N° 2.

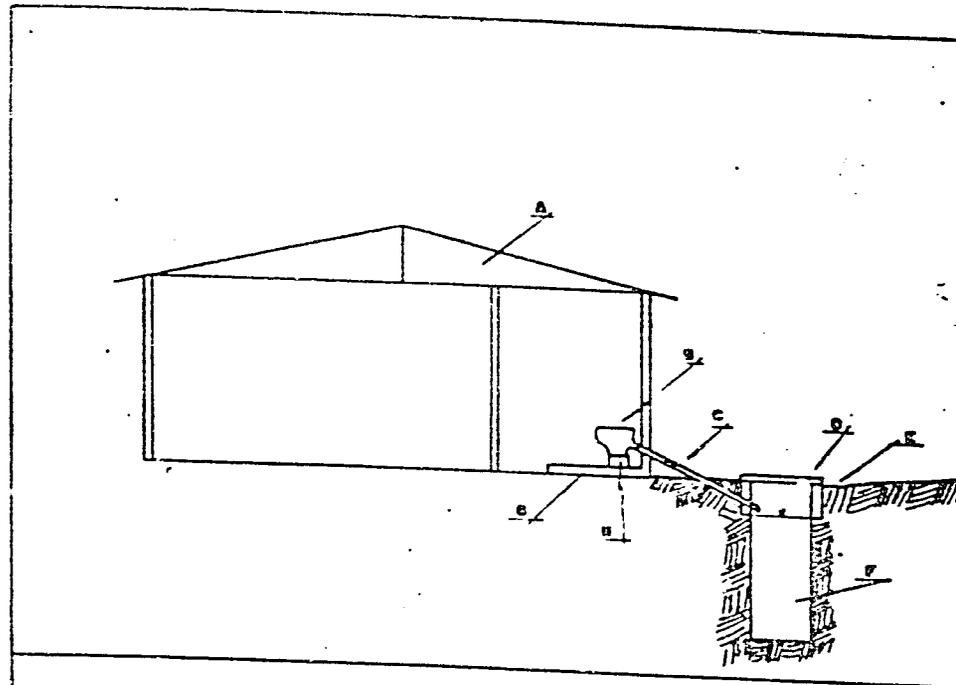
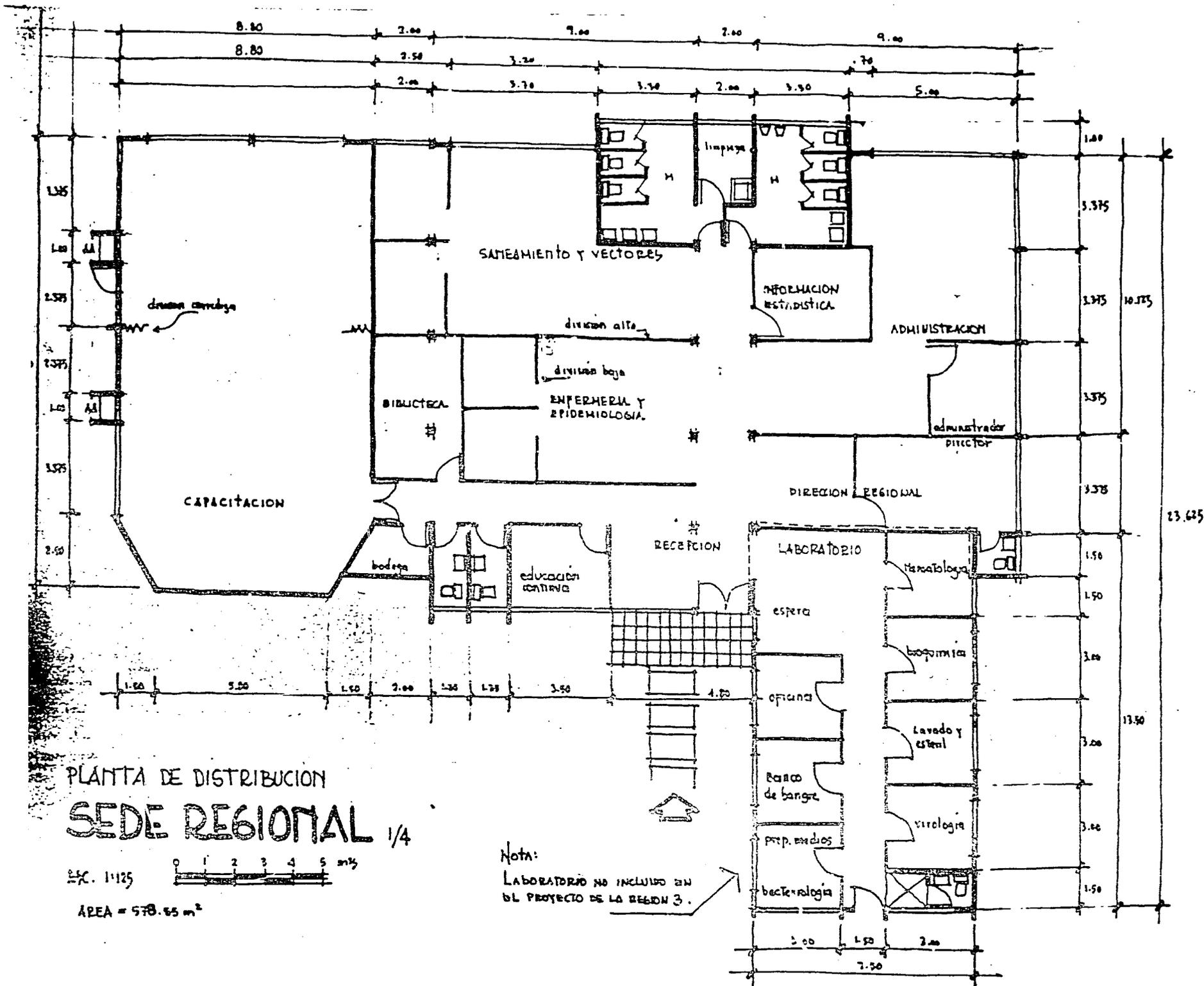
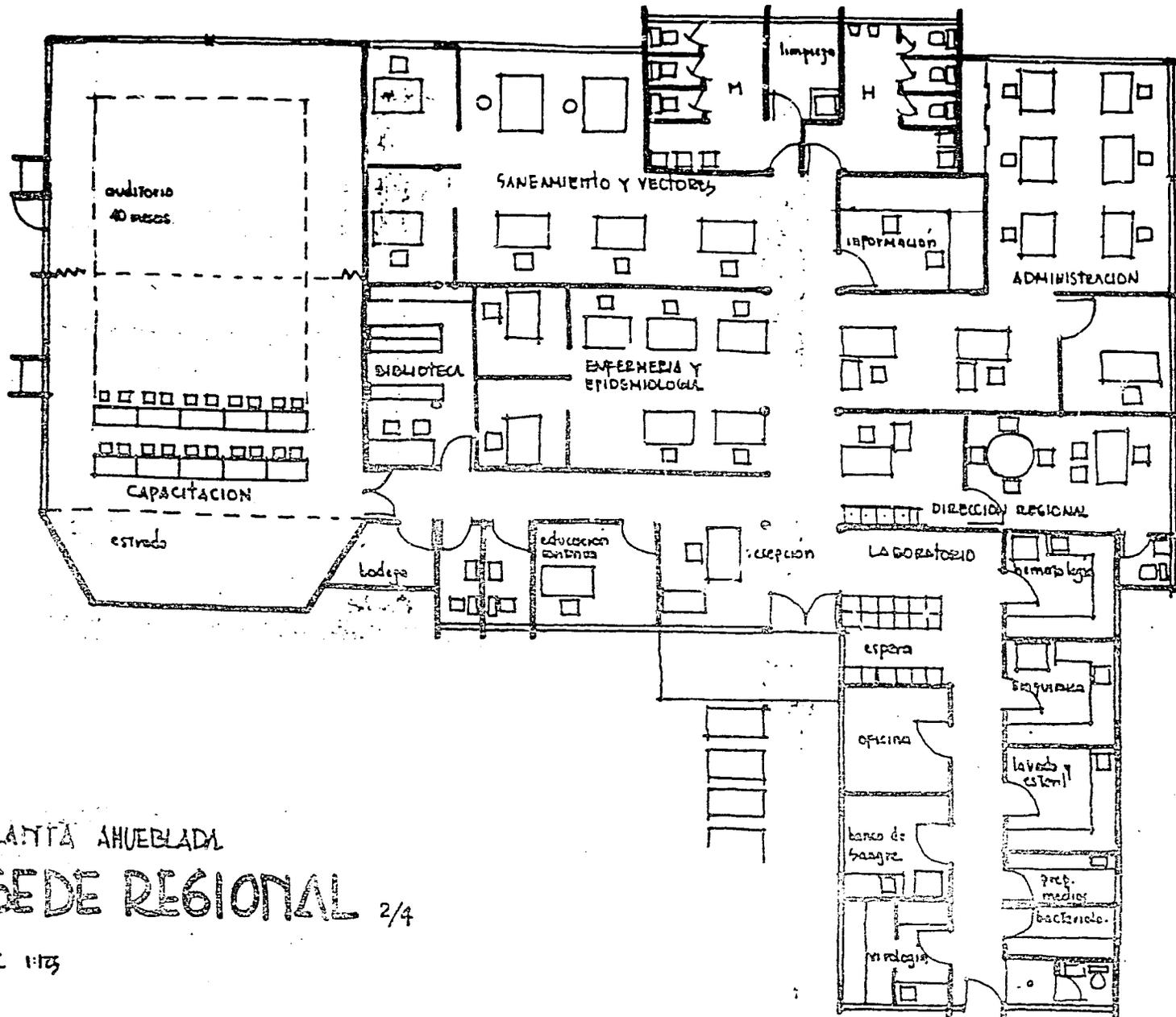


FIGURA N° 1

INSTALACION DENTRO DE LA VIVIENDA

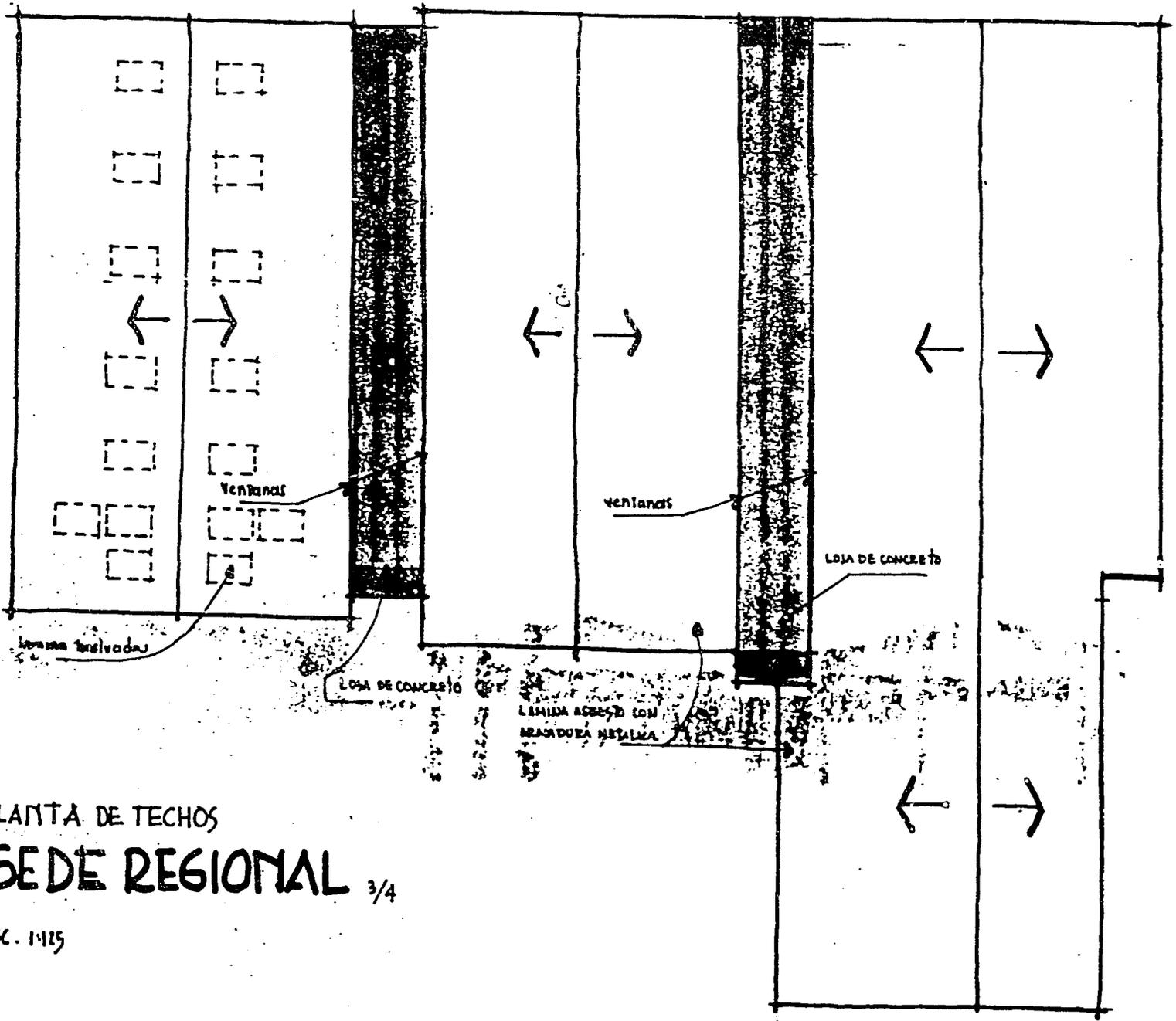
- A.- VIVIENDA
- B.- LETRINA DE CIERRE HIDRAULICO
- C.- TUBO O CONEXION DE PVC 4"ø d 5"ø
- D.- LOSA DE HORMIGON REFORZADA
- E.- BROCAL
- F.- FOSA SIMPLE
- G.- PLATAFORMA
- H.- PEDESTAL





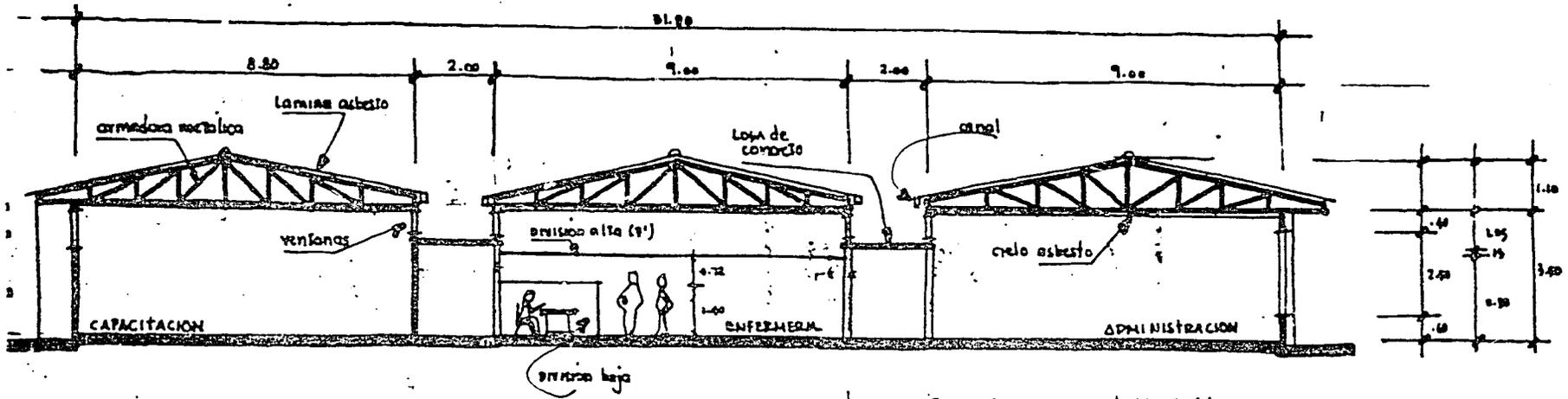
PLANTA AHUEBLADA
 SEDE REGIONAL 2/4

ESC 1:125

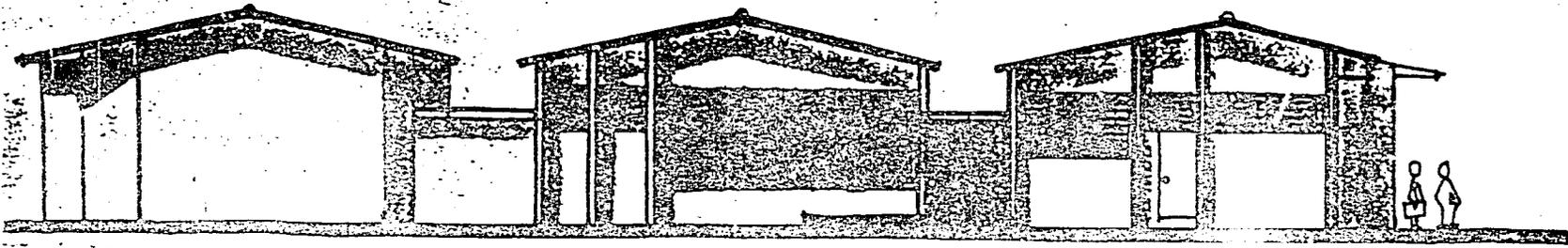


PLANTA DE TECHOS
SEDE REGIONAL 3/4

ESC. 1:125



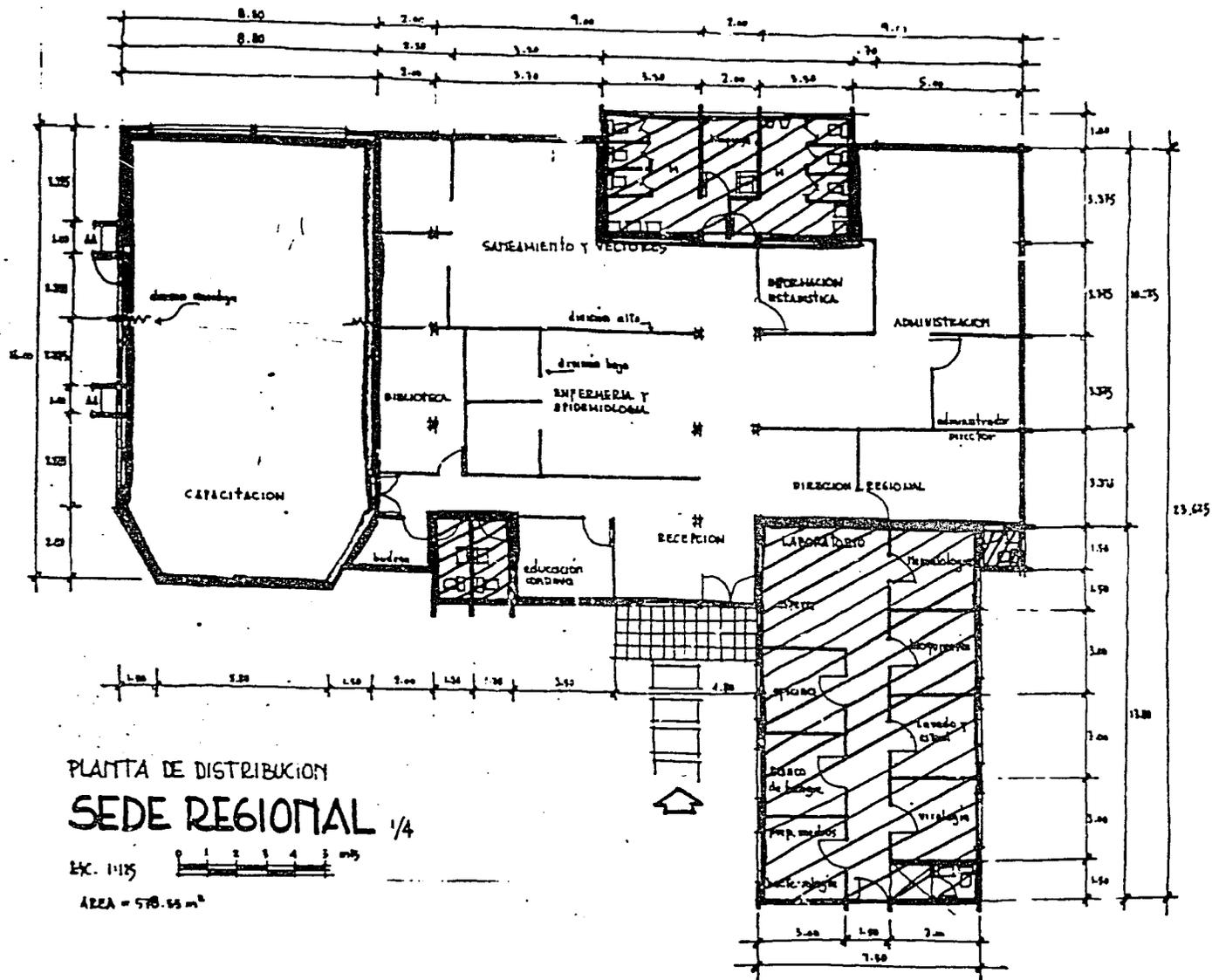
SECCION LONGITUDINAL



FACHADA FRONTAL

SEDE REGIONAL 4/4

EX 1:125



PLANTA DE DISTRIBUCION
SEDE REGIONAL 1/4

EX. 1115

AREA = 578.65 m²

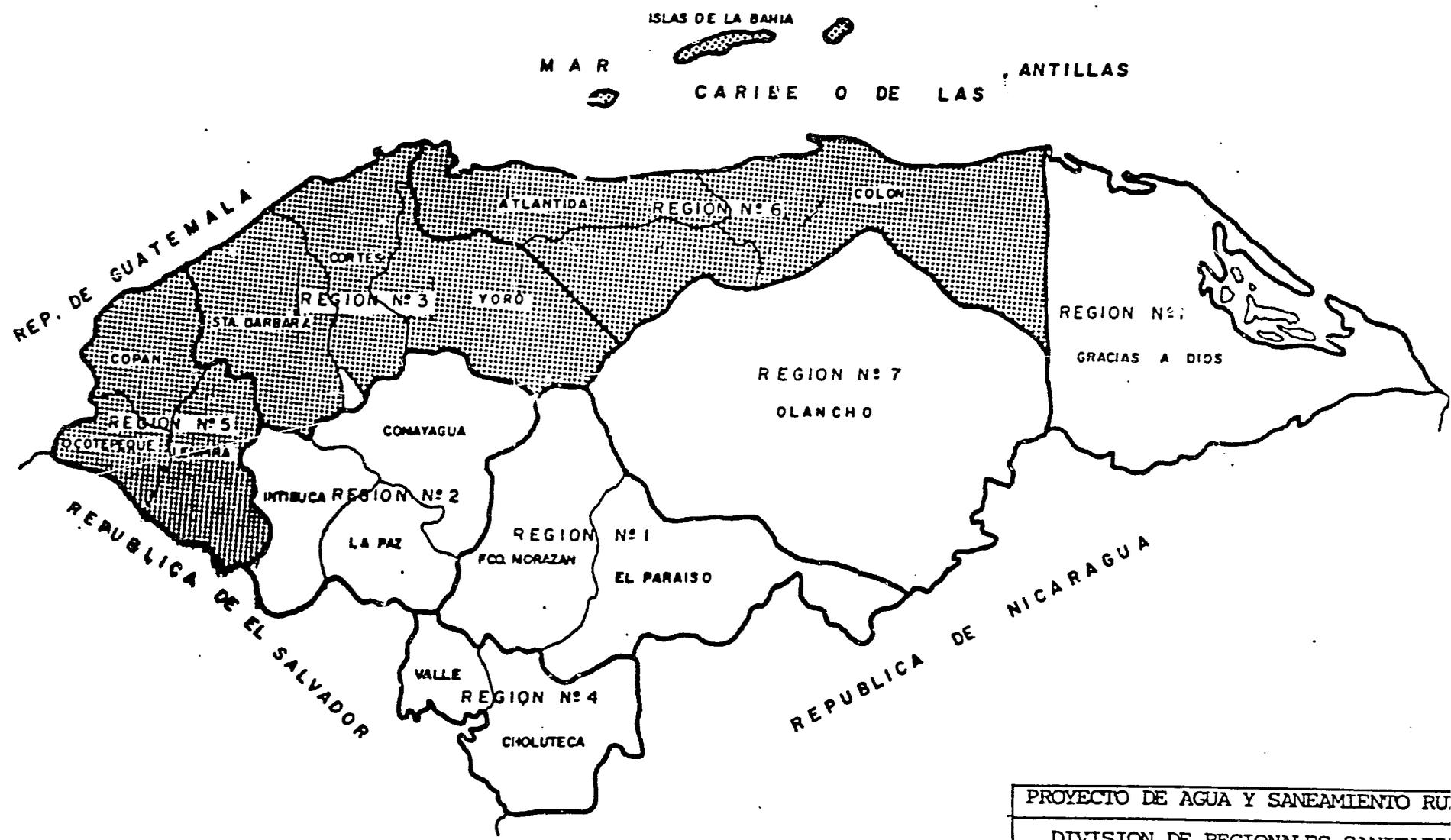
TRAINING FOR MOH

ITEM	PARTICIPANTS	DURATION	UNIT COST \$	TOTAL COST \$	OBSERVATIONS
Scholarship for Sanitary Engineers	2	18 months	18,000	36,000	For civil engineers for Post Graduate Studies in Sanitary Engineering
Courses for Engineers	3	3 months	8,000	24,000	For Civil and Sanitary Engineers with experience
Observational visits to Latin American Countries to review Water and Sanitation Projects	14	1 month	4,0100	56,000	For Engineers, Promoters and Health Educators
Short Term Training	9	2 weeks	2,000	18,000	For Civil and Sanitary Engineers
Training Courses for Promoters (Refresher Courses)	120	2 weeks	10,000	60,000	1st year - 2 courses with 25 promoters 3rd year - 3 courses with 20 promoters 5th year - 1 course with 120 promoters
Courses for Promoters in educational communications methods	120	6 weeks	11,500	69,000	For promoters and Health Educations

TRAINING FOR SANAA PERSONNEL

ITEM	DESCRIPTION	NO.	DURATION	UNIT COST \$	TOTAL COST \$	OBSERVATIONS
1.	<u>Long Term</u> Post Graduate Studies in Sanitary Engineering	6	1.5 yrs.	10,000	60,000	Post Graduate studies in Guatemala, México, Brazil, Colombia.
2.	<u>Short Term</u> Seminar for Sanitary Engineers	5	2 weeks each	6,000	30,000	Seminar for 12 or or more engineers in design of water and sewer systems.
	Training courses for promoters	2	2 weeks each	30,000	60,000	Courses to be given to 45 promoters in RW&S.
	Training courses for Promoters (refresher)	2	1 week each	15,000	30,000	Courses to update 45 promoters in latest promotional methods.
	Observation visits to Latin American Countries to inspect Water and Sanitation Programs - 4 engineers	4	1 month	3,000	12,000	
	Training Courses for 15 Maintenance Technicians (TEOMARES)	2	2 weeks each	16,750	33,500	

10/1

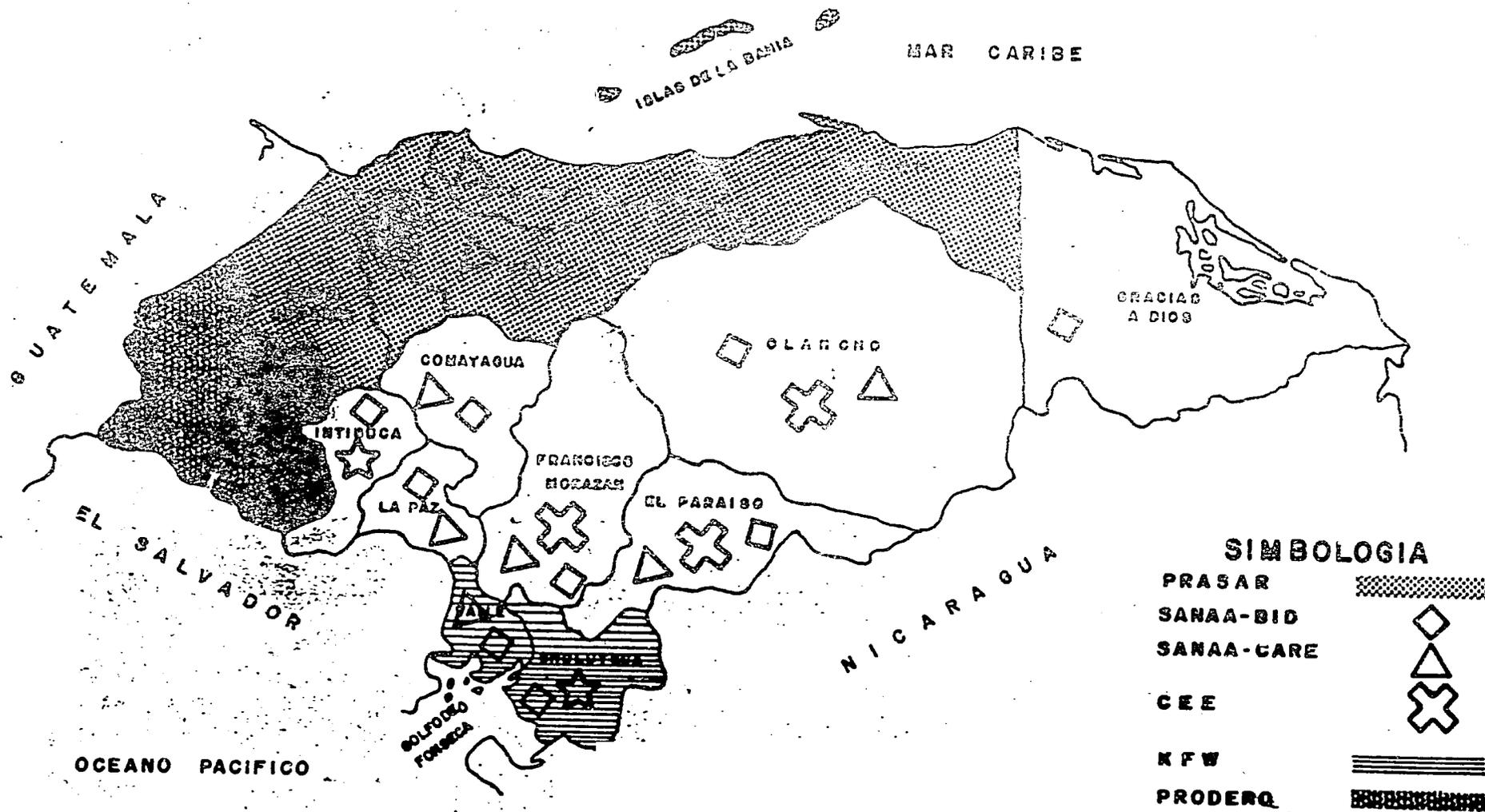


 Zona del Proyecto

PROYECTO DE AGUA Y SANEAMIENTO RU
DIVISION DE REGIONALES SANITARI
FECHA: NOV/87

78

PROGRAMAS DE ATENCION EN ASPECTOS DE AGUA POTABLE Y/O SANEAMIENTO EN EL PAIS

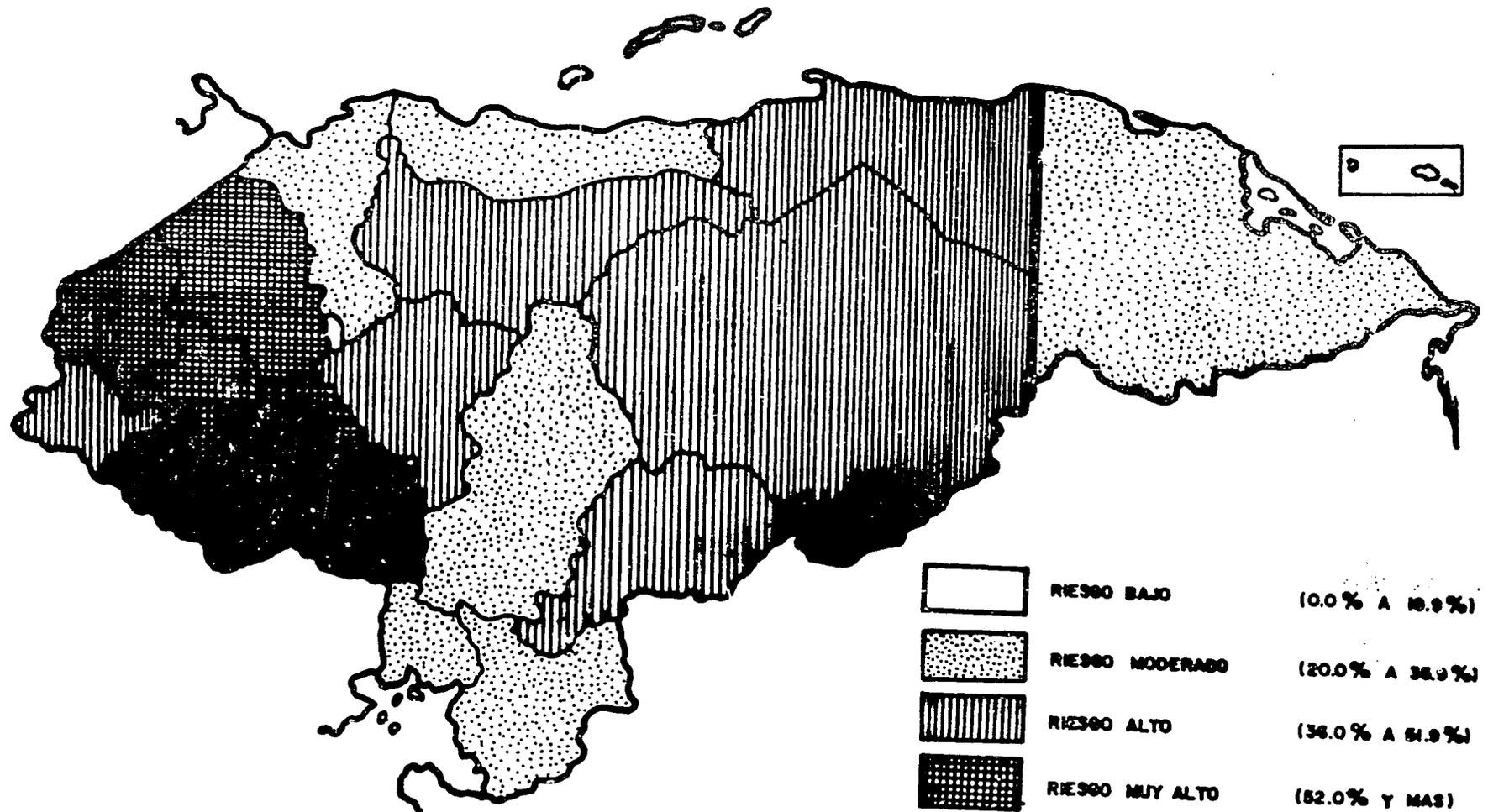


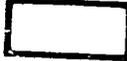
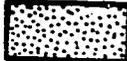
ORGANIZACIONES PRIVADAS VOLUNTARIAS

FEDECON ○○○○○○○○○○

SAVE THE CHILDREN ☆

REPUBLICA DE HONDURAS
 PRIMER CENSO NACIONAL DE TALLA EN ESCOLARES DE PRIMER GRADO
 CLASIFICACION DE DEPARTAMENTOS SEGUN CATEGORIAS DE RIESGO BASADAS EN NIVELES DE PREVALENCIA
 DE DESNUTRICION
 JUNIO DE 1987



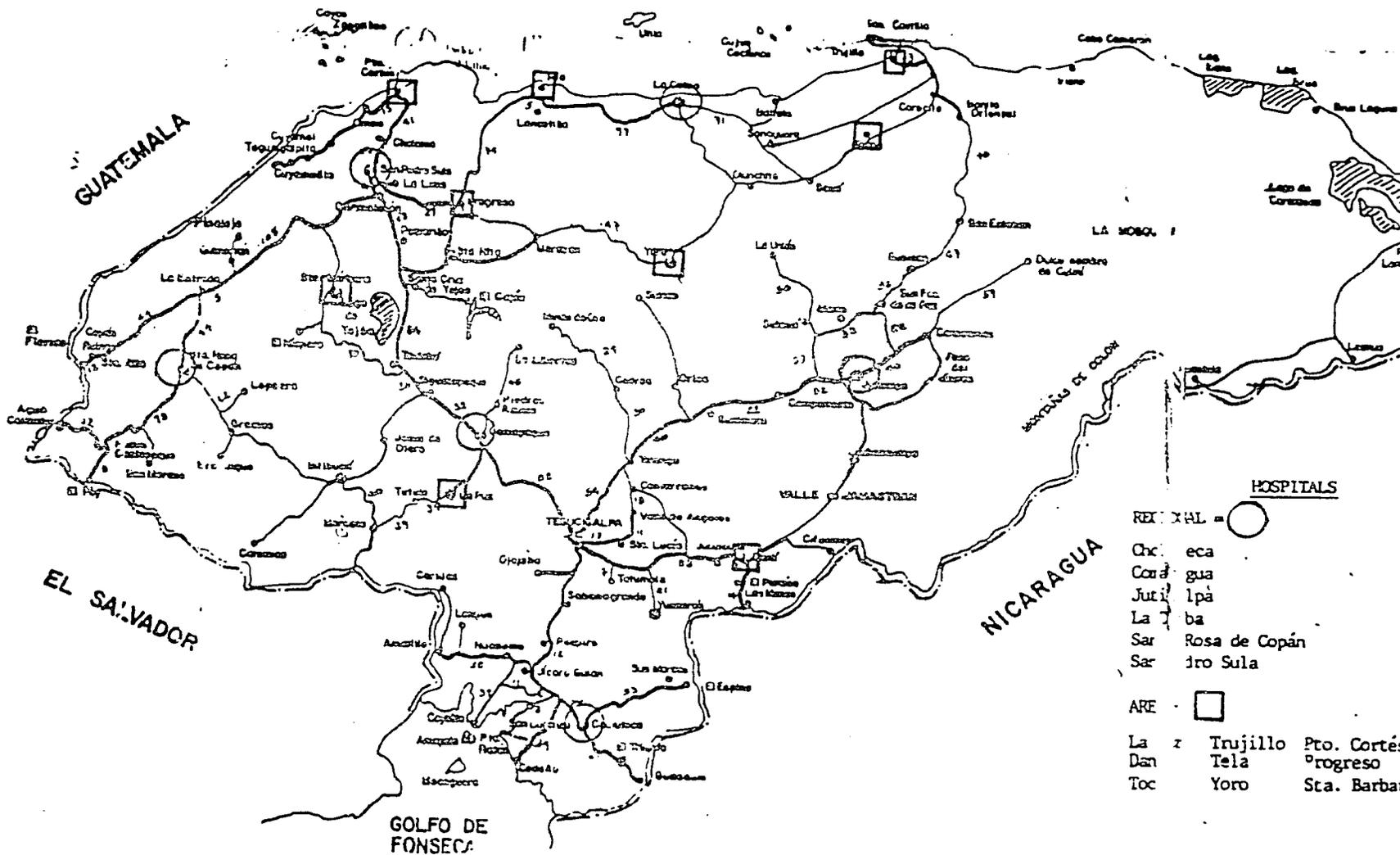
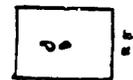
	RIESGO BAJO	(0.0% A 19.9%)
	RIESGO MODERADO	(20.0% A 35.9%)
	RIESGO ALTO	(36.0% A 51.9%)
	RIESGO MUY ALTO	(52.0% Y MAS)

HONDURAS

HOSPITAL NETWORK

Hospita Escuela
 General Hospital, San Felipe
 Matinal Thoracic Institute
 Acute P.sychiatric Hospital
 Chronic Psychiatric Hospital

MAR CARIB



205-

0390 11
/

ANNEX O

ECONOMIC ANALYSIS

1. Description and Methodology

In order to proceed with the Economic Analysis of this project it is convenient to separate it into two major components. The first component covers the construction of water systems that will provide potable water to rural dwellers. Most of those water systems will be built by SANAA, but the MOH will also construct smaller scale systems.

The second project component includes Institutional Development, Child Survival Technologies, and also Waste Disposal Systems.

2. Economic Analysis of the Rural Water Component

This project component refers to the implementation of potable water systems in small rural towns. The total number of water systems to be built has not been established definitively yet. For illustrative purposes a tentative implementation schedule is considered in this Economic Analysis. According to this illustrative schedule, SANAA will be responsible of installing approximately 530 water systems in towns with populations ranging from 250 to 2,000 persons, with an average of 400 persons per system, and the MOH will build approximately 45 smaller systems serving an average of 200 persons per system.

A typical system will have the following components:

- a) Water collection. The water will either be surface water or underground water, supplying a water flow compatible with the scale of the system. The water will have to be of a certain quality to only require unsophisticated treatment. Underground water systems will usually include a water pumping unit.
- b) Treatment. A water treatment unit may include sedimentators and slow filters. Every system will at least incorporate a chlorinator to disinfect the water.
- c) Reserve Tank. Made of reinforced concrete, unless its small size and availability of appropriate materials justifies building the tank with concrete and stones.
- d) Distribution Networks. Made mainly with polyvinyl chloride pipes bringing the water to private house connections, or to public locations in cases where private connections are not justified.
- e) House Connections. Inside houses the pipes will mainly be of galvanized iron, and will include entrance and service valves.

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2.1 Cost of Typical Water Systems

Data about typical water systems have been obtained from an IDB report: "Honduras: Programa de Acueductos Rurales III Etapa, (HO-92), October 1, 1985". An IDB team selected a sample of 60 rural locations in which existing water systems were studied and carried to the design stage. Detailed data on costs covering design, construction, management, operation and maintenance, as well as the size and other characteristics of each system, are included in the IDB report.

In order to obtain a typical MOH type water systems, an average was taken from a sample of 6 water systems serving populations from 176 to 196 persons. A typical SANAA system was similarly obtained from a sample of 52 water systems serving towns with populations from 242 to 594 persons. (Table 1). As should be expected, design and investment costs per person served by the water systems more larger for smaller scale systems.

Based on the average design and construction costs obtained from the IDB study, and considering typical population sizes of 200 and 400 persons, Table 2 shows typical system costs calculated for MOH type and a SANAA type systems respectively. All costs and prices used in the economic analysis are expressed in constant Lempiras of 1987. No consideration has been introduced for inflation or price escalations.

2.1.1 Financial Costs.

In the present study financial prices refer to market prices minus taxes. Thus, for imported material financial prices are market prices minus import tariffs. This essentially assumes that all imported inputs will be free of import tariffs.

2.1.2 Economic Costs.

To calculate economic costs, opportunity costs or shadow prices have to be taken into account, and the value of some project inputs have to be corrected accordingly.

- a) Wage rate for unskilled labor. Clear indications exist that the rate of unemployment of unskilled labor is high in Honduras (1). Therefore, the GOH assigns high priority to finding employment opportunities for unskilled labor. Considering the apparently high unemployment rate of unskilled labor, the opportunity cost of such labor should be fairly low. Lacking more precise computations, the opportunity cost or shadow price of unskilled labor has been estimated at 50 percent of financial or market rates.

(1) The unemployment rate increased from 11.3 percent in 1974 to 25 percent in 1984, according to "Plan Nacional de Desarrollo 1987-1990". Secretaría de Planificación, Coordinación y Presupuesto.

b) Shadow Exchange Rate. The standard correction factor (SCF) for the shadow price of foreign exchange was estimated at 1.35, given that the real trade weighted effective exchange rate had fallen to around 75 percent by 1985 taking 1978 as base year (1). This means that the shadow exchange rate is:

$$\text{SER} = \text{SCF} \times \text{OER} = 1.35 \times 2.00 = 2.70 \text{ L/\$}$$

Where OER refers to the official exchange rate.

In order to calculate economic investment costs, financial investment costs were separated into foreign exchange, unskilled labor, and other domestic costs (Table 3).

Economic investment costs in Table 4 were computed applying to the financial figures of Table 3, economic prices or correction factors for the foreign exchange and unskilled labor cost components.

With the vegetative growth of population, the number of users will grow at a 1.69 percent a year rate. Therefore, additional connections will be required, and their average cost is presented in Table 5. Furthermore, to ensure the proper operation of the systems, management, operation and maintenance costs will be incurred, as shown in Table 6.

2.1.3 Cost recovery.

Fees charged to water users in rural areas are fixed by SANAA, and are far below the order required by any cost recovery scheme. Those fees are presently 2.50 L/month/house.

Although this project does not pretend to charge cost recovery fees to users, still it is important to know how high fees should be for a cost recovery operation. The following figures provide an estimate of cost recovery fees per house:

Investment costs:	6 persons x (28.71 + 224.33) = L1,518.24
Cost recovery of investment in 20 years	
at 10 percent discount rate:	178.33 L/year, or 14.86 L/month
Management, operation and	
maintenance:	27.32 L/year, or 2.28 L/month
Total	205.65 L/year, or 17.14 L/month

Thus, charging L17.14 per month for each house connexion the water systems would achieve cost recovery. Management, operation and maintenance costs would be L2.28 per month, which is very close to the expected water user fee of 2.50 L/month/house. Thus, the water user fee will barely cover management, operation and maintenance costs.

(1) IMF report on Honduras, 2/87.

2.2 Additional Characteristics of Typical Systems

Table 7 presents some technical characteristics of the systems. The average house will receive over 200 cubic meters of water per year, serving a total of six persons.

Gross supply is what is also known as Maximum Daily Demand (MDD), and is measured at the water source. To obtain net supply at the water user, water losses must be subtracted from MDD. Furthermore, the average demand is smaller than MDD by a 1.35 factor. Therefore:

$$\text{Net supply} = 0.9 \times \text{gross supply}/1.35$$

In this project, the average house connection is assumed to serve 6 persons.

2.3 Economic Benefits of Water Service

The implementation of a water system that provides potable water at the users' houses brings some obvious economic benefits:

- a) There are savings in time and effort previously spent transporting water from alternative water sources.
- b) There is a considerable expansion in the consumption of water brought by the water system. Having more water and of better quality enhances the well being of the population. It results in more hygiene, facilitates the implementation of sewer units, reduces diseases and, in general, brings more comfortable living conditions.

All these benefits are usually perceived by the user, and therefore are captured by the demand function, called also "willingness to pay" function. The demand function for rural users of potable water in Honduras was calculated through a survey in March-April 1985 (1). As a result of this survey, a water demand function was estimated econometrically with the following parameters:

$$Q = 265.43 - 26.462 P$$

Where: Q = liters per family/day
P = Lempiras per cubic meter

(1) Programa de Acueductos Rurales (III Etapa), (HO-92), Inter-American Development Bank.

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Since for the IDB survey each family consisted in 6.216 persons, the above results are equivalent to:

$$q = 15.59 - 1.554 p$$

Where: $q = \text{cubic-meter}/(\text{person} \times \text{year})$

Without the project, the average house consumes 115 liter/day of potable water. This is equivalent to 6.75 cubic-meter/year per person.

According to the above demand function, a person consuming 6.75 cubic-meter/year pays near 6 L/cubic-meter, which is the situation without the project (Figure 1). With the project paying no charge per cubic-meter of water consumption, the average rural user will consume 15.59 cubic-meter per year. A house holding 6 persons will consume 93.54 cubic-meter/year (1).

Total economic benefits per person are:

- a) Without project costs of water supply. That is the area of the rectangle A: $P_0 \times q_0 = 42 \text{ L/person-year}$
- b) Willingness to pay for the increased consumption represented by the area of the triangle B:
 $0.5 \times P_0 \times (15.59 - q_0) = 27 \text{ L/person-year}$

Therefore, annual economic benefits per person are calculated at 69 L in constant 1987 prices (Table 7).

2.4 Total Costs and Benefits of the Water Sanitation Component

Table 8 presents the illustrative project implementation schedule proposed. It is assumed that the project will build 530 systems of SANAA type, serving an average initial population of 400 persons per system. The MOH will also build 45 systems serving an average of 200 persons per system at the initial state.

Tables 9 and 10 show the flow of costs and benefits for the typical systems. The initial population served by each system grows at a 1.6 percent rate per year. Investment costs are incurred on system year zero of each system implementation schedule. Costs are decomposed into foreign exchange, unskilled labor and other domestic costs to allow the translation from financial costs to economic costs.

From system year 1 on, expenditures are incurred in the management, operation and maintenance of the system. Furthermore, new connections are installed to cover the population growth. The useful life of the system is only 20 years after which its residual value is zero.

(1) Observe that the system has been designed to provide over 200 cubic meter/year per house.

Total Economic Costs are calculated in Table 11, based on the Implementation Schedule (Table 8) and on the Financial Costs per System (Tables 9 and 10), corrected by the appropriate correction factors to go from financial costs to economic costs. The population receiving potable water with the project is also calculated considering both the number of newly implemented systems, and the vegetative population growth of 1.69 percent a year. Subtracting total costs from total benefits, Net Economic Benefits are obtained, showing a promising Economic Rate of Return of 24 percent (EIRR).

It is important to observe that this EIRR figure probably understates the true rate of return because:

- a) There are external benefits in the provision of potable water, that are not captured by the willingness to pay of the user.
- b) The demand for water schedule used assumes constant per capita income. In fact per capita income will likely increase, shifting the demand curve to the right and thus increasing economic benefits.
- c) In reality, the demand curve for potable water tends to infinity when the price of water approaches zero. Using a linear function for the econometric estimation procedure has understated water demand when price approaches zero. This tends to understate economic benefits too.

2.5 Sensitivity Analysis

It is always interesting to verify how sensitive the Rate of Return is to changes in key parameters and assumptions employed in the calculation of Costs and Benefits.

Table 12 shows that the project is economically justifiable even facing highly adverse outcomes.

TABLE 12
Sensitivity Analysis
of the Economic Rate of Return (EIRR)

<u>Situation</u>	<u>EIRR (%)</u>
Base run	24.08
Financial prices	26.36
Benefits fall 20%	19.92
Investment costs increase 20%	20.04
Both above	15.56

Using financial instead of economic prices to quantify costs, the EIRR increases to 26.36 percent a year. If benefits are 20 percent smaller than expected, the EIRR is still a high 19.92 percent. If investment costs increase 20 percent over expected values, the EIRR falls to 20.04 percent. If simultaneously, benefits fall by 20 percent and investment costs increase 20 percent -a highly adverse outcome-, the project still results with an attractive 15.56 percent Economic Rate of Return.

3. Economic Analysis of Health Expenditures

A wide variety of activities and interventions are considered health related expenditures. They are the Institutional Development Component, the Child Survival Technologies Component and also the Implementation of Water Disposal Systems complementary to the Potable Water systems.

Methodologically, it is possible and also convenient to treat all these project components together. Their benefits are ample and include providing better quality health services to rural dwellers, and improving their quality of life in a variety of ways. What all these interventions have in common is that their main identifiable benefit will be to reduce infant mortality for children in their first year of life. Thus, although conscious of the wide range of benefits expected from these interventions, the economic analysis will concentrate on their main quantifiable benefit, that is deaths averted for children in their first year of life.

The problem then becomes one of attaching a value to human life. From an ethical point of view no finite value may be attached to a human life. Aware of this limitation, it is still possible to abstract from the intrinsic value of human life and limit the analysis to the strict costs and benefits of a person through his/her life span from the perspective of the economy.

3.1 The Typical Beneficiary

The beneficiaries of this project health interventions will mainly be lower income population among whom the highest infant mortality rates are prevalent. Expected improvements in the spread of education opportunities suggest that our typical low income Honduran will have access to primary education. It will be somebody with a six grade education completed after attending elementary school during eight years.

However, since there is no total certainty with regards to the education that the project beneficiary will receive, an alternative typical beneficiary was also proposed: somebody with zero grades of education completed.

3.2 Total Costs

From the perspective of the national economy, the relevant costs of a human life are those incurred to maintain a person alive from birth to death.

The essential expenditures incurred to maintain a person alive during his/her life span have been estimated based on the per capita expenditure of the average honduran. A survey made by Management Sciences for Health (MSH) in 1983 (1) puts average per family expenditure at \$182.54 per month. Given an average of 6.114 persons per family, annual per capita expenditure is:

$$\frac{182.54\$ \times 2L/\$ \times 12 \text{ month}}{6.114 \text{ person/family}} = 716 \text{ L/person/year}$$

It has also been assumed a per capita real growth per year of 1 percent for these "essential" expenditures. Furthermore, different per capita expenditure levels were assumed for each age group, according to Table 13.

Considering simultaneously the age group and also a 1 percent a year secular growth in per capita expenditure, annual figures for per capita essential expenditure were calculated in Table 14. Figures are presented in constant Lempiras of 1987, after considering a 17.5 percent inflation in the 1983 - 1987 period.

Besides private expenditure, the GOH spends also resources in health and educational services. Based on data from the MSH report (1), GOH health expenditure per capita was estimated at 3.7 percent of average per capita essential expenditure.

Table 13

Per Capital Essential Expenditure by Age Group

Age Groups	Share in Population	Expenditure Level	Expenditure Coefficient
Year	%	%	%
0-4	20	25	54.01
5-9	16	50	68.03
10-14	14	75	102.04
15 +	50	100	136.05
Total	100		

Note: The Expenditure Coefficient was calculated to result in a weighted average of 100 percent, maintaining the proportions proposed by the Expenditure Level indexes.

(1) Financial Alternatives to Support Extension of Basic Health Services in Honduras. MSH/AID 1985.

Thus, for year 1 of the average Honduran (1988 calendar year and 1987 prices), GOH health expenditure per capita is:

$$716 \text{ L/person} \times 1.01 \text{ exp. } 4 \times 3.78\% \times 1.175 = 32 \text{ L}$$

The average GOH expenditure per student year of primary education in 1983 was 171 L for the MOE, equivalent to L201 at 1987 prices. In Table 14 it was assumed that this cost stays constant, and that the average student will complete the 6 year primary education level along an 8 year period. Total costs are obtained adding up essential expenditures to GOH expenditures in Health and Education.

In order to save a life, the project will spend some amount during the first year of the person considered. Such cost must also be added to total costs during the first year.

3.3 Total Benefits

Economic Benefits are simply the annual income the typical project recipient whose life was saved by a project's health intervention will earn along his/her life span. That is, without the Project some persons will die during their first year with no costs or benefits along their life span. With the Project those lives will be spared, bringing the income of those persons as a quantifiable economic benefit.

Using data from a 1978-79 household survey (1), a function was derived showing monthly income for the average honduran as a function of education and age.

$$Y = -149 + 22E + 7A$$

Where: Y = monthly income in L of 1978
E = years of primary education completed
A = age in years

There is no profile of the typical project beneficiary with regards to educational level and hence expected income. One should be able to presume that by the next decade the typical Honduran will have access to primary education. Therefore, assuming the average project beneficiary will complete 6 years of primary education, and that real income grows at a secular rate of 1 percent a year, expected personal income figures were calculated in Table 14.

It was also assumed that once the person reaches 40 years of age, additional aging will not increase income. Furthermore, once the person

(1) Household Survey in rural areas of Honduras. Carried out under the auspices of an ECID/SIECA/AID project. Data processed by Ateneo de la Agroindustria.

reaches an age of 50 years, each additional year brings out a reduction in income in the same manner as income increased from age 15 to 40.

However, there is no guaranty that the typical project beneficiary will enjoy the benefits of education. Therefore, as an alternative in the way of a sensitivity analysis, a project beneficiary with no access to education was also considered.

3.4 Economic Costs and Benefits

Total costs include what were defined as essential expenditures, plus public expenditure to provide health and education services. These costs can be presumed to be almost exclusively made up of non tradeable resources, with a negligible share of unskilled labor service. An exception could be project costs of which a non negligible share might be foreign exchange costs. However, since no clear information is available regarding foreign exchange share in total project health costs, total financial and economic costs have been considered identical.

With regards to benefits, expected income figures have been obtained from the results of a field survey. When questioning people on total income earned in the recent past, unemployment is one of the factors considered to obtain final income figures. This means that a shadow wage rate factor has already been incorporated in the income figures of unskilled labor. Therefore total benefit figures refer to economic benefits.

3.5 Net Economic Benefits

Net economic benefits are obtained subtracting total costs from income. Since the typical project beneficiary starts working only when he/she reaches 15 years, net benefits are negative during the first fourteen years. Average annual income along life span is L6,340 for the person with access to primary education, and L2,790 for those with no education at all. The resultant Internal Rates of Return are 13.3 percent a year for the educated beneficiary and only 7.1 percent for the non educated one.

It is worthwhile to insist here that these IRR reflect only income and expenditure considerations, which are obviously just one dimension of human life and existence.

3.6 IRR of the Project

The figures presented by Table 14 show the economic costs and benefits experienced during the life span of the typical persons whose lives will be preserved during childhood by this project health interventions.

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The best guess of health specialists is presented in Table 16, estimating that the Project will save or contribute to save a total of 8,359 lives. If the total spent by the project in the specifically health related interventions is around \$30 million, or L60 million, the cost of saving a life results in around L7,000. Table 15 indicates that if Project expenditure per saved life is L7,000, the EIRR is in the order of 9.2 percent when the project beneficiary is somebody with six grades of education completed. However, if the typical project beneficiary were a person with no access to education Table 15 figures present a much lower 4.68 percent EIRR.

Since economic benefits are clearly only one dimension -albeit an important one- of benefits gained through saving lives, the obtained results seem to justify the expenditures this project involves.

3.7 Sensitivity Analyses

To check how sensitive the EIRR is to the estimated expected future income of the typical project beneficiary, all calculations were repeated for two alternative specifications: a) Increasing benefits by 20 percent, and b) Decreasing benefits by 20 percent. The results of these calculations are presented in Table 15, and depicted in Figure 2. In the L7,000 of average project costs per averted death, a 20 percent variation in expected benefits alters the EIRR by around 1 percentage point. Thus the obtained EIRR is only mildly sensitive to the estimated expected benefits when the project beneficiary has a sixth grade education.

However, Table 15 indicates also that if the project beneficiary is somebody with no access to education, the EIRR sharply drops to 1/2 of its base value. Such low rates of return would pose a serious questioning to the economic efficiency of this project health expenditures.

Annex P

5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A includes criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance; B(2) applies to projects funded from Development Assistance loans; and B(3) applies to projects funded from ESF.

The country checklist for FY87 is included in the Forestry Development Project.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1987 Continuing Resolution Sec. 523; FAA Sec. 634A. Describe how authorization and appropriations committees of Senate and House have been or will be notified concerning the project.
2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance, and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?
3. FAA Sec. 611(a)(2). If 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?
4. FAA Sec. 611(b); FY 1987 Continuing Resolution Sec. 501. If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)

A Congressional Notification will be transmitted by A.I.D. to Congress indicating funding requirements for the assistance program.

Items 2(a) and 2(b) have been completed.

No legislative actions required.

Yes, costs and benefits have been computed in accordance with these standards.

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5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total 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? Yes, Mission Director has certified that the country can effectively utilize the Water and Sanitation Systems and storage spaces that will be financed through the project.
6. FAA Sec. 209. Is project susceptible to 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. No
7. FAA Sec. 601(a). Information and conclusions on whether projects 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. The project will encourage increased participation of PVO's in health sector.
8. FAA Sec. 601(b). Information and conclusions 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). A major portion of the technical assistance and commodities will be procured from a U.S. source. Additionally, participant training will be at U.S. universities whenever possible.
9. FAA Secs. 612(b), 636(h). 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 Government of Honduras has agreed to contribute substantial counterpart funding for services and other program costs.
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? The U.S. does not own such excess currency.

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11. FY 1987 Continuing Resolution Sec. 521. N/A
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?
12. FY 1987 Continuing Resolution Sec. 558 N/A
(as interpreted by conference report). If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities (a) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (b) in support of research that is intended primarily to benefit U.S. producers?
13. FY 1987 Continuing Resolution Sec. 559. No
Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

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14. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (a) stress the importance of conserving and sustainably managing forest resources; (b) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (c) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (d) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (e) help conserve forests which have not yet been degraded, by helping to increase production on lands already cleared or degraded; (f) conserve forested watersheds and rehabilitate those which have been deforested; (g) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (h) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (i) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (j) seek to increase the awareness of

A.I.D. Environmental regulations have been followed. An Environmental Assisment will be performed before funds are disbursed for vector control and water and sanitation activities.

U.S. government agencies and other donors of the immediate and long-term value of tropical forests; and (k) utilize the resources and abilities of all relevant U.S. government agencies?

15. FAA Sec. 119(q)(4)-(6). Will the assistance (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas? No
16. 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 (either dollars or local currency generated therefrom)? N/A
17. FY 1987 Continuing Resolution Sec. 532. Is disbursement of the assistance conditioned solely on the basis of the policies of any multilateral institution? No

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

- a. FAA Secs. 102(b), 111, 113, 281(a). Describe 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, dispersing investment from cities to small towns and rural areas, and (a) The project is specifically directed toward promoting the participation of the rural poor in the benefits of development at the local level by means of extending primary health care and water and sanitation services into isolated areas. (b) the reliance on local village organizations and governmental institutions to participate in

insuring wide participation of the poor in the benefits of development on a sustained basis, using 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.

project implementation will encourage community participation. (c) the program focus on preventive health care through local village health workers, community run water and sanitation systems and other outreach efforts. (d) all elements of the program promote the status and participation of women.

- b. FAA Secs. 103, 103A, 104, 105, 106, 120-21. Does the project fit the criteria for the source of funds (functional account) being used? Yes
- c. FAA Sec. 107. Is emphasis placed 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, labor-using technologies will be used for construction activities and health interventions appropriate for the lower income levels of developing countries are being employed
- d. FAA Secs. 110, 124(d). Will the recipient country provide at least 25 percent 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 being waived for a "relatively least developed" country)? Yes
- e. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority? Yes

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- f. FAA Sec. 281(b). Describe extent to which 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 has been designed to meet the desires and capacities of the populace of rural Honduras. The project encourages development of local community preventive health committees and will provide selected people in the local community with an improved understanding of the importance of water and sanitation services and the causes of morbidity.
- g. FY 1987 Continuing Resolution Sec. 540. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? No
- Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? No
- Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? No
- h. FY 1987 Continuing Resolution. Is the assistance being made available to any organization or program which has been determined to support or participate in the management of a program of coercive abortion or involuntary sterilization? No
- If assistance is from the population functional account, are any of the funds to be made available to voluntary family planning projects which do not offer, either directly or through referral to or information about access to, a broad range of family planning methods and services? No
- i. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes

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- j. FY 1987 Continuing Resolution. How much of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)? Competitive procedures will encourage participation of these groups.
- k. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving the planting of exotic plant species), will the program or project (a) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (b) take full account of the environmental impacts of the proposed activities on biological diversity? N/A
- l. FAA Sec. 118(c)(14). Will assistance be used for (a) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (b) actions which significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas? N/A
- m. FAA Sec. 118(c)(15). Will assistance be used for (a) activities which would result in the conversion of forest lands to the rearing of livestock; (b) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undegraded forest lands; (c) the colonization of forest lands; or (d) the construction of dams or other water

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control structures which flood relatively undegraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

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 assistance is in the form of a grant.
- 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 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest? N/A
- c. FY 1987 Continuing Resolution. If for a loan to a private sector institution from funds made available to carry out the provisions of FAA Sections 103 through 106, will loan be provided, to the maximum extent practicable, at or near the prevailing interest rate paid on Treasury obligations of similar maturity at the time of obligating such funds? N/A
- d. FAA Sec. 122(b). Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities? N/A

3. Economic Support Fund Project Criteria

- a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA? N/A
- b. FAA Sec. 531(e). Will this assistance be used for military or paramilitary purposes? N/A
- c. ISDCA of 1985 Sec. 207. Will ESF funds be used to finance the construction, operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such country is a party to the Treaty on the Non-Proliferation of Nuclear Weapons or the Treaty for the Prohibition of Nuclear Weapons in Latin America (the "Treaty of Tlatelolco"), cooperates fully with the IAEA, and pursues nonproliferation policies consistent with those of the United States? N/A
- 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 been made? N/A

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5C(3) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. PROCUREMENT

1. FAA Sec. 602(a). Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Yes, normal A.I.D. procedures will be followed.
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him? Yes
3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? Honduras does not practice such discrimination.
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) N/A
5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those No. Construction services will be procured locally.

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countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)

6. FAA Sec. 603. Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates? No
7. FAA Sec. 621(a). If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? Yes
8. International Air Transportation Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available? Yes
9. FY 1987 Continuing Resolution Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? Yes
10. FY 1987 Continuing Resolution Sec. 524. If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? Yes

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B. CONSTRUCTION

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used? No. The project contains several components including small scale construction. All such services will be procured locally.
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? Yes
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP), or does assistance have the express approval of Congress? N/A

C. OTHER RESTRICTIONS

1. FAA Sec. 122(b). If development loan repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter? N/A
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N/A
3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes

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4. Will arrangements preclude use of financing:

- a. FAA Sec. 104(f); FY 1987 Continuing Resolution Secs. 525, 540. (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; or (4) to lobby for abortion? Yes
- b. FAA Sec. 483. To make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? Yes
- c. FAA Sec. 620(g). To compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? Yes
- d. FAA Sec. 660. To provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes
- e. FAA Sec. 662. For CIA activities? Yes
- f. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? Yes
- g. FY 1987 Continuing Resolution Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel? Yes

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- h. FY 1987 Continuing Resolution Sec. 505. Yes
To pay U.N. assessments, arrearages or dues?
- i. FY 1987 Continuing Resolution Sec. 506. Yes
To carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)?
- j. FY 1987 Continuing Resolution Sec. 510. Yes
To finance the export of nuclear equipment, fuel, or technology?
- k. FY 1987 Continuing Resolution Sec. 511. Yes
For the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?
- l. FY 1986 Continuing Resolution Sec. 516. Yes
To be used for publicity or propaganda purposes within U.S. not authorized by Congress?

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MONITORING AND EVALUATION PLAN

- I. Users of the Information: The primary users of the information generated by this system will be the Director General, the Minister of Health, Director of SANAA, Deputy Ministers, Regional Directors, area level officials and the relevant A.I.D. project and program officers. This information will also be made available to the AID/R Mission Management and AID/W.
- II. Institutional Focus: Within the Ministry of Health, the Department of Statistics is responsible for much of the goal and purpose level data indicated below. Much of this data, however, is collected and aggregated in a number of different departments. Data on mortality and life expectancy is collected through surveys done through the MOH's Department of Science and Technology. Data on immunizable diseases is collected by the Department of Epidemiology. Information on Malaria and Chagas is collected by the Department of Vector Control, and information on Mother/Child health, family planning, and breastfeeding is collected by the Maternal/Child Division of the MOH Family Planning Unit. Information on the implementation of the local programming model is provided by the Ministry's planning sector as well as a PSC hired by the Project to monitor outputs and provide information on indicators. This PSC is responsible for making sure that information is provided on all project indicators except for the water and sanitation component. Data on water and sanitation component indicators is provided by SANAA/PRASAR's Planning Division. The AID/Honduras Engineering Office will be responsible for making sure that data is collected for all indicators for this component.
- III. Project Goal, Purpose, Output, Questions, Indicators, and Data Collection Methodologies:
- A. Project Goal:
- The goal of this project is to improve the health status of the Honduran people, especially children under the age of five years and women 15-45 years of age.
- Indicators: For mortality, percent change each year per health region for the following base:
- (i) Infant mortality no./1000
 - (ii) Maternal mortality no./100,000
- For life expectancy, percent change each year for region in no. of expected years of life.

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- B. Project Purpose: The purpose of this project is to consolidate and continue the process of extending coverage of efficient, sustainable and effective primary health care services with primary emphasis on child survival interventions and secondary emphasis on rural water and sanitation.

Change each year per health region for the following indicators:

- i) Mortality rates for children under five no./1000
- ii) cases of polio
- iii) morbidity due to measles, whooping cough, tetanus, and diphtheria (for each disease individually).
- iv) acute respiratory diseases
- v) percent of mothers breastfeed children under 4 months
- vi) percent of birth intervals less than two years
- vii) contraceptive prevalence
- viii) new cases of malaria
- ix) infections by chagas disease
- x) morbidity due to tuberculosis
- xi) Percentage of diarrheal cases with ORT
- ix) No. of communities with access to potable water and latrines (regions 3, 5 and 6).

C. OUTPUTS

Information needs for the outputs are detailed in the Logical Framework.

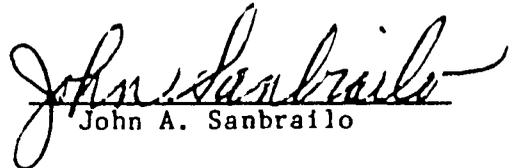
Information systems will be aggregated reported every six months unless otherwise indicated in the logframe.

Data Collection and Analysis Methodology: The project calls for the development of an improved information system to monitor project progress, manage the project effectively and plan further programs. This improvement will take place particularly at the regional level in conjunction with the decentralization effort. Information will be collected on purpose and goal level indicators at the regional level and analyzed on a semiannual bases. This information will be fed to the central level on a semiannual basis and aggregated nationally on an annual basis. Surveys and Reports will be done by the Ministry's Department of Science and Technology or the Project Contractors as indicated in the implementation plan. Any additional information needs not specified in the logical framework will be addressed by the Project Monitoring Contractor who will work with the appropriate Ministry Division. Information feedback will be done through regularized information channels such as quarterly and semiannual project reports as well as the Ministry's regular division reporting system and statistical reports put out by the Ministry's Division of Statistics.

ANNEX R

CERTIFICATION PURSUANT TO SECTION 611(e) OF THE
FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, John A. Sanbrailo, the principal Officer of the Agency for International Development in Honduras, having taken into account among other factors the maintenance and utilization of projects in Honduras previously financed or assisted by the United States, do hereby certify that in my judgement Honduras has both the financial capability and human resources capability to effectively maintain and utilize the capital assistance project: Health Sector II.


John A. Sanbrailo

PROJECT 522-0000 - HEALTH SECTOR II

ANNEX 5

PROCUREMENT PLAN

Commodity/Services	Description	Estimated Cost U.S. \$000	Source	Origin	Type of Procurement	Delivery Date	Lead Time	Purchase Agent	Waiver/ Approval Required
01 - LOCAL PROGRAMMING									
1. Vehicles (43)	4 X 4 Pick-up	645.0	000	000	Competitive	12/89	9 mos.	USAID/H	None
2. Technical Assistance	Long-term	43.0	"	"	"	1/89-12/95	"	"	"
02 - LOGISTICS/ADMINISTRATION									
1. Construction	Regional Offices with laboratory & training center	617.2	HC	HC	"	1/90-6/92	12 mos.	Host Country	"
2. Equipment	Office	500.0	000	000	"	1/90-6/92	6 mos.	USAID/H	"
3. Technical Assistance	Long & short-term	935.0	"	"	"	1/89-12/85	9 mos.	"	"
04 - MANAGEMENT INFO. SYSTEMS									
1. Studies	Nutritional, Epidemiological, Community Rotating Fund & others	1100.0	HC	HC	"	1/89-12/93	6 mos.	Host Country	"
2. Microcomputers (46)	IBM Compatible	161.0	000	000	"	1/89-12/93	9 mos.	USAID/H	"
3. Technical Assistance	Long & short-term	2150.0	"	"	"	1/89-12/95	9 mos.	"	"
05 - HUMAN RESOURCES DEVELOPMENT									
1. Scholarships	Abroad, long-term	600.0	941	941	N/A	1/89-12/94	12 mos.	"	"
2. Scholarships	Abroad, short-term	300.0	"	"	N/A	1/89-12/94	"	"	"
3. Technical Assistance	Long & short-term	1035.0	000	000	Competitive	1/89-12/95	9 mos.	"	"

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Commodity/Services	Description	Estimated Cost U.S. \$000	Source	Origin	Type of Procurement	Delivery Date	Lead Time	Purchase Agent	Waiver/ Approval Required
06 - HEALTH FINANCING									
1. Technical Assistance	Long & short-term	1215.0	000	000	Competitive	1/89-12/95	9 mos.	USAID/H	None
07 - EDUCATIONAL/PROMOTIONAL PROGRAMS									
1. Radio Announcements	Priority health interventions	611.9	HC	HC	"	1/89-12/95	6 mos.	Host Country	"
2. Equipment	Audio/Visual	75.0	000	899	"	12/89	9 mos.	USAID/H	Origin
3. Printing/Reproduction	Educational Materials	243.3	HC	HC	"	1/89-12/95	2 mos.	Host Country	"
4. Technical Assistance	Long & short-term	955.0	000	000	"	1/89-12/95	9 mos.	USAID/H	"
08 - DIARRHEA CONTROL									
1. Misc. Materials & Supplies	Water filters, pots, stoves, plastic spoons & cups, etc.	90.0	899/000	899/000	"	12/89-12/91	12 mos.	USAID/H	Origin
2. Studies/Operations Research	Various	185.0	HC	HC	N/A	1/89-12/94	3 mos.	Host Country	None
09 - IMMUNOPREVENTIBLE DISEASES									
1. Materials & Supplies	Laboratory	200.0	000	000	Competitive	1/89-12/95	6 mos.	USAID/H	"
2. Equipment	Cold-Chain	393.0	899/000	899/000	"	12/89-12/92	12 mos.	"	Origin
3. Studies/Operations Research	Various	107.5	HC	HC	N/A	1/89-12/94	3 mos.	Host Country	None
10 - ACUTE RESPIRATORY INFECTIONS									
1. Humidifiers (370)	De-Vilbiss, Pennsylvania	466.0	000	000	Non-Competitive	1/89-12/91	9 mos.	USAID/H	Waiver of Competitive
2. Studies/Operations Research	Various	112.5	HC	HC	N/A	1/89-12/94	3 mos.	Host Country	None

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Commodity/Services	Description	Estimated Cost U.S. \$000	Source	Origin	Type of Procurement	Delivery Date	Lead Time	Purchase Agent	Waiver/Approval Required
11 - BIRTH SPACING									
1. Contraceptives	Miscellaneous	1350.0	000	000	Competitive	12/88-12/91	9 mos.	USAID/H	None
2. Equipment and Supplies	"Dauplines, fetoscopes, ultrasonidos & espiromanometros"	93.3	"	"	"	1/89-12/91	"	"	"
3. Materials & Supplies	for Cytologies	300.0	"	"	"	1/89-12/91	"	"	"
4. Technical Assistance	Long & short-term	1005.0	"	"	"	1/89-12/95	"	"	"
5. Studies/Operations Research	Various	112.5	HC	HC	N/A	1/89-12/94	3 mos.	Host Country	"
12 - BREASTFEEDING AND GROWTH MONITORING									
1. Supplies	Infant tape measures, scales, incubators, bronchoscopes, etc.	190.0	000	000	Competitive	1/89-12/90	9 mos.	USAID/H	"
2. Technical Assistance	Short-term	135.0	"	"	"	1/89-12/95	"	"	"
3. Studies/Operations Research	Various	137.5	HC	HC	N/A	1/89-12/94	3 mos.	Host Country	"
13 - OTHER PROGRAMS									
Vector Control									
1. Vehicles (34)	4 X 4 Pick-up trucks	408.0	000	000	Competitive	1/89-12/91	9 mos.	USAID/H	"
2. Motorcycles (175)	Off-road, 185cc	612.5	000	893	"	"	"	"	Origin
3. Heavy Equipment	4 X 4 Dump trucks (4), front-loaders (4), Backhoe loaders with tracks (2), front-loaders with tracks & low-boy trailer with tractor (1)	680.0	941	941	"	1/89-12/91	"	"	None
4. Sprayers	Hudson-Xpert	37.5	000	000	Non-Competitive	6/89	6 mos.	"	Proprietary
5. Larvacide	Bacillus Thuringiensis Israelensis	1000.0	"	"	Competitive	1/89-12/94	12 mos.	"	None

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Commodity/Services	Description	Estimated Cost U.S. \$000	Source	Origin	Type of Procurement	Delivery Date	Lead Time	Purchase Agent	Waiver/Approvals Required
Vector Control (Cont.)									
6. Supplies	Knapsacks, raincoats, canteens,	198.8	030	000	Competitive	1/89-12/91	6 mos.	USAID/H	None
3. Studies/Operations Research	Various	150.0	HC	HC	N/A	1/89-12/94	3 mos.	Host Country	"
AIDS Support									
1. Condoes									
2. Reagents		168.3	000	000	Competitive	1/89-12/95	9 mos.	USAID/H	"
14 - RURAL WATER AND SANITATION (SRWAR)	ELISA/Western-Blot	168.8	"	"	"	"	"	"	"
1. Construction	Rural aqueducts, watershed protection, water quality & control, strengthening of operations & maintenance.	1082.1	HC	HC	Competitive	1/89-12/95	N/A	Host Country	None
2. Materials	Cement, PVC pipe & accessories, galvanized pipe & accessories, rebar, latrines & roofing materials.	5433.3	000/HC	000/HC	"	1/89-12/95	9 mos.	Host Country/USAID/H	"
3. Vehicles	4 X 4 Pick-ups (27), flat-bed trucks & dump trucks (3) and motorcycles (60).	556.2	000	000	"	"	"	USAID/H	"
4. Equipment	Laboratory supplies	180.0	"	"	"	"	"	"	"
5. Radios (6)	High Frequency	20.0	"	"	"	"	6 mos.	"	"
6. Air-conditioners (4)	12,000 BTU	2.0	"	"	"	"	"	"	"
7. Tools		168.0	"	"	"	"	"	"	"
8. Pumps	4 hp. (6ea.), 15 hp. (34ea.), 20 hp. (7ea.), & solar (8ea.).	497.0	"	"	"	6/89	"	"	"
9. Microcomputers (4)	IBM Compatible	30.0	"	"	"	"	"	"	"
10. Vehicle repair services		270.6	HC	HC	"	12/89	9 mos.	"	"
11. Fuel & Lubricants		233.7	"	"	"	1/89-12/95	6 mos.	Host Country	"
12. Health Education		286.6	"	"	N/A	"	N/A	"	"
13. Studies		50.0	"	"	"	1/90-12/93	13 mos.	"	"

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Commodity/Services	Description	Estimated Cost U.S. \$000	Source	Origin	Type of Procurement	Delivery Date	Lead Time	Purchase Agent	Waiver/ Approval Required
15 - RURAL WATER AND SANITATION (MOH)									
1. Materials	Cement, PVC pipe & accessories, roofing materials & accessories, rebar, latrines, accessories for hand pumps.	1513.0	000/HC	000/HC	Competitive	1/89-12/95	9 mos.	Host Country USAID/H	None
2. Vehicles	Off/On road, 185cc Motorcycles (100) & 4 x 4 Pick-up trucks (10)	372.9	000	000	"	"	"	"	"
3. Tools	Plumbing, carpentry.	150.0	"	"	"	"	6 mos.	"	"
4. Pumps (2000)	Hand pumps	550.0	"	"	"	6/89	"	"	"
5. Vehicle repair service	-	295.7	HC	HC	"	1/89-12/95	6 mos.	Host Country	"
6. Fuel & Lubricants	-	222.7	"	"	N/A	"	N/A	"	"
7. Health Education	-	290.3	"	"	"	"	"	"	"
8. Studies	-	50.0	"	"	"	1/90-12/93	3 mos.	"	"

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PROCUREMENT TABLES

ANNEX S

HEALTH SECTOR II PP COMMODITY LISTING

DESCRIPTION	1988		1989		1990		1991		1992		1993		1994		BUYER
	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	
Microcomputers, software, and supplies			12	55,828	12	55,828	11	58,435	11	58,435					AID
PCU Office Equipment			lot	25,000											MDH
Laboratory/Training/Office Equipment			lot	287,000	lot	837,000	lot	180,000							AID
Audiovisual Equipment			lot	75,000											AID
Educational Materials, Printed	lot	25,000	lot	45,000	lot	48,000	lot	35,000	lot	38,000	lot	25,000	lot	5,000	MDH
Educational Materials and Utensils			lot	45,000			lot	45,000							AID
Cold Chain Equipment			lot	393,000											AID
Humidifiers, industrial, medical/clinical			267	358,000	183	185,000									AID
Contraceptives	lot	58,000	lot	225,000	lot	225,000	lot	225,000	lot	225,000	lot	218,000	lot	150,000	AID/W
Family Planning Medical Equipment and Supplies			lot	343,300			lot	250,000							AID/W
Citological Supplies			lot	250,000			lot	250,000							AID
Anthropometric Equipment and Supplies			lot	198,000											AID
Bacillus Thurgensis Israeliansis			lot	268,000	lot	228,300	lot	248,000	lot	268,000	lot	268,000			AID

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DESCRIPTION	1988		1989		1990		1991		1992		1993		1994		BUYER
	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	
AIDS Reagents (ELISA, Western Blot)			lot	25,000	lot	18,600	AID								
Hatron Sprayers			lot	37,500											AID
Misc. Equipment for Vector Control, Tuberculosis, and AIDS			lot	198,700											AID
Construction Materials			lot	1,256,400	lot	1,398,000	lot	1,483,000	lot	1,352,100	lot	1,221,100	lot	817,700	SANAA/MOH
Tools			lot	271,000	lot	150,000	lot	100,000			lot	100,000			SANAA/MOH
Fuels and Lubricants			lot	66,000	lot	103,000	lot	91,000	lot	77,000	lot	63,000	lot	34,000	SANAA/MOH
Pump sets, 4 HP			6	12,000											AID
Pump Sets, 15 HP			34	255,000											AID
Pump sets, 20 HP			7	70,000											AID
Solar Pump Sets					8	160,000									AID
Hand pumps	800	216,000			800	216,000									AID
Headlamps and accessories					10	30,000									AID
Pick up trucks	22	294,000	34	400,000	45	645,000									AID
Vehicles, passenger	2	30,000	2	30,000											AID
Motorcycles, 185/200 cc	110	275,000	175	612,500	50	110,000									AID
Dump trucks 4 X 4	3	105,000	4	140,000											AID

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DESCRIPTION	1988		1989		1990		1991		1992		1993		1994		BUYER
	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	QTY	T/P	
Front Loaders			4	140,000											AID
Front Loaders with tracks			2	150,000											AID
Backhoe with Tracks			2	150,000											AID
Lowboy Trailer with Tractor			1	100,000											AID
Flatbed Trucks	3	105,000													AID
Radio Equipment			7	14,000	6	12,000									AID

AID