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

GUATEMALA

PROJECT PAPER

COMMUNITY BASED HEALTH AND NUTRITION

AID/LAC/P-049/1

Loan Number: 520-U-033a
Project Number: 520-0251

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AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE
 A = Add
 C = Change
 D = Delete
 Amendment Number 1

DOC. MENT CODE 3

2. COUNTRY/ENTITY
Guatemala

3. PROJECT NUMBER
520-0251

4. BUREAU/OFFICE
LAC 05

5. PROJECT TITLE (maximum 40 characters)
Community Based Health and Nutrition

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)
MM DD YY
11 23 11 88

7. ESTIMATED DATE OF OBLIGATION
(Under "B:" below, enter 1, 2, 3, or 4)
A. Initial FY 85 B. Quarter 2 C. Final FY 85

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

A. FUNDING SOURCE	FIRST FY <u>85</u>			LIFE OF PROJECT		
	B. FX	C. I/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	607	291	898	3,358	1,642	5,000
(Grant)	(115)	(86)	(201)	(190)	(310)	(500)
(Loan)	(492)	(205)	(697)	(3,168)	(1,332)	(4,500)
Other U.S.						
1.						
2.						
Host Country	---	944	944	---	4,521	4,521
Other Donor(s)						
TOTALS	607	1,235	1,842	3,358	6,163	9,521

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) HE	513	530	545	774	5,000	500	4,500	1,274	9,500
(2)									
(3)									
(4)									
TOTALS				774	5,000	500	4,500	1,274	9,500

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
541 563

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)
 To provide potable water, excreta disposal facilities and health education in the target area.

14. SCHEDULED EVALUATIONS
 Interim MM YY 6 87 Final MM YY 3 88

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 009 941 Local Other (Specify) CACH

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

17. APPROVED BY
 Signature
 1. [Signature]
 Title 1. J. Totino, Controller
 2. [Signature]
 Title 2. C. Costello, Director
 Date Signed MM DD YY

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

Project Authorization

Name of Country: Guatemala
Name of Project: Community Based Health and Nutrition Systems
Number of Project: 520-0251
Loan: 520-U-033A

1. Pursuant to Section 104 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Community Based Health and Nutrition System Project Amendment for Guatemala involving planned obligations of not to exceed FOUR MILLION FIVE HUNDRED THOUSAND UNITED STATES DOLLARS IN LOAN FUNDS ("Loan") and FIVE HUNDRED THOUSAND UNITED STATES DOLLARS IN GRANT FUNDS ("Grant") over a one year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB allotment process, to help in financing foreign exchange and local currency costs for the Project. The planned life of the Amended portion of the Community Based Health and Nutrition Project is three and one half years from the date of initial obligation.

2. The Project ("Project") consists of assistance to provide potable water, excreta disposal facilities, and health education in Guatemala's Highlands. The Project will achieve this purpose by financing the construction of 135 water systems and 10,000 latrines for about 50,000 rural Highland Indians as well as providing them with basic health education.

3. The Project Agreement Amendment, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and delegations of authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

A. Interest Rate and Terms of Repayment:

The Government of Guatemala (GOG) shall repay the Loan to A.I.D. in U.S. Dollars within twenty-five (25) years from the date of first disbursement of the Loan, including a grace period of not to exceed ten (10) years. The GOG shall

repay to A.I.D. in U.S. Dollars interest from the date of first disbursement of the Loan at the rate of (i) two percent (2%) per annum during the first ten (10) years, and (ii) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

B. Source and Origin of Goods and Services (Loan):

Goods and services, except for ocean shipping, financed by A.I.D. under the Loan shall have their source and origin in the United States, in countries included in A.I.D. Geographic Code 941, and Central American Common Market countries including Guatemala, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Loan shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States, or of countries that are members of the Central American Common Market including Guatemala, or countries included in A.I.D. Geographic Code 941.

C. Source and Origin of Goods and Services (Grant):

Goods and services, except for ocean shipping, financed by A.I.D. under the Grant shall have their source and origin in the United States, (A.I.D. Geographic Code 000) or in countries that are members of the Central American Common Market, including Guatemala, 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.

D. Conditions Precedent to Disbursements (Grant):

Prior to any disbursement, or the issuance of any commitment documents under the Project for any purpose other than technical assistance, the Cooperating Country shall furnish to A.I.D., in form and substance satisfactory to A.I.D., a detailed implementation plan and schedule for the life of the Project, covering Loan, Grant and GOG financed Project activities.

E. Covenants (Grant):

(i) The Cooperating Country shall covenant that, unless A.I.D. otherwise agrees in writing, it will annually update its Life of Project Implementation Plan and Schedule, and have such update completed and available to support the Ministry of Health's budget submission to the Ministry of Finance by May of each year.

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(ii) The Cooperating Country shall covenant that, unless A.I.D. otherwise agrees in writing, it will establish an evaluation program satisfactory to A.I.D. as an integral part of the Project. Such program, except as the Parties shall otherwise agree in writing, will include evaluations during the implementation of the Project and at one or more points thereafter.

F. Covenants (Loan):

(i) The Cooperating Country shall covenant that it will provide and fund on a timely basis positions for qualified technical and administrative personnel in order to implement project activities during the life of the project and to continue project activities once AID funds have been exhausted.



Charles E. Costello
Director
USAID/Guatemala

DATE: 3-1-85

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PROJECT PAPER AMENDMENT
520-0251
COMMUNITY-BASED HEALTH AND NUTRITION SYSTEMS
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I. SUMMARY

The proposed Project Paper Amendment is designed to provide an additional \$4.5 million in Loan funds and \$0.5 million in Grant funds to the Environmental Sanitation Component of the on-going Community-Based Health and Nutrition Systems Project (No. 520-0251). It will extend the construction of potable water systems and latrines and the provision of basic health education to rural communities of 200-1,500 inhabitants in the Western Highland Departments of El Quiche, Huehuetenango and Quetzaltenango. These three departments have similar characteristics and are adjacent to the departments of Solola, Totonicapan and San Marcos where the on-going project is currently developing similar activities. Although the proposed project expansion will finance construction of water systems and latrines in the 6 departments mentioned above, emphasis will be given to the three new departments.

The proposed expansion will build 135 potable water systems, and will provide approximately 10,000 latrines for all households in the communities where water systems are to be built. In addition, a basic health education program will be implemented in each of the communities. The maintenance of the systems will be organized through the creation of community committees and training of local inhabitants in basic maintenance procedures.

The direct beneficiaries will be approximately 50,000 indigenous small farmer or landless laborers, for whom the availability of safe water and excreta disposal systems will substantially improve the environmental sanitation conditions. Their general health situation will be enhanced by providing the necessary physical infrastructure for the future implementation of an integral health program.

The implementing unit of the proposed expansion will be Direccion General de Saneamiento Ambiental (DSA) of the Ministry of Public Health (MOH), the same as for the on-going project. DSA recently undertook a complete reorganization which produced excellent results for the implementation of the on-going project and has the technical, institutional, and administrative capabilities to continue successful project implementation.

The activities of the proposed project expansion will cover three years from 1986 to 1988. The initiation in 1986 of activities financed under the expansion will coincide with the completion of most construction subprojects financed under the original loan, giving continuity to the implementing unit's efforts. The vehicles, equipment and physical installations provided by the original loan will be used for the expanded project. Replacement of deteriorated units will, however, be financed under the extended project. Implementation personnel will only be increased by the addition of four health educators for community health education activities.

Grant funds will be used to pay for community health educational materials, equipment, and technical assistance. Technical assistance will include a baseline study, final evaluation, and a much needed study of alternatives to provide potable water to communities that cannot be serviced by spring-fed, gravity-flow systems.

Besides Loan and Grant funds, the project expansion will be financed by a Government of Guatemala counterpart contribution of \$3.1 million. The beneficiary communities will provide unskilled labor for construction at an estimated value of \$1.4 million.

At the same time the Environmental Sanitation Component of the original \$5.0 million loan and \$774,000 grant project will continue through its currently scheduled PACD constructing 185 water systems rather than the 95 originally planned and installing 13,500 latrines as compared to 7,000 indicated in the Project Paper.

II. BACKGROUND

A. Community-Based Health and Nutrition Systems Project Activities

1. General

On September 19, 1980 the Government of Guatemala and AID signed a \$5,000,000 Loan Agreement for the Community-Based Health and Nutrition Systems Project (No. 520-0251). The GOG counterpart and community contributions for the project were \$6,919,000 and additional support was provided by a \$800,000 Grant signed on September 30, 1980. The current Project Assistance Completion Date (PACD) is September 19, 1985.

The original project purpose was the implementation of an integrated environmental sanitation and primary health care program in small communities in the Western Highland departments of San Marcos, Totonicapan and Solola. The project consisted of three main components: Environmental Sanitation, which was designed to provide water systems, latrines and basic health education to communities in the project area; Primary Health Services, which financed training of health practitioners and community volunteers, supplies and equipment and construction or renovation of health posts; Support Systems, which financed cost of information, logistics and maintenance systems. The original project budget is given in Table 1 below:

Table 1
Original Project Budget (520-0251)
(\$000)

Activity	A. I. D.		Government of Guatemala	Communities	TOTAL
	Grant	Loan			
Environmental Sanitation	230	2,376	1,430	699	4,735
Primary Health Care	336	1,971	4,033	39	6,379
Support Systems	198	403	718	--	1,319
Contingency and Inflation	<u>36</u>	<u>250</u>	<u>--</u>	<u>--</u>	<u>286</u>
TOTAL	800*	5,000	6,181	738	12,719

* Only \$774,000 has been or will be obligated.

Although the training of Rural Health Promoters' (Promotores de Salud Rural - PSR's) and Rural Health Technicians (Técnicos en Salud Rural - TSR's) was proceeding satisfactorily, an inefficient administrative structure was not providing adequate support to promoters in the field and all Primary Health activities suffered considerable delays. After careful consideration, the Mission, based on a project evaluation conducted by outside technical assistance and the agreement of the Ministry of Health, decided to direct most of the loan funds to the Environmental Sanitation Component which could use these resources more effectively. Therefore on April 17, 1984 the Mission approved a complete reprogramming of the loan in order to refocus the project components, placing more emphasis on the environmental sanitation component. The reprogrammed loan budget currently in force is given in Table 2 below.

While most of the loan funds are being used in the Environmental Sanitation Component, the GOG is using its own counterpart funds to carry out many of the original objectives of the Primary Health Care portion of the project.

Table 2

Reprogrammed Loan Budget (520-0251) - April 1984

(\$000)

Activity	AID Loan
Environmental Sanitation	4,206.4
Primary Health Care	636.4
Support Systems	<u>157.2</u>
TOTAL	5,000.0

Within the Primary Care Component 1500 health promoters 986 midwives, 75 rural health technicians and 95 auxiliary nurses, will be trained. An additional 1500 promoters and 986 midwives will be retrained and Ministry of Health staff will receive 30 training courses. Also immunization programs, using project financed cold chain equipment, and oral rehydration programs will have been completed in the three departments. Nutritional surveys and improved medicine distribution systems are to be incorporated within the 3 departments. In the Environmental Sanitation Component regionalization has been accomplished. However, on the primary health side the activities have been and will continue to be carried out at the departmental rather than the regional level.

2. Environmental Sanitation Component

According to the design of the original Project Paper, the Environmental Sanitation Component would establish a continuing program for improving environmental sanitation conditions in the target area, providing water systems, latrines, home improvements and health education to selected communities of 200 to 1,500 inhabitants in the project area.

The original targets were the construction of 95 water systems with loan financing, and 19 systems with reflows to the construction fund, prior to the end of the Project, as well as installation of 7,000 latrines in households in the communities where water systems were to be constructed.

The implementing unit of the component has been the Department of Environmental Sanitation (DSA) of the Ministry of Public Health. In order to coordinate the component's activities in the project area, a Regional Environmental Sanitation Center was created in Totonicapan. The Regional Center has functioned as the main office of the component in charge of the execution of engineering studies and designs and the coordination of the construction and supervision activities including community training.

Following the original Project Paper design, the construction of water systems and latrines has been executed with substantial contributions from the communities which provide the necessary unskilled labor and a contribution in cash. Each consumer pays during 10 years after the water system is completed \$0.70 per month in communities where domicilliary installations are provided and \$0.35 per consumer per month where only public taps are installed. The project provides the construction materials, skilled labor, prefabricated latrines, technical assistance, construction administration and supervision, and health education.

During the first three years of the project, the construction activities of the Environmental Sanitation Component were delayed by a slow Loan Agreement ratification by the GOG, reorganizations due to Government changes and a deficient organizational structure of the component administration. Construction activities were supervised by Area Engineers who depended on the Health Area Chiefs of the three departments in the project area for auxiliary personnel assistance, fuel, vehicles, supplies and travel expenses. Since the main focus of the Health Area Chiefs was the primary health care, the environmental sanitation activities were not given adequate support and attention.

In spite of the limitations under which the component was operating, the engineering staff was able to organize all the necessary elements for the component implementation during the first three years of the project. The most important actions are the following:

- organization and staffing of the central administrative unit of the component in DSA in Guatemala City,

- location and remodeling of an adequate building for the Regional Center in Totonicapan, (the building has ample space for all the necessary administrative and technical personnel and houses the engineering and design group, latrine factory, supply warehouse and maintenance facilities. Its location in Totonicapan is very convenient to serve the geographic area of the project),

- organization and staffing of the administration for the Regional Center,

- organization, staffing and personnel training for the Design and Drafting departments of the Regional Center, responsible for all the design of water systems,

- organization and operation of a regional latrine factory in the Regional Center,

-- organization and training of the construction personnel which provides the skilled labor for the construction of water systems,

During the first three years, the component was able to complete 29 water systems and the installation of 2,330 latrines in the 29 communities. Also, an additional 4,000 latrines were produced for future use.

As a result of the Loan reprogramming approved in April 17, 1984, \$4,206,400 of Loan funds, which amounts to 84% of the Loan, will be invested in the Environmental Sanitation Component. The component's targets were increased from the original 114 water systems and 7,000 simple-pit latrines to the reprogrammed targets of 185 water systems and 13,900 latrines.

In an effort to solve the problems that had been delaying construction activities, as part of the reprogramming, the Ministry of Public Health agreed to undertake a complete revision and reorganization of the administrative structure of the component. The reorganization was completed in May 1984. A new component coordinator was contracted and the GOG provided additional technical personnel and increased the counterpart contribution for the component.

Under the new organization, the Environmental Sanitation Component is independent from the Ministry of Health's primary health care system. The Area Engineers are under the supervision of a Regional Engineer who is in turn under the authority of the Chief of the Component in Guatemala City. The organizational chart of the Environmental Sanitation Component is given in Annex 7.

The reorganization and addition of technical personnel produced impressive results. In the five months since the reorganization was completed most of the problems which affected the component have been solved. The necessary activities for procurement of materials, which were previously a serious bottleneck, are being carried out on a timely basis. Several other constraints related to payment of salaries and per diem, maintenance of vehicles and poor coordination with the primary health care system have also been solved.

As a result, a remarkable improvement in the implementation of the component has been observed. While in the first three years of the project 29 water systems were completed and the maximum number of systems simultaneously under construction had been six, currently 33 systems are simultaneously under construction and it is expected that the number will be increased in the following months. During the July-December 1984 period, more potable water systems will have been built than in the previous three years.

In September an implementation plan which details all the component's activities up to the current PACD of September 19, 1985 was presented by the implementing unit to the Mission. The plan which Mission

officials consider an excellent document shows that 93% of the current component's targets will be completed by the current PACD. It also includes a substantial increase in the personnel training and community health education activities. Considering the interest and competence of the staff and the results observed in the last months, the Mission deems the work plan feasible, and foresees a substantial increase in the component's activities in the following months. In view of the improvement that has been observed in the project's construction activities the Mission is considering a one-year PACD extension to September 1986 to allow for the completion of the 185 potable water and latrinization subprojects and the complete disbursement of funds.

B. Current Status of Health Situation in the Project Area

Health conditions in Guatemala are extremely poor. At a national level, the most common indicators show that the health situation of the country ranks among the worst in Latin America. The Ministry of Health reported for 1982 a general death rate of 9.0 and an infant mortality rate of 75.7 per thousand, both among the highest in the continent.

The conditions in the rural areas are even worse than what the national indicators reflect. For example, it has been estimated that the infant mortality rate in the rural areas may reach 150 to 200 per thousand, roughly twice than the national average.

The contribution of deficient environmental sanitation conditions to the serious health situation described above is emphasized by the fact that water and sanitation related diseases, such as intestinal infections and parasitism, are the most important causes of illness in the country. MOH statistics consistently show "undefined intestinal infection" as the main cause of death, accounting in 1982 for approximately 20% of reported deaths (Annex 1).

Guatemala has a total population of approximately 8 million, most of which (61%) live in approximately 18,400 rural communities of less than 2,000 inhabitants. As shown in Annex 2 "Population with Potable Water Supply in 1982" only 24% of this large rural population has access to potable water and sanitation services. Although the situation in the past 10 years has showed certain improvement (Annex 3), the percentage of rural population without basic sanitation services is still very high.

The conditions in the Western Highlands, which is the target area of the original project and of the proposed expansion, are similar to those described for Guatemala's rural population. In the Western Highlands, however, the problems of providing potable water are complicated by the rough terrain, and the level of unsatisfied demand for sanitation services tends to be higher than in the rest of the country.

C. Other Donor and GOG Activities

Several public and private organizations are involved in construction of potable water systems and latrinization in Guatemala's rural areas.

Besides the Environmental Sanitation Department (DSA) of the MOH, the most important institution dedicated to build rural aqueducts in communities of less than 2,000 inhabitants is the Implementing Unit for the Rural Aqueducts Program (UNEPAR). UNEPAR was established as a semi-independent unit within the Ministry of Public Health for the implementation of a \$2.6 million loan from the Interamerican Development Bank (IDB) in 1973 for the construction of 123 rural aqueducts. In 1976 it received a second IDB loan for \$7.0 million to reconstruct and repair 105 rural aqueducts damaged by the earthquake. Currently UNEPAR is initiating the implementation of a third IDB project financed by a \$16.8 million loan which will construct 110 rural aqueducts in populations of 200-2,000 inhabitants during the following three years.

In addition UNEPAR will be completing in the following months a rural aqueducts project financed by a \$3.5 million loan of the Canadian International Development Agency (CIDA). It also manages an annual contribution of \$220,000 from CARE which is intended to finance approximately 15 small projects each year for the following three years. Altogether, it is estimated that UNEPAR will be building a maximum of 50 rural potable water systems each year in the next three years.

Other GOG institutions which also work in potable water systems in small rural communities are the Community Development Program (DDC), the National Reconstruction Committee (CRN), the Potable Water Office of the Army (NAPE) and the Departmental Coordinating Committees at the local level. However, these institutions usually work on a very limited scale with GOG funds or with small contributions of other donors such as UNICEF and CARE. Together these GOG agencies are building approximately 30 potable water systems each year.

The other GOG agencies which are involved in the design and/or construction of potable water systems such as the Municipal Development Institute (INFCM) and the General Directorate of Public Works (DGOP) of the Ministry of Communications and Public Works are dedicated to provide services to urban and rural communities with larger populations (more than 2,000 inhabitants). This division of tasks has been dictated by the GOG and formalized in institutional bylaws or inter-institutional agreements to avoid interferences and duplication of efforts.

Besides other donor activities with the GOG agencies, several PVO's are involved in the construction of small potable water systems and latrinization. Among these are Agua del Pueblo, the Salvation Army, IDESAC, Project Hope and others. The most important is probably Agua del Pueblo which

builds approximately 20 systems each year and recently received a \$500,000 AID Grant to partially finance 40 rural aqueducts during 1984 and 1985. The joint efforts of PVO's result in the construction of approximately 40 small rural water systems each year.

From the activities of the GOG agencies and PVO's described above, it can be seen that a maximum number of 120 potable water systems will be built each year in small rural communities.

III. PROJECT DESCRIPTION

A. Rationale of Proposed Project

As stated in AID Policy Paper on Domestic Water and Sanitation, "...safe, convenient water supply and adequate sanitation is a fundamental component of broad based economic growth strategies." The provision of potable water in sufficient quantities, together with the adoption of safe excreta disposal measures and necessary community health education improve the health status of rural population, lowering mortality and morbidity from water and sanitation-related diseases. In addition, the communities' productivity is improved as a result of having easy access to potable water, saving considerable time and effort currently employed in the transportation of water of dubious quality.

The GOG Health Sector policies also give great importance to the provision of potable water and sanitation services. The Ministry of Public Health completed in November 1984 a study ^{1/} of the priority areas in the Health Sector in order to make optimum use of the available resources and to obtain additional external financing. Among the seven priority health areas which were identified by the study, one of the highest priorities was assigned to potable water and sanitation. According to the study, one of the basic purposes of the health program is to "...provide with potable water, sanitation and solid waste disposal services to the majority of the population as a means to achieve an improved health situation and general well-being to the Guatemalan people."

The original project provided potable water systems and latrinization to communities in the three highland departments of Solola, San Marcos and Totonicapán. However, the need and demand for these services is very high in all rural areas of the country and especially in the Western Highlands. As it was described in the previous section, the combined efforts of all the other GOG agencies and foreign donors are currently producing a maximum of 120 small rural potable water systems each year. If this is compared to the 24% potable water coverage that the 18,400 communities of less than 2,000 inhabitants currently have in rural Guatemala, the need for substantial additional investment in this area is evident.

^{1/} Necesidades Prioritarias de Salud en Centroamérica y Panamá, Plan Operativo de Guatemala, Ministerio de Salud Pública y Asistencia Social, Noviembre de 1984.

The communities' perception of their own needs fully coincides with the facts mentioned above. A study conducted in three highland departments in 1980 showed that the projects in which the communities had the highest interest were potable water projects. This is further reinforced by the willingness demonstrated by the communities in the on-going project to contribute to the construction in cash and with their own labor.

In terms of institutional responsibility and capacity, the proposed expansion will take advantage of the recent reorganization of the component's implementing unit in DSA, which has produced excellent results in the past six months. The DSA staff was able to overcome the initial obstacles that hindered project progress and is now working very efficiently with high motivation and full commitment to the project. The new administrative structure has enabled DSA personnel to demonstrate that it has the resources, the technical and institutional capability required to complete the on-going project successfully and to implement the proposed expansion.

The project amendment will extend the construction of potable water systems and latrines to rural communities in the highland departments of Quetzaltenango, Huehuetenango and El Quiche. These departments are the logical geographical extension of the on-going project since the new target areas can be easily serviced by the Totonicapan Regional Center. Therefore, the need for additional investment in administrative infrastructure will be minimized. Equipment and vehicles provided for the on-going project will also be used in the proposed expansion, limiting the investment in these items to the necessary replacement of deteriorated units. All systems will be spring-fed, gravity-flow. They will be constructed, operated and maintained with very simple technology allowing communities to operate and maintain the system with very little outside assistance or supervision.

The engineering and support staff currently working in Totonicapan can easily extend its activities to the three new departments. The access routes to the new areas are very similar to those of the current activity areas, and in some cases easier. All communities where a water system will be built have an all-weather road that will enable transportation of materials and access of supervisors.

The proposed expansion activities would start in 1986, when the activities of the on-going project are programmed to be near completion. Therefore, the expansion will not interfere with the on-going activities and will provide continuity to those efforts.

The proposed project amendment responds adequately to the Mission strategy of providing an integral health program for the rural population. The increase of the Mission contribution to environmental sanitation, besides having a direct and important impact in improving the health situation of the rural population, will create the necessary physical infrastructure and provide the conditions for the successful implementation of future health care programs. Given the current MOH administrative limitations, only the Environmental Sanitation problems in the target area will be addressed immediately, and the primary health care problems will be addressed by future projects.

B. Mission Strategy

The National Bipartisan Commission on Central America recommended broadening the benefits of growth as one of the four principal goals of the assistance program for the region. The proposed project will contribute to achieve this goal through the improvement of the health conditions of the rural poor.

As pointed out in the FY 86 Country Development Strategy Statement, achieving the objective of increased rural incomes and productivity is dependent on improvements in the human resources of the rural areas. The USAID's program in health is designed to bring about a reorientation of the rural health system by strengthening appropriate segments of both the public and private sectors.

As of 1982, only 24% of rural Guatemalans had access to potable water. The leading causes of mortality and morbidity are enteric diarrhea and respiratory diseases, both of which are preventable given adequate sanitation and potable water. Given the low accessibility to these interventions, the chronically sick rural poor have not been in a position to develop their full economic potential. To address this constraint, USAID/Guatemala has been supporting the development of potable water and sanitation systems both by the Government of Guatemala as well as by private voluntary organizations. However, the scarcity of systems serving the Highland rural poor demonstrates the need to expand the coverage.

Under this project amendment, the Mission will continue to improve the institutional capacity of the GOG to carry out community level projects in potable water and sanitation with attention given to the training of rural inhabitants in the proper use of these systems. As the evaluation of the project (PES 84-02) highlighted, the original project design was overly complex. Any one of the three major components could have been a project by itself. As a consequence of the evaluation, USAID decided to focus project activities on the environmental sanitation component. The activities proposed under this amendment express the environmental sanitation emphasis.

A reassessment of Guatemala's Health sector will be scheduled by the Mission in 1985. Based on the results of such an assessment, the Mission will review its planned activities for primary health care interventions for possible inclusion of a project in FY 86 - 87.

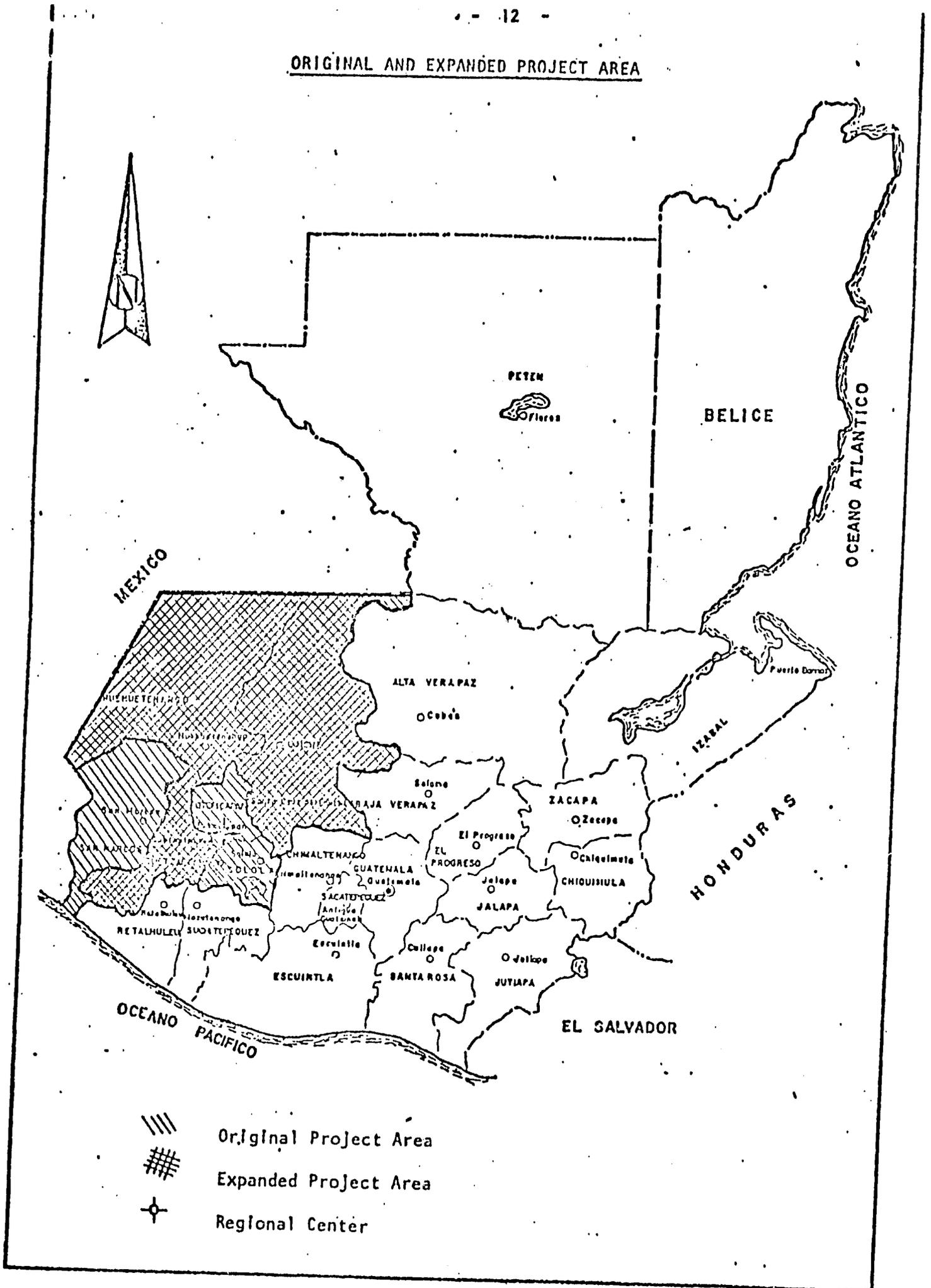
C. Proposed Project Expansion

1. Goal and Purpose

The goal of the proposed project expansion is the same as the original project, to improve the health/nutrition status and overall welfare of the rural poor in the target area.

The purpose of the project expansion is to provide potable water, excreta disposal facilities, and health education to rural communities.

ORIGINAL AND EXPANDED PROJECT AREA



-  Original Project Area
-  Expanded Project Area
-  Regional Center

2. Target Area

The target area of the proposed expansion will cover the Western Highland departments of El Quiché, Huehuetenango and Quetzaltenango, in addition to the departments of Solola, San Marcos and Totonicapán already covered in the on-going project. The three new departments are adjacent to the departments previously covered, have very similar characteristics to the three original departments and are the logical geographic extension of the project as can be observed in the attached map.

Although the main emphasis of the project extension will be the departments of El Quiché, Huehuetenango and Quetzaltenango, the expansion will provide some water systems to communities in the original project area. However, at least 90% of the systems built under the proposed extension will be in the three new departments.

Table 3
Basic Rural Sanitation Parameters in Target Area
(Data for 1982)

Parameters	Huehue- tenango	Quetzal- tenango	El Quiche	Total
Total Population	464,800	448,500	364,700	1,278,000
Number of households	82,938	78,937	61,725	223,600
Area (Sq. Km.)	7,400	1,900	8,300	17,600
Population in Communities of 100-2000 Inhabitants	377,200	216,600	274,700	868,500
Percentage of Population in Communities of 100-2000 Inhabitants	81.2%	48.3%	75.3%	68.0%
Number of Communities of Less Than 2000 Inhabitants	1,078	454	503	2,035
Percentage of Rural Population	81.2%	48.3%	75.6%	68.1%
Percentage of Population with Excreta Disposal Systems	32.0%	56.0%	33.2%	40.8%
Percentage of Population with Potable Water Supply	24.3%	36.6%	35.3%	31.8%

Data from Programming Department, General Directorate of Health Services, MOH.

The departments of El Quiché, Quetzaltenango and Huehuetenango cover a geographic area of 17,600 square kms. with a projected population of approximately 1,402,000 for 1986, of which 68% can be classified as rural. The target population of the proposed expansion are these rural inhabitants which number approximately 1,050,000. More than 95% of this population is Indian and predominantly engaged in agricultural activities either as landless laborers or small farmers. Their health situation is very similar to that already described for Guatemala's rural population. However for certain areas of the departments of El Quiché and Huehuetenango, the general health situation is much worse since official figures do not reflect unreported deaths and other health problems due to the isolation of these areas. The most important data related to environmental sanitation in the three new departments are given in Table 3.

3. Project Outputs

The project will improve the environmental sanitation conditions of the target population through the construction of potable water systems, and simple pit latrines. It will also provide for the implementation of a basic health education program in each of the communities, conducted during and after the construction of the water systems and latrines. The maintenance of the systems will be addressed through the training of local inhabitants and the creation of local committees which are enabled by law to collect and administer funds for the exclusive purpose of the water system maintenance.

The main project outputs will be the following:

- (a) approximately 135 potable water systems functioning in communities of 200 to 1,500 inhabitants, or approximately 8,500 new household connections;
- (b) the installation of approximately 10,000 latrines in all communities with potable water subprojects;
- (c) basic community health education programs related to safe use of water and sanitation developed and implemented in each of the 135 communities where water systems and latrines will be provided;
- (d) 135 local committees organized for the operation and maintenance of the water systems;
- (e) two inhabitants in each community for a total number of 270 trained in basic operation and maintenance procedures for the rural water systems.

4. Project Financing

The project will be financed by a \$4.5 million Loan, \$0.5 million Grant, \$3.1 million GOG counterpart contribution and communities' contributions in unskilled labor with an estimated value of \$1.4 million for a total project cost of \$9.5 million. The total project budget is given in Table 4 below.

Table 4
Total Budget for Expansion
Community-Based Health and Nutrition Systems (520-0251)
(US\$ 000)

I T E M	T O T A L				
	A I D		G O G	O t h e r s	T o t a l
	Lo a n	G r a n t			
1. Construction	2,788	---	748	1,280	4,816
2. Support Systems	638	480	2,133	---	3,251
3 Inflation	795	20	253	107	1,175
4 Contingency	<u>279</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>279</u>
TOTAL	<u>4,500</u>	<u>500</u>	<u>3,134</u>	<u>1,387</u>	<u>9,521</u>

The projected expenditures per year and detailed budget per year are given in Annex 8 Exhibits 1 through 8.

5. Project Components

The major activities that will be developed in the proposed project expansion are the following:

(a) Construction of Potable Water Systems and Latrines

A total of 135 potable water systems will be built, 15 in the first year of the project, 60 in the second year and 60 in the third year. The construction of only 15 systems in the first year has been programmed in order to allow for the completion of all systems being constructed under the current project during the first semester of the year. As in the on-going project, most of the water systems will be spring-fed, gravity flow systems. A detailed description of the systems' technical characteristics and design parameters are given in Section IV. A "Engineering Analysis."

As in the on-going project, the community members will provide unskilled labor for the excavation of pipe trenches, the construction of spring cappings and distribution tanks and the transportation of construction materials to construction sites not accessible by vehicles. This unskilled labor will be provided, on the average, by a team of 15 workers during six months. Communities will usually organize several teams which take turns to provide this required assistance.

The implementing unit will provide the skilled labor necessary for the construction of spring-cappings, distribution tanks, installation of PVC and galvanized steel pipes and domiciliary installations. This skilled labor will be provided by mason-plumbers who will receive additional training at the Totonicapán Regional Center. The implementing unit will also provide all the necessary materials for water systems including cement, aggregates, wood, steel reinforcement, PVC and galvanized steel pipe, fittings and accessories.

For the construction of latrines, the implementing unit will provide the prefabricated concrete latrine seats, base slabs and the wooden covers which will be manufactured in the Regional Center. It will also supply material for the roof of the latrine, usually galvanized steel sheet. The community will supply local materials, usually wood or adobe, to build the latrines and the unskilled labor necessary for excavation and installation of the latrine.

The major activities that lead to the construction of a typical water system and latrinization of a community are the following:

(1) Preliminary Information and Organization

This initial stage will start with a request from a community for the construction of a water system. These requests will be received by primary health promoters, sanitation inspectors or engineering assistants who will in turn transfer them to DSA or to the Regional Center. The Regional Center can also receive direct requests from community committees.

Once a request is received, the sanitation inspectors or engineering assistants of the Regional Center will visit the community to obtain the necessary field data for a technical feasibility study of the system and for the evaluation of the community characteristics. The selection of the communities which will be benefited by the program is performed by the Health Area Chief with the advice of the Project Engineer. The main criteria used for the selection of communities to participate in the project are:

-- existence of geographical and topographical conditions for the construction of a gravity-flow system, under the technical criteria and specifications which are described in detail in Section IV. A. "Engineering Analysis",

-- existence of a potable water source preferably a spring which provides a minimum of 60 liters per inhabitant per day for the community,

-- maximum population of 1,500 and minimum of 200, although the minimum population criteria can be flexible,

-- legal authorization for the use of the water source and the necessary rights of way for conduction line and distribution networks. (This can be obtained by the community with the assistance of the program's sanitation technicians),

-- a local committee for the construction and maintenance of the system, organized with the assistance of the sanitation technician,

-- the willingness of the community to pay the established monthly fees described in Section IV. D. 4. "Community Cash Contribution" during 10 years after the completion of the system and the provision by the community of the necessary unskilled labor for the construction.

The sanitation technicians will work closely with community members in order to promote full participation in the acceptance of latrines and in the community health education program. In addition, they will help the community with the organization and legalization of a committee for maintenance and with the legalization of the use of the water source and right of way.

(2) Project Development and Approval

This stage includes the development of all the technical aspects of a subproject (surveying, water quality analysis, calculations, hydraulic design, design of special structures, drafting, preparation of a budget and implementation plan). All these activities will be performed in the Regional Center by the staff trained under the on-going project. Once completed, the designs will be submitted to DSA central offices and the Mission for approval.

(3) Construction Agreements with Communities

A formal construction agreement will be signed between the Community Water Committee and the Ministry of Public Health prior to the initiation of construction. This agreement, which is presented in Annex 4, formalizes the community commitment to provide the unskilled labor, to provide continuous maintenance for the system and to pay the established fees and the MOH's commitment to build the system, providing the materials, skilled labor and supervision.

(4) Procurement and Delivery of Materials

The procurement of materials will be done by one of three different procedures depending on the type of materials, quotations for small items in limited quantities which will be done by the Central or

Regional Administration, open contract system for materials under this type of contract in the MOH, public bid for major procurements such as large amounts of PVC or galvanized steel pipe, vehicles. Since most of the PVC and galvanized steel pipe will be U.S. made, it is expected that the Mission will provide substantial procurement support for these international purchases. With regard to the Gray Amendment, minority firms in the United States that can supply the specified equipment and materials in the required time frame will be given top priority in the selection process.

The delivery of materials will be done by the supplier to the Regional Center in most cases and from the Regional Center to the construction sites by a fleet of 5 trucks which were purchased under the on-going project and 2 replacement units.

(5) Construction

Construction will be done by implementing unit personnel. The contracting of private firms for the construction of the water systems is not considered to be a viable solution since it would increase sub-project costs and would impede community participation in the project.

The construction stage will take an average of six months. Usually two mason-plumbers will provide the necessary skilled labor during this period. Construction administration and supervision will be under the four Supervisor Engineers, and coordinated by the Regional Chief Engineer. The engineers will be responsible for all aspects of construction of subprojects in their respective areas, including supply and transportation of materials, coordination of community contribution, construction supervision and direction of skilled and unskilled personnel. The implementation plan for the construction of a typical project is presented in Annex 6.

(6) Operation and Maintenance of the Systems

In order to provide necessary maintenance the program contemplates that the Community Water Committee initially organized for the promotion and construction will also be in charge of the operation and maintenance of the water system. This Committee will be responsible for collecting the fees from the community of which they will retain Q0.20 per month per connection or Q0.15 per family for public taps for the maintenance of the system. It will transfer the rest of the collected fees to DSA for the creation of a fund which will finance the construction of additional water systems, major repairs or improvements as described in Section IV. D. 4. "Community Cash Contributions".

The legal instrument which regulates the activities of the Community Potable Water Committees is Governmental Decree No. 293-82 issued on September 30, 1982. This Decree authorizes the specialized agencies for potable water and environmental sanitation of the Ministry of Public

Health to transfer the administration, operation and maintenance of the potable water systems built by such agencies to the local Potable Water Committees. It establishes as the main Committee functions the administration, operation and maintenance of the system, the collection and management of funds, the promotion of proper care of the aqueduct, the rational use of water and the organization of a program for the purchase of accessories and replacement parts. The text of the Decree is provided in Annex 5.

In order to insure proper maintenance, the program will provide necessary training to Community Water Committees. The training will take place in the Regional Center and in communities and will be provided by the Supervisory Engineer and the Sanitation Technicians. A complete manual, "Guide for the Operation and Maintenance of Potable Water Systems and Latrines" which was developed in the on-going project will be published, with Grant fund financing, and distributed to communities as a basic guide in these matters. Starting in 1986 a maintenance engineer will be contracted with GOG funds. This engineer will make periodic inspections to the systems completed under the on-going project and the expansion and will provide technical assistance to communities for the maintenance of the systems.

(7) Supervisory Firm (\$306,000 Loan)

In order to provide technical assistance and independent supervision of all aspects of construction, a consultant firm will be contracted with Loan funds. This firm will oversee the compliance of the design and construction of the subprojects with the specified standards. It will also certify the completion of subprojects for reimbursement purposes and will provide the necessary technical assistance to the Engineering staff of DSA for the improvement of design and construction procedures.

(b) Vehicles and Equipment (\$332,000 Loan)

In order to provide necessary transportation for personnel and materials, the on-going project has a fleet of five trucks, eight pick-up trucks, one four-wheel drive passenger vehicle and 19 motorcycles for the sanitation technicians.

The proposed expansion will not require an increase in the number of vehicles. Only the replacement of deteriorated units in 1986 has been programmed. The units to be replaced will be 2 trucks, 5 pick-ups, 1 four wheel drive passenger vehicle and 4 motorcycles, which were all purchased in 1981. It is estimated that these vehicles will be reaching the end of their useful life in 1986. The detailed vehicle requirements and their estimated cost is presented in Annex 8, Exhibit 5.

The vehicle maintenance will be provided by a maintenance and repair shop which was organized during the on-going project. The shop will be operated by an expert mechanic and three assistants in the Totonacapan Regional Center. Loan funds under the proposed expansion will finance a supply of spare parts and tires as well as the improvement of the shop equipment.

Although the implementing unit has all the necessary surveying, drafting and engineering equipment for normal operation, some of this will be replaced in 1986 due to normal wear. The detailed list is given in Exhibit 5, Annex 8 and it will be financed with Loan funds. Loan funds will also be used to finance a supply of handtools for the unskilled labor provided by the communities. The detailed list of community handtools requirements per subproject is provided in Exhibit 6, Annex 8.

(c) Personnel Training and Technical Assistance (\$205,000 Grant)

The technical personnel in the implementing unit has necessary capabilities and experience for the execution of the proposed expansion. However, it is believed that the direct observation of similar projects in other Latin American countries with more experience in rural water supply would be extremely useful for the project engineers. For this purpose \$25,000 of grant funds will be provided.

The sanitation technicians will also be provided with basic training in the construction of rural water systems through short courses or seminars which will be conducted in the Regional Center for which \$30,000 of Grant funds have been allocated.

Grant funded technical assistance will be provided for the following purposes:

1. Baseline Study, Evaluation and Audits (\$75,000 Grant)

Although there is considerable scattered information concerning the impact of supplying potable water and excreta disposal systems on the health conditions of rural population, a detailed impact evaluation has never been done in Guatemala. Therefore an impact evaluation will be funded to provide an assessment of the original project and of the proposed expansion. An impact evaluation of this type could also provide a sound basis for the future investment of the Mission's and other donor's resources in this area.

The baseline study will also include the evaluation of alternatives for the collection of fees from communities in order to finance the construction of additional systems. In the on-going project a uniform average fee was charged to all communities. However, the experience of other institutions indicates that in some cases it would be better to charge fees directly related to the cost of the system and the economic capacity of the community. The baseline study will include an evaluation about the advisability of using uniform or variable fees as well as the amounts of such fees. Following the study adjustments in the fee system will be made if necessary.

In addition to the final evaluation, an interim evaluation programmed for June 1987 will be funded by this component. Grant funds from this line item also include a provision of \$10,000 to finance three audits of the Project that will be performed by an independent local firm.

2. Study of Alternatives for Potable Water Provision in Rural Areas - (\$75,000 Grant)

Given the availability of springs which provide good quality water, most rural water projects in Guatemala, including the original project and proposed expansion, have been spring-fed, gravity flow systems. However, the availability of springs is rapidly decreasing and although sufficient for this project and other donors' current programs, UNEPAR estimates that in not more than five years most springs will be in service. In addition, the problem of water supply for communities where spring-fed systems are not feasible is not being adequately addressed.

Therefore, Grant funds under the Technical Assistance line item will be used to conduct a study of alternatives to gravity flow systems in selected areas of the country. Although a comprehensive study would require a higher level of investment, the study that will be financed under the proposed expansion will provide the initial information for further investigation.

(d) Community Health Education (\$128,000 Grant)

The experience of water projects financed by other donors has shown the need to include health education as a necessary component in any rural water supply project. The provision of water and excreta disposal systems without appropriate community training does not achieve the desired impact in the interruption of the more common disease transmission cycles.

The community training will be given through community seminars or workshops, which will include basic information about environmental sanitation, safe use of water and basic health practices. It will be given by teams of two social workers or rural sanitation technicians with the assistance of the sanitation inspectors or assistant engineers who have been responsible for community organization.

The production of teaching materials and the elaboration of educational contents will be done with the assistance of the on-going Non-Formal Education Project (No. 520-0281). The teaching materials in the form of small pamphlets or leaflets, posters and slide projections will be produced with Grant funds.

Grant funds will also be provided for the implementation of seminars on maintenance and operation of water systems that will be given to selected members of the community by the project engineers in the Totonicapan Regional Center. These seminars will cover all aspects of system maintenance, including small repairs and periodic maintenance procedures.

IV. PROJECT ANALYSIS

A. Engineering Analysis

The construction activities that will be financed under the proposed expansion are 135 potable water systems and the installation of approximately 10,000 latrines in each of the households of communities that will be provided with potable water.

As in the on-going project, most of the water systems will be spring-fed, gravity-flow systems. The cost analysis developed by Agua del Pueblo in 1980 for the original Project Paper which demonstrated that this type of system has the lowest construction and operation costs is still valid in terms of relative costs, although the absolute costs have increased considerably. A summary of the Agua del Pueblo Analysis is presented in Annex 9.

Besides cost, there are other important considerations that make the spring-fed, gravity-flow systems preferable for the project area. Most of the communities could not support the cost, nor provide the necessary maintenance for systems such as deep wells, which would require the use of electrical or diesel pumps. Possible sources of surface water that could be used such as rivers or streams are for the most part contaminated in the Highland areas and the water table is usually so deep that the alternative of hand pumps for wells is uneconomical.

The preferred type of distribution system will be through domiciliary installations which will be provided whenever possible. It has been demonstrated that the provision of water directly to the household reduces the possibility of contamination during transportation and handling. When the flow of water from the spring is not sufficient to provide domiciliary installations or when the topographical location of certain households prevent the use of this type of installation, public taps will be provided in accessible points, to serve an average of 6 families per public tap.

The typical system will have the following elements:

1. Spring Capping

The water from springs will be protected against all possible sources of contamination. This is accomplished by a structure that while allowing the free flow of spring water, covers the spring protecting it from surface water or other contaminants. For springs which do not have a concentrated outflow, the system of infiltration galleries will be used. These are horizontal trenches which collect the water and conduct it to a concentration point from which it is taken by the transmission line.

2. Water Transmission Line

This will be made of PVC pipe or if the topographical conditions require of galvanized steel pipe. The pipe will be placed in trenches and buried or protected with concrete where necessary.

3. Distribution Tanks

Usually one or more distribution tanks are required to regulate the flow of water. These will be made of unreinforced concrete or stone masonry and covered by a reinforced concrete slab. They will be designed with a minimum capacity of 25% of the average daily requirement.

4. Distribution Network

The distribution network will be constructed similarly to the conduction line, of PVC pipe.

5. Housing Installation

These will be taps installed in convenient locations within the area of each household with galvanized steel fittings and valves and provided with necessary concrete protection to avoid damage.

The latrines will be in almost all cases simple pit latrines. The prefabricated concrete base slabs and seats, as well as the wooden latrine covers, will be manufactured in the latrine factory of the Regional Center. The project will provide, in addition to the latrine seats, slabs and covers, the necessary materials for the latrine roof such as galvanized steel sheet, wood and nails. The community will provide the materials for the lateral cover such as adobe or wood.

The skilled labor will be provided by experienced mason-plumbers, usually two per subproject, who will receive specific training for the construction of rural aqueducts in the Regional Center. The unskilled labor for excavation and transportation of materials will be provided by community members.

The design of the systems will be performed by the engineering staff of the Regional Center under the supervision of an experienced design engineer, following standard procedures and parameters developed by UNEPAR and used in all MOH environmental sanitation projects. The most important design parameters that will be used are given in Table 5 below.

Table 5

Design Parameters for Potable Water Systems

Allowance for systems with housing connection	75-90 liters per inhabitant per day
Allowance for systems with public taps	45-60 liters per inhabitant per day
Maximum daily demand	1.2 (a.d.r.) *
Maximum hour demand	1.8 (a.d.r.)
Design period	20 years
Capacity of distribution tank	25% (a.d.r.)
Maximum distribution pressure	40 meters, water column
Minimum distribution pressure	10 meters, water column

* a.d.r. -- average daily requirement

Construction administration and supervision will be under the four implementing unit's supervisory engineers, who will coordinate all aspects of the construction.

In addition to the supervision given by DSA engineers, an independent consultant firm will be contracted with loan funds to provide technical assistance to the implementing unit's engineering staff and supervise design and construction activities.

The evaluation and control of the water quality of the springs which will supply water, will be under a Water Quality Laboratory in the Regional Center, organized, staffed and equipped during the ongoing project.

As part of the initial research performed in the communities, the sanitation inspectors will collect water samples from the probable sources. The laboratory will perform bacteriological and chemical analyses of these samples to determine the water quality. The standards that the laboratory will use for evaluation of water quality will be the World Health Organization (WHO) standards. If the water is considered adequate, the use of the spring will be approved. The procedures described above are the same that are being used in the ongoing project. No additional investment will be needed for laboratory equipment.

During construction and after completion of the system the sanitation inspectors will periodically take water samples at different points of the system which will later be analyzed by the laboratory to assure the potability of conducted water.

Cost of Subprojects

In order to obtain a realistic assessment of the construction costs of the subproject, an analysis was performed of the costs and characteristics of the subprojects executed under the on-going project.

To obtain information about general aspects such as average number of beneficiaries per subproject and average number of households and latrines, a sample of 143 subprojects was analyzed and tabulated. For the average costs, in order to obtain information as updated as possible, a smaller sample of the most recent 16 subprojects was analyzed.

The results of the analysis described above are the following:

Average number of housing connections per system:	63
Average number of beneficiaries per subproject :	329
Average number of beneficiaries per connection :	5.2
Average number of latrines per subproject :	71

The current average direct cost for a potable water system is \$31,815 and for latrine \$83.45 per unit. The breakdown of the average direct costs is given in Tables 6 and 7 below:

Table 6

Average Direct Cost of Water System

	Cost	Percentage
Construction Materials	\$ 16,713	52.5
Transportation	950	3.0
Skilled Labor	4,308	13.5
Unskilled Labor	8,173	25.7
Contingency	<u>1,671</u>	<u>5.3</u>
Total	<u>\$ 31,815</u>	<u>100.0</u>

Table 7

Average Direct Cost of Latrines (per Unit)

	Cost	Percentage
Local Construction Materials	\$ 7.77	9.3
Other Construction Materials	55.49	66.5
Transportation	2.78	3.3
Skilled Labor	1.16	1.4
Unskilled Labor	10.70	12.8
Contingency	<u>5.55</u>	<u>6.7</u>
Total	<u>\$83.45</u>	<u>100.0</u>

The average direct cost per capita for water systems is \$96.70, much higher than the estimates of the original Project Paper in 1980 which gave \$35 per capita as an average cost. Besides possible underestimation of costs in the initial analysis, the main reasons for this cost increase are: substantial increases in costs of materials in recent years and an increase in average project costs due to longer conduction lines and more complicated distribution networks. However, the estimated average cost is lower than the costs of similar types of projects built by other institutions such as UNEPAR where average direct costs per capita are between \$120 and \$130.

B. Economic Analysis

The analysis updates the economic evaluation of the original project. In addition, the economic rate of return to the additional investments in environmental sanitation under the project amendment is appraised.

1. Demand for Village Water Systems:

The demand for potable water systems by communities in the Guatemalan Highlands is strong. The original project paper cited an Agua del Pueblo survey which showed potable water supply to rank as communities' first priority among 13 possible development activities.

Additional evidence on the importance communities attach to acquiring a water system comes from the experience of the original Community Health Project. The project evaluation^{1/} details the level of community time and resources devoted to the completion of the subprojects:

^{1/} Dr. Henry Van "Assessment of the Environmental Sanitation Construction Component: Integrated Health and Nutrition Systems Project in Guatemala" Washington Field Report No. 104, November 1983.

"Community participation has been excellent in the project area. Communities have, in many cases, done work that is beyond their responsibility..." (page 31).

Community input to the construction has included the purchase of land to acquire a spring, long hours of hard work in laying pipes over rough terrain, provision of local materials and, in a few cases, purchase of materials which were to be supplied by the project in order to move the construction along at a faster rate. In addition to the initial construction costs, the community commits itself to providing cash, local materials and labor for on-going maintenance.

The communities' decision to allocate this level of resources to a potable water system reflects their perceived valuation of a convenient source of uncontaminated water. The evidence from the original project suggests that for these communities, some having waited up to eight years to receive a water system, the benefits must be very high.

2. Project Benefits.

The principal benefits of potable water projects derive from improved health conditions and the time savings households enjoy by having a nearby source of water which does not require treatment. The potential impact of environmental sanitation activities is quite great in rural Guatemala, as the incidence of gastrointestinal disease is high. In 1984, the major cause of death in Guatemala was intestinal infection (19.09% of registered deaths) 2/. About 12% of recorded medical consultations (22% for children ages 0-4) were sought for digestive and intestinal illnesses, many of which are caused by contaminated water and poor sanitary health conditions.

The anticipated economic benefits of improved health resulting from the project are: 1) increases in individual productivity, 2) reduced medical expenditure and 3) decreased incidence of food malabsorption due to intestinal disease.

Productivity losses result when workers are weakened by sickness, or when ill-health forces them to refrain from work completely.

Ordinarily, the productivity value of sick days averted can be estimated through medical opinion as to the incidence of intestinal diseases, the length of the recovery period and the time required from other family members nursing the sick. The reality of the rural poor is that convalescing in bed the time a doctor would recommend may be an unaffordable luxury. Thus doctors' estimates may overstate the amount of time diverted from work. Among

2/ Guatemala, Ministerio de Salud Pública y Asistencia Social, "Diagnóstico Preliminar de la Situación de Salud en la República de Guatemala", April 1982, Annexes 13 and 14.

the target population, the health benefit may manifest itself in other ways, such as a reduced need to keep older children home from school to look after sick younger siblings or substitute for incapacitated adults.

Project beneficiaries will also enjoy a reduction in medical expenditures. It has been estimated that 4% of rural household income is spent on health care^{3/}. Based on the proportion of medical visits for gastro-intestinal illness, we would expect medical expenses to decrease by 10-15% if these sicknesses could be significantly reduced.

The third category of health benefits relates to a reduction in food malabsorption from parasitic and diarrheal disease. Malabsorption leads to a loss of the nutrients in consumed food. Studies of this problem in Central America estimate that " 50-59% of 'healthy adults' in the rural areas lose between 150 to 300 calories per day" from food malabsorption ^{4/}. The economic consequences for rural residents (whose diets are already likely to be inadequate) are reduced productivity and greater susceptibility to other forms of sickness.

A second set of project benefits will result from the convenience of having a nearby supply of water not requiring treatment. The Agua del Pueblo study cited in the original project paper noted that for one village without a water system, water collection activities required about 45 person days per year for each household. Water treatment procedures are also time-consuming. A survey for the Health Sector Assessment showed an average boiling time of 11-25 minutes per container for respondents who treated water (p 268). The economic value of time saved is its opportunity cost, estimated at 25% of the urban minimum wage.

3. Project Costs:

a. Justification for Least-Cost Approach:

Ideally, benefit-cost calculations should be carried out for each community desiring a water system. Project funds would then be allocated to those communities whose systems demonstrate the highest rate of return. In practice, owing to the small size of each community and the difficulty of measuring benefits, the costs of conducting this type of appraisal for every potential subproject would be prohibitive.

3/ Guatemala Community-Based Health and Nutrition Systems Project Paper, page 60.

4/ USAID Guatemala Health Sector Assessment, 1977, page 241.

The selection criteria for this project aim to reach as many beneficiaries as funds allow by choosing only those subprojects where the least costly technology, a spring-fed gravity-flow system, is feasible ^{5/}. Gravity-flow systems have the added advantage of relatively low maintenance costs (estimated to be Q0.40 monthly per household, for purchased and local materials and the opportunity cost of contributed labor).

b. Economic Valuation of Project Costs,

Project costs include materials, equipment, labor and administration for water systems construction. In addition, the costs associated with the provision of latrines and community health instruction are attributed to the project. Without these additional investments, the health benefits of potable water may not be realized.

Adjustments to the financial costs enumerated in the project budget were made to reflect the opportunity cost of project inputs. Imported construction materials and equipment were valued at a shadow exchange rate of Q1.20 = \$1.00 (an intermediate value between the current official and parallel market rates). Urban and rural unskilled labor was valued at one-half and one-quarter of the urban minimum wage respectively.

After construction is completed, communities will face additional costs for maintenance and for new domestic hook-ups as population grows. For these calculations, a 3% growth rate is assumed. It is also projected that system capacity will be reached in 20 years, after which no new families will be added. The useful life of each system is estimated to be about 30 years.

4. Results of Benefit-Cost Analysis,

For the benefit-cost analysis, the level of annual benefits per household necessary to yield an acceptable project rate of return was estimated. The calculations for this appraisal (detailed in Annex 10) show that a Q79 annual per household benefit is required for the project to be economically justified, assuming a 15% opportunity cost of capital.

The available evidence on the economic benefits from environmental sanitation projects suggests that this level will be achieved. The evidence is cited in the table below.

5/ Not only must a gravity-flow system be feasible in a selected community, it must also be without undue cost. For example, the spring must be a reasonable distance from the community.

<u>Benefit</u>	<u>Evidence</u>	<u>Estimated Annual Economic Value (Per Household)</u>
(a) Increased Productivity	Assume 5 fewer sickdays for each household member, valued at opportunity cost	Q20.00
	Assume family income increased by 5% due to increased productivity	Q50.00
(b) Reduced Medical Expenditure	Medical expenses represent 4% of income, 22-20% of medical consultations for gastro-intestinal disease	Q6 - 10
(c) Better Food Absorption	50-59% of rural healthy adults lose 150-300 calories per day	Included in (a)
<u>Convenience-Related:</u>		
(d) Time Saved in Carrying Water	Agua del Pueblo Study - 45 days per household valued at opportunity cost	Q36.00
(e) Time Saved in Treating Water	Assume 20 minutes every other day, valued at opportunity cost	<u>\$Q-7.00</u>
	Total Estimated Value	Q118 - 123.00

Even if the economic value of project benefits (from the table above) is reduced by 25%, the project still achieves a ratio of discounted benefits to costs greater than 1.00.

C. Institutional Analysis

The implementing agency for the project is Direccion de Saneamiento Ambiental (DSA), of the Ministry of Public Health (MOH). The most important considerations for the selection of DSA as implementing unit for the on-going project were its experience in community-based environmental activities involving community participation and its technical capability for the design and construction of the systems. These reasons remain valid for the proposed expansion.

During the on-going project DSA has developed and expanded its administrative and technical resources for the implementation of the project. The most important accomplishments in this respect are: the creation, organization and staffing of the Regional Center in Totonicapan, ideally located to serve the project area; the training of technical personnel for the promotion, design, and construction of potable water systems; and the organization, staffing and training of an administrative unit that gives good support to field activities.

The administrative problems which impeded an efficient project implementation during the first three years of the on-going project were for the most part solved with the reorganization of the unit in April 1984. Therefore, the implementation of the proposed expansion would continue to be under DSA, which during the past months has demonstrated that it has the necessary resources and experience for a successful project implementation.

The reorganization created within DSA a specific unit for the implementation of the project, which is directed by a Project Coordinator. The administrative and technical areas are respectively led by an Administrative Chief and a Regional Engineer based in the Regional Center, providing the necessary decentralization of authority for an efficient execution of projects. The organizational chart of the implementing unit is presented in Annex 7 Exhibit 1.

A complete evaluation of the accounting and internal control systems used by the implementing unit at DSA was performed by the Mission Controller's Office in order to determine the capability of the unit to administrate the Project. The evaluation presented in Annex 7, Exhibit 2 concluded that the implementing unit in DSA has sufficient administrative and financial personnel to carry out satisfactorily the proposed project.

The numbers of personnel which have implemented the on-going project will not need to be increased for the proposed expansion. The expansion's activities will start in late 1985, coinciding with the completion of most subprojects financed by the on-going loan. The only additional personnel that has been projected are four Social Workers or Rural Health Promoters who will be responsible for the Community Health Education seminars. The complete lists of administrative and technical personnel which will be required for the proposed expansion are presented in Exhibits 7 and 8 of Annex 8.

D. Financial Analysis

The total budget of the proposed expansion is \$9.5 million, of which \$4.5 will be AID Loan funds, \$0.5 million AID Grant funds, \$3.1 million GOG counterpart funds, and \$1.4 million of community in-kind contribution. AID total contribution amounts to 53%, GOG counterpart to 33% and community contributions to 14%.

1. Financial Plan

The Financial Plan, including estimated costs and funding source is given in Table 8, below.

Table 8

Summary Financial Plan for Expansion

Projected Costs

(\$000)

	A I D			COUNTERPART			GRAND
	Loan	Grant	Total	GOG	Other	Total	TOTAL
<u>1. Construction</u>							
a. Water Systems	2,257	---	2,257	710	1,103	1,813	4,070
b. Latrines	<u>531</u>	---	<u>531</u>	<u>38</u>	<u>177</u>	<u>215</u>	<u>746</u>
Sub-Total	2,788	---	2,788	748	1,280	2,028	4,816
<u>2. Support Systems</u>							
a. Vehicles & Equip.	332	---	332	---	---	---	332
b. Salaries	---	147	147	1,653	---	1,653	1,800
c. Per Diem & Fuels for Field Person.	---	---	---	330	---	330	330
d. Admin. Costs	---	---	---	60	---	60	60
e. Supervisory Firm	306	---	306	---	---	---	306
f. Personnel Trng. & Technical Assist.	---	205	205	---	---	---	205
g. Community Health Education	---	<u>128</u>	<u>128</u>	<u>90</u>	<u>---</u>	<u>90</u>	<u>218</u>
Sub-Total	638	480	1,118	2,133	---	2,133	3,251
<u>3. Inflation</u>	795	20	815	253	107	360	1,175
<u>4. Contingency</u>	279	---	279	---	---	---	279
<u>TOTAL</u>	<u>4,500</u>	<u>500</u>	<u>5,000</u>	<u>3,134</u>	<u>1,387</u>	<u>4,521</u>	<u>9,521</u>

Inflation factors were considered for the estimated costs. A 10% increase per year was considered for all construction materials, equipment and vehicles. For labor costs and salaries only a 20% increase was estimated for the last year (1988), considering past experiences of GOG salary increases which do not occur each year, but tend to be accumulated in 4 or 5 year periods.

The Summary Cost Estimate and Financial Plan showing the distribution of loan and grant funds between local currency and foreign exchange is given in Annex 8, Exhibit 1.

Loan funds amounting to \$4.2 million will be used to pay for all construction materials, vehicles and equipment including a provision for inflation and contingencies. Loan funds are concentrated in these line items because a high percentage could be imported items for which the GOG may have problems in obtaining foreign exchange given the current economic situation. The balance of the Loan funds, \$306,000, is allotted for the consulting firm that will provide supervision services.

GOG counterpart funds will be used for salaries of technical and administrative personnel and skilled labor costs.

The proposed expansion's activities will cover three years starting in 1986. Table 9, below, gives a projection of expenditures by fiscal year. Annex 8, Exhibits 2 through 9 give a detailed illustrative budget for the proposed expansion per year.

Table 9

Projection of Expenditures by Fiscal Year

(US\$000)

<u>Fiscal Year</u>	<u>AID</u>			<u>Counterpart</u>			<u>GRAND TOTAL</u>
	<u>Loan</u>	<u>Grant</u>	<u>Total</u>	<u>GOG</u>	<u>Other</u>	<u>Total</u>	
1986	632	201	833	795	142	937	1,770
1987	1389	127	1,516	1,043	569	1,612	3,128
1988	<u>1,405</u>	<u>152</u>	<u>1,557</u>	<u>1,043</u>	<u>569</u>	<u>1,612</u>	<u>3,169</u>
Sub-Total	3,426	480	3,906	2,881	1,280	4,161	8,067
Inflation	795	20	815	253	107	360	1,175
Contingency	<u>279</u>	<u>---</u>	<u>279</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>279</u>
<u>TOTAL</u>	<u>4,500</u>	<u>500</u>	<u>5,000</u>	<u>3,134</u>	<u>1,387</u>	<u>4,521</u>	<u>9,521</u>

2. Methods of Implementation and Financing

a. Procurement Procedures

The procurement procedures that the Dirección General de Saneamiento Ambiental (DSA) will use for project implementation will be the uniform GOG procedures, regulated by the Guatemalan Procurement Law and By-laws, Decree No. 35-80. 1/ The procedures are basically compatible with AID regulations and provide guidelines for procurement of commodities and technical or professional services.

The procurement of commodities by DSA will be done by one of three different procedures depending on the type and quantity of the purchase; quotations for small items in limited quantities, open contract system for commodities under this type of contract in the MOH and public bid for major procurements. The limits for the use of these procedures are clearly defined by Decree No. 35-80.

Given the serious foreign exchange problems that the GOG has faced in the past year and since most of the PVC and galvanized steel pipe and all the vehicles and spare parts will be U.S. made, the Mission will provide substantial procurement support for these international purchases.

b. Implementation Methods

Construction of potable water systems and latrines will be done by Force Account by implementing unit personnel. The contracting of private firms for the construction of the water systems would not be compatible with the objective of promoting community participation in the construction activities and would tend to increase subproject costs.

The contracting of the supervisory firm will be done by the implementing unit with the approval of the Mission. International technical assistance will be contracted by the Mission in order to avoid the GOG foreign exchange problems.

c. Financing Methods

The financing with loan funds of construction materials purchased by the implementing unit will be done reimbursing directly to the GOG the cost of materials based on Fiscal Report with supporting documentation. The implementing unit will initially pay for the materials with funds drawn from the GOG Global Rotating Fund. When the costs are reimbursed by the Mission, the implementing unit will return them to the government rotating fund. This system has worked well during the on-going project and no problems are expected for its use in the proposed extension.

1/ Ley de Compras y Contrataciones, Su Reglamento con sus Reformas y Disposiciones Conexas. Publicaciones del Ministerio de Gobernación, 1984.

The use of Fixed Amount Reimbursement (FAR) as a method for financing the construction of water systems and latrines is not considered to be a viable solution since the water systems show great variations in cost depending on the topographical conditions, number of inhabitants and distance from the spring. Under these conditions, the use of the FAR method would be extremely complicated and therefore not advisable for this particular project.

The construction materials purchased by the Mission will be financed through Direct Letters of Commitment. Most of the purchases will be from US suppliers and therefore no problems are expected in using this procedure. The small purchases which will be handled by the Mission such as vehicles, spare parts, engineering equipment and teaching materials will be done by Purchase Orders and financed through direct pay. There is considerable experience in the Mission regarding these procurement procedures for the on-going and other projects.

An annual audit of the Project will be performed by an independent firm according to AID audit requirements. For this purpose a total of \$10,000 in Grant funds have been budgeted from the "Personnel Training and Technical Assistance" line item.

The methods of implementation and financing that will be used in the proposed expansion are summarized in Annex 8, Exhibit 10.

3. Replicability

The proposed expansion is designed to maintain the current level of activity in DSA's environmental sanitation implementing unit. The maximum number of potable water systems to be built per year under the expansion (60) is the same that the implementing unit is currently building. Therefore, the proposed expansion will only imply a minor increase to DSA's current budget due to normal price increases.

The Ministry of Health will provide \$2.02 million to finance all personnel costs with the exception of the Project Administrative and Technical Coordinators which will be financed with \$158,000 in Grant funds. All salaries of project personnel will be assumed by the MOH when the problems of creating the two new positions at adequate salary levels are solved.

Table 10

MOH/GOG BUDGET COMPARISON
(US \$ Millions)

	<u>1982</u>	<u>1983</u>	<u>1984</u>
Total GOG Budget	1,481.4	1,314.3	1,314.1
MOH Total Budget	128.2	94.8	99.9
Percentage of GOG Budget	8.65%	7.21%	7.60%

In terms of the financial support provided by the GOG to the Health Sector, it can be observed in Table 10 in Page 35 that the percentage of the total GOG budget assigned to health has remained virtually constant with the exception of a decrease between 1982 and 1983 caused by the completion of a network of major hospitals in 1982.

The facts mentioned above and the high priority given by the GOG in recent health policy documents to the provision of potable water and sanitation services 1/ guarantees the continuity of this project.

4. Community Cash Contributions

During the first years of the on-going project the concept of a revolving fund which would finance additional water projects could not be implemented successfully, mainly because the established fees were extremely low and were not sufficient to provide the necessary reflow to operate the fund.

Currently the communities are being charged \$0.70 per month, per housing connection or \$0.35 per month, per family, for public taps for 10 years after the subproject is completed. Of these fees, \$0.20 and \$0.15 are respectively retained by the Community Water Committee for maintenance and operation, and the rest is transferred to DSA.

In addition to the low fees, the revolving fund did not operate during the first years of the on-going project due to lack of an efficient administrative structure. As part of the April 1984 reprogramming of the Environmental Sanitation Component, the implementing unit prepared an evaluation of the revolving fund and took the necessary actions to make the fund operational. As a result, the necessary mechanisms for the collection and administration of community fees have been established and are already operating. The funds are collected by the Community Water Committees, using receipts specifically authorized for the project by the GOG central auditing agency (Contraloría de Cuentas). The funds are deposited in a specific account at the Central Bank, separated from other DSA funds. In order to keep a detailed control of community contributions, DSA has implemented a mechanism which uses a specific file per project and includes a payment control system.

The mechanisms described above for collection and management of community contributions are functioning adequately and will continue to be used. However, for the revolving fund to be effective in financing additional water systems, an increase in the fees charged to beneficiary communities will be considered. This increase will only affect the subprojects financed under the project expansion since promotion activities of the on-going project are at a very advanced stage and most communities have already been informed about the fees.

In order to establish the fees that the communities will pay for water systems financed under the project expansion, a more detailed study

1/ Necesidades Prioritarias de Salud en Centroamérica y Panamá, Plan Operativo de Guatemala, Ministerio de Salud Pública y Asistencia Social, Noviembre de 1984.

will be needed. The study will be done as part of the project baseline study, approximately in July 1985, in order to have definite information before the initiation of project implementation. The study will investigate different approaches for the partial recovery of construction costs such as the possibility of collecting an initial payment or charging fees directly related to the cost of the subproject and the community payment capacity instead of the uniform average fee being charged on the on-going project.

Although the exact level of the fees and payment distribution will be determined by the above mentioned study, there are general indications of the approximate amounts that will be charged. A study contracted in February 1982⁽¹⁾ indicated that the average payment capacity per family in communities of Totonicapán, San Marcos, and Sololá was \$1.26 per month. Agua del Pueblo, a PVO that is currently building water projects in several Highlands departments, has estimated an average monthly fee of \$2.24 during 5 years and an initial payment of \$30 per family.

Based on these indicators it is safe to assume an average payment equivalent to a monthly fee of \$1.25 per family to be paid for 10 years after the subproject is completed. If the \$0.20 for maintenance and operation that will be retained by the local water committee are deducted, this leaves \$1.05 per month per family for partial recovery of construction costs. The average cost recovery per typical subproject per month, estimating an actual collection of 90% and 63 families per subproject, is calculated at \$59.54. If the fees are charged for 10 years a total recovery per subproject of approximately \$7,145 is obtained which amounts to approximately 30% of the average cost per subproject excluding unskilled labor costs (\$23,637). This is considered a reasonable recovery and similar to that obtained by Agua del Pueblo.

With the figures detailed above, the total recovery per year would be approximately \$96,500 for the 135 subprojects, allowing for the construction of approximately 4 additional subprojects per year or 40 in 10 years at current costs.

V. IMPLEMENTATION PLAN

The construction of subprojects financed under the proposed expansion will start approximately in May 1986, coinciding with the completion of the last subprojects financed under the on-going Loan. Therefore, the implementation of both stages will be continuous and the activities of the implementing unit will be kept at a constant level.

However, the initial activities of the project expansion, such as procurement of materials, promotion and design of the systems, will start

(1) "Fondo Rotativo Comunitario del Proyecto de Sistemas Integrados de Salud y Nutrición." CECONSA 1982.

approximately in August 1985 and will overlap with the on-going project. This overlap is not expected to cause any problems to the implementing unit since the initial activities will be carried out by departments which will have finished activities related to the current project around September 1985. Although the initial expenditures are assigned to FY 1986, actually some expenditures will occur in 1985, mainly those related to the Baseline Study.

For the first year of the project expansion, the construction of only 15 systems has been programmed, allowing for the completion of all systems financed under the original project during the first semester of the year. For the second and third years, the construction of 60 systems has been programmed for each year.

The completion of 60 systems each year is considered feasible with the current resources of the implementing unit. According to the implementation plan presented in September 1984, the current resources, which will be maintained in the project expansion, allow for the construction and supervision of 80 systems simultaneously. Since the estimated time for completion of a typical project is 14 months (see Annex 6), the target of completing the 60 projects each year is reasonable.

A timetable of the most important pre-implementation and implementation events for the proposed expansion is presented below:

E V E N T	DATE
PP Amendment approved by Mission	01/15/85
Congressional Notification submitted and expired	02/15/85
Funds allotted	03/01/85
Project Agreement signed	03/30/85
Grant CP's met	05/15/85
Baseline Study contracted and initiated	06/30/85
Loan CP's met	06/30/85
Procurement procedures of first bid for materials initiated (15 systems)	07/15/85
Baseline Study completed	08/30/85
Design of 15 first systems initiated	10/01/85
Contracting procedures for consulting company initiated	10/01/85

E V E N T	DATE
Contracting procedures for consulting company completed and work initiated	01/15/86
Procurement procedure for second bid for materials initiated (60 systems)	01/11/86
Design of 60 systems (first group) initiated	01/15/86
Design of 15 first systems completed	01/15/86
Materials from first bid (15 systems) delivered	05/30/86
Construction of 15 systems initiated	06/15/86
Construction of 15 systems completed	12/30/86
Materials from second bid for materials (60 systems) delivered	12/30/86
Design of 60 systems (first group) completed	12/30/86
First Audit completed	12/30/86
Construction of 60 systems (first group) initiated	01/15/87
Procurement procedures for third bid for materials initiated (60 systems)	01/15/87
Design of 60 systems (second group) initiated	01/15/87
Mid-Term Evaluation initiated	6/1/87
Mid-Term Evaluation completed	9/1/87
Construction of 60 systems (first group) completed	12/30/87
Design of 60 systems (second group) completed	12/30/87
Materials for third bid delivered (60 systems)	12/30/87
Second Audit completed	12/30/87
Construction of 60 systems (second group) initiated	01/15/88
Third Audit completed	11/30/88

E V E N T	DATE
Construction of 60 systems (second group) completed	12/30/88
Final Evaluation initiated	2/1/89
Final Evaluation completed	4/1/89

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ANNEX 1

TEN MAIN CAUSES OF DEATH - 1982

	<u>Fetal Death</u>	<u>28 Days</u>	<u>28 Days to 1 Year</u>	<u>1 - 4 Years</u>	<u>5 - 14 Years</u>	<u>15 - 44 Years</u>	<u>45 - 64 Years</u>	<u>65 Years & Over</u>	<u>Unknown Age</u>	<u>Totals</u>
1. Infectious and intestinal diseases	---	---	4,602	4,812	1,046	1,315	1,235	1,378	27	14,415
2. Misdefined signs, symptoms and morbidity status	---	---	2,665	1,955	640	1,244	1,085	2,757	91	10,437
3. Pneumonia	---	---	2,485	1,706	411	741	652	1,052	12	7,059
4. Certain affections originated during perinatal period	3,511	2,789	49	---	---	---	---	---	---	6,350
5. Homicides	---	---	33	70	226	4,305	999	176	370	6,179
6. All mortality causes	---	---	690	588	221	692	611	729	9	3,540
7. Other protein-caloric malnourishment	---	---	792	791	236	351	428	766	22	3,386
8. Measles	---	---	786	1,783	548	104	11	10	5	3,247
9. Circulatory diseases	---	---	5	5	15	443	550	1,197	2	2,217
10. Infectious parasitic diseases	---	---	588	723	175	83	42	46	2	1,659
All other causes	<u>126</u>	<u>306</u>	<u>2,656</u>	<u>1,940</u>	<u>952</u>	<u>4,632</u>	<u>3,638</u>	<u>4,121</u>	<u>121</u>	<u>18,492</u>
<u>TOTALS</u>	<u>3,637</u>	<u>3,095</u>	<u>15,351</u>	<u>14,374</u>	<u>4,470</u>	<u>13,910</u>	<u>9,251</u>	<u>12,232</u>	<u>661</u>	<u>76,981</u>

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ANNEX 2

POPULATION SERVED IN 1982 - BY AREA AND LOCALITY GROUPS

POTABLE WATER	Population	COVERAGE (%)		POPULATION SERVED			Total Coverage (%)
		Domiciliary Connections	Public Tap	Domiciliary Connections	Public Tap	Total	
<u>URBAN AREA</u>	<u>3,009,949</u>	<u>55.0</u>	<u>35.0</u>	<u>1,655,508</u>	<u>1,052,837</u>	<u>2,708,345</u>	<u>90.0</u>
<u>QMA and Cities with Over 50,000 Inhabitants</u>	<u>1,442,217</u>	<u>63.7</u>	<u>26.3</u>	<u>918,674</u>	<u>378,712</u>	<u>1,297,385</u>	<u>90.0</u>
QMA	1,260,097	65.8	24.1	842,478	309,000	1,151,478	90.0
Cities with over 50,000 inhab.	162,120	47.0	43.0	76,196	69,712	145,908	90.0
<u>In-Country Cities</u>	<u>1,567,732</u>	<u>47.0</u>	<u>43.0</u>	<u>736,834</u>	<u>674,125</u>	<u>1,410,959</u>	<u>90.0</u>
10,000 - 50,000 inhab.	628,225	47.0	43.0	295,266	270,137	565,403	90.0
2,000 - 10,000 inhab.	792,142	47.0	43.0	372,307	340,621	712,928	90.0
Under 2,000 inhab.	147,365	47.0	43.0	69,261	63,367	132,628	90.0
<u>RURAL AREA</u>	<u>4,688,812</u>	<u>6.0</u>	<u>18.0</u>	<u>281,329</u>	<u>843,986</u>	<u>1,125,315</u>	<u>24.0</u>
Concentrated Population	2,860,035	9.8	23.6	281,329	675,189	956,518	33.4
Dispersed Population ^{1/}	1,828,777	---	9.2	---	168,797	168,797	9.2
<u>Urban and Rural</u>	<u>7,698,761</u>	<u>25.2</u>	<u>24.6</u>	<u>1,936,837</u>	<u>1,896,823</u>	<u>3,833,660</u>	<u>49.8</u>

SANITATION	Population	COVERAGE (%)		POPULATION SERVED			Total Coverage (%)
		Domiciliary Connections	Latrines	Domiciliary Connections	Latrines	Total	
<u>URBAN AREA</u>	<u>3,009,949</u>	<u>37.0</u>	<u>10.6</u>	<u>1,113,681</u>	<u>300,995</u>	<u>1,414,676</u>	<u>67.0</u>
<u>QMA and Cities with Over 50,000 Inhabitants</u>	<u>1,442,217</u>	<u>49.4</u>	<u>11.5</u>	<u>712,833</u>	<u>165,547</u>	<u>878,380</u>	<u>60.9</u>
QMA	1,280,097	51.0	11.6	652,849	148,491	801,340	62.6
Cities with over 50,000 inhab.	162,120	37.0	10.5	59,984	17,056	77,040	47.5
<u>In-Country Cities</u>	<u>1,567,732</u>	<u>25.6</u>	<u>8.6</u>	<u>400,848</u>	<u>135,448</u>	<u>536,296</u>	<u>34.2</u>
10,000 - 50,000 inhab.	628,225	34.0	10.0	213,597	62,823	276,420	44.0
2,000 - 10,000 inhab.	792,142	21.6	8.0	171,103	63,371	234,474	29.6
Under 2,000 inhab.	147,365	11.0	6.3	16,148	9,254	25,402	17.2
<u>RURAL AREA</u>	<u>4,688,812</u>	<u>---</u>	<u>25.0</u>	<u>---</u>	<u>1,172,203</u>	<u>1,172,203</u>	<u>25.0</u>
Concentrated Population	2,860,035	---	32.8	---	937,762	937,762	32.8
Dispersed Population	1,828,777	---	12.8	---	234,441	234,441	17.8
<u>URBAN AND RURAL</u>	<u>7,698,761</u>	<u>14.5</u>	<u>19.1</u>	<u>1,113,681</u>	<u>1,473,198</u>	<u>2,586,879</u>	<u>33.6</u>

Source: INPOM, EMPAGUA and UNEPAR.

^{1/} Individual sources.

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ANNEX 3

PERCENTAGE OF NATIONAL COVERAGE SERVICES - 1971-1982

<u>POPULATION SERVED</u>	<u>1971</u>	<u>1976</u>	<u>1980</u>	<u>1982</u>
<u>WATER SUPPLY</u>				
<u>Urban Area</u>				
By domiciliary connection	40.0	41.0	51.0	55.0
By public taps (easy access)	49.0	45.0	38.0	35.0
Total population served	89.0	86.0	89.0	90.0
<u>Rural Area</u>				
By domiciliary connection	2.0	3.0	4.0	6.0
By public or individual sources (easy access)	11.0	11.0	18.0	18.0
Total population served	13.0	14.0	22.0	24.0
<u>GLOBAL COVERAGE (URBAN AND RURAL)</u>	<u>39.0</u>	<u>39.0</u>	<u>47.0</u>	<u>49.8</u>
 <u>SANITATION</u>				
<u>Urban Area</u>				
By sewerage connection	42.0	40.0	35.0	37.0
By Septic Tank, latrines,	w.i.	w.i.	10.0	10.0
Total population served	42.0	40.0	45.0	47.0
<u>Rural Area</u>				
By sanitary excreta disposal	13.0	18.0	20.0	25.0
<u>GLOBAL COVERAGE (URBAN AND RURAL)</u>	<u>23.0</u>	<u>26.2</u>	<u>29.6</u>	<u>33.6</u>

Source: 1971-1980 - Ministry of Public Health and Social Assistance.
1982 - Estimated.

w.i.: Without information.

ANNEX 4
AGREEMENT FOR THE CONSTRUCTION, ADMINISTRATION, OPERATION
AND MAINTENANCE OF POTABLE WATER SUPPLY SYSTEMS

The undersigned _____
Complete Names

Head of the Environmental Sanitation Division of the
General Directorate of Health Services; _____

Mayor of _____ and
Complete Names

_____ , acting on behalf of the
Complete Names

Potable Water Committee of the Community of _____
mutually agree to enter into this AGREEMENT in accordance
with the provisions specified below.

Engineer _____

_____ substantiates his legal capacity as Head
of the Environmental Sanitation Division with
certification of Governmental Decree
dated _____ which contains his appointment as
such, and with Certificate of Office No. _____
dated _____ , Mr. _____ ,

substantiates his legal capacity as Mayor
of _____ , with a certification of Governmental
Decree No. _____ , dated _____ , and
Mr. _____ , substantiates his legal

capacity as President of the Potable Water Committee of
the Community of _____ , with a
certification of the respective paragraph of his
Appointment Document (Acta) No. _____ ,
dated _____

AGREEMENT PROVISIONS

I. OBJECTIVE

The objective of this Agreement is the construction of
a potable water supply system for the community
of _____ , in accordance with paragraph 2.1.1 of
this Agreement.

II. RESPONSIBILITIES OF THE PARTIES TO THIS AGREEMENT

2.1 Duties or responsibilities of the Environmental
Sanitation Division (hereinafter referred to as
E.S.D) are as follows:

2.1.1 The E.S.D., through the Environmental Sani-
tation component of the Community Based In-
tegrated Health and Nutrition Systems
Program of the General Directorate of
Health Services, will build a potable water
system for the rural community
of _____ , with the community's
participation using GOG counterpart funds
under AID Loan No. 520-U-033 and the

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community's contribution.

- 2.1.2 The construction of the potable water system referred to above will be in accordance with plans, budgets and specifications developed by E.S.D, which are a part of this agreement; the E.S.D. will supervise the construction work.
- 2.1.3 The E.S.D. will furnish all materials to be used in the construction providing their transportation from the capital city to the most accessible and closest place to the construction site, as well as skilled labor.
- 2.1.4 The potable water supply service to be built by E.S.D. will include:
 - a) Introduction of direct water supply service for _____ domiciliary
Number
installations
 - b) The construction of _____
Number
community taps for community use of the town.

2.2 Potable Water Committee's Responsibilities:

- 2.2.1 Prior to initiating review of the potable water supply project for the community, the Community Potable Water Committee must submit written evidence that watersheds to be used and the land where pipeline, tanks and services will be installed, belong to the Community or that the latter has legal right to use them.
- 2.2.2 The Potable Water Committee will provide unskilled labor.
- 2.2.3 The Potable Water Committee agrees to provide transportation of materials to be used in the construction from the most accessible and closest place to the project site.

III. FINANCING

Investments required by this AGREEMENT will be financed as follows:

- 3.1 E.S.D. agrees to finance the construction:
 - a) With Government of Guatemala contribution which includes skilled labor costs, transportation and overhead costs such as administrative expenses, studies, designs and construction work supervision.
 - b) With AID Loan 520-U-033 funds which will cover costs of materials and contingencies.
 - c) With the Community's contribution consisting of unskilled labor costs.

**IV. ADMINISTRATION, OPERATION AND MAINTENANCE OF THE SYSTEM
AFTER ITS CONCLUSION**

4.1 Upon its conclusion, the potable water introduction system will be governed by the following regulations: .

- 4.1.1 Prior to initiating the system's operation all involved parties to this Agreement will sign a certificate of official delivery to the community which states total cost of its construction, the community's contribution and the E.S.D.'s contribution.
- 4.1.2 Administration, operation and maintenance of the rural potable water system will be fully delegated to the community. Under the control, supervision and advice of the E.S.D. and for the above-mentioned purposes, the community must review all system-related administrative operations such as collection and handling of funds; promote policies on aqueduct care and rational use of water; and establish a mechanism to procure accesories, spare parts and to pay the plumber in charge of repairs.
- 4.1.3 In order to insure a proper attention to the Potable Water System's operation the Community must take care of it.
- 4.1.4 All users having a household connection must pay the family fee of seventy quetzal cents (Q.0.70) which will be distributed as follows: a) Fifty quetzal cents (Q.0.50) for partial recovery of the construction cost in a period of no more than ten years; and b) Twenty quetzal cents (Q.0.20) to be used in the operation and maintenance of the system.
- 4.1.5 All users of community taps must pay a monthly family fee of thirty-five quetzal cents (Q.0.35) which will be distributed as follows: Twenty quetzal cents (Q.0.20) for partial recovery of the construction cost in a period of no more than ten years; and b) Fifteen quetzal cents (Q.0.15) will be deposited in the "System's Maintenance Fund".
- 4.1.6 For all other matters not stipulated in this AGREEMENT, the parties expressly agree to adhere to the regulations contained in Governmental Decree No. 293-82 dated September 30, 1982, which govern the

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Administration, Operation and Maintenance
of Potable Water Rural Systems.

V. DURATION

In order to become effective, this agreement requires prior approval of the Ministry of Public Health and Social Assistance.

This agreement will enter into force upon approval for an indefinite period of time and may be terminated by either party by written notice to the other parties; in that event, the agreement will terminate for the requesting party one month after the notification date.

Having agreed on the substance, purpose and validity of this AGREEMENT the parties ratify and sign it in original and four copies at Guatemala City, this day
of 198

Head of Environmental Sanitation
Division

Mayor of

President of the Committee

ANNEX 5

Reglamento para la administración, operación y mantenimiento de los sistemas rurales de agua potable.

ACUERDO GUBERNATIVO NUMERO 293-82

Palacio Nacional: Guatemala, 30 de septiembre de 1982

El Presidente de la República

CONSIDERANDO:

Que es conveniente asegurar el buen funcionamiento de los sistemas de agua potable de las comunidades rurales del país, en salvaguarda de la salud de los habitantes de las respectivas áreas, quienes por su propio interés son los llamados a hacerse cargo del servicio por medio de comités organizados con tal propósito:

CONSIDERANDO:

Que la administración, operación y mantenimiento de los acueductos ya construídos, no han sido atendidos en debida forma por las entidades estatales a consecuencia del elevado número y lo disperso de su localización, por lo que se estima conveniente transferir esas actividades a los respectivos comités de agua potable, para cuyo propósito se hace necesario emitir la disposición legal correspondiente.

POR TANTO:

En el ejercicio de las facultades que le confiere el Artículo 4o. del Estatuto Fundamental de Gobierno, modificado por el Decreto Ley Numero 36-82,

ACUERDA:

Emitir el siguiente

REGLAMENTO PARA LA ADMINISTRACION, OPERACION Y MANTENIMIENTO
DE LOS SISTEMAS RURALES DE AGUA POTABLE

CAPITULO I

Artículo 1o.- Se autoriza a las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social, para transferir la administración, operación y mantenimiento de los sistemas de agua potable construídos por ellas o por sus antecesoras y aquellos que en el futuro se construyan por dichas instituciones, a los comités de agua potable organizados o que se organicen conforme a la ley.

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Artículo 2o.- Las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social son: la Unidad Ejecutora del Programa de Acueductos Rurales, la División de Saneamiento Ambiental y cualquier otra institución que en el futuro sea organizada para tal fin.

Artículo 3o.- Para la eficacia y realización de los fines del presente Reglamento, las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social, deben cumplir las siguientes obligaciones:

- a) Instruir y asesorar convenientemente a los comités de agua potable y supervisar su funcionamiento a efecto de que los servicios de agua potable sean administrados, operados y mantenidos satisfactoriamente.
- b) Preparar e instruir a las comunidades rurales para asegurar que el sistema de abastecimiento de agua potable funcione en forma eficiente, continua y segura, observando las instalaciones y equipos en estado de ser operados correctamente y eficientemente.
- c) Hacer participar a los usuarios del proceso de administración, operación y mantenimiento de los sistemas para crearles conciencia de que el sistema los beneficia y que por lo tanto, deben cuidarlo y mantenerlo adecuadamente.
- d) Contribuir al autodesarrollo de la propia comunidad a través del proceso de administración, operación y mantenimiento del sistema de agua potable, mejorando la salud de la población, aumentando la educación de los moradores, incrementando la producción local y familiarizando a los usuarios con las estructuras tarifarias y la conveniencia de su cumplimiento.

CAPITULO II

Comité de agua potable

Artículo 4o.- El comité de agua potable es el representante de los vecinos para la administración, operación y mantenimiento del sistema de agua potable local y estará formado por cinco (5) vecinos honorables de la comunidad.

Artículo 5o.- Todos los miembros del comité de agua potable serán electos por la comunidad en asamblea general y desempeñarán los cargos sin remuneración alguna, con excepción del Tesorero, quien será remunerado en la forma que se indica en el Artículo 15 del presente Reglamento.

Artículo 6o.- El comité de agua potable estará integrado por el Presidente, Secretario, Tesorero, Vocal Primero y Vocal Segundo, de los cuales el Secretario y el Tesorero deben saber leer y escribir.

Artículo 7o.- En el momento de integrar el comité de agua potable estará presente la autoridad municipal respectiva o su representante legal, debidamente autorizado, quien intervendrá y firmará el acta que para el efecto se suscriba.

Artículo 8o.- De todo lo actuado en la fundación del comité de agua potable se dejará constancia en acta que se suscribirá ante la Gobernación Departamental correspondiente.

Artículo 9o.- Los miembros del comité de agua potable durarán en el ejercicio de sus funciones dos años y serán renovados por mitad cada año.

Cualquier miembro podrá ser confirmado para períodos adicionales en atención a sus méritos y también podrá ser removido por el respectivo Gobernador Departamental en cualquier tiempo cuando se compruebe previa audiencia al afectado que ha omitido el cumplimiento de las disposiciones de este Reglamento, y desde luego, si es sujeto a los tribunales por imputársele la comisión de hechos ilícitos.

Artículo 10.- En las comunidades donde exista comité pro mejoramiento debidamente organizado por cualquier dependencia del Ministerio de Salud Pública y Asistencia Social, dicho comité podrá asumir las funciones de comité de agua potable, cuando así se estime conveniente.

Artículo 11.- Con el objeto de garantizar el cumplimiento del presente Reglamento, el comité de agua potable y cada uno de los usuarios firmarán un convenio que fije los compromisos y obligaciones de ambos.

CAPITULO III

De las funciones del comité de agua potable y la comunidad

Artículo 12.- Es función específica del comité de agua potable cumplir y hacer cumplir el presente Reglamento y las normas que eventualmente ponga en vigor el Ministerio de Salud Pública y Asistencia Social, solicitando el auxilio de la autoridad del lugar para hacer efectivas dichas sanciones cuando así lo amerite.

Artículo 13.- El comité de agua potable es responsable ante las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social, de velar para que prevalezcan condiciones higiénicas y sanitarias adecuadas en las fuentes de abastecimiento y sus alrededores, evitando así la contaminación de las mismas, para lo cual se valdrá de los medios legales que sean necesarios.

Artículo 14.- El comité de agua potable debe mantener en buen estado de conservación y funcionamiento las instalaciones del sistema de agua potable, con el fin de garantizar el abastecimiento adecuado del líquido a la comunidad, evitando así la falta de confianza al mismo; por otra parte, velará porque el agua sea utilizada exclusivamente con fines domésticos. Cualquier otro destino se calificará como mal uso del agua.

Artículo 15.- El Tesorero será el encargado de recaudar las cuotas mensuales por concepto de servicio de agua potable y rendir cuentas de las mismas, con derecho a percibir el diez por ciento (10%) de lo recaudado.

Artículo 16.- Los comités de agua potable estarán sujetos en cuanto a su formación, funcionamiento y obligación de rendir cuentas, a lo que dispone el Decreto Gubernativo Número 2082, pero la autorización para recaudar fondos a que se refiere dicho Decreto, se extenderá únicamente para el Tesorero del comité.

Artículo 17.- El comité de agua potable se reunirá ordinariamente una vez por mes y en forma extraordinaria cuando el Presidente convoque a sesionar o cuando así lo soliciten por lo menos tres (3) de sus miembros.

Artículo 18.- La administración, operación y mantenimiento del sistema será responsabilidad del comité de agua potable, el que podrá contar con un equipo adiestrado para tal fin.

El comité de agua potable debe encargarse de realizar todas las actividades necesarias para la administración, operación y mantenimiento del sistema de agua potable, y en especial: recaudar y manejar los fondos; propiciar la política del cuidado del acueducto y el uso racional del agua; establecer el programa de compras de accesorios y repuestos para sistemas por gravedad y además combustibles y lubricantes para los sistemas de bombeo; y en general, todas las labores propias de la administración, operación y mantenimiento del acueducto.

Artículo 19.- El comité de agua potable deberá ordenar la suspensión del servicio para aquellos usuarios que estén utilizando el agua para fines distintos de los expresados en el presente Reglamento. Asimismo, quedan comprendidos en esta sanción los usuarios que incurran en mora por más de tres meses.

Artículo 20.- Las dependencias a que se refiere el Artículo 20. del presente Reglamento, se reservan el derecho de intervenir el servicio y aun de recoger el material instalado si se comprueba que no es manejado correctamente.

Artículo 21.- El comité de agua potable queda obligado a solicitar ante las dependencias a que se refiere el Artículo 20. del presente Reglamento, la autorización para cualquier nueva instalación domiciliar para uso particular u oficial o chorro público, así como las ampliaciones o mejoras del sistema que se pretendan.

Artículo 22.- El comité de agua potable debe informar a la comunidad, al final de cada año calendario, sobre el estado económico del mismo y enviar por correo certificado copia de este informe a las dependencias a que se refiere el Artículo 20. del presente Reglamento.

CAPITULO IV

Manejo de fondos

Artículo 23.- Todos los usuarios que deseen instalación domiciliar deberán cancelar la cantidad de diez quetzales exactos (Q.10.00), en concepto de gastos de instalación domiciliar, los cuales deberán ser pagados al contado o por abonos en un máximo de diez meses. Estarán exoneradas de realizar este pago aquellas aldeas que además de la fuente, terrenos y derechos de pago, aporten los materiales locales y la mano de obra no calificada.

El dinero recaudado por concepto de instalación ingresará a los fondos del Gobierno de Guatemala a través de las dependencias especializadas en agua y saneamiento rural del Ministerio de Salud Pública y Asistencia Social.

Artículo 24.- Las dependencias a que se refiere el Artículo 2o. del presente Reglamento, podrán cobrar una cuota mensual en concepto de recuperación parcial del costo de la obra, de acuerdo a estudios socioeconómicos que determinen la capacidad de pago de las comunidades. Este pago se efectuará contra entrega de recibos debidamente autorizados por la Contraloría de Cuentas.

Artículo 25.- Los usuarios de sistemas deberán cancelar mensualmente la suma que las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social establezcan en base a los análisis de costos, y que permitan cubrir los gastos relativos a la administración, operación y mantenimiento que se requieran, las respectivas cuotas se actualizarán por las instituciones a que se refiere el Artículo 2o. del presente Reglamento cuando, a juicio de estas dependencias, se haga necesario.

Este dinero formará el fondo privativo en el caso particular en cada comunidad, destinado exclusivamente a cubrir los diferentes gastos administrativos de operación y mantenimiento, cobrado por medio del talonario 1-D de contribuciones voluntarias. De la utilización del fondo privativo deberá el Tesorero informar a las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social.

Artículo 26.- Los usuarios a los cuales les haya sido suspendido el servicio por mora o mal uso del agua, podrán solicitar al comité de agua potable su reposición, siempre y cuando hayan cumplido con las disposiciones que dieron lugar a la suspensión, en cuyo caso deberán pagar Q.1.00 por derecho de reconexión. Estos ingresos pasarán a formar parte del fondo privativo de la comunidad.

Artículo 27.- Si transcurridos tres años el fondo privativo de los comités de agua potable arroja un remanente considerable, dichos comités podrán ser autorizados previa opinión favorable de las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social y del Ministerio de Gobernación, para invertir ese saldo en otras obras de beneficio para la comunidad, dejando en cualquier caso un remanente equivalente a por lo menos un año de gastos para administración, operación y mantenimiento del sistema.

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Artículo 28.- Todos los convenios suscritos anteriormente a la emisión del presente Acuerdo entre las municipalidades, los comités de cada comunidad y las dependencias especializadas en agua potable y saneamiento rural del Ministerio de Salud Pública y Asistencia Social, que tengan relación con la administración, operación y mantenimiento de los acueductos rurales, deben entenderse modificados de acuerdo con las disposiciones contenidas en este Reglamento.

Artículo 29.- Se deroga el Acuerdo Gubernativo Número SP-A-4867 del 25 de febrero de 1967 y toda disposición legal que se oponga al presente Reglamento.

Artículo 30.- Los aspectos no contemplados en este Reglamento, así como las dudas que pudieran surgir en la interpretación del mismo o conflictos derivados de su aplicación, serán resueltos por las autoridades de las dependencias a que se refiere el Artículo 2o. del presente Reglamento, con apego a las leyes de Guatemala.

Artículo 31.- El presente Acuerdo entrará en vigor al día siguiente de su publicación en el Diario Oficial.

Comuníquese.

RIOS MONTE

RICARDO MENDEZ RUIZ,
Ministro de Gobernación

JULIO MATHEU
Ministro de Economía

ADOLFO CASTANEDA FELICE
Ministro de Salud Pública
y Asistencia Social

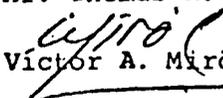
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ANNEX 6
IMPLEMENTATION PLAN FOR A TYPICAL PROJECT
AQUEDUCTS AND LATRINIZATION

LINE ITEM	IMPLEMENTATION (MONTHS)													
	1o.	2o.	3o.	4o.	5o.	6o.	7o.	8o.	9o.	10o.	11o.	12o.	13o.	14o.
1. Basic Information	-----													
2. Project Design				-----										
3. Project Approval						-----								
4. Construction Agreements with Communities							-----							
5. Procurement and Delivery of Materials								-----						
6. Construction								-----						
6.1 Provision of unskilled labor from communities								-----						
6.2 Spring cappings									-----					
6.3 Water Transmission line									-----					
6.4 Distribution tanks											-----			
6.5 Distribution networks												-----		
6.6 Domicially installations or public taps													-----	
6.7 Latrinization								-----						
7. Training for Operation and Maintenance													-----	

MEMORANDUM

TO, Mr. Thomas A. Totino, Controller DATE, January 25, 1985
FROM,  Víctor A. Mirón, F. A.
SUBJECT, Accounting and Financial Evaluation of "Componente Saneamiento Ambiental del Ministerio de Salud Pública y Asistencia Social"

I. A revision of the accounting and internal control system used by the Saneamiento Ambiental Component (SAC) of the Ministry of Health (MOH) was conducted in order to determine if they were adequate. The revision included the following:

- A. Interviews with the Chief of the component Ing. Carlos Calderón, the General Administrator of the Component Lic. Juan A. Valle Garrido and Mr. César Díaz, Deputy Financial Chief.
- B. Examination of the accounting registers.
- C. Verification of accounting transactions.

1. Financial Department

The Financial Department of SAC is composed of the following employees:

- a) Chief of the Financial Section
- b) Secretary
- c) Planning and budget control (2 persons)
- d) Analysis and Financial statistics (1 person)
- e) Accounting Department (3 persons)

Total 8 employees.

Each of these employees has his respective Job Description on file.

2. Accounting Registers

The accounting of SAC consists of 6 auxiliary records,

- a) Control of Budget
- b) Cash Book
- c) Inventory
- d) Journal
- e) Balance Book
- f) Counterpart cash book

These registers are maintained to control the movement of Purchase Orders and receipts authorized by the General Accounting Office and other incoming and outgoing funds. The official records are kept at the "Dirección General de Servicios de Salud".

3. System of Internal Controls

The review of the internal control of SAC indicated the following:

- a) The accounting and treasury functions are satisfactorily defined and segregated.
- b) SAC does not have internal auditor but they are subject to be audited by the internal auditors of the Dirección General de Servicios de Salud (DGSS).
- c) SAC has a current administrative manual in use.
- d) SAC control their expenses under budgetary control.

SM

e) The journal entries are adequately explained and supported and approve by the chief of the Financial Section.

Although the General Accounting Office does not make periodic audits of the fund managed by SAC these funds are subject to audit by the General Accounting Office as it considers necessary. The General Accounting Office emphasizes the management of funds in its audits.

4. Purchase and Contracts procedures

The procedures used by the SAC to purchase goods or services are established by governmental decree No. 35-80 and they are mandatory for all GOG institutions. The procedures are basically compatible with AID regulations and any exceptions are clearly defined in the "Basic guide for the acquisition and contracting of goods and services in projects financed by AID". This guide was prepared by USAID in conjunction with GOG in order to facilitate the procurement of goods and services to be financed with AID funds.

5. Audit

As mentioned previously program funds will be subject to audit by the general accounting office of the Government of Guatemala. Nevertheless, in order to provide an adequate control of funds and resources an audit is planned during the life of the project.

II. Conclusion

We conclude that the "Component of Saneamiento Ambiental" (SAC) has enough administrative and financial personnel to carry out satisfactorily the purpose of the proposed project.

The voucher reimbursement procedure for the proposed extension will be based on Fiscal Report presented with supporting documentation as in the ongoing project.

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ANNEX B
(ANEXO B)

EXHIBIT 1
(Tabla 1)

SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(RESUMEN DE ESTIMACION DE COSTOS Y PLAN FINANCIERO)

COMMUNITY-BASED HEALTH AND NUTRITION SYSTEM PROJECT (520-0251)
(PROYECTO DE SISTEMAS COMUNITARIOS DE SALUD Y NUTRICION (520-0251))

(\$000)

Item (Artículo)	AID (AID)						Host Country (País Anfitrión)			GRAND TOTAL GRAN TOTAL			
	Loan (Préstamo)			Grant (Donación)			Total (Total)						
	FX (ME)	LC (ML)	Total	FX (ME)	LC (ML)	Total	FX (ME)	LC (ML)	Total				
1. CONSTRUCTION (CONSTRUCCION)													
a. Water Systems (Sistemas de Agua)	1,918	339	2,257	---	---	---	1,918	339	2,257	---	1,813	1,813	4,070
b. Latrines (Letrinas)	213	318	531	---	---	---	213	318	531	---	215	215	746
Sub-Total	2,131	657	2,788	---	---	---	2,131	657	2,788	---	2,028	2,028	4,816
2. SUPPORT SYSTEMS (SISTEMAS DE APOYO)													
a. Vehicles and Equipment (Vehículos y Equipo)	219	113	332	---	---	---	219	113	332	---	---	---	332
b. Salaries (Sueldos)	---	---	---	---	147	147	---	147	147	---	1,653	1,653	1,800
c. Per Diem and Fuels for Field Personnel (Viáticos y Combustible para Personal de Campo)	---	---	---	---	---	---	---	---	---	---	330	330	330
d. Administrative Costs (Costos Administrativos)	---	---	---	---	---	---	---	---	---	---	60	60	60
e. Supervisory Firm (Firma Supervisora)	---	306	306	---	---	---	---	306	306	---	---	---	306
f. Personnel Training and Technical Assistance (Adiestramiento de Personal y Asistencia Técnica)	---	---	---	175	30	205	175	30	205	---	---	---	205
g. Community Health Educ. (Educación sobre Salud Comunitaria)	---	---	---	15	113	128	15	113	128	---	90	90	218
Sub-Total	219	419	638	190	290	480	409	709	1,118	---	2,133	2,133	3,251
3. INFLATION (INFLACION)	605	190	795	---	20	20	605	210	815	---	360	360	1,175
4. CONTINGENCY (IMPREVISTOS)	213	66	279	---	---	---	213	66	279	---	---	---	279
TOTAL	3,168	1,332	4,500	190	310	500	3,358	1,642	5,000	---	4,521	4,521	9,521

FX - Foreign Exchange
ME - Moneda Extranjera
LC - Local Currency
ML - Moneda Local

ANNEX 8
(ANEXO 8)

Exhibit 2
(Cajita 2)

SUMMARY ILLUSTRATIVE BUDGET FOR EXPANSION PER YEAR - ENVIRONMENTAL SANITATION COMPONENT
(PRESUPUESTO ILLUSTRATIVO RESUMIDO PARA LA EXPANSION POR AÑO - COMPONENTE DE SANEAMIENTO AMBIENTAL)

COMMUNITY-BASED HEALTH AND NUTRITION SYSTEMS PROJECT (520-0251)
(PROYECTO DE SISTEMAS COMUNITARIOS DE SALUD Y NUTRICION - 520-0251)

(\$000)

Item (Artículo)	1986					1987					1988					TOTAL				
	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total
	Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)			
1. CONSTRUCTION (CONSTRUCCION)																				
a. Water Systems (Sistemas de Agua)	251	---	80	123	454	1,003	---	315	490	1,808	1,003	---	315	490	1,808	2,257	---	710	1,103	4,070
b. Latrines (Letrinas)	59	---	4	19	82	236	---	17	79	332	236	---	17	79	332	531	---	38	177	746
Sub-total	310	---	84	142	536	1,239	---	332	569	2,140	1,239	---	332	569	2,140	2,788	---	748	1,280	4,816
2. SUPPORT SYSTEMS (SISTEMAS DE APOYO)																				
a. Vehicle and Equipment (Vehículos y Equipo)	230	---	---	---	230	48	---	---	---	48	54	---	---	---	54	332	---	---	---	332
b. Salaries (Sueldos)	---	49	551	---	600	---	49	551	---	600	---	49	551	---	600	---	147	1,653	---	1,800
c. Per Diem and Fuels for Field Personnel (Viáticos y Combustible para Personal de Campo)	---	---	110	---	110	---	---	110	---	110	---	---	110	---	110	---	---	330	---	330
d. Administrative Costs (Costos Administrativos)	---	---	20	---	20	---	---	20	---	20	---	---	20	---	20	---	---	60	---	60
e. Supervisory Firm (Firma Supervisora)	92	---	---	---	92	102	---	---	---	102	112	---	---	---	112	306	---	---	---	306
f. Personnel Training and Technical Assistance (Adiestramiento de Personal y Asistencia Técnica)	---	110	---	---	110	---	35	---	---	35	---	60	---	---	60	---	205	---	---	205
g. Community Health Educ. (Educación sobre Salud Comunitaria)	---	42	30	---	72	---	43	30	---	73	---	43	30	---	73	---	128	90	---	218
Sub-total	322	201	711	---	1,234	150	127	711	---	988	166	152	711	---	1,029	638	480	2,133	---	3,251
3. INFLATION (INFLACION)	34	---	7	---	41	294	3	31	---	328	467	17	215	107	806	795	20	253	107	1,175
4. CONTINGENCY (IMPREVISTOS)	31	---	---	---	31	124	---	---	---	124	124	---	---	---	124	---	---	---	---	124
TOTAL	697	201	802	142	1,842	1,807	130	1,074	569	3,580	1,996	169	1,258	676	4,099	4,500	500	3,134	1,387	9,521

D - Donación
P - Préstamo

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ANNEX B (ANEXO B)

Exhibit 3 (Tabla 3)

DETAILED ILLUSTRATIVE BUDGET FOR EXPANSION PER YEAR - ENVIRONMENTAL SANITATION COMPONENT
 (PRESUPUESTO ILUSTRATIVO DETALLADO PARA LA EXPANSION POR AÑO - COMPONENTE DE SANAMIENTO AMBIENTAL)

COMMUNITY-BASED HEALTH AND NUTRITION SYSTEMS PROJECT (520-0251)
 (PROYECTO DE SISTEMAS COMUNITARIOS DE SALUD Y NUTRICION - 520-0251)

(\$000)

Item Artículo)	1986					1987					1988					TOTAL				
	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total
	Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)			
I. CONSTRUCTION (CONSTRUCCION)																				
A. Water Systems (Sistemas de Agua)																				
a. Construction Materials (Materiales de Construc.)	251	---	---	---	251	1,003	---	---	---	1,003	1,003	---	---	---	1,003	2,257	---	---	---	2,257. (1)
b. Transportation (Transporte)	---	---	15	---	15	---	---	57	---	57	---	---	57	---	57	---	---	129	---	129. (1)
c. Skilled Labor (Mano de Obra Calificada)	---	---	65	---	65	---	---	258	---	258	---	---	258	---	258	---	---	581	---	581. (2)
d. Unskilled Labor (Mano de Obra no Calific.)	---	---	---	123	123	---	---	---	493	490	---	---	---	490	490	---	---	---	1,103	1,103. (2)
Sub-Total	251	---	80	123	454	1,003	---	315	490	1,808	1,003	---	315	490	1,808	2,257	---	710	1,103	4,070
B. Latrines (Letrinas)																				
a. Local Construction Materials (Materiales de Construc- ción Locales)	---	---	---	8	8	---	---	---	33	33	---	---	---	33	33	---	---	---	74	74

Item (Artículo)	1986					1987					1988					TOTAL				
	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total
	Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)			
b. Other Construction Materials (Otros Materiales de Construcción)	59	---	---	---	59	236	---	---	---	236	236	---	---	---	236	531	---	---	---	531. (1)
c. Transportation (Transporte)	---	---	3	---	3	---	---	12	---	12	---	---	12	---	12	---	---	27	---	27. (1)
d. Skilled Labor (Mano de Obra Calificada)	---	---	1	---	1	---	---	5	---	5	---	---	5	---	5	---	---	11	---	11. (2)
e. Unskilled Labor (Mano de Obra no Calific.)	---	---	---	11	11	---	---	---	46	46	---	---	---	46	46	---	---	---	103	103. (2)
Sub-Total	59	---	4	19	82	236	---	17	79	332	236	---	17	79	332	531	---	38	177	746
Sub-Total Construction (Sub-Total Construcción)	310	---	84	142	536	1,239	---	332	569	2,140	1,239	---	332	569	2,140	2,788	---	748	1,280	4,816
2. SUPPORT SYSTEMS (SISTEMAS DE APOYO)																				
A. Vehicles and Equipment (Vehículos y Equipo)																				
a. Vehicles (Vehículos)	164	---	---	---	164	---	---	---	---	---	---	---	---	---	---	164	---	---	---	164. (3)
b. Spare Parts and Tires (Repuestos y Neumáticos)	16	---	---	---	16	16	---	---	---	16	22	---	---	---	22	54	---	---	---	54
c. Surveying, Drafting and Engineering Equipment (Equipo de Topografía, Dibujo e Ingeniería)	42	---	---	---	42	---	---	---	---	---	---	---	---	---	---	42	---	---	---	42. (4)
d. Handtools for Communities (Herramientas para las Comunidades)	8	---	---	---	8	32	---	---	---	32	32	---	---	---	32	72	---	---	---	72. (5)
Sub-Total	230	---	---	---	230	48	---	---	---	48	54	---	---	---	54	332	---	---	---	332

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en artículo)	1986					1987					1988					TOTAL				
	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total
	Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)			
<u>Salaries</u> <u>(Sueldos)</u>																				
Technical Personnel (Personal Técnico)	---	24	246	---	270	---	24	246	---	270	---	24	246	---	270	---	72	738	---	810. (6)
Admin. Personnel (Personal Administrativo)	---	21	268	---	289	---	21	268	---	289	---	21	268	---	289	---	63	804	---	867. (7)
Social Benefits (Prestaciones)	---	4	37	---	41	---	4	37	---	41	---	4	37	---	41	---	12	111	---	123
Sub-Total	---	49	551	---	600	---	49	551	---	600	---	49	551	---	600	---	147	1,653	---	1,800
<u>Per Diem and Fuels for</u> <u>Field Personnel</u> <u>(Viajes y Combustible</u> <u>para Personal de Campo)</u>	---	---	110	---	110	---	---	110	---	110	---	---	110	---	110	---	---	330	---	330
<u>Administrative Costs</u> <u>(Costos Administrativos)</u>	---	---	20	---	20	---	---	20	---	20	---	---	20	---	20	---	---	60	---	60
<u>Supervisory Firm</u> <u>(Firma Supervisora)</u>	92	---	---	---	92	102	---	---	---	102	112	---	---	---	112	306	---	---	---	306
<u>Personnel Training and</u> <u>Technical Assistance</u> <u>(Adiestramiento de Personal</u> <u>y Asistencia Técnica)</u>																				
Auxiliary Personnel Training (Adiestramiento de Personal Auxiliar)	---	10	---	---	10	---	10	---	---	10	---	10	---	---	10	---	30	---	---	30
Observational Travel (Viajes de Observación)	---	25	---	---	25	---	---	---	---	---	---	---	---	---	---	---	25	---	---	25
Technical Assistance (Asistencia Técnica)	---	75	---	---	75	---	25	---	---	25	---	50	---	---	50	---	150	---	---	150
Sub-Total	---	110	---	---	110	---	35	---	---	35	---	60	---	---	60	---	205	---	---	205

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Item (Artículo)	1986					1987					1988					TOTAL				
	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total	AID		GOG (GdeG)	Others (Otros)	Total
	Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)				Loan (P)	Grant (D)			
G. Community Health Educ. (Educación sobre Salud Comunitaria)																				
a. Production of Materials (Producción de Materiales)	---	7	---	---	7	---	23	---	---	23	---	23	---	---	23	---	53	---	---	53
b. Salaries and Per Diem for Health Educators (Sueldos y Viáticos para Educadores en Salud)	---	---	30	---	30	---	---	30	---	30	---	---	30	---	30	---	---	90	---	90
c. Maintenance Training (Adiestramiento en Mantenimiento)	---	20	---	---	20	---	20	---	---	20	---	20	---	---	20	---	60	---	---	60
d. Teaching Equipment (Material Didáctico)	---	15	---	---	15	---	---	---	---	---	---	---	---	---	---	---	15	---	---	15
Sub-Total	---	42	30	---	72	---	43	30	---	73	---	43	30	---	73	---	128	90	---	218
Sub-Total Support Systems (Sub-Total Sistemas de Apoyo)	322	201	711	---	1,234	150	127	711	---	988	166	152	711	---	1,029	638	480	2,133	---	3,251
3. INFLATION (INFLACION)	34	---	7	---	41	294	3	31	---	328	467	17	215	107	806	795	20	253	107	1,175
4. CONTINGENCY (IMPREVISTOS)	31	---	---	---	31	124	---	---	---	124	124	---	---	---	124	279	---	---	---	279
TOTAL	697	201	802	142	1,842	1,807	130	1,074	569	3,580	1,996	169	1,258	676	4,099	4,500	500	3,134	1,387	9,521

(1) 10% annual increase for inflation considered. (Se ha considerado un aumento anual del 10% por inflación.)

(2) For salaries and labor costs a 20% increase was assumed for 1988. (Se ha estimado un aumento del 20% sobre sueldos y costos laborales para 1988.)

(3) Detailed list given in Exhibit 5. (Véase Tabla 5 para detalle.)

(4) Detailed list given in Exhibit 6. (Véase Tabla 6 para detalle.)

(5) Detailed list per subproject given in Exhibit 7. (Véase Tabla 7 para detalle por subproyecto.)

(6) Detailed list and budget given in Exhibit 8. (Véase Tabla 8 para detalle y presupuesto.)

(7) Detailed list and budget given in Exhibit 9. (Véase Tabla 9 para detalle y presupuesto.)

(P) - Préstamo

(D) - Donación

ANNEX 8
(Anexo 8)

Exhibit 4
(Tabla 4)

SUMMARY OF DIRECT COSTS FOR AVERAGE PROJECT
(RESUMEN DE COSTOS DIRECTOS POR PROYECTO)

Average number of housing connections (No. promedio de conexiones domiciliarias)	63
Average number of inhabitants (No. promedio de habitantes)	329
Average number of inhabitants per connection (No. promedio de habitantes por conexión)	5.2
Average number of latrines per subproject (No. promedio de letrinas por subproyecto)	71

<u>A. Average Direct Cost of Water Systems</u> (Costo Directo Promedio de los Sistemas de Agua)	<u>Cost</u> (Costo)	<u>¢</u>
1. Construction Materials (Materiales de Construcción)	Q 16,713	52.5
2. Transportation (Transporte)	950	3.0
3. Skilled Labor (Mano de Obra Calificada)	4,308	13.5
4. Unskilled Labor (Mano de Obra no Calificada)	8,173	25.7
5. Contingency (Imprevistos)	<u>1,671</u>	<u>5.3</u>
TOTAL	<u>Q31,815</u>	<u>100.0</u>

<u>B. Average Direct Cost of Latrines</u> (Per Unit) (Costo Directo Promedio de las Letrinas (Por Unidad))	<u>Cost</u> (Costo)	<u>¢</u>
1. Local Construction Materials (Materiales de Construc. Locales)	Q 7.77	9.3
2. Other Construction Materials (Otros Materiales de Construcción)	55.49	66.5
3. Transportation (Transporte)	2.78	3.3
4. Skilled Labor (Mano de Obra Calificada)	1.16	1.4
5. Unskilled Labor (Mano de Obra no Calificada)	10.70	12.8
6. Contingency (Imprevistos)	<u>5.55</u>	<u>6.7</u>
TOTAL	<u>Q 83.45</u>	<u>100.0</u>

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ANNEX 8
(Anexo 8)

Exhibit 5
(Tabla 5)

VEHICLE PROCUREMENT
(COMPRA DE VEHICULOS)

	<u>Currently in Use*</u> (Actualmente en Uso)*			<u>New Vehicles**</u> (Vehículos Nuevos)**			
	<u>Purchased</u> (Comprados)	<u>Purchased</u> (Comprados)	<u>TOTAL</u>	<u>No.</u>	<u>Current Price Unit</u>	<u>Estimated Unit Price</u>	<u>TOTAL</u>
	<u>1 9 8 0</u>	<u>1 9 8 4</u>			<u>(Precio Unitario</u> <u>Actual)</u>	<u>for 1986</u> <u>(Precio Unitario</u> <u>Estimado para 1986)</u>	
6-Ton Trucks (Camiones de 6 ton.)	2	3	5	2	Q 29,000	Q 34,300	Q 69,600
Pick-Up Trucks (Pick-ups)	5	3	8	5	12,000	14,400	72,000
4 WD Passenger Vehicle (Vehículos de Doble Tracción para Pasajeros)	1	1	1	1	15,000	18,000	18,000
Motorcycles (Motocicletas)	4	15	19	4	1,000	1,200	<u>4,800</u>
TOTAL							<u>Q164,400</u>

* Purchased on on-going project. (Comprados durante el proyecto en ejecución.)

** To be purchased under proposed expansion in 1986 to replace those purchased in 1980.

(A ser comprados durante la expansión propuesta en 1986 para reemplazar los comprados en 1980.)

ANNEX 8
(Anexo 8)

Exhibit 6
(Tabla 6)

ENGINEERING, SURVEYING AND DRAFTING EQUIPMENT REQUIREMENTS
(REQUERIMIENTOS DE EQUIPO DE INGENIERIA, TOPOGRAFIA Y DIBUJO)

<u>No.</u>	<u>Item (Artículo)</u>	<u>Estimated Cost</u>	
		<u>(Costo Estimado)</u>	
		<u>1 9 8 6</u>	<u>T O T A L</u>
8	Stadia Rod (Estadal de Lectura)	Q 350	Q 2,800
5	Plummet (Plomada)	30	150
8	Surveying Rod (Jalón Metálico)	50	400
7	Hand Levels (Niveles de Mano con Extensión)	70	490
3	Clinometers (Clinómetro con Cuadrante)	120	360
7	Surveyor's Compass (Brújula Graduada)	1,000	7,000
8	50-Meter Measuring Tape (Cinta Métrica de 50 metros)	150	1,200
2	Precision Transit (Teodolito de Precisión)	8,000	16,000
4	Programmable Calculator (Calculadora Programable)	500	2,000
4	Scientific Calculator (Calculadora Científica)	200	800
3	Hydrostatic Test Pump (Bomba para Prueba Hidrostática)	900	2,700
	Drafting and Other Equipment (Equipo de Dibujo y Otros)		<u>8,000</u>
TOTAL			<u>Q41,900</u>

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ANNEX 8
(Anexo 8)

Exhibit 7
(Tabla 7)

COMMUNITY HANDTOOLS REQUIREMENTS PER PROJECT

(REQUERIMIENTOS DE HERRAMIENTAS DE MANO PARA COMUNIDADES POR PROYECTO)

<u>No.</u>	<u>Item (Artículo)</u>	<u>Cost (Costo)</u>	<u>T O T A L</u>
15	Shovels (palas)	Q 6.50	Q 97.50
15	Mattocks (piochas)	7.00	105.00
5	Bars (barretas)	27.50	137.50
5	Hoes (azadones)	6.50	32.50
3	Wheelbarrows (carretillas de mano)	44.50	133.50
10	Buckets (cubetas - concreteras)	3.00	<u>30.00</u>
	<u>TOTAL</u>		<u>Q536.00</u>

ANNEX 8 (Anexo 8)
Exhibit 8 (Tabla 8)
TECHNICAL PERSONNEL REQUIREMENTS AND BUDGET
(REQUERIMIENTOS Y PRESUPUESTO PARA PERSONAL TECNICO)

No.	<u>Position</u> (Puesto)	<u>Monthly Salary</u> (Sueldo Mensual)	<u>Annual Rate</u> (Tasa Anual)	<u>Total Per Year</u> (Total Por Año)
*1	Project Technical Coordinator (Coordinador Técnico del Proyecto)	Q 2,000	Q 24,000	Q 24,000
1	Regional Chief (Jefe Regional)	1,000	12,000	12,000
4	Supervisor Engineer (Ingeniero Supervisor)	960	11,520	46,080
1	Maintenance Engineer (Ingeniero de Mantenimiento)	960	11,520	11,520
1	Designer Engineer (Ingeniero Diseñador)	900	10,800	10,800
2	Engineering Assistant III (Auxiliar de Ingeniería III)	395	4,740	9,480
1	Engineering Assistant II (Auxiliar de Ingeniería II)	345	4,140	4,140
5	Engineering Assistant I (Auxiliar de Ingeniería I)	295	3,540	17,700
3	Sanitation Inspector II (Inspector de Saneamiento II)	325	3,900	11,700
15	Sanitation Inspector I (Inspector de Saneamiento I)	285	3,420	51,300
3	Technician in Rural Aqueducts (Técnico en Acueductos Rurales)	325	3,900	11,700
2	Surveyor (Topógrafo)	345	4,140	8,280
11	Draftsman (Dibujante)	255	3,060	33,660
2	Surveying Assistant (Cadenero)	235	2,820	5,640
1	Expert Mechanic (Mecánico Automotriz)	400	4,800	4,800
3	Assistant Mechanic (Ayudante de Mecánico)	200	Q 2,400	Q 7,200
	TOTAL			<u>Q270,000</u>

* Grant-funded (Financiado con fondos de donación)

ANNEX 8 (Anexo 8)
Exhibit 9 (Tabla 9)

ADMINISTRATIVE PERSONNEL REQUIREMENTS AND BUDGET
(REQUERIMIENTOS Y PRESUPUESTO PARA PERSONAL ADMINISTRATIVO)

No.	<u>Position</u> (Puesto)	<u>Monthly Salary</u> (Sueldo Mensual)	<u>Annual Rate</u> (Tasa Anual)	<u>Total Per Year</u> (Total Por Año)
*1	Project Administrative Coordinator (Coord. Administrativo del Proyecto)	Q 1,800	Q 21,600	Q 21,600
2	Administrative Technician IV (Jefe Técnico Administrativo IV)	800	9,600	19,200
1	Administrative Technician III (Técnico Administrativo III)	550	6,600	6,600
1	Administrative Analyst (Analista Administrativo)	505	6,060	6,060
1	Budget Analyst (Analista de Presupuesto)	485	5,820	5,820
1	Statistician I (Estadístico I)	305	3,660	3,660
4	Office Clerk II (Oficinista)	265	3,180	12,720
1	Chief Warehousekeeper (Encargado de Almacén y Vehículos)	255	3,060	3,060
5	Driver II (Conductor de Vehículo II)	255	3,060	15,300
12	Drivers I (Conductor de Vehículo I)	235	2,820	33,840
6	Warehouse Assistant (Guardalmacén)	235	2,820	16,920
29	Office Clerk (Oficinistas Varios)	235	2,820	81,780
1	Auditing Assistant (Auxiliar de Auditoría)	255	3,060	3,060
4	Watchman (Guardián)	190	2,280	9,120
2	Janitor (Conserje)	185	2,220	4,440
5	Truck Assistant (Ayudante de Camión)	180	2,160	10,800
20	Warehouse Helper (Peón de Bodega)	150	1,800	36,000
TOTAL				<u>Q289,980</u>

* Grant-funded (Financiado con fondos de donación)

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ANNEX 8

Exhibit 10

METHODS OF IMPLEMENTATION AND FINANCING

(US \$000)

	<u>Methods of Implementation</u>	<u>Method of Financing</u>	<u>Amount</u>
II. FOREIGN EXCHANGE			
A. Construction			
Construction Materials	AID purchasing agent	Direct letter of commitment	2,720
B. Support Systems			
1. Vehicles & Equipment	AID purchasing agent	Direct payment	235
2. Observational Travel	USAID/G direct contract	Direct payment	25
3. Technical Assistance	USAID/G direct contract	Direct payment	150
4. Teaching Equipment	AID purchasing agent	Direct payment	<u>15</u>
Sub-Total			3,145
II. LOCAL CURRENCY			
A. Construction			
Construction materials	H.C. Procurment Proced.	Direct reimbursement	839
B. Support Systems			
1. Vehicles & Equipment	H.C. Procurement Proced.	Direct reimbursement	121
2. Salaries	PSCs	Direct payment	158
3. Supervisory Firm	H.C. Contract	Direct reimbursement	306
4. Aux. Personnel Trg.	H.C. Procurement Proced.	Direct reimbursement	33
5. Production of Health Edu. Materials	H.C. Procurement Proced.	Direct reimbursement	53
6. Maintenance Trg.	H.C. Procurement Proced.	Direct reimbursement	<u>66</u>
Sub-Total			1,576
Contingency	N.A.	N.A.	279
<u>TOTAL PROJECT</u>			<u>5,000</u>

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ANNEX 9

SUMMARY OF CONSTRUCTION MATERIALS AND OPERATIONAL COSTS
FOR VARIOUS TYPES OF SYSTEMS APPLICABLE IN TARGET AREA

<u>TYPE OF SYSTEM</u>	<u>Typical construction materials costs per beneficiary in 1979 in dollars</u>	<u>Typical operating cost in US\$ per family per month</u>	<u>COMMENTS</u>
Spring-Fed Gravity-flow	US\$ 14	US\$0.30	Best alternative, where appropriate topographic and hydrogeological conditions exist.
Hydraulic ram	US\$ 17	US\$0.35	Including hydraulic ram installation of \$3.00 per capita
Gravity-flow from surface water	US\$ 18	US\$0.35	Including slow sand filter of \$4.00 per capita
Safe ground-water requiring pumping from more than 30 mt:			
a) Electric pumping	US\$ 32	US\$0.60	Where village included in national electric grid.
b) Diesel pumping	US\$ 32	US\$2.00	
Communal rain catchment cisterns	US\$118	US\$0.40	Includes per capita costs of \$100 for cisterns, \$4 for slow sand filter, and \$14 for distribution piping.
Safe grand-water requiring pumping from more than 30 mt. solar pumping	US\$ 62	US\$0.30	Based upon solar power generation at \$8000 KW installed.
Hand pumps for shallow wells, less than 6 mt. deep	US\$ 10	US\$0.10	Few places in the target area have ground water shallow enough to use this type of pump.
Hand pumps for wells 6 to 30 mt. deep	US\$ 10 to 26	US\$0.10 to 0.25	Few places in the target area have ground water shallow enough to use this type of pump
Hand pumps for wells 30 to 60 mt. deep	US\$ 26 to 49	US\$0.25 to 0.50	At these depths the presently available hand pumps are difficult to operate and maintain, but may be the only alternative to communities unable to pay operational costs of other pumping alternative.
Windmills and wells	US\$ 80	US\$0.50	Windmills are not optimal for the highlands due to the low and variable wind, high initial costs, and maintenance problems

Source: Agua del Pueblo 1980, "Sector Analysis and Program Planning Document for Environmental Sanitation Activities in Highland Guatemala."

SUMMARY OF ECONOMIC BENEFIT-COST ANALYSIS

The economic costs of the Community Health Project Amendment are summarized in Table 10-1. The following adjustments were made to financial values:

1. Imported construction materials (50% of the water system materials) were shadow-priced at a value of Q1.20 = \$1.00, an intermediate rate between the official and parallel market rates.
2. The cost of vehicles, their spare parts and engineering equipment were also revalued according to the shadow exchange rate.
3. Community labor was valued at 25% of the urban minimum daily wage of Q3.20.
4. Urban unskilled/semiskilled labor was valued at 50% of the urban minimum wage.
5. Costs only marginally related to water system construction (e.g. observation tours) were ignored.

Table 10-1

Economic Costs of Project (Q000)

	1986	1987	1988
<u>Water Systems:</u>			
Materials	303	1,214	1,213
Transport	17	68	69
Skilled Labor	60	213	233
Unskilled Labor	28	101	110
<u>Latrines:</u>			
Local Materials	7	27	25
Other Materials	65	260	260
Transport	3	14	14
Skilled Labor	17	64	71
Unskilled Labor	5	19	20
<u>Vehicles/Equipment:</u>			
Vehicles/parts	197	16	24
Equipment	46	-	-
Handtools	8	32	32
<u>Salaries:</u>			
Technical/Administrative Personnel	327	298	325
Per Diem/Administrative Costs	124	120	114
<u>Community Health Education</u>	<u>65</u>	<u>64</u>	<u>62</u>
Total	1,272	2,510	2,572

Cost per family of new hook-up - Q76.00
Annual cost per family of maintenance Q4.80

The benefit-cost calculations are displayed in Table 10-2. An iterative approach was used to estimate the annual benefit per household necessary to yield a B-C ratio of 1.00, when both costs and benefits are discounted at the 15% opportunity cost of capital.

For each project year, the number of families entering the system was calculated, given the construction schedule and a 3% rate of population growth. A new hook-up cost of Q76 was attributed to each household not allowed for in the original construction. It was assumed that after the 20th year, the systems reach capacity and no further new households enter. The life of the water systems is assumed to be 30 years.

Maintenance costs entered for each project year are calculated as the discounted (15%) stream of maintenance costs (Q4.80 per household per year) over the remaining life of the system.

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Table 10-2
Benefit-Cost Analysis
(Q 000's)

Year	Project Costs	Maint.	New Hook-Ups	Total Cost	PV (15%) Costs	Benefits	PV (15%) Benefits	No. New Households
1	1,272	40	-	1,312	1,141	663	577	1,111
2	2,510	162	3	2,675	2,023	2,672	2,020	4,489
3	2,572	166	13	2,751	1,809	2,738	1,800	4,612
4		11	23	34	19	181	103	307
5		11	24	35	17	186	92	316
6		12	25	37	16	191	83	325
7		12	25	37	14	196	74	335
8		12	26	38	12	201	66	345
9		12	27	39	11	205	58	355
10		12	28	40	10	210	52	366
11		13	29	42	9	214	46	377
12		13	29	42	8	218	41	388
13		13	30	43	7	223	36	400
14		14	31	45	6	226	32	412
15		14	32	46	6	229	28	424
16		14	33	47	5	232	25	437
17		14	34	48	5	234	22	450
18		14	35	49	4	235	19	463
19		14	36	50	4	235	17	477
20		14	37	51	3	234	14	492
					= 5,129		= 5,205	

$$B/C = \frac{5,205}{5,129} = 1.01$$

Benefits of Q79 per household per year for project to break even.

Household benefits are calculated and recorded in the same way. For example, in year 6, Q191,000 represents the discounted stream of benefits for the 25 remaining years of system life for the 325 new household hook-ups.^{1/} Families are assumed to enjoy full annual benefits and maintenance costs in the year they enter the system.

$$\frac{1}{Q191,000} = \frac{(79 \times 325)}{(1.15)^{i-1}}$$

Since Q191,000 is the present value for year 6, it is discounted again for the benefit-cost calculations.

CERTIFICATION PURSUANT TO SECTION 611(e)

OF THE FOREIGN ASSISTANCE ACT OF 1961. AS AMENDED

I, CHARLES E. COSTELLO, the principal officer of the Agency for International Development in Guatemala, CERTIFY that to the best of my knowledge and belief Guatemala possesses both the financial capability and human resources to effectively maintain and utilize the potable water systems constructed with the \$5.0 million add-on to the Community-Based Health and Nutrition Systems, Project 520-0251.

This judgment is based primarily on the fact that as part of the formal GOG/village agreements signed prior to initiating construction of each system, the benefiting community is required to establish a maintenance fund to pay for the cost of routine maintenance. Each household participating in the water program is to provide Q.0.20 on a monthly basis to their Maintenance Fund. Based on the experience to date this system has proven adequate for the long-term efficient use and maintenance of these water systems.

(Signed)



Charles E. Costello
Director
USAID/Guatemala

(Date)

2-26-85



UPDATED ENVIRONMENTAL EXAMINATION

PROJECT LOCATION: : Guatemalan Highlands

PROJECT TITLE : Community-Based Health and
Nutrition Systems

PROJECT NUMBER : 520-0251

FUNDING : \$4.5 million Loan
\$0.5 million Grant

LIFE OF PROJECT : Three years

IEE UPDATE PREPARED BY : Lawrence Odle
USAID/Guatemala
Environmental Officer

RECOMMENDED THRESHOLD DECISION : Negative Determination

CONCURRENCE



Charles E. Costello
Director
USAID/Guatemala

2-26-85

December 1984
(date)

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ENVIRONMENTAL EXAMINATION UPDATE

Background

An Initial Environmental Examination (IEE) was prepared for the original \$5.0 million Community-Based Health and Nutrition Systems Project (520-0251) in October 1979. Based on the recommendations of that IEE a Negative Determination was granted on May 1980.

The \$5.0 million Add-on to the 520-0251 project will finance the continuation of only the potable water systems and latrine construction component of the original project.

As such, the analysis of the potential environmental impacts of that portion only require an update. The IEE for the original project remains as it is and is attached to this Updated Summary.

Updated Summary - Potable Water Systems and Latrines

The proposed add-on contemplates the construction of an additional 135 water systems and the installation of approximately 10,000 latrines. Based on the experience gained in the construction of the first 33 systems and 2,400 latrines it has been noted that previously untapped or unutilized potable water has been selected for human consumption, with each household receiving one water faucet and one latrine without adversely affecting the surrounding water resources, land uses, and atmospheric conditions. The introduction of

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potable water and latrines has provided a healthier home environment by altering health habits related to the use of water and disposal of human wastes. No significant changes in other cultural patterns have been identified. The new water systems have not had impact on the change in economic/employment patterns and population trends. In summary, based on the assessment of the beneficiaries themselves, the introduction of water systems and latrines have had a greater positive impact than stated in the original IEE checklist, and no adverse impacts have been identified to date.

Recommendation

Based on the above discussion it is recommended that the original negative determination for the project be applied to the \$5.0 million add-on and that no further environmental analysis be undertaken.

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LAC/DR/IEE-80-22

ENVIRONMENTAL THRESHOLD DECISION

Location : Guatemala
 Project Title : Community Based Health and Nutrition Systems,
 520-0251
 Funding : \$5.8 million (loan, grant)
 Life of Project: Four years

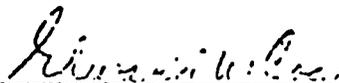
Mission Recommendation:

Based on the Initial Environmental Examination, the Mission has concluded that the project will not have a significant effect on the human environment and therefore recommends a Negative Determination.

The Development Assistance Executive Committee of the Bureau for Latin America and the Caribbean has reviewed the Initial Environmental Examination for this project and concurs in the Mission's recommendation for a Negative Determination.

AA/LAC Decision:

Pursuant to the authority vested in the Assistant Administrator for Latin America and the Caribbean under Title 22, Part 215.4a, Environmental Procedures, and based upon the above recommendation, I hereby determine that the proposed project is not an action which will have a significant effect on the human environment, and therefore, is not an action for which an Environmental Impact Statement or an Environmental Assessment will be required.



Assistant Administrator for
Latin America and the Caribbean

July 27, 1980

Date

Clearances:

LAC/DR: Environmental Advisor: Otto C's
 DAEC Chairman: Brown

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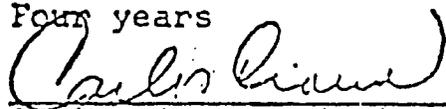
APPENDIXINITIAL ENVIRONMENTAL EXAMINATION

Project Location: Guatemala

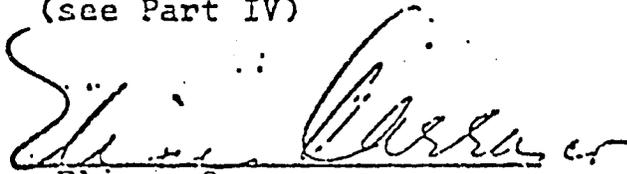
Project Title: Community Based Health and Nutrition Systems

Funding: \$5.8 million (loan, grant)

Life of Project: Four years

IEE prepared by: 
Carlos Crowe, Mission Environmental Coordinator
October 16, 1979

Recommended Threshold Decision: Negative Determination
(see Part IV)

Mission Director's Concurrence: 
Eliseo Carrasco
October, 1979

I. DESCRIPTION OF THE PROJECT

a. Summary:

The purpose of the project is to provide an integrated package of basic medical services and improved environmental sanitation to small rural communities, which do not have access to these services. Major areas in which the project will concentrate are: Delivery of curative and preventive health services to rural areas through MOH and voluntary community personnel, potable water systems and sanitary facilities, nutrition surveillance and maternal child health services, community health information system, health equipment maintenance program, village home improvement, health and nutrition education, and training of health personnel. These health personnel will be supervised and supported by more experienced auxiliary personnel, TSR supervisors, and a rural health delivery system centered around a well-equipped health post. Each health post will serve a cluster of 7-8 small (pop. 100-1500) communities and will have a trained auxiliary nurse, necessary materials and supplies, and a TSR who will supervise 7-3 PSR's (Rural Health Promoters) from each community in the project. The services to be provided, the role of each practitioner in the outreach system, the back-up/referral system, and the MOH coordinating mechanism is discussed in detail in the project description section of the interim report.

Much of the material developed under the AID financed SINAPS project will be adapted for use under this project. The services and supervision models for this project will be adapted to the indigenous target area. Training materials including manuals for auxiliary nurses, and models for short-term and follow-up training of outreach personnel are being developed and will be redesigned/adapted for use under this project. Finally, the information system developed as an evaluation tool by SINAPS will be pre-tested during intensive review in the target area. During the life of project this information system will serve as an evaluation tool for project impact and as a health/nutrition surveillance system at the community level.

b. Target Area:

The area chosen for the project is composed of three departments in the western region of Guatemala. Two of those departments, Sololá and Totonicapán are adjacent to each other and have very similar characteristics such as: densely populated, mountainous terrain, including numerous volcanoes, elevations above sea level generally over 7,000 feet, two of the three smallest departments in the country,

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lightly forested, intensely farmed, traversed by numerous small to medium size rivers and with very similar socio-economic and cultural patterns. Sololá has the unique feature of being the location of beautiful Lake Atitlán, a body of water (130 sq. kms) surrounded by volcanoes and Indian communities of generally less than 2,000 inhabitants.

The department of San Marcos is about two and one half times larger than any of the other two and shares a border with the Republic of Mexico. Its territory extends from the mountainous region to the low lands at the Pacific Ocean, thus having a variety of climates, forestry, crops, socio-economic characteristics and cultural influences.

Many of the adverse environmental practices in Guatemala are the direct result of socio-cultural limitations coupled with the pressures of subsistence farming and the poor management of the renewable and non-renewable natural resources. These problems and limitations prevail in the area chosen for this project. The area is densely populated, as mentioned above, crop yields are decreasing partly due to the broken topography, and environmental conditions, in general tend to be getting worse over time.

With a predominantly rural population, the health profile in these three departments indicates poor environmental sanitation causing a high level of related morbidity and mortality. The lack of education in environmental sanitation and the lack of safe water supplies, sewerage systems and other sanitary facilities contribute to an even greater deterioration in health conditions.

The project will address the problems described above in more than one way. The various components of the project will fall within the objectives of the MOH four year development plan and through a systematic assistance to health posts, auxiliary nurses, technicians in rural health and rural health promoters, the project will deliver the needed health related services to approximately 400 rural communities.

These services will consist of:

- a. Primary Health Care;
 - b. Health and Nutrition Education;
 - c. Environmental Sanitation;
 - d. Community Health Information System, and
 - e. Rural Health Equipment Maintenance.
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VI. Impact Identification and Evaluation Form

<u>Impact Areas and Sub-areas</u>	<u>Impact Identification & Evaluation</u>
A. Land Use	
1. Changing the character of the land through:	
a. Increasing the population	N .
b. Extracting natural resources	L +
c. Land clearing	L +
d. Changing soil character	N
2. Altering natural defenses	N
3. Foreclosing important uses	N
4. Jeopardizing man or his works	N
B. Water Quality	
1. Physical state of water	L +
2. Chemical and biological states	L +
3. Ecological balance	L +
C. Atmospheric	
1. Air additives	N
2. Air pollution	N
3. Noise pollution	N
D. Natural Resources	
1. Diversion, altered use of water	N
2. Irreversible, inefficient commitments	N

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Impact
Identification
& Evaluation

E. Cultural	
1. Altering physical symbols	N
2. Dilution of cultural traditions	L +
F. Socio-economic	
1. Changes in economic/employment patterns	L +
2. Changes in population	L +
3. Changes in cultural patterns	L +
G. Health	
1. Changing a natural environment	L +
2. Eliminating an ecosystem element	N
3. Altering Health Habits	H +
4. Altering Nutritional Intakes	M +
5. Eliminating deleterious conditions	M +
H. General	
1. International impacts	N
2. Controversial impacts	N
3. Larger program impacts	M +

N - None

L - Little

M - Medium

H - High

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III. DISCUSSION OF IMPACTS

Basically, the project will have minimal negative impact upon the natural environment of Guatemala, the only expected impacts upon the environment are likely to be positive ones since the beneficiaries of the project will be better taken care of in terms of health services, better informed about rural health practices and will also be provided with sound environmental projects such as gravity fed water systems and latrines.

IV. CONCLUSIONS AND RECOMMENDATIONS FOR THRESHOLD DECISION

From the summarized description of the project, the foregoing identification and evaluation of expected environmental impacts, it is concluded that the project will not have a significantly negative impact on the natural environment of Guatemala.

A Negative Determination is, therefore, recommended.

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Community Based Integrated Health and Nutrition Systems (520-0251)5 C (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 loans, and B.3 applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

The up-dated country checklist for FY-85 projects is attached to the standard checklist that has been reviewed.

A. GENERAL CRITERIA FOR PROJECT

1. FY 1985 Continuing Resolution Sec. 525, FAA Sec. 634A, Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;

(b) Is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

(a) The FY-1985 \$5.0 million add-on to the 520-0251 project was identified in the FY-1986 Congressional presentation.

(b) The assistance is within the OYB reported to Congress.

2. FAA Sec. 611 (a) (1).
Prior to obligation in excess of \$100,000, will there be:

(a) engineering, financial or other plans

(a) Yes.

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necessary to carry out the assistance and

(b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(b) Yes.

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

Not applicable.

4. FAA Sec. 611 (b), FY 1985 Continuing Resolution Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973, or the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See AID Handbook 3 for new guidelines.)

Yes.

5. FAA Sec. 611 (e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

The Mission Director has signed a 611(e) determination.

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral projects? If so, why is project not so executed? Information

Not applicable.

and conclusion whether assistance will encourage regional development programs.

7. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? **Yes.**

8. Fy 1985 Continuing Resolution Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? **Not applicable.**

9. FAA Sec. 118 (c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests? **The project complies with AID's Environmental Procedures. The project will not destroy tropical forests.**

10. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)? **Not applicable.**

11. FY 1985 Continuing Resolution Sec. 536. Is disbursement of the **No.**

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assistance conditioned solely on the basis of the policies of any multilateral institution?

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

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

- a) (a) The project will utilize village labor supplied by community water systems' construction committees, thereby utilizing appropriate rural technology for the construction of these water systems.
- b) The project will unite villagers into a viable working and planning group in order to execute the construction of a village water system.
- c) The villagers through the provision of their own labor and their monthly water use tariffs will have built and paid for their own water system.
- d) Women participate both in the construction phase by carrying materials, and in the use of the end product, water.
- e) This is a regional project covering six departments in Guatemala.

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regional cooperation
by developing coun-
tries?

- b. FAA Sec. 103, 103 A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used? (b) Yes.
- c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? (c) Yes.
- d. FAA Sec. 110 (a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? (d) Yes.
- e. FAA Sec. 110 (b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? (M.O. 1232.1 defined a capital project as (e) Not applicable.
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"the construction, expansion, equipping or alternation of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character".

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

(f) Yes.

g. 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 government processes essential to self-government.

(g) Potable water is one of the two highest felt needs of the rural communities (the other being roads). The program has been established, and is operating utilizing Guatemalans only. The project also trains rural inhabitants to effectively utilize their new water system.

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122 (b).
Information and conclusion of capacity

Guatemala has always repaid its loans on a timely basis.

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of the country to repay the loan, at a reasonable rate of interest.

- b. FAA Sec. 620 (d). **Not applicable.**
If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

3. Economic Support Fund
Project Criteria

- a. FAA Sec. 531 (a). **Not applicable.**
Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Section 102?
- b. FAA Sec. 531 (c). **Not applicable.**
Will assistance under this chapter be used for military, or paramilitary activities?
- c. FAA Sec. 534. **Not applicable.** Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to non-proliferation objectives?
- d. FAA Sec. 609. **Not applicable** If

commodities are to
be granted so that
sale proceeds will
accrue to the recip-
ient country, have
Special Account
(counterpart) ar-
rangements been made?

4249C/4250C

ab



MINISTERIO DE SALUD PUBLICA
Y ASISTENCIA SOCIAL

GUATEMALA, C. A.

ANNEX 14

NUM.	1106
REF.	74

Al contestar, sírvase mencionar el número y referencia de esta nota.

7 de febrero de 1985.

PDSO - 251

OPH

Draft

1. reply for Director

2-22-85

2-8-85

xy.

Sr. Charles Costello
Representante de A.I.D.
Misión Guatemala
Presente.

Estimado señor Costello:

Tengo el agrado de dirigirme a usted, para hacer de su apreciable conocimiento que este Ministerio dadas las características de las comunidades seleccionadas, como Quezaltenango, Quiché y Huehuetenango, con esta misma fecha estamos haciendo al Señor Ministro de Finanzas una formal petición para que se requiera ante la Agencia Internacional para el Desarrollo, A.I.D. en Guatemala, el financiamiento mediante la suscripción de un préstamo por la suma de US\$4.500,000.00 y US\$500,000.00 con carácter no reembolsable.

Como conocemos de su inquietud para la ayuda a este tipo de programas, y los resultados obtenidos en el Proyecto 520-0251 denominado "Sistemas Comunitarios Integrados de Salud y Nutrición", le ruego tomar muy en cuenta la petición que por el conducto correspondiente se haga a esa Agencia Internacional.

Sin otro particular, aprovecho la oportunidad para suscribirme con muestras de consideración,



DR. J. RAMIRO RIVERA ALVAREZ
MINISTRO DE SALUD PUBLICA
Y ASISTENCIA SOCIAL

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