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**UNCLASSIFIED**

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

EL SALVADOR  
PROJECT PAPER  
PUBLIC SERVICES IMPROVEMENT

AID/LAC/P-513

Project Number: 519-0320

**UNCLASSIFIED**

**PROJECT DATA SHEET**

**A** A = Add  
C = Change  
D = Delete  
Amendment Number \_\_\_\_\_  
DOCUMENT CODE **3**

COUNTRY/ENTITY  
**SAN SALVADOR**

3. PROJECT NUMBER  
**519-0320**

4. BUREAU/OFFICE  
**LAC**

5. PROJECT TITLE (maximum 40 characters)  
**Public Services Improvement**

6. PROJECT ASSISTANCE COMPLETION DATE (FACD)  
MM DD YY  
**01 9 | 31 0 | 91 4**

7. ESTIMATED DATE OF OBLIGATION  
(Under "B" below, enter 1, 2, 3, or 4)  
A. Initial FY **81 9** B. Quarter **3** C. Final FY **91 2**

**B. COSTS (\$000 OR EQUIVALENT \$) =**

| A. FUNDING SOURCE     | FIRST FY      |               |               | LIFE OF PROJECT |               |                |
|-----------------------|---------------|---------------|---------------|-----------------|---------------|----------------|
|                       | B. FX         | C. LIC        | D. Total      | E. FX           | F. LIC        | G. Total       |
| AD Appropriated Total |               |               |               |                 |               |                |
| (Grant)               | (14,730)      | ( 2,700 )     | ( 17,430 )    | ( 55,700 )      | ( 19,300 )    | ( 75,000 )     |
| (Loan)                | ( 14,730 )    | ( 2,700 )     | ( 17,430 )    | ( 55,700 )      | ( 19,300 )    | ( 75,000 )     |
| Other U.S.            |               |               |               |                 |               |                |
| 1.                    |               |               |               |                 |               |                |
| 2.                    |               |               |               |                 |               |                |
| Host Country          |               | 17,370        | 17,370        |                 | 60,000        | 60,000         |
| Other Donors          |               |               |               |                 |               |                |
| <b>TOTALS</b>         | <b>14,730</b> | <b>20,070</b> | <b>34,800</b> | <b>55,700</b>   | <b>79,300</b> | <b>135,000</b> |

**9. SCHEDULE OF AID FUNDING (\$000)**

| A. APPRO. PRIOR. PURPOSE CODE | B. PRIMARY 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) DA/HE                     | 500             | 545                   | --      | 0                      | --        | 8,000                          | --        | 30,000             | --        |
| (2)                           | 930             | 890                   | --      | 0                      | --        | 9,750                          | --        | 45,000             | --        |
| (3)                           |                 |                       |         |                        |           |                                |           |                    |           |
| (4)                           |                 |                       |         |                        |           |                                |           |                    |           |
| <b>TOTALS</b>                 |                 |                       |         | <b>0</b>               | <b>--</b> | <b>17,750</b>                  | <b>--</b> | <b>75,000</b>      | <b>--</b> |

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

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)  
A. Code \_\_\_\_\_ B. Amount \_\_\_\_\_

13. PROJECT PURPOSE (maximum 480 characters)

To restore and preserve vital public services provided by the infrastructure agencies; to improve and sustain the access to rural populations to markets; and to increase access to water supply and sanitation systems to rural populations, and to increase the proper utilization of water and sanitation systems in beneficiary families.

14. SCHEDULED EVALUATIONS

Interim MM YY | MM YY | Final MM YY  
**01 5 | 9 1 | 1 10 | 9 1 | 1 10 | 9 4**

15. SOURCE/ORIGIN OF GOODS AND SERVICES  
 000  901  Local  Other (Specify) **CACM**

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

Methods of implementation and financing are hereby concurred with.

*Franklin Latham, CONT*

17. APPROVED BY  
**Richard K. Archi**  
Acting Director  
Date Signed **1 10 | 14 | 87**

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

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## ACRONYMS AND ABBREVIATIONS

|         |   |
|---------|---|
| AID     | Agencia para el Desarrollo Internacional; (US Agency for International Development).                      |
| AME     | Administración de Maquinaria y Equipo (MOP); (Machinery and Equipment Administration).                    |
| ANDA    | Administración Nacional de Acueductos y Alcantarillados; (National Water and Sewer Administration).       |
| ANDA/MU | ANDA Management Unit.   |
| ANTEL   | Administración Nacional de Telecomunicaciones; (National Telecommunications Administration).              |
| APSISA  | Programa de Apoyo a los Sistemas de Salud; (Health Systems Support Program).                              |
| BID     | Banco Interamericano de Desarrollo; (Inter-American Development Bank - IDB).                              |
| CAESS   | Compañía de Alumbrado Eléctrico de San Salvador; (San Salvador Electric Company).                         |
| CAMINOS | Dirección General de Caminos; (General directorate of Roads).   |
| CEL     | Comisión Ejecutiva Hidroeléctrica del Río Lempa; (Executive Commission for Lempa River Hydroelectricity). |
| CEPA    | Comisión Ejecutiva Portuaria Autónoma; (Autonomous Executive Port Commission).                            |
| CP      | Condition Precedent   |
| DA      | Development Assistance (USAID term)   |
| DGC     | Dirección General de Caminos; (General Directorate of Roads).   |
| DUA     | Dirección de Urbanismo y Arquitectura; (Directorate of Urbanism and Architecture).                        |
| ESF     | Economic Support Funds.   |

**FAR** Fixed-Amount Reimbursement.

**FENADESAL** Ferrocarriles Nacionales de El Salvador; (National Railways of El Salvador).

**FX** Foreign Exchange.

**GOES** Gobierno de El Salvador; (Government of El Salvador).

**HC** Host Country.

**HCOLC** Host Country-Owned Local Currency.

**HPN** Health, Population and Nutrition (USAID).

**IDB** Banco Interamericano de Desarrollo; (Inter-American Development Bank - IDB).

**IRD** Infrastructure and Regional Development (USAID).

**ISDEM** Instituto Salvadoreño de Desarrollo Municipal; (Salvadoran Institute for Municipal Development).

**LC** Local Currency.

**L/COM** Letter of Commitment.

**MEA** Municipalidades en Acción; (Municipalities in Action).

**MOH** Ministry of Health (MSPA - Ministerio de Salud Pública y Asistencia Social).

**MIPLAN** Ministerio de Planificación y Coordinación para el Desarrollo Económico y Social; (Ministry of Planning and Coordination for Economic and Social Development).

**MOP** Ministerio de Obras Públicas; (Ministry of Public Works).

**MU** Management Unit.

**PLANSABAR** Plan Nacional de Saneamiento Básico Rural; (National Plan for Rural Basic Sanitation).

**PVO** Private Voluntary Organization.

**SETEFE** Secretaría de Tesorería y Financiamiento Externo; (Secretariat for Treasury and Foreign Finance).

**TA** Technical Assistance

**USAID** United State Agency for International Development.

**WASH** Water and Sanitation for Health Project.

1

I. SUMMARY AND RECOMMENDATION

A. Description of the Project.

1. The Problem:

The years of civil conflict and economic stagnation have created a wide range of problems for the people and the government of El Salvador. Damage to, lack of expansion of, and failure to perform maintenance on infrastructure has reduced the provision of public services, especially in rural areas, and has contributed to poor health, and reduced economic productivity. Infrastructure restoration and expansion is critical to productivity, to public health, and to economic and social stability. This Project will address four aspects of the problem: (1) restoration and indirect damage to principal public utilities; (2) deferred maintenance and repair of secondary, tertiary, and lower class roads; (3) rural water and health; and (4) institutional strengthening and improvements in the infrastructure policy framework.

2. Goals, Purposes, and Beneficiaries:

The goals of the Project are to provide for economic and social stabilization and growth, and to assure broad participation in the benefits of growth. The purposes of the project are three:

- a. to restore and preserve vital public services provided by the infrastructure agencies;
- b. to improve and sustain the access of rural populations to markets; and
- c. to increase access to potable water supply and sanitation systems for rural populations, and to increase the proper utilization of water and sanitation systems in beneficiary families.

The benefits that will derive from the restoration of services damaged by direct and indirect actions of the insurgents - electricity, transportation, water supplies - facilitate the economic, and thus social, progress of at least half of the people of El Salvador. The rural road repair and construction, and the restoration and building of water and sanitation systems, coupled with health education, will bring immediate savings in time expended to obtain water and reduce the incidence of some diseases. The roads are expected to directly help nearly a fourth of the rural population and the water/sanitation/health education will aid at least 600,000 persons in small towns and villages. Approximately 9,000 persons-years of new-employment opportunities will be provided. Women will be special beneficiaries through new employment opportunities and in a reduction in their water-hauling chores.

The project will: (1) support restoration of services interrupted and facilities damaged or destroyed as a result of insurgent activity or natural disaster; (2) assist in performance of deferred maintenance and repair of

indirect damage to rural roads, and in maintenance of AID financed construction equipment required for road maintenance; (3) construct and repair small rural water systems and sanitary facilities, and provide health education, in rural communities; and, (4) provide technical assistance in water and sanitation (ANDA), and in roads (MOP), sub-sectors to assist in project management and to enhance the implementing institutions' capability to perform their functions and sustain Project activities. Offices, shops, and control of operations of ANDA and AME will be decentralized to the regional level. Direct involvement of municipal government and local communities in decision making and planning of sub-projects, as well as the introduction of health education in the use of potable water and of sanitation facilities, will be required in the rural water and sanitation component. Assistance of local authorities also will be utilized, although to a lesser degree, in road maintenance sub-projects. Local labor using labor-intensive construction techniques will be hired on sub-projects that show on analysis to be suitable for labor intensive methods of construction.

### 3. Grantee and Executing Agencies.

The Grantee will be the Government of El Salvador. Obligating documents will be executed with the Ministry of Planning (MIPLAN), ratified by the National Assembly, and coordinated by the Technical Secretariat for External Finances (SETEFE). Implementing agencies will include the Ministry of Public Works, CEPA, CEL, ANDA, and the Ministry of Health. Local municipalities and community organizations will work with the responsible implementing agencies in selection, design, and documentation for all rural water, sanitation and health sub-projects and some of the rural road sub-projects. The Ministry of Health, at the central and regional levels, will carry out health aspects of community development and health education activities of the project.

### 4. A.I.D. Funding and Host Country Counterpart.

The life of the project is designed to be five years with a total equivalent expenditure of 135 million dollars in foreign exchange and local currency combined.

### B. Recommendation

It is recommended that the Project as described herein be approved at the funding levels and terms of performance established in the Project Paper. It is also recommended that a waiver of advertising be approved for procurement of commodities for the Reconstruction component.

SUMMARY COST ESTIMATE

(\$ MILLION)

| <u>C O M P O N E N T</u>                                    | <u>L I F E O F P R O J E C T</u> |              | <u>G O E S</u> | <u>T O T A L</u> |           |
|---|----------------------------------|--------------|----------------|------------------|-----------|
|   | <u>A. I. D.</u>                  |              |                |                  | <u>LC</u> |
|   | <u>FX</u>                        | <u>LC</u>    |                |                  |           |
| Public Services<br>Restoration (I)                          | 23.72                            | 0            | 12.74          | 36.46            |           |
| Deferred Maintenance<br>and Repair of<br>Roads (II)         | 4.30                             | 0            | 30.41          | 34.71            |           |
| Water Supply,<br>Sanitation, and<br>Health (III)            | 5.66                             | 16.08        | 8.33           | 30.07            |           |
| Institutional Strengthening<br>and<br>Project Support (IVA) | 12.40                            | 0            | 0              | 12.40            |           |
| Evaluation/Audit (IVB)                                      | 3.00                             | 0            | 0              | 3.00             |           |
| Inflation/<br>Contingency (IVC)                             | 6.62                             | 3.22         | 8.52           | 18.36            |           |
| <b>T O T A L S</b>  | <b>55.70</b>                     | <b>19.30</b> | <b>60.00</b>   | <b>135.00</b>    |           |

TOTAL A.I.D.: \$75.00

## II. BACKGROUND/RATIONALE

### A. Country Setting

#### 1. General.

El Salvador has the distinction of being the smallest but most densely populated nation on the hemispheric mainland. The 1988 estimate of the UN Division of Statistics and the U.S. Census Bureau is that 46% of the population of 5.4 million is under 15 years of age. The past several decades have seen a sustained migration from rural to urban areas in El Salvador due to declining agricultural productivity and incomes and the lure of potential economic, health and educational opportunities offered by the urban centers. In El Salvador, however, this urbanization process has been fueled by the civil conflict that has been waged primarily in the rural areas, resulting in the displacement of vast numbers of the rural population and rapid urbanization.

As of 1986, approximately 50% of the population is urban and 50% is rural. In most Departments, the rural population outnumbers the urban by a margin of two to one, a few even more. However, the benefits of development have gone much more heavily to the urban groups, leaving few resources for the rural people. The financial burden associated with the continued conflict has also impeded the Government in responding to the needs of the urban and rural poor.

The indirect costs of the war, including, for example, repairs to restore vital public services such as electricity and water and repairs to bridges and roads, when combined with losses sustained by the productive sector due to interruptions in electrical, water, and transportation services, are substantial, with current estimates exceeding \$1.5 billion. While A.I.D. has contributed to partially meet the costs of restoring public services, the GOES has had to reprogram resources to meet the lion's share of this indirect cost, in addition to meeting the financial burden of maintaining a large military force.

The October 1986 earthquake added to the already overwhelming infrastructure problems of the country, with an estimated \$1.1 billion in destruction and damages to infrastructure in the metropolitan San Salvador area, including some 60,000 dwellings (largely in urban slums), 185 kilometers of water and sewage pipes, and 2,500 hospital rooms.

#### 2. Economic Overview

The 1960's and early 1970's were relatively prosperous times, with an average annual rate of economic expansion at 5.4%. However, over the past decade, the human, social, and economic fabric of El Salvador has been torn by a civil war, economic depression, a disastrous earthquake in 1986, and internal conflict. A global recession beginning in 1980 reduced international prices for El Salvador's primary agricultural products (e.g., coffee, cotton and sugar) and dampened demand for Salvadoran manufactured exports with a resulting fall in GDP by 25% from 1980-1985; overall, exports dropped off by 35%. In 1985, real GDP growth had begun to recover reaching 2.0%. It dropped to 0.6% in 1986, however, due in part to the earthquake, rebounding to 2.6% for 1987, but falling once again in 1988 to an estimated 1.6%.

While the workforce is plentiful, it is underutilized and undereducated. Declining real wages are a pressing economic problem in both the rural and urban sectors of the country. These economic problems are derived from a combination of factors including an economic policy framework which discouraged production for exports and most forms of new investment, an annual natural population growth rate of 2.5%, declining productivity of the land, a poorly educated, untrained population, an oversized public sector work force, and a trade deficit of \$398.1 million in 1988.

### 3. Political Overview.

The Salvadoran people have demonstrated an unwavering commitment to building a strong democratic nation, despite the armed rebellion that has threatened each and every Salvadoran with economic or personal losses. Rising levels of U.S. economic assistance since 1978 have provided an important support for the country, particularly during the height of the guerrilla conflict in the early 80s. And, with the conflict slowly winding down, the country's democratic system is beginning to show signs of maturity that add to the credibility of the system and promise further achievements in democratic initiatives. For example, national assembly and municipal elections have been held twice in the last four years, with over 70% of all eligible voters participating despite threats by the armed insurgents against those who participated. In the most recent election of these officials and representatives, the opposition party won a narrow majority of seats in the National Assembly and over 70% of the mayoral races. Most recently, the country saw its first peaceful transition of power from one democratically elected civilian President to another. There has also been some movement towards a greater balance of power among the three branches of government--the executive, the legislative and the judiciary. For example, the civil criminal court has de facto wider range of jurisdiction. Also, recent passage of a municipal code giving municipalities total control for local government has promoted decentralization and municipal autonomy.

### 4. Social Overview.

#### a. Health.

The most dramatic improvement in health indicators for El Salvador are the declining infant and child mortality rates. While infant mortality rates increased briefly during the early 80's, there was an overall improvement from 77 per thousand in 1979 to 53 per thousand in 1988. In addition, severe and acute malnutrition among children has dropped from 18 percent to 15 percent.

As reported in the CDSS for El Salvador for 1990-1994, national statistics on health indicators mask the inequities that exist. One good example is infant mortality. Although the infant mortality rate for the country as a whole in 1988 was 53 per thousand live births, in rural areas the rate was 81 per thousand. Diarrhea, respiratory infections, and prenatal mortality continue as major problems among women and children living in rural areas and the slums. These reflect the weak health care system, especially the preventive services, poor sanitation, and limited access in the rural areas to potable water (now estimated at 13.5%--a decline from 30% in 1984).

The Ministry of Health (MOH) is now committed to the expansion of rural health services. It has doubled the number of Rural Community Health workers since 1985. Currently, over 500 community health workers provide basic preventive and curative services. Regional health offices continue to strengthen preventive and curative health services. (Additional information on the pertinent MOH agencies is available in Annex J.2). During the life of this Project, the Plan Nacional de Saneamiento Basico Rural (PLANSABAR), the MOH engineering, design and construction management agency, will be phased out. A.I.D. is pressing the GOES to complete its plan to transfer the engineering design and construction management responsibilities presently in PLANSABAR back to ANDA.

b. Education.

The share of the GOES public expenditure for education, as the share of total government expenditure, has declined from 23.6% in 1970, to 16.2% in 1985. Nevertheless, El Salvador has realized substantial growth. The percentage of students enrolled, number of teachers hired, and the number of schools increased, while illiteracy declined from a reported 50% in 1965 to 38% in 1978. With the advent of the war, 875 schools closed and other schools became overcrowded due to the migration of many families from the conflictive zone to more secure areas. Currently some 35% of the children of primary school age do not attend school. The nation's technical and vocational skills pools saw reduced numbers because of emigration and weakened instruction in these fields.

A.I.D., the World Bank and the IDB have, in part, filled the gaps in funding in the education sector as the percentage of the GOES budget allocated to the sector have fallen. This has included: supporting the construction of schools and classrooms (A.I.D. and World Bank); provision of equipment and texts; training of teachers and other school personnel (A.I.D.); expansion of vocational and technical education (A.I.D.); and, the training of entrepreneurs in business skills (A.I.D. and IDB).

B. Project Setting /1/

1. Restoration and Indirect Damage.

During 1983-86 roads, and especially bridges, were primary targets of guerrilla attack, with all major bridges having been destroyed. With A.I.D. assistance, all major bridges have been replaced with temporary and/or new permanent bridges and the primary road net has received stop-gap repair and is serving its function in most places, or portions are being by-passed by alternate routes.

The electric power grid has been attacked almost continuously during the past years, with several lines cut and/or poles and towers destroyed in a single night on numerous occasions. Total direct damages are estimated at \$60 million; A.I.D. funding (\$47 million for the national electric authority, CEL) has largely financed the replacement of electrical lines and spare parts to maintain the provision of this essential service. During 1988, for example, CEL replaced 759 transmission and distribution line towers; nonetheless, there have been numerous occasions when San Salvador was without lights for days (e.g., during elections). In rural areas the outages are even longer.

/1/ Family Health Survey of 1988, conducted by the Salvadoran Demographic Association and Centers for Disease Control, Atlanta, Georgia.

Indirect costs (e.g., business losses and illnesses caused by spoiled food) are difficult to calculate, but estimates have

The GOES, with A.I.D. assistance, has taken measures such as the use of helicopters, repositioning of commodities, and construction of redundant electric circuit loops, to reduce downtime, but the guerrillas likewise continue to change their tactics in order to maximize disruptions. Nevertheless, the system continues to serve, and both the load and number of customers served continue to grow. Emergency repair, or restoration, of damaged facilities must continue into the indefinite future; that is, until sabotage no longer occurs.

The Ports of Acajutla and Cutuco handle nearly 70% of the imports and exports of the country. Maintaining the level of the operations of the ports is important in ensuring vital foodstuffs (e.g. Title II Commodities) arrive in a timely manner, keeping freight costs low and, therefore, Salvadoran exports competitive. The two ports have not been attacked directly, but have deteriorated due to indirect damage and a lack of maintenance. During the last quarter of CY88 and the first quarter of CY89 the ports have accomplished a number of repairs (e.g., repairs to the electrical distribution system and the installation of a new standby generator) and security improvements with USAID assistance.

The ports will continue to require A.I.D. assistance, however, over the short run in obtaining repair parts for equipment burned out due to power outages and resulting voltage fluctuations to assure that they can continue to operate.

The railroad currently transports about 30% of the cement, 40% of the coffee and fertilizer, and about 15% of the general cargo. Cement from Santa Ana and cargo from the ports is moved throughout the country; coffee is moved to the ports from Santa Ana and San Miguel. The railway system has suffered enormous direct damage to its personnel, tracks, cars, and locomotives from the conflict, perhaps proportionately greater than any other utility. A.I.D. has assisted through the acquisition of replacement parts for equipment damaged by the guerrillas, and the purchase of a reliable radio communications system, further enabling the railways to operate effectively. As a result, despite continuing attacks, FENADESAL, the railway authority, has been able to maintain freight service to eleven of the country's fourteen departments. Passenger service has been restored on the line from Armenia to Sonsonate and runs at or near capacity, and a limited extension of the passenger service is scheduled to occur by mid-1989. Continued assistance for the procurement of spare parts, equipment, and materials will be required, however, so that this part of the transportation system can continue its service to the cement, agricultural, and general freight sectors.

The International Airport at Comalapa has not suffered direct attack by the guerrillas. It has, however, incurred substantial indirect damage because low voltage power has made much of its electrical equipment inoperable.

## 2. Deferred Maintenance.

Secondary and tertiary rural roads which comprise approximately 30% of the road net, and the lower classes of rural roads which comprise another 60% of the system, have received very limited to no maintenance for ten years and are in serious disrepair. Approximately 61 percent of secondary and 55 percent of tertiary roads respectively are classified in poor, 30 percent and 33 percent respectively in fair, and only 9 percent and 12 percent respectively in good condition. A lack of access by maintenance crews and contractors to some areas because of the conflict has contributed in part to the serious deterioration in Salvador's once extensive and well-kept road network. However, insufficient government resources allocated to routine maintenance is the primary reason for this deterioration.

With respect to the Comalapa Airport, deferred maintenance has also brought about some weathering of the runway and of the access highway. Detailed requirements will be established during Project implementation, and may be financed under this Project.

## 3. Health and Sanitation.

The availability of safe water in rural areas has declined since the beginning of civil strife in 1979 (from a high of 30% in 1984 to a reported 13.5% in 1988) for several reasons: (1) the deferral of both expansion and maintenance of water systems due to the lack of financial resources; and, (2) the war-related internal migration that has over-burdened systems designed for smaller populations. According to ANDA's 1986 data, only an estimated 35.2% of rural population had latrines.

The health consequences of inadequate water and sanitation facilities are reflected in high diarrheal rates and related poor nutritional status. Diarrheal disease, according to 1985 MOH data, is the leading cause of infection, comprising 57.6% of all infectious diseases. In spite of major child survival efforts, diarrheal diseases are the first cause of death in young children. The 1984 under five diarrheal death rate of 15.5 per 10,000 was almost double the 7.4 rate for 1981. More recent studies indicate that 29.1% of children under five had recent diarrheal episodes./1/ This is despite improved levels of vaccination and other child health interventions by the GOES, with USAID, UNICEF and other donor support.

### III. PROGRAM FACTORS

#### A. Host Country Policy and Strategy

The policies of the newly installed government as stated in their "Rescate Nacional" plan include that of establishing and maintaining a level of economic and social stability which will both create public confidence in the government and also foster economic growth. In achieving these objectives, the preservation and expansion of essential public services is a fundamental strategy. Electricity, transportation, water supplies, communications, all

underpin the provision of basic human needs, such as shelter, water supplies, and health care and international trade . The philosophy of the new government, in pursuing these ends, will emphasize use of the private sector initiative wherever feasible, while preserving public sector resources to care for the poor, protect basic rights (e.g., the judicial system), and create an environment conducive to growth led by the private sector.

**B. A.I.D. Policy and Strategy**

**1. CDSS.**

The goals of the A.I.D. El Salvador program are: (1) economic and social stabilization; (2) economic growth; (3) broadening the benefits of growth; and, (4) strengthening democratic institutions. This Project will contribute directly to the achievement of the first three goals and will also complement the fourth goal.

The special circumstances facing El Salvador, i.e., guerrilla destruction of infrastructure and the slow pace of recovery from the 1986 earthquake, continue to require that A.I.D. actively support infrastructure restoration and rehabilitation as a means of stabilizing the economic life of the country. Consistent with the USAID's strategic emphasis on economic growth, priority will be given under the maintenance component to infrastructure which is key to agricultural productivity and export-led growth, notably rural secondary and tertiary roads, and to a lesser but important extent, to the ports, airport, and the railroad. Also, the project represents a major USAID effort to assist the GOES to combat the underlying causes of most infant and child mortality and morbidity -- diarrheal disease caused by unsafe water, and poor sanitary practices.

Finally, community participation in Water Supply and Sanitation sub-project planning, organization, and operation should complement other USAID programs in strengthening democratic institutions at the local government level. Making maximum use of local contractors in project implementation should also strengthen the private sector.

**2. Central American Initiative.**

Guided by recommendations of The National Bipartisan Commission on Central America, the USG responded to the economic and political crisis in El Salvador through significant increases in its level of economic assistance to expand programs to: rebuild and improve the country's infrastructure; stimulate industrial and agricultural production; and ensure access of the majority of Salvadorans to basic social services (i.e. education, housing, and medical care).

The Commission recognized the importance of water and sanitation and its relationship to infant and child morbidity and mortality. It is that concern for water and sanitation that is addressed here specifically, as the Project targets the rural population in the smallest communities. The Project will assist El Salvador to attain the Central American Initiative goal for potable water access and, thus, is consistent with the recommendations of the Commission.

C. Joint A.I.D.-GOES Strategy

For the near term, prompt and effective restoration of public services (primarily electricity and water) interrupted by guerrilla sabotage is needed for the economy to continue to run. With technical assistance and equipment provided by the U.S., Salvadoran institutions are able to put these basic services back on line in a matter of hours or days rather than weeks or months.

With respect to social equity, rural population will be the primary beneficiaries of this Project, gaining access to health care, potable water, and markets for their products.

D. Other A.I.D. Programs

1. Infrastructure and Regional Development.

Under the Public Services Restoration Project (519-0279), productive infrastructure such as electricity, water systems, roads and bridges, and the railroad that are damaged or destroyed by the guerrillas, are repaired or rebuilt. The Restoration component of this Project will continue this activity.

The Displaced Persons Project (519-0281), through a food for work and jobs program, incorporates access roads, housing and water systems into the range of services provided to those individuals uprooted by the civil conflict, the majority of whom comes from the ranks of the rural poor.

Local currency resources administered by the National Commission for the Restoration of Areas (CONARA) finance public works grants to municipalities to plan, design and implement small infrastructure projects such as classrooms, health posts, community buildings, water and sanitation systems, and access roads, train mayors in project planning, and logistical support for distribution of food and providing medical care to residents of conflictive areas through the Combined Civic Actions Program. Local currency has also been used for the start-up costs for the Salvadoran Institute for Municipal Development (ISDEM), which is designed to provide technical assistance and training to upgrade the administrative and planning capability of mayors and other local government officials, and to assist these individuals to secure development resources from the GOES and/or donor programs. This Project is, in part, designed on the basis of the successful grants program and will build upon training efforts of CONARA and ISDEM.

The Earthquake Reconstruction Project (510-0333) provides the residents of El Salvador's capital affected directly by the earthquake with a wide range of productive and social services, such as roads, credit for housing and businesses, hospitals, schools, public markets, and water supply and sanitation (WS&S) systems.

/1/ Family Health Survey of 1988, conducted by the Salvadoran Demographic Association and Centers for Disease Control, Atlanta, Georgia.

## 2. Agriculture.

The portfolio of the Mission's Rural Development Office (RDO) concentrates on strengthening productivity and diversifying production in the agriculture of El Salvador, especially via the enhancement of the private sector to produce, process, and market non-traditional agriculture products. This initiative must be supported by adequate public services.

## 3. Health.

Beginning in 1988, the Mission has begun to refocus its health program on more direct support for community health, especially preventive programs. Counterpart funding to APSISA was channeled to support rural health works. The Public Services Improvement Project is another part of the Mission's redirection of emphasis from systems strengthening to service delivery to high risk groups, particularly those located in small towns and remote rural communities, and whose health indicators have lagged behind those of the country at large. The APSISA Project (519-0308), designed in part to reorganize all health promoters under the direction of the Division of Community Health, will give impulse to the expansion of services for child survival activities planned under the Public Services Improvement Project.

## 4. Private Sector.

The Public Services Improvement Project will provide strong support for private sector reactivation, recovery, and growth. These initiatives need dependable and economical power supply and transportation. Two of the components of the Public Services Improvement Project, rural roads and water and sanitation, will make substantial use of private sector contractors in the restoration, maintenance, construction, research, and health education activities.

## 5. Democratic Initiatives.

The Mission is currently carrying out a wide variety of efforts to stimulate and strengthen the work of local governments. The Public Services Improvement Project will draw on and broaden these efforts. The water and sanitation component will require that local water committees be involved, either those now existing or new ones that will be formed.

The rural roads program will also work with village committees. Their participation in the decision to rehabilitate or repair a road will help assure that the effort is useful to the area residents, and for smaller access roads, to work out community participation for their continuing maintenance. While this is seen as an important part in developing the decision making capability of the local leaders for future projects, it is also seen as necessary in the appropriate design and the subsequent maintenance of these systems.

**E. Other Donor Programs.**

**1. Infrastructure.**

The infrastructure agencies (MOP, Caminos, ANDA, and CEL) have received loans from IDB and CABEI during the period of the insurgency for improvements to highways, water works, and electric power systems. Only USAID, however, has been involved in the specific task of repairing direct and indirect damage inflicted by guerrilla activity. Other donors have assisted with earthquake reconstruction. The West German Government will undertake a two-year technical study of the port at Acajutla, and might later finance some repairs. The Japanese are negotiating a program to support the purchase of equipment for the port. The Japanese and Italians have contributed equipment and vehicles to the General Directorate of Roads and the General Directorate of Urbanism and Architecture (DUA) to improve their ability to repair and construct streets and roads.

The new Project will complement this capital investment in new construction or major reconstruction. A.I.D.'s efforts will deliver public services to rural target groups through emergency restoration, maintenance programs, institution strengthening, community organization and involvement, and the extension of public services to heretofore untargeted rural areas.

**2. Health, Water and Sanitation.**

The Interamerican Development Bank (IDB) is financing the construction of 100 water systems covering 410 communities of 300-2,000 inhabitants each. This will extend water coverage to 230,000 people by December 1990. In addition, 75,000 latrines will be installed under the project. The MOH latrine factory in San Salvador has produced 18,000 latrines in the past ten months.

PAHO has been assisting in the strengthening of administrative procedures and financial management within the MOH. Also, nearly twenty international PVOs have been or are providing financial support, technical assistance, and/or donations of medicines and medical supplies to support MOH and private health care programs.

This Project clearly will complement the work of other donors. The IDB rural water program targets areas with population concentrations of 400 to 2,000, while USAID's primary target group is communities with populations of 100 to 400. Furthermore, neither IDB nor other donors are considering the restoration of existing small systems, which is included in this Project. Finally, this Project will actively link health education to the restoration or expansion of water and sanitation systems, to improve the capabilities of health and water promoters, and to insure adequate community organization and participation.

#### IV. PROBLEM STATEMENT, CONSTRAINTS ANALYSES, AND PROJECT STRATEGY.

##### A. Statement of the Problem.

The years of civil conflict and economic stagnation have created a wide range of problems for the people and the government of El Salvador. Damage to, lack of expansion of, and failure to perform maintenance on infrastructure has reduced the provision of public services, especially in rural areas, and has contributed to poor health, and reduced economic productivity. Infrastructure restoration and expansion is critical to productivity, to public health, and to economic and social stability. This Project will address three aspects of the problem: restoration and indirect damage; deferred maintenance and repair of secondary, tertiary, and lower class roads; rural water and health; and institutional strengthening and improvements to the present policy framework.

##### B. Constraints Analyses.

Impediments to the successful resolution of the aforementioned problems include policy, financial, institutional, and sociological constraints. Principal among these constraints are: inadequate tariff structures; budget shortages related to the size of the public sector and to the civil strife; weak planning, design, maintenance, and construction capabilities; poor information systems; informal procurement systems; and deficient personnel management practices.

###### 1. Policy Constraints.

The tariff structures of the national utility and public service authorities, most specifically ANDA and CEPA, and to a lesser degree CEL, are not adequate even to raise revenue for operation and maintenance nationwide, let alone generate internal investment in utility systems. Currently, none of these agencies collect data in such a way as to be able to set tariffs in order to cover operation and maintenance costs. Moreover, the prior GOES administration was reluctant to eliminate subsidies throughout the economy. The new administration has, however, indicated it will move to eliminate subsidies, beginning with a study of pricing policies of CEL related to petroleum. CEL has recently begun to adjust its tariffs in accordance with the GOES 1989-1990 economic program. Furthermore, ANDA has confirmed that it will soon adjust its rates in accordance with the conditions of its IDB loan for water systems for small and medium size towns. A.I.D. will continue to review this issue during the policy dialogue.

The use of the public service agencies as employer of last resort for the unemployed has resulted in gross overstaffing, inefficiency, and low pay for all employees, including those critical to the productivity of these organizations. ANDA, for example, serves approximately 600 people per employee, when a more optimum ratio would be not less than 1,200 per employee. The General Directorate of Roads has over 9,000 employees for 12,000 kms. of roads; when a more optimistic ratio would be about 4,800 employees, that is 2.5 kilometers of roads per employee versus the present 1.33 kilometers. The resulting overstaffing prevent agencies from paying salaries adequate to hold talented people. Such practices cannot be maintained over the long term. The public sector workforce must be reduced, ideally through the expansion of private sector jobs.

The new Municipal Code gives municipalities control of local water systems while retaining national authority for the road network. Control of local roads maintenance is neglected because of lack of GOES interest and concern with national level transportation, as well as budget shortages. The municipalities, on the other hand, lack training to maintain water systems, as well as suffer from inadequate financial resources. The GOES must adopt a policy of turning over control of all local public services to the local level, providing local authorities with training in order to carry out these responsibilities. Municipalities, for their part, need to improve their revenue collection methods in order to finance such repairs.

## 2. Financial Constraints.

Financial resources are insufficient in all public infrastructure agencies to provide and extend the coverage of services to the people. This is most apparent in providing services to the rural population.

The limited financial resources are, to some degree, a result of the tariff and manpower policies discussed above. For example, salaries in the MOP require 93% of ordinary budget, leaving few funds for materials, supplies, and equipment required for productive work. However, the financial requirements of the long conflict have also forced the GOES to reduce real levels of expenditures for social programs, new construction and maintenance of existing public works, to public security.

Budget shortfalls as the above in MOP, and similar ones in ANDA and MOH, are reflected in (a) a lack of funds for repair parts, and equipment operation and maintenance; (b) a disproportionate percentage of existing budgets allocated to salaries; (c) a corresponding lack of funds for transportation and per diems, for field personnel; shortages of materials and equipment, and absence of training to carry out necessary repair and maintenance or expansion programs in infrastructure at all levels; and (d) an inability to fund capital improvements to water, sanitation and health education programs, thus contributing to declining health.

Access to foreign exchange is also a constraint, caused by an overvalued colon, low export earnings due to poor coffee harvests, and a worsening in El Salvador's terms of trade.

## 3. Institutional Constraints.

The GOES ministries and agencies responsible for roads, water and other public utilities share, to varying degrees, institutional characteristics that constitute some of the most serious constraints to achieving increased access to basic public services. The most important of these shared characteristics are as follows:

- deficient planning and management capability skills required to execute national construction and maintenance programs;
- weak financial management capabilities and management information systems;

- a lack of standardized and truly competitive procurement and contracting systems; and
- a lack of decentralization and a lack of delegation of decision-making authority at regional and sub-regional levels.

In addition to the general traits listed above, shared by most of the implementing agencies, several of the key infrastructure agencies are confronted by more agency-specific institutional constraints:

- ANDA has the technical engineering and construction capability but not the staff, track record nor demonstrated commitment to undertake a rural Water Supply and Sanitation (WS&S) program of the size required to greatly expand rural access to potable water; and has little experience in coordinating efforts with MOH and PVO health promoters, or in community organizing activities;
- MOH, on the other hand, has interest but lacks the capability to carry out the rural WS&S.
- MOP has three heavy equipment maintenance units, but only one, AME, has the necessary resources or organization to accomplish its Mission. Until the other two units (one for Roads and the other for DUA) are incorporated into the AME system, and that system strengthened, the MOP will continue to lose a portion of its investment in the construction equipment through inadequate maintenance and use.

#### 4. Sociological Constraints.

Although better roads and increased access to safe water and sanitation and improved health appear to be highly desired, some issues need to be addressed by the GOES to ensure that water projects have the desired impact on the incidence of water borne disease:

- degree to which populations in the targeted areas adopt the water use, sanitation, and health practices that will decrease water-borne diseases and improve health;
- levels of involvement of the primary users of water (females) in the planning/design processes to assure that water and sanitation designs meet their needs and are properly used; and
- degree of confidence of community groups in local officials to properly utilize resources.

#### C. Project Strategy.

##### 1. Important Achievements and Lessons Learned.

- a. With USAID support (principally through Project 519-0279, Public Services Restoration), CEL, ANDA, and MOP have shown themselves capable of making fast and effective repairs of sabotage damage.

- b. Given constantly changing guerrilla targets and tactics, waivers of formal advertising procedures in procurement of material, equipment, and specialized services, have been necessary to assure rapid response capability in emergency service restoration.
- c. Experience and institutional evaluations show that administrative and management capability differs widely between the various agencies, and range from good to excellent in CEL, CEPA and ANTEL, to fair in ANDA, and poor in the Ministry of Public Works and the MOH. Institutional evaluations show that technical assistance will be required in MOP offices that undertake USAID-supported projects.
- d. The Management Unit of ANDA has successfully installed wells and pumps at the village level through the use of private sector contractors. For optimal health impact and sustainability, community level maintenance training, as well as an institutional mechanism for providing for the less routine maintenance of water systems are required.
- e. Small infrastructure projects under other USAID programs have been most effective when the affected communities were involved in the decision-making process and in project execution to the limit of the technical abilities of the local people.

## 2. Proposed Approach.

The proposed approach of this Project is designed to: make rapid improvements to the infrastructure, while maximizing labor intensive activities; focus the Project resources on where the greatest economic benefits can be realized (e.g. roads in economically productive areas and repairs to existing water systems); decentralize oversight and execution of Project activities to achieve greater efficiency; and ensure Project sustainability through policy dialogue and, for water systems, through community participation. Project sustainability will be facilitated by:

- a. as the financial position of the Central Government improves, the Mission will encourage the GOES to increase net funding available for public works, not necessarily through budget increases, but rather through continuous tariff adjustments and elimination of overstaffing;
- b. provision of the necessary technical assistance, training and commodities to strengthen the GOES implementing agencies;
- c. requiring in those instances where it is appropriate, such as in rural roads and WS&S, demonstrated commitment by the community as a precondition for sub-project activities; and

The purpose of Project investments and interventions is to provide the means to deliver the services, and then to assure that the means are used to achieve that result. Technical assistance is provided on narrow fronts to assure that the Management Units charged with implementing the Project can in fact do so.

V. DETAILED PROJECT DESCRIPTION.

A. Introduction.

This Project will improve and expand delivery of public services to the general population of El Salvador, with emphasis on reaching people in the smaller villages, who constitute the rural poor. There will be a major input for maintenance of rural roads that support productivity and provide the means whereby the rural poor can increase their participation in the economy, and the private sector role in road maintenance and reconstruction can be expanded. The Project provides assistance in sub-sectors of electric power, transportation, water supply and sanitation, and health. It will make an impact on health and child survivability by providing water supply, sanitation, and health education in rural villages.

The 1988 and early 1989 statistics show guerrilla damage incidents to be as high as any previous year of the war, although the value of the losses is less due to better security and rapid response on replacements and repairs.

The Project consists of four components: Public Services Restoration; Deferred Road Maintenance and Repair; Water Supply, Sanitation and Health; and Institutional Strengthening and Policy Reform. Each component is designed to achieve specific objectives, with all of the components constituting an interrelated effort to achieve the Project purposes. Actions under and inputs to the four components are designed to address the constraints listed in IV above.

B. Project Goals.

The goals of the Project are to provide for economic and social stabilization and growth and to assure broad participation in the benefits of growth with an emphasis on improving the health of the rural people, especially children.

C. Purpose and Verifiable Indicators.

1. Purpose

The purposes of the project are three:

- a. to restore and preserve vital public services provided by the infrastructure agencies;
- b. to improve and sustain the access of rural populations to markets; and
- c. to increase access to water supply and sanitation systems for rural populations, and to increase the proper utilization of water and sanitation systems in beneficiary families.

## 2. Verifiable Indicators

The following are the principal indicators that will be used to determine whether the Project achieves its purposes, subject to conditions discussed above.

1. 90% of the highway/road systems, 100% of the electrical transmission and distribution system, and 85% of ANDA-serviced water systems are operational.
2. The financial and administrative capability to restore the major public services above in a timely manner is maintained.
3. A 10% increase (2% per year) in the level of traffic (ADT) on roads in the program is achieved.
4. A reduction of 5% (1% per year) in the real unit transportation cost of cargo (cost per ton-kilometer) is achieved.
5. The capability of the MOP to plan and implement repair and maintenance of secondary, tertiary, and rural roads is improved.

For Water Supply, Sanitation and Health, indirect data will be used that indicate whether conditions have been established in the targeted villages whereby achievement of health purposes is possible and probable. End of project status indicators are as follows:

1. 600,000 people served by new or repaired and functioning water systems and sanitary facilities, raising access from 13.5% to 30%.
2. 90% of families in target communities know and practice correct use of water (i.e., have and use soap, use latrine, maintain clean and sanitary eating and cooking areas).
3. 90% of schools in the target areas have adequate and clean latrines.
4. Health and sanitation promoters have active contacts with users of 95% of rural potable water and sanitation points installed under this Project.

### D. Summary of Project Outputs.

The Project outputs, discussed in the following component descriptions and in the Logical Framework, are summarized by the principal action agencies. Recall that the quantity of outputs related to the Restoration Component will depend on factors beyond the control of this Project and cannot be specified. The inputs required are discussed in the respective Component descriptions.

CEL.

- Repair of transmission lines, structures, switch gear, transformers, and ancillary equipment.
- Repair of distribution facilities in the independent systems under CEL management and on CEL distribution systems, including rural electrification.
- Repair of emergency generation equipment.

ANDA.

- Repair of water production and distribution systems damaged by sabotage, to include pumps, motors, electrical apparatus, pipes, valves, ancillary equipment, and treatment facilities.
- 120 small water systems repaired.
- 900 new small water and sanitation systems installed.
- Water committees formed for each new system, or existing community-level committees accept additional responsibility to form or act as water committees. Method for collection of user fees, and for maintenance and operation of system, in place and operating at each new system.
- Latrines installed for 1,000 communities, schools, and homes.
- Regional shops of ANDA established, equipped, and staffed with manager, support personnel, technicians, and water promoters. Authority and responsibility for rural water programs delegated by ANDA to regional offices.
- ANDA Management Unit expanded and fully staffed, and Management Systems installed.

MOP.

- Bridge repair or replacement, drainage structures, and emergency repair of road bed, pavement and equipment, resulting directly or indirectly from sabotage.
- A Management Unit in MOP (Caminos) established and staffed. Improved accounting, contracting, personnel, and data processing procedures in the Caminos Management Unit.
- Repair of approximately 1,600 Km. of secondary, tertiary, and lesser roads.
- Maintenance of at least 310 units of light vehicles and heavy construction equipment financed by AID.

MOH

- Health and sanitation education provided to the residents of 1,020 communities.

CEPA.

- Repair of railroad track, bridges, locomotives, other rolling stock completed in response to sabotage attacks.
- Repair of port equipment.
- Repair or replacement of communication, navigation, and safety equipment at the international airport at Comalapa.

E. Project Components.

1. Implementing Agencies and Their Areas of Responsibility.

Funds will be allocated to the agencies by SETEFE in accord with procedures currently in effect; i.e., action plans will be prepared by implementing agencies, with assistance of technical assistance teams, where appropriate, submitted to SETEFE and AID for approval prior to the disbursement of funds.

Specific component and sub-component managers, or implementing GOES agencies responsible for implementation of the Project are as follows:

Component I.

- ANDA - Water system restoration.
- CEL - Electrical system restoration.
- MOP - Bridge and highway restoration.
- CEPA - Railway restoration.  
Airport facilities restoration.  
Port restoration.

Component II.

- MOP-Caminos -Rural road maintenance and repair.
- MOP-AME -Equipment maintenance and management.

Component III.

- ANDA - Water supply and sanitation organization, documentation, design, and construction.
- MOH - Health education and training.

Component IV.

A.I.D. - Contract T.A., program support, auditing and evaluation.

2. Description of Components.

a. Component I - Public Services Restoration.

1. Description.

This component will provide the financial support-principally foreign exchange-needed by the public services agencies to repair direct and indirect damage caused by guerrilla action and, if required, by natural disaster. This component continues restoration assistance heretofore provided under the Public Services Restoration Project. The implementing agencies involved in this component have demonstrated the capacity to utilize the resources effectively. Actual rate of expenditure, and the sub-sectors in which expenditures will be required are not subject to prediction with precision, because the function of this component is to react to outside forces over which no control can be exercised. Based on past experience, however, during the early life of the Project, the amount of damage has been estimated to be approximately the same as in the recent past. It is also assumed that the primary targets will be the electric power grid and the railroad (i.e., CEL and CEPA), as in the past, with lesser damage to infrastructure of other agencies. It is further assumed that the number of incidents causing damage, and the amount of damage, annually, will decline slowly over the life of the Project.

The electric power grid typically is sabotaged several times each week by the cutting of transmission lines, by blasting towers and poles, and by dynamiting transformers. The railroad is attacked by dynamiting locomotives and track, although passive defense measures have decreased damage of individual attacks in the last year. Most damage to ANDA equipment is caused by the indirect effect of attack on the power grid, which burns out motors and switch gear, and damages pumps. Most bridges have been destroyed and replaced, and are not now attacked as often as formerly due to improved security.

The implementing agencies will be CEL, MOP, ANDA, and CEPA. Each agency will be responsible for achieving the outputs and purposes of the relevant part of the Project. Technical assistance will be provided under Component IV to ANDA, MOP, and MOH. Funds are not programmed for ANTEL, but severe damage to a major communication component may result in limited assistance to ANTEL from the contingency estimate.

In addition to the importation of electrical machinery and spare parts for the public services agencies, this component will fund the lease of helicopter services, or the purchase of a helicopter (the decision to be based on a financial analysis performed during implementation) for use primarily by CEL in repair of electrical transmission lines and towers. Local currency counterpart funds will support the occasional use of a smaller local helicopter for inspection and monitoring of work of other agencies.

The component also provides GOES local currency for installation of imported commodities in ANDA and CEPA (in which current tariff structures and rates of collections for services are too low to generate revenue to cover installation costs arising from guerrilla damage). CEL installation costs will be paid by electric utility revenues; MOP installation costs from the ordinary budget.

Component outputs include repair of damaged facilities and continued or improved service to the public and the economy by the infrastructure agencies. A secondary output will be employment for the personnel who make the repairs, in the public and private sector service organizations which support them. The total job generation impact for the entire Project is discussed in the Beneficiary Analysis.

Funding levels will be approximately as shown below, although it is recognized that estimated financing amounts among implementing agencies may change, depending on the degree of damage sustained by the various infrastructure systems. Estimates are based on recent experience, and the assumption that direct attacks will diminish slowly over the life of the Project. Complete breakdowns between local currency and foreign exchange, and of annual funding levels, are shown in Section VI, Financial Plan.

Procurement requirements and procedures for all components are presented in Sector VIII, Implementation.

## 2. Costs and Inputs.

Component I summary, in million of dollars equivalent.

|            | <u>Year 1</u> | <u>Total</u>   | <u>Percent</u>  |
|------------|---------------|----------------|-----------------|
|            |               | <u>Project</u> | <u>of Total</u> |
|            |               | <u>Cost</u>    | <u>Cost</u>     |
| Programmed |               |                |                 |
| CEL        | 5.05          | 18.07          | 13.38           |
| MOP        | .3            | 1.15           | 0.85            |
| ANDA       | 1.95          | 8.75           | 6.48            |
| CEPA       | 1.96          | 8.49           | 6.29            |
| Totals     | 9.26          | 36.46          | 27.00           |

Primary inputs will be imported commodities, typical of which are electrical distribution and transmission equipment and material; electric motors and switch gear; pumps and valves; navigation and communication equipment; light vehicles; repair parts for any of the above and diesel locomotives; and bridge materials.

b. Component II - Secondary, Tertiary, and Lower Class Rural Road Deferred Maintenance and Repair.

1. Description.

This component will finance a major effort to repair rural roads, other than the primary national highways, which have deteriorated due to financial constraints, and together with Institutional Strengthening in Component IV, will supplement the capability of the Ministry of Public Works to plan and manage road maintenance. The supporting equipment maintenance system, the AME shops and organization, will receive support for the purpose of maintaining AID purchased equipment required to implement the project.

The implementing Ministry responsible for Component II will be the Ministry of Public Works through two of its divisions, for equipment (AME) and for roads (Caminos Management Unit). Each of these divisions will receive technical assistance under Component IV of this Project. Each will prepare its own Action Plan, and will be responsible for implementing the Plan. Implementing the Plan includes having responsibility for expending and accounting for all funds and other resources allocated under the Project.

(a) The Road Management Unit.

Road maintenance activity will begin with organizing and staffing of a Management Unit (MU) in Caminos upon arrival of the TA team early in Project implementation. It will be established in the Caminos organization at the level of the Head of Operations, reporting directly to the Director General. The proposed organization and staffing pattern of the new Management Unit is shown in Annex D.2. The MU will work closely with the Head of Operations in planning, selecting, engineering, and executing of sub-projects. The first activity of the MU will be preparation of its Action Plan, although only tentative or illustrative sub-projects can be identified when the Action Plan is prepared.

Road maintenance will be performed on discrete segments of the road net throughout the country. Each segment will be designated a sub-project and individual records kept for each sub-project. Sub-projects will be selected based on economic, technical, etc. criteria as shown in Annex M. During the LOP, Caminos will repair/rehabilitate 1,600 kilometers of secondary road, or 320 kilometers/year.

Sub-project design and implementation procedures will be such as to encourage use of labor intensive construction techniques, especially in remote areas, to provide maximum employment opportunities and to avoid mobilization of large heavy equipment fleets. Engineering work will be done by contract or by Caminos staff, depending on the complexity of the design, the availability of standard drawings and specifications, and the backlog of design work. Decision as to method of execution will be determined by the Director General of Highways (DGC). Determinations as to whether to perform construction work by contract or by force account shall be decided in the same way, except that the Director of AME shall be consulted in the planning stages also.

In the case of conflicting claims for AME equipment, this Project shall take precedence over claims of any other agencies or elements or activities of the Ministry of Public Works. The Project Agreement will include a covenant to assure that the required preferential use of equipment is forthcoming.

In identifying needs for sub-projects, the DGC shall solicit requests of mayors and other appropriate officials at the local level, and of agricultural, and industrial productive enterprises or programs, as well as Caminos personnel in the field. Final selection shall be made by the MOP with A.I.D. concurrence, based on consideration of relevant selection criteria.

The DGC shall cause to be prepared, with the help of the technical assistance team, standard organization, operations, and procedures manuals in the fields of accounting, personnel, management information systems, contracting format and procedures, and procurement. MU practices and procedures shall be in accord with the manuals.

During the course of Project implementation, the DGC and the technical assistance team will identify needs for short-term training and shall identify qualified personnel from the Caminos organization to go abroad for training in management under the Project. Candidates will be mid-level professionals, sub-professionals and technicians. Tentative training areas are project management, data processing, accounting, and auditing. Other needs will be identified as the project evolves. A detailed training plan will be included in each year's Action Plan.

MU-Caminos personnel will spend time in the field both for preparing sub-projects and for organizing, mobilizing, expediting, and inspecting the work. They will work closely with local officials to assure conformity with local wishes in so far as possible and to make the best use of local manpower and resources.

The DGC, with the help of the technical assistance team, shall devise and utilize quality control, inspection, and testing systems commensurate with the level, size, cost, and complexity of the work.

Light vehicles will be provided under the Project to assure mobility of MU personnel and the technical assistance team.

(b) Logistical Support--AME.

Currently AME, the Ministry of Public Work's Heavy Equipment Maintenance unit is servicing approximately 310 vehicles and pieces of construction equipment originally financed by A.I.D.

During the life of this Project AME will gradually assume responsibility for the maintenance of the majority of the heavy equipment fleets of DUA and DGC (Caminos). (Both are also subdivisions of the MOP.) The maintenance functions of DUA and DGC will be absorbed by the AME, which will overcome the constraints caused by DUA and Caminos inability to maintain their fleets. Over the life of this Project the unified and streamlined AME service gradually will be regionalized to cover the Western and Eastern zones.

2. Costs and Inputs.

Funds are projected as shown below under Component II of the Project. Estimates are based on requirements determined in the Damage Assessment Report of 1988 and a judgment of the capacity that can be developed in Caminos to perform the work. A breakdown between foreign exchange and local currency costs, and annual funding levels, are shown in Section VI.

|              | <u>Year 1</u> | <u>Total</u>   | <u>Percent</u>  |
|--------------|---------------|----------------|-----------------|
|              |               | <u>Project</u> | <u>of Total</u> |
|              |               | <u>Cost</u>    | <u>Cost</u>     |
| Program Cost | 9.15          | 34.71          | 25.71           |

Funds required in Component II will be both foreign exchange and local currency, but preponderantly the latter. All local currency will be provided by the GOES as counterpart.

Inputs to the DCG will include light equipment, construction materials, salaries, and engineering and construction contracts.

Inputs to AME consist of equipment maintenance and maintenance materials for the AME shops; construction, rent, or purchase of new shops in regions outside San Salvador to expand the AME system, and purchase of tools and equipment and staff salaries.

Component II will fund occasional, but not continuous, rental of a small helicopter on an as-needed basis to be used in sub-project planning, inspection, monitoring, and management.

c. Component III - Water Supply, Sanitation and Health.

1. Description

This Component of the Project will increase the access of water and sanitation services to small town and rural areas. Among these people the access to safe potable water will increase from 13.5% to 30%, and access to sanitary facilities will increase from 35% to 50%. This component will provide support to restore or install water supply and sanitation systems, in association with community organization and health education activities, in small rural communities. The investments will be made in accordance with GOES and USG policies of increasing access to potable water and reducing water borne disease in order to improve the health of the people, reduce the cost of health care, and improve economic productivity.

Adequate financial resources have not been available to address the water supply and sanitation (WS&S) and health problems of the dispersed rural population and the smaller villages. This Project will build upon a local currency funded pilot potable water program, and it will serve two categories of the rural population of El Salvador.

One population to be addressed will be communities with populations of approximately 400 or fewer; communities that have not been targeted by any agency or donor for Water Supply and Sanitation (WS&S) and health projects. Over the LOP approximately 900 simple water systems, such as wells with hand pumps or gravity fed systems, will be constructed in communities where more sophisticated systems are neither financially nor technically feasible. The private sector contractor hired to install these simple water systems will also install the requisite number of pit latrines, as described later. To the degree possible, with the exception of the pits themselves (which will be a labor contribution of the villagers), the private contractor will utilize local-hire labor during installation of the water systems, and the latrines and their protective housing.

The utilization of both contributed and hired labor is important to the success of the WS&S and health activities. The contribution of labor on the part of the targeted beneficiaries (to dig the pits in conformance with the contractor's approved specifications) will prove the support of the community organization and it will contribute to the beneficiaries' perception that the sub-project is theirs and not the government's. However, to ensure that the latrines themselves and the housing for them, conform to health and engineering specifications, these will be installed/constructed by hired labor. This will also put some cash into the rural communities.

A second population to be served by the project are communities between 400 and 2,000 persons. Approximately 120 existing, small, rural water systems that are not functioning at their full or needed capacity because of deferred maintenance or being overtaxed because of increases in population will be restored or expanded. (The IDB program providing water systems to communities of this size does not nor will not include restoration or expansion. Coordination on this factor will be continued during Project implementation.) The community organization, sanitation and health education activities will be included here as well.

All construction activities will be preceded, accompanied, and followed by community organization activities to foster sub-project sustainability, and health education to foster the proper use of the water and sanitary facilities to improve the health status of the rural populations receiving the sub-projects. Where necessary, training in community organization will be provided under the Project. Among the choices available to the technical assistance team will be those of the El Salvador Municipal Development Institute (ISDEM).

It is important to note that the WS&S and health component will need to establish the status of both the construction and health elements as a single data base in order to determine the sites to be served by this component. The 1989 studies funded by the USAID/IRD will give some valuable data on water systems status but they are not sufficient to direct the WS&S interventions, since they are not intended to, nor do they, provide comparable data on sanitation or health issues. The first study utilized a private engineering firm to review water facilities in 320 communities and, after a preliminary selection, to assess 120 of these systems in more detail. The second study

utilizes a nation wide sample of households to assess the population's accessibility to potable water and electricity. While these studies will provide useful background data for the TA teams, they will not provide the necessary background data to select and design Component III sub-projects.

As explained in more detail below, therefore, the sub-project selection will be dependent upon the conformance of the proposed site to the following selection criteria and the preparation of a sub-project implementation plan that will provide, among other things, detailed information for each site on water and sanitary facility accessibility and need, qualitative health data, and information on health practices. The selection criteria, discussed in Annex M, take into consideration: accessibility; community support; national priorities; related interventions; socio-economic return; other donor activities; relative financial cost; equity; covering of recurrent costs; documentation of need; related school programs; and community size.

Approximately 600,000 persons will benefit directly from this WS&S and health component. Community organization and participation, especially as reflected in operational local associations of water users, will be a pre-requisite for water supply and sanitation sub-project funding. Health education relating to water use and sanitation must accompany the implementation of individual sub-projects, and local level, sub-project implementation plans must detail the relationship between WS&S and health prior to funds being released for construction.

Health education will be delivered by health promoters from the Community Health Division of the Ministry of Health and by local health worker volunteers in the communities. The health promoters, with the help of the technical assistance team, will train rural health workers and adult village groups such as Padres del Familia (similar to the PTA) and water users associations.

Health and hygiene will be emphasized by teachers in community schools, who will receive educational and promotional materials financed under the Project. Most rural health workers attend several villages, thus the intensity of their coverage is not high. However, almost every village has some type of school and the teachers are seen as a vital link in the health education program. These schools will be targeted for water and sanitation systems/points, and the teachers will receive training for their use. The Ministry of Education has given its approval for the participation in this manner of local schools.

## 2. Implementing Agencies.

The primary implementing agencies for this Component of the Project will be the MOH and ANDA. The Ministry of Health will be the implementing entity for the health education activities of the Project through its Community Health Division (MOH/CH), with appropriate inputs from the MOH Divisions of Health Education and Environmental Sanitation. The Management Unit of ANDA (ANDA/MU) will be the implementing entity for the WS&S systems. The technical assistance team funded under Component IV of the Project, as described later, will offer advice, support and coordination for the implementation activities, and will support inter-agency communication at the central level.

In order to implement the Project successfully, the functions and authority of ANDA must be strengthened and decentralized. It will also be necessary to formalize a working relationship between the ministries, agencies and communities that must cooperate to implement the construction and health activities as a single or unified Project effort.

In addition, ANDA regional offices will be strengthened and expanded through technical assistance, training, commodities, and the addition of civil engineers, water promoters, and maintenance personnel. The regional offices will play a critical role in Project implementation as ANDA water promoters will be the direct linkage, with the health promoters, to the municipalities and cantons where the sub-projects will be implemented. Also, the regional offices, through their civil engineers, will approve the implementation plans for funding, and supervise the work contracted to the private sector.

The staff of the regional offices will maintain regular contact with their MOH counterparts. The institutional analysis of ANDA, and the participating MOH units, are contained in Annexes I.1. and I.2. These Annexes also include discussions of the materials development and illustrative training programs for each of these institutions.

Some training in community organization will be obtained as needed on a grant or contract basis from the El Salvador Municipal Development Institute (ISDEM). Although it is a relatively new institute, ISDEM does have political support, and it has the mandate, to promote municipal, development through training and by advising/assisting mayors to tap line ministries and other funding and technical resources for development purposes. The national level staff of ISDEM, and its operating manuals and procedures, are in place. The Institute has successfully implemented several training programs for selected mayors and other municipal officials. Based on the Action Plan requirements of ANDA and the MOH, ISDEM may be tasked to provide a scope of work for, among other things, the training of municipal and community officials in organizing and registering their groups as corporate entities under the Municipalities Act. Initially, the TA team would contract with ISDEM for the required services.

At the community level, materials will be made available (such as posters, pamphlets, audio-visual, as appropriate) on the relationship of WS&S and health status by the health promoters, and the water promoters will utilize similar materials to illustrate WS&S options to the water user committee members.

### 3. Interinstitutional Coordination and Component Implementation

The successful implementation of Component III will depend upon a careful melding of the health education and the WS&S construction activities. In turn, this is dependent on the establishment of a solid working relationship between the appropriate offices of ANDA and the MOH at the national regional and local levels. This section details activities that will provide necessary interinstitutional coordination, roles and responsibilities of units at the national, regional and local levels and the function of planning documents at the national and regional/local levels. An illustrative history of a typical WS&S sub-project is in Annex S.

(a) National Policy-Making Committee.

Experience worldwide has shown that achieving a cooperative effort between the health education, water promotion, and construction activities is important to the success of WS&S projects since, as in El Salvador, these activities are normally the prerogative of separate national institutions.

A 1981 law established the National Committee of Potable Water and Sanitation Institutions (CONIAPOS), which has the responsibility of coordinating water and sanitation sector programs. CONIAPOS members are the President of ANDA, the Minister of Health, and the Minister of Planning.

This committee had languished under the past administration. A condition precedent to disbursement for this component in the obligating agreement will require that CONIAPOS or a similar committee be reactivated, or established. The responsibility of this Committee will be to give policy direction and guidance to ensure individual agency compliance, and to assure the interinstitutional cooperation needed. The committee will also provide the Mission with a useful forum to address WS&S and health policy reform issues.

(b) Inter-Agency Coordinating Committee.

The Agreement will also require that the Ministry of Health and ANDA enter into a Memorandum of Understanding (MOU) to ensure that the two organizations cooperate in jointly undertaking the water supply, sanitation and health education activities required to produce the desired result. At a minimum, this MOU will: authorize and direct the respective MOH and ANDA personnel at all levels to work together, with the support and advice of the technical assistance team, to achieve the project purpose; and, establish a committee, composed of at least the General Manager of the ANDA Management Unit and the Chief of the MOH Division of Community Health (MOH/CH).

Because of the significance of their roles, as described below, this committee will also include representatives of other agencies or organizations participating in Project implementation, including ISDEM and a CONARA representative of the MEA program. The logic of the involvement of these various elements in this national level coordinating committee is that ANDA represents the water and sanitation elements of the project, the MOH represents the health education elements, and ISDEM/MEA represent the crucial community organization elements. All three elements are necessary for Project success. One or more representatives of the TA teams and the A.I.D. project support group will also attend these quarterly meetings.

Within the guidance from CONIAPOS, this committee will be responsible for establishing and scheduling coordinating meetings at the national level, between the representatives of the two agencies, to facilitate the joint implementation of the water, sanitation and health education activities; and, ensuring that their local personnel work jointly and appropriately with municipalities and local communities in the process of implementing the sub-projects. Depending upon whether it is the initial or a subsequent quarterly meeting, the representative subject matter to be discussed is as follows.

- integration of construction and promotion activities.
- responsibilities of each institution, the assignment of staff and resources to carry out the Project at national and regional level offices, and the degree to which interinstitutional cooperation is advancing at the national, regional and local levels.
- WS&S and health indicators, and progress toward meeting the indicators.
- obstacles to Project implementation, and activities to overcome obstacles.
- community participation in the various stages of the Project implementation and, as necessary, new activities to strengthen this participation.
- financial and Project monitoring mechanisms, and modify as appropriate.

The review meetings at the national level will reinforce the interinstitutional cooperation in the joint review of Project progress in Action Plans, mechanisms, administration, procedures, and protocols. The meetings will provide the opportunity to resolve issues and problems early and reinforce interinstitutional coordination. Reporting to CONIAPOS will increase the WS&S and health component visibility and encourage cross institutional cooperation.

(c) Sub-Project Implementation Plans.

With assistance from the regional offices of ANDA and the MOH, from the water and health promoters, and from representatives of the community water user associations, the mayor and/or other municipal officials will prepare sub-project implementation plans at the level of municipalities. These will be based on one or more sub-project implementation plans drafted at the canton level. The municipal plans will set out the specific activities, designs, costs, responsibilities, and financing sources of a group of sub-projects for which project funding is being requested. These plans will also include environmental statements for the WS&S activities and important base line data on health issues.

On this latter point, some useful information can be obtained on community knowledge, attitudes and practices regarding diarrheal disease treatment from the 1987 MOH INCAP study of the small community of San Cristobal Cuscatlan, and on the anthropometric measures of height and weight, which are key indicators of health status, from the FESAL 88 study.

However, specific studies in the project areas will be needed to establish a base line from which a sub-project can be developed and evaluated. At the local level, the necessary studies will integrate the investigation of physical structure (water and latrines) with an investigation of health indicators, community organization and knowledge, attitudes and behavior regarding water and sanitation use, diarrheal diseases, and so forth.

To develop this data base the Water Supply and Sanitation (WS&S) program will use several means. Firstly, the WS&S program will take advantage of the related research already planned by the MOH Community Health Division (MOH/CH) and financed by APSISA. Additional research or survey needs will be identified via meetings between ANDA, MOH, and A.I.D. These additional needs will be financed by the WS&S program and will be carried out by private contractors with the participation of the MOH/CH Division. The level of this participation will be determined by, inter alia, the MOH's research/survey workload. In cooperation with the Community Health Division, and working with the regional health offices, contractors will carry out the surveys. This data will be used as the basis for WS&S construction, health promotion activities, and progress evaluations. The contracting of health studies will be done under the already existing MOH/CH procedures established under the APSISA project. These studies should not be done nationally at project initiation but sequentially when individual communities are studied for sub-project implementation, and as part of the sub-project documentation process. Communities will participate in the surveys in their communities, as a means for building community understanding of the link between unsafe water and illness.

The ANDA regional offices will approve the municipal level sub-project implementation plans, as will the local mayors, following the approval of said plans by the MOH health promoters and the representatives of the water user committees. If necessary (e.g. technical complexity), a sub-project implementation plan can be channeled through the Management Unit in ANDA, and through the Division of Community Health in the MOH. On a random selection basis, these municipal sub-project implementation plans will be reviewed within A.I.D., by the HPN and IRD project support group, to assure compliance with the WS&S and health education components.

(d) Action Plans.

The Management Unit of ANDA and the Division of Community Health in the MOH will prepare their annual Action Plans, with assistance of the TA teams, for submission to SETEFE and A.I.D. for final approval and funding. Both HPN and IRD in A.I.D. will participate in A.I.D.'s Action Plan approval process.

The Plans will be prepared according to GOES and A.I.D. standards, but will accommodate the preparation and approval of sub-projects during the year. The plans must reflect the anticipated joint efforts of MOH and ANDA at the community level.

Since the selection of specific sub-projects will occur after preparation of the Plans, the Action Plans will set indicative budgets that estimate the types and numbers of sub-projects and health education programs that possibly can be implemented in each region.

The Plans in the initial two years must include a strategy that develops the capacity and coordination between the regional offices of the MOH and ANDA, and procedures for designing, approving, implementing and monitoring all aspects of the sub-projects, to ensure their timely and complete implementation, in compliance with Project selection and design criteria. The TA teams will help design working models that can serve as prototypes early in the process.

(e) Community Participation.

Since institutions serving the WS&S sector in El Salvador have been overcentralized and are prone to providing services through inefficient and direct administration, the Project will stress a bottom-up process of generating sub-project implementation plans and designs for sub-projects that communities in most cases will manage and maintain.

This process relies on the water user associations, the community health workers of the MOH, and trained and experienced ANDA water promoters. The mayors and other municipal officials of the municipalities in which the WS&S efforts will take place will play a coordinating role between the local communities, or cantones, and the field and regional representatives of the implementing agencies with assistance, as appropriate, from representatives of the MEA program. A recent evaluation of the MEA program indicated that their mechanisms and procedures for ensuring maximum community participation in the design and implementation of small development projects, such as the proposed water systems, were and are quite successful. These same mechanisms will be utilized in this Project.

(f) Cost Recovery

Worldwide experience indicates that the success of small rural water supply systems, such as those using handpumps, is related to a sense of community ownership of the well and pump. Furthermore, budget constraints on the part of GOES agencies like ANDA preclude extending water supply and sanitation services, especially in the rural areas. From both a practical and sociological perspective, cost recovery in the extension of rural water supply and sanitation services is both necessary and desirable.

The Water Supply and Sanitation Component sub-projects will require donated labor from the targeted beneficiaries as a contribution to offset capital cost. This contribution will demonstrate the support of the community organization and also strengthen the beneficiaries' perception that the sub-project is their own and therefore their responsibility.

Furthermore, the community will be required to manage, maintain the system (the pump, for example) and perform routine repairs; pay in full for the operation and maintenance costs for a level of service such as the well and handpump; and also assume responsibility for the full incremental cost of higher levels of service elected by the community. (ANDA will still accomplish and finance complex maintenance and repair beyond the reasonable means of the community.)

4. Contracting.

With the exception of some possible force account ANDA sub-projects, to expedite repair to existing water systems, the design and construction of sub-projects will be executed by contractors from the private sector under contracts prepared by the Management Unit, and awarded as host country contracts. In all instances of WS&S construction, local hire labor will be utilized to the extent possible. Contracts will be awarded directly by the

MOH Division of Community Health or ANDA for training and materials production, and the ANDA/MU for the WS&S infrastructure after advertising and formal competitive bidding. While the TA teams, in consultation with ANDA and MOH staff, should determine the system of pit latrine construction, the villagers will be required to contribute their own labor to dig the pits according to the private contractor's design specifications, and local labor will be hired to install the latrine and to build the protective covering.

5. Costs and Inputs.

Foreign exchange is required for the purchase of materials and equipment, and local currency for payment of local contractors. Funding levels for Component III are as follow. (Equivalent million dollars).

|              | <u>Year 1</u> | <u>Total</u>   | <u>Percent</u>  |
|--------------|---------------|----------------|-----------------|
|              |               | <u>Project</u> | <u>of Total</u> |
|              |               | <u>Cost</u>    | <u>Cost</u>     |
| Program Cost |               |                |                 |
| ANDA         | 7.30          | 26.19          | 19.40           |
| MOH          | <u>0.70</u>   | <u>3.88</u>    | <u>2.86</u>     |
| Totals       | 8.20          | 30.07          | 22.26           |

A.I.D. inputs to the rural water and sanitation component consist of vehicles for the ANDA regional offices, machinery, materials, and equipment. Host country inputs include salaries of health promoters, health education and training materials, base line studies, organization of the water users by the health and water promoters, and construction supervision.

The overall cost of all water, sanitation, and health education activities will be \$50 to \$65 per beneficiary.

d. Component IV- Institution Strengthening, Project Support, Monitoring and Evaluation, and Contingency.

1. Description

This component will finance technical assistance, training, and commodity support to enhance Project implementing agency capability, to promote the policy dialogue agenda, and to perform evaluations and audits.

(a) Technical Assistance.

Long and short term technical assistance provided under this component will overcome the constraints of deficient planning and management skills, weak financial management capabilities and management information systems, and the lack of standardized competitive procurement and contracting systems. One crucial activity of the technical assistance team will be to prepare background data on tariffs and employment policies to facilitate the related Policy Dialogue.

ANDA and its Management Unit at the central level will be strengthened by technical assistance, training, and commodities designed to improve its organization, staffing and personnel management, financial management, technical engineering skills, community organization and promotion skills, maintenance capabilities, and procurement procedures. The MU will provide overall management for the WS&S sub-component, maintain national level liaison with their MOH counterpart office (the Division of Community Health) and, with the assistance of the TA team, develop workable accounting and auditing procedures, procurement systems, and operations manuals for the WS&S sub-component.

In addition, its regional offices will be strengthened and expanded through technical assistance, training, commodities, and the addition of civil engineers, water promoters, and maintenance personnel. The regional offices will play a critical role in Project implementation as their water promoters will be the direct linkage, with the health promoters, to the municipalities and cantons where the sub-projects will be implemented.

Technical assistance will also be provided to enable ANDA and MOH to deal with environmental considerations. This TA will be of two types:

- assistance in conducting studies that would include the identification of potential environmental problems; and,
- assistance in the areas of minimum-cost water and sewage disposal design in rural areas to investigate adverse environmental impacts.

The technical assistance team will also provide management support to the equipment branch (AME) and for planning and management of the roads maintenance program in MOP. Financial management and monitoring assistance will also be provided by the technical assistance team to assure proper accountability of funds.

Long term technical assistance will provide advice to the Ministry of Health, ANDA, and MOP. Technical specialties in which long term assistance will be provided to the two Management Units (in ANDA and MOP) will include Project Management, Documentation, Health Education and Community Organization, Sanitary Engineering, Financial Management, Personnel Management, and Data Processing-Management Information Systems. AME will receive assistance in the field of management of equipment maintenance organizations and systems.

The team will devote approximately eighty percent of its time assisting with project planning and implementation and approximately twenty percent of its time on study of policy and procedural constraints which impede effective performance of the agencies. These issues are tariff structure of the utilities and government staffing patterns and policies (including that of overstaffing). Other issues will be identified during the course of the project where appropriate.

Short term assistance also will be provided to the ANDA and MOP Management Units, and specific offices in the MOH regarding the conduct of environmental assessments as well as where needs are identified in technical and management areas. These short term positions will largely be required for training in auditing, vehicle and fuel control, safety procedures, writing of technical specifications, procurement procedures, operations research, and health education materials development and training. Finally, the team may provide occasional assistance to CEPA agencies if and when so directed by USAID.

In addition, the Project will finance one PSC project support staff advisor who will be placed in USAID/HPN and another in USAID/IRD to provide coordinated project management information on health and sanitation portions of the health/sanitation segment of the project, and to liaison between ANDA and MOH.

During the first year a total of twelve long term positions will be staffed under the project, including the two in USAID. Two will be under Personal Service Contract. The other ten will be placed under a single contract with a consulting firm or joint venture to be selected and hired directly by USAID under customary competitive procurement procedures.

During the first year, when the technical assistance effort is at full strength, the Project TA team will consist of the following positions, stationed as shown:

- 1 - Technical Assistance Team Leader, with clerical staff, in an independent office.

The Team Leader will supervise and be responsible for the work of the rest of the team under the institutional contract and will be available to assist with specific problems in AME, ANDA, Caminos, and with CEPA as required as and when directed by USAID.

A portion of the team, five or more members, will also occupy the independent office with the Team Leader, as described below.

- 2 - Project Manager Specialists, one to have his/her office with and adjacent to the manager of the Maintenance Unit in Caminos. The other, a specialist in the management of water companies, will have his/her office with the ANDA MU. Incumbents in these positions must have access to the Minister of Public Works or the General Manager of ANDA, as required. The Project Manager Specialists shall assist with all phases of project and sub-project planning and implementation, including preparation of contract specifications and documentation.
- 1 - Sanitary and Water Supply Engineer in ANDA MU. His/her office should be in ANDA, but may be in the independent project office, depending on availability of space.
- 1 - Health Education and/or Training Specialist to work with ANDA MU and the MOH, including offices in the regions. Incumbent in this position will have his/her office in the independent office of the technical assistance team, with the Team Leader. The position will be required during the entire life of the project.

4 - Professionals to work approximately half time in ANDA MU and approximately half time in Caminos MU. They will have their offices in the contract team independent office with the Team Leader, who will schedule and direct their activities as necessary.

1. Financial and Accounting Specialist.
2. Personnel Management Specialist.
3. Data Processing - Management Information Systems.
4. Community Development Specialist.

1 - Management Advisor to AME.

(b) Training

Training funds will be used to train selected officials of the implementing agencies in-country, in the U.S., or in a third country to improve the agencies' management and technical capability. Special attention will be directed to the training of municipal officials and community representatives in the purpose of the WS&S and health education activities of the Project, and in the local level sub-project implementation plan procedures for accessing the necessary funding. Among other things, the trainees will be taught the criteria, the community organization and structure expected, user fee and maintenance responsibilities, and the forms and methods needed to leverage ANDA and MOH assistance.

Among the providers of this training will be ISDEM which, among other things, may train municipal and community leaders in registering their groups as corporate entities under the Municipalities act. The series of ISDEM-sponsored training sessions will have regional representatives of ANDA and the MOH, CONARA/MEA representatives, and water and health promoters to ensure the transfer of all of the relevant information to the trainees. Training sessions with all of the concerned individuals will assure that single or groups of projects are generated from the village level, with appropriate assistance in the preparation of sub-project implementation plans that can be approved and funded.

The presence of the regional ANDA and MOH representatives, and their respective promoters, will contribute to their coordination at the regional and sub-regional levels, and it will demonstrate to the representatives of the municipalities and the cantones that they must seek the support and approval of both institutions to receive the sub-project.

The length and format of the training sessions will be determined by the requirements identified in ANDA and MOH Action Plans.

(c) Commodities.

The MIS needs of ANDA, MOP, CEPA, FENADESAL, and CEL, which will be met by the Project, are as follows:

ANDA:

Three (3) PCs plus software and ancillary hardware for each will be provided to the Central Office. The regionalization and expansion of the Management Unit of ANDA will require additional computerization of about four (4) PCs, plus two (2) additional ones for the TA team, for a total of nine (9) PCs, plus software and ancillary hardware for each. These are needed to facilitate engineering planning and design of systems, and to implement billing at the regional level.

MOP MU:

Lotus 1-2-3 or Lotus Symphony (in Spanish), and word processing capability will be provided, to facilitate scheduling of equipment, parts control, and streamline general office operations.

CEPA:

The existing computer system, which is well-utilized, is obsolete and very difficult to maintain and keep on-line. It will be replaced with an economical system.

FENADESAL:

Two PCs with 30 MB hard disks will be provided in order that the agency can accommodate the large and rapidly-growing base data requirements.

(d) Project Support

Five FSPSC and two USPSC staff presently on board implementing the closing Public Services Restoration Project will be retained by this Project to coordinate not only the Restoration activities but all the new components. In addition, one PSC project support staff advisor will be added to USAID/HPN and another to USAID/IRD in order to provide coordinated project management information on health and sanitation portions of the health/sanitation segment of the project, and to liaison between ANDA and MOH.

(e) Policy Dialogue

Several policy dialogue issues have an important impact on the sustainability of this Project. These issues include: tariff adjustments to finance recurring costs of operation and maintenance; reorganization and staffing for agencies like CEL and MOP, which serve as employers of last resort; (non)payment of government's utility bills; and intragovernmental coordination. This Project will support certain direct actions to guide needed policy changes, such as emphasizing execution of sub-projects by private sector contractors (thus reducing the need for a large force account), and requiring by special covenants to allow local water user associations to collect and retain fees for system maintenance and to provide budgetary support for maintenance of both water systems and roads. However, most of the action on these issues will occur in a pan-project setting, even though progress on the issues will affect Project success.

During the first year of the project, the technical assistance team, under the guidance of A.I.D. and GOES counterpart staffs, will prepare a prioritized listing of analyses to be developed over the life of Project relating key policy dialogue issues to Project outputs and overall Project long-term sustainability. The analyses will be prepared in the order of priority established by A.I.D. and GOES staff management in Implementation Letters. The analyses will be used during the various Component evaluations to convene policy-level meetings between A.I.D., MIPLAN, and implementing ministries to assess Project effectiveness with and without the recommended policy changes. Where it is determined that Component sustainability is unduly hindered by policy reforms not forthcoming, termination of Project assistance will be considered. Concurrently, as the analyses are prepared they will be passed to Mission staff and management involved in the overall policy dialogue.

2. Implementation and Funding

A.I.D. will contract for the technical assistance directly as follows:

The two specialist positions in USAID will be staffed under Personal Services Contract.

The members of the institutional contract team which will work in the GOES agencies will be staffed by an institutional contract competitively awarded directly by A.I.D. This contract will be managed by USAID/IRD. The first members of the technical assistance team should be on station by the early spring of 1990. The team should be at full strength by early summer.

Training assistance from ISDEM will be obtained by direct contract with ISDEM by the technical assistance team. Later in the life of the Project, as the role of this new institute becomes more clearly defined and established within the GOES, regular assistance will be obtained as part of the Institute's standard program.

Services and equipment associated with USAID Project support will be obtained by the A.I.D. Contracts Office. Equipment needed by the technical assistance team will be procured under its own contract. Where practical, locally available office equipment will be provided by counterpart agencies.

Funding is as estimated below.

|                 | Year 1 | Total Project Cost | Percent of Total Cost |
|-----------------|--------|--------------------|-----------------------|
| Program Cost    |        |                    |                       |
| TA & Training   | 1.75   | 7.77               | 5.76                  |
| Program Support | .86    | 4.38               | 3.24                  |
| Commodities     |        | .25                |                       |
|                 | ----   | -----              | -----                 |
| Totals          | 2.61   | 12.40              | 9.00                  |

The implementing agencies are subject to internal audits, but this audit capability is not satisfactory in all cases. Moreover, A.I.D. audit guidelines requires Project support to assure an adequate level of audit control. Components I, II, and III will be evaluated separately and at

various times during the life of Project, due to differences in the nature of the component activities. The schedule of the evaluations are presented in the Implementation Plan. Four percent of A.I.D. funds (\$3 million) is set aside for financial reviews, financial monitoring, audits (pre-award surveys, concurrent audits, non-federal audits), and evaluations. Those funds will be administered by USAID/El Salvador. Budgeting for these activities, and \$18.36 million for inflation and contingencies, are shown in the financial tables in the Financial Plan as two individual budget components.

F. Beneficiary Analysis.

1. Social Considerations.

a. Introduction.

The Public Services Improvement Project is formulated with three important social considerations: (1) to assure that services from the public utilities are provided so that the population can benefit from them, (2) spread the benefits of development to a wider group of the populace, and (3) incorporate local leaders into the decision making process and, in some cases, into the implementation process. That is to say, the Project furnishes infrastructure as a means of enhancing social progress through restored, repaired, and constructed service facilities whereby economic and local political strengthening helps bring about improved health, education, and general living conditions.

The benefits that will derive from the restoration of services damaged by direct and indirect actions of the insurgents - electricity, transportation, water supplies - facilitate the economic and, thus, social, progress of much of the people of El Salvador. The rural road repair and construction, and the restoration and building of water and sanitation systems, coupled with health education, will bring immediate savings in time expended to obtain water and reduce the incidence of some diseases. The roads are expected to directly help nearly a fourth of the rural population and the water/sanitation/health education will aid at least 600,000 persons in small towns and villages.

b. Social Benefits.

There are three important concepts that guided the preparation of the project.

- (1) Unless the restoration of services is carried out, the continued damages to the utilities would largely ruin the economy of the nation, which in turn would essentially reverse much of the social progress.
- (2) Despite the overall social progress of the nation, the rural population has not benefitted from the progress, and has not been able to contribute to continued industrial and agricultural production.
- (3) Under the centralized government system, local communities have had little advisory or decision making power, which in part has reduced their benefits.

The first concept, preserving the public services, addresses several of the social problems that already exist and that would grow more acute were the services to fail or be drastically reduced, i.e., maintaining public services has enabled the country to maintain positive, albeit small, increases in GDP, which have kept unemployment in check (1985 estimate of 10%), and enabled a large informal sector to develop. It is also anticipated that these positive movements will also, at least in part, alleviate the causes of the insurgency, helping to achieve a more equitable social structure.

The Salvadoran investment in infrastructure and other facilities has concentrated on the capital and a few other cities in the past. While some improvements were made in the small towns and villages, these were relatively few in overall number and coverage. The deficiencies have limited the economic results of the labors of the rural people, reducing the social benefits they could provide for themselves. The government failure to provide the services left the rural population without safe water and adequate sanitation facilities. That, in turn, resulted in unusually high expenditures of efforts in the acquisition of water, time that could have been spent in more remunerative endeavors. It also failed to protect these residents from a host of debilitating and fatal diseases, still further reducing their effective participation in the social and economic life of the republic. This Project will enable the GOES to take a first step toward remedying these inequalities.

The previous problems were exacerbated because local participation in decision making was low. The communities had few effective channels for making their wants known and obtaining the resources to effect the needed improvements. Project 0320 has built in some important communications vehicles. Local committees will be utilized to determine the water/sanitation, and to a lesser extent the rural roads, infrastructure desired, its characteristics, and the form whereby the infrastructure will be operated and maintained. The mayors and other municipal officers will be involved in sub-project determination, the organization for it, and in some cases the actual implementation of sub-projects. The participation of these local groups will improve the quality of the infrastructure and at the same time help further enhance the democratic process of El Salvador.

Water and health promoters will directly provide training and technical assistance to the participants in the municipalities and the communities on the process and implementation of sub-projects. The training and technical assistance to help GOES agencies further their work with the municipalities will add a further dimension to social progress. The provision of these two factors to the technicians and managers of the other utilities will improve their abilities to design and implement projects and, thereby, indirectly bring about greater social benefits to the population of the country.

## 2. Beneficiaries.

There is a wide range of beneficiaries, both direct and indirect, from the Public Services Improvement Project. The main groups of these include:

- a. Rural producers will earn economic benefits through the facilitation of inputs to and products from agriculture resulting from improvements to rural roads.

- b. Participating municipal officials and local committees will, through training and technical assistance, strengthen skills in community organization and democratic processes.
- c. Host country contractors, by repairing and building many of the infrastructure sub-projects using labor from within the local communities, will not only facilitate social and economic improvement but also will represent a strengthening of the private sector.
- d. Private sector manufacturing and commerce sectors will benefit directly from the restoration of services; their employees will gain employment that might otherwise have been lost, and as the businesses increase, new jobs will be created. In total, 12,000 person years of employment will be generated.
- e. The greater populace will benefit from the restoration of the roads, port, airport, and the railroad, which will improve transportation, help reduce costs and thus make more and better products available.
- f. Government agencies, and the recipients of their services, will benefit from better planning, design, management, and conduct of construction, repair, and maintenance of the services will, through greater efficiency, increase the amount of benefits that can eventually accrue to the people.

### 3. Women in Development.

As indicated above, there is a wide range of beneficiaries in a project designed primarily to restore and expand various elements of the country's infrastructure in order to improve access to public services and to increase economic productivity. In a general sense, of course, women will share these benefits with men and children.

With the exception of the WS&S and health component, and the access road sub-component, however, it will be extremely difficult to disaggregate data relating to the Project's impact on women vs. men for project activities relating to electrical grids, ports, airports and railroads. The presumption is that, to the degree that females utilize this infrastructure, they will benefit from its repair and expansion.

Nevertheless, for the infrastructure project activities, the Project team will be required to work with its respective counterparts to establish disaggregated data bases in such measurable areas as: contracts let to male vs. female owned private sector companies; training to male vs. female employees of public sector ministries and agencies; and, employment of male vs. female day laborers. Such records are, of course, already kept, but they are not disaggregated by sex at present. All of these types of activities to be funded under the Project will provide for the disaggregation of the data such that the differential impact of the Project at these levels can be measured.

The WS&S and health, and access road, activities will, however, allow for a much broader measurement of the sex-based differential impact of these project activities. To the degree possible, the TA teams and the project support group will ensure that all record-keeping forms relating to these activities disaggregate the data by sex.

Among other things, these activities will include the following:

- project funded training programs for MOH and ANDA/MU central and regional staff;
- training for water and health promoters;
- private sector contracting and day-labor employment for water systems and access roads;
- the formation of water user committees and their training;
- community participation and decision-making concerning such issues as site selection, type of system, maintenance requirements, ownership and use rights, user fees, and so forth; and,
- health education programs on water use and sanitation.

The equitable participation of females in any or all of these activities cannot be assumed. The record-keeping will be designed to track accurately their participation rates and the individuals and agencies implementing these activities will have the flexibility to modify implementation requirements to increase female participation, if this is indicated.

While quotas are not necessarily desirable, it is reasonable to assume that women can and will constitute at least 30% of the day-labor force, 50% of the local-level decision-making body, and 75% of the recipients of the health education training. At the same time, the project will strive for parity between males and females receiving training as employees of the MOH and ANDA, except for the water and health promoters who are predominantly male because of the security situation and cultural traditions in El Salvador.

The percentage figures presented above are not simply arbitrary. In the case of day-labor, for example, women will be recruited in proportion to their availability in the local labor market. Studies have shown that, especially in rural areas, cash received by males is not necessarily shared with females, although women do receive food and commodities. Also, there is a tendency on the part of males at all levels to assume that women cannot participate in the heavy labor requirements involved in such activities as road building and water system construction. However, in the displaced persons program, women have been very involved in contributing labor for site clearing and house construction, and for access road construction. Thus, a precedent exists for a reasonable involvement of females in this project's construction activities, and the cash flow to women would allow them to utilize their own judgments about their expenditures, which frequently differ from those of males. To ensure adequate female participation as day laborers, potential private sector

contractors will be required to specify their level of participation with an indication of equitable pay scales, when submitting bids for individual sub-projects.

A special effort will also be made to ensure that women form a large percentage of the water-user committees and that they play a key role in decision-making processes. The location and type of water supply is particularly crucial to women for several reasons. First, if a reduction in time spent on one of the day's most strenuous activities, i.e., water collection, can be realized from the Project, then a real benefit can be achieved in that women could utilize the saved time for other productive activities. Second, women will benefit from the increased convenience of a safe, accessible water supply, since women are the ones responsible for cooking, washing clothes and bathing small children. Third, women with access to a safe and abundant water supply will be able to undertake such activities as family gardens, small-scale production of garden crops for marketing, and rudimentary food processing.

Despite these important benefits, the fact is that worldwide experience has demonstrated that women are frequently left out of WS&S decision-making processes. The Project will counter this problem by requiring a satisfactory level of female participation in the decision-making process as a criteria for sub-project approval.

Finally, the Project will seek very high level of female participation in the health education activities. In the first place, the primary water source for those communities not served with a potable water system is a nearby stream, river, or spring. Water is either carried home in earthen or plastic jugs or used directly from the source. With the exception of the springs, most sources of water are contaminated. Thus, food, if cleaned, is washed in contaminated water; the washing of hands before meals is not commonly practiced; latrines are almost non-existent in many communities and frequent bathing is difficult. A reduction in the instances of disease generated from this water, especially among children, is a primary purpose of the WS&S and health component and women must receive the information about these problems firsthand.

Second, the beneficial impact on health will be particularly significant for pregnant and lactating women, who experience a high prevalence of disease and malnutrition that is dangerous both for the mother's health and well-being and for that of her unborn or infant children.

Third, women have a large role to play in the social acceptability of the water system and particularly of the latrines. The health habits of the entire family are dependent upon the women in the family and the educational and promotional strategies contemplated under the project will be directed at women so that they become the promoters of changed attitudes toward public health and personal hygiene.

Given the significance of female participation in the health education activities, then, the health promoters will be required to document male/female participation rates and to determine and eliminate the constraints - which are often related to the time and place of training sessions - to female participation if this is determined to be unacceptably low.

## VI. FINANCIAL PLAN.

The total investment in the Public Services Improvement Project will be \$135 million, consisting of \$75 million in A.I.D. funds and \$60 Million GOES counterpart contribution, including ESF and PL 480 Title I generated local currencies. Of the \$75 million in A.I.D. funds, approximately \$19.3 million will be utilized to pay local currency costs. Thus, foreign exchange expenditures will be approximately \$55.7 million; local currency expenditures will be approximately \$79.3 million.

Foreign exchange funds will finance both long and short-term technical assistance and short-term training for ANDA, MOH, and MOP, and the costs of AID Project support, audits, and evaluations.

Funding in foreign exchange and local currency also will be provided for a broad spectrum of goods and services for the operating organizations (ANDA, CEPA including Comalapa Airport and Acajutla Seaport, FENADESAL, MOH, MOP, and CEL) which are concerned with various public service and infrastructure functions.

Bases for cost estimates are as follows:

- (a) Costs for emergency repair are based on requirements during past years for restoration of service interrupted by sabotage.
- (b) Costs for repairs, including indirect damage for the railroad are determined also on experience over the past few years. Costs at the ports and the international airport at Comalapa are based on estimates which assume only a small portion of the most critical parts of the total need to be met.
- (c) Cost of deferred maintenance of secondary roads, is estimated at C50,000 (\$10,000) per kilometer, although actual unit cost per sub-project will vary widely.
- (d) Costs for AME are estimated at \$.25 million and C18 million (\$3.6 million) per year during the life of the project, in addition to salaries of any Caminos and DUA mechanics paid from the ordinary budget of MOP.
- (e) Costs for ANDA reflect the experience of the pilot rural water project and partial assessments of deferred maintenance and the operational and investment cost of MOH water projects; MOH training and promotional costs are based on those of similar programs.
- (f) Institutional contract technical assistance teams are estimated at \$200,000 per person-year; PSC positions at \$175,000 per year. A total of 12 (a PSC Health Specialist in USAID/HPN; a PSC Sanitation Engineer in USAID/IRD), plus an institutional contract consisting of a Chief of Party, with clerical staff, in an independent office; 2

Project Manager Specialists (one in the Caminos MU, the other in the ANDA MU, a specialist in administration and finance of water companies); and Equipment Maintenance Manager in AME; a Sanitary & Water Supply Engineer in ANDA MU; a Health Education and/or Training Specialist in ANDA MU and MOH; and 4 other professionals (1 Financial & Accounting Specialist, 1 Personnel Management Specialist, 1 Data Processing Management Information Specialist, and 1 Community Development Specialist). There is expected phasing out of the Sanitary & Water Supply Engineer position in ANDA MU by the end of year three, and the 4 professional positions who will work in ANDA MU and half-time in Caminos MU may be phased out during year three. The phasing out of these positions will leave 6 -8 positions extant during the life of the project. Short-term TA is estimated at \$650/day.

- (g) Lease of a 4-person helicopter is estimated at C5,000 (\$1,000) per day (4 operating hours), based on average costs during 1989.

The predecessor Public Services Restoration Project began with loan financing in 1981, but has been grant financed since April 1983 in the amount of \$98.2 million. Continued use of grant funding for public services restoration and reconstruction will be made. The GOES is severely constrained in its financial ability to restore or maintain the infrastructure. Prompt and effective management of the repair and maintenance of the public service infrastructures in the face of guerrilla attacks is politically essential. With respect to the Rural Water Supply Component, there will be broadly diffused social benefits for which full cost recovery is not practical. The already large foreign debt and high GOES debt service ratio (14% of exports of goods and non-factor services); the toll that the war, the 1986 earthquake, the fall in international commodity prices, and export stagnation have placed on the Salvadoran economy; and the broadly diffused social benefits, compel grant financing of this Project. For more information on the financial analysis, see Annex "D."

Following are the Financial Plan tables by components, implementing agencies, and source of funds.

TABLE I  
PROJECT 519-0320  
PROJECTED EXPENDITURES  
(\$MILLION)

| COMPONENT | IMPLEMENTING ENTITY OR BUDGET ELEMENT | YEAR I |      |       | YEAR II |      |       | YEAR III |      |       | YEAR IV |      |      | YEAR V |      |      | LDP   |       |       |        | TOTAL PROJECT |
|-----------|---------------------------------------|--------|------|-------|---------|------|-------|----------|------|-------|---------|------|------|--------|------|------|-------|-------|-------|--------|---------------|
|           |                                       | AID    | AID  | GOES  | AID     | AID  | GOES  | AID      | AID  | GOES  | AID     | AID  | GOES | AID    | AID  | GOES | AID   | AID   | AID   | GOES   |               |
|           |                                       | FX     | LC   | LC    | FX      | LC   | LC    | FX       | LC   | LC    | FX      | LC   | LC   | FX     | LC   | LC   | FX    | LC    | TOTAL | GOES   |               |
| I         | IANDA                                 | 0.50   |      | 1.45  | 0.70    |      | 1.37  | 0.60     |      | 1.23  | 0.50    |      | 1.00 | 0.40   |      | 1.00 | 2.70  | 0.00  | 2.70  | 6.05   | 8.75          |
|           | ICEL                                  | 5.00   |      | 0.05  | 4.84    |      | 0.05  | 4.00     |      | 0.05  | 3.00    |      | 0.04 | 1.00   |      | 0.04 | 17.84 | 0.00  | 17.84 | 0.23   | 18.07         |
|           | ICEPA                                 | 0.50   |      | 1.46  | 0.53    |      | 1.38  | 0.40     |      | 1.30  | 0.30    |      | 1.17 | 0.30   |      | 1.15 | 2.03  | 0.00  | 2.03  | 6.46   | 8.49          |
|           | INOP                                  | 0.30   |      |       | 0.30    |      |       | 0.25     |      |       | 0.20    |      |      | 0.10   |      |      | 1.15  | 0.00  | 1.15  | 0.00   | 1.15          |
|           | SUB-TOTAL                             | 6.30   | 0.00 | 2.96  | 6.37    | 0.00 | 2.80  | 5.25     | 0.00 | 2.58  | 4.00    | 0.00 | 2.21 | 1.80   | 0.00 | 2.19 | 23.72 | 0.00  | 23.72 | 12.74  | 36.46         |
| II        | INOP                                  | 0.90   |      | 8.25  | 0.90    |      | 7.25  | 0.90     |      | 6.50  | 0.80    |      | 5.00 | 0.80   |      | 3.41 | 4.30  | 0.00  | 4.30  | 30.41  | 34.71         |
| III       | IANDA                                 | 2.00   | 2.00 | 3.30  | 1.56    | 3.30 | 2.10  | 0.60     | 3.30 | 1.31  | 0.58    | 3.63 | 0.25 | 0.10   | 2.00 | 0.16 | 4.84  | 14.23 | 19.07 | 7.12   | 26.19         |
|           | INOP                                  | 0.30   | 0.24 | 0.36  | 0.30    | 0.37 | 0.40  | 0.07     | 0.37 | 0.35  | 0.06    | 0.37 | 0.05 | 0.09   | 0.50 | 0.05 | 0.82  | 1.85  | 2.67  | 1.21   | 3.88          |
|           | SUB-TOTAL                             | 2.30   | 2.24 | 3.66  | 1.86    | 3.67 | 2.50  | 0.67     | 3.67 | 1.66  | 0.64    | 4.00 | 0.30 | 0.19   | 2.50 | 0.21 | 5.66  | 16.08 | 21.74 | 8.33   | 30.07         |
| IV-A      | ITA, TRAINING & PROJECT SUPPORT       | 2.61   |      |       | 2.66    |      |       | 2.39     |      |       | 2.37    |      |      | 2.37   |      |      | 12.40 |       | 12.40 |        | 12.40         |
| IV-B      | EVALUATION/AUDIT                      | 0.45   |      |       | 0.60    |      |       | 0.80     |      |       | 0.45    |      |      | 0.70   |      |      | 3.00  |       | 3.00  |        | 3.00          |
| IV-C      | INFLATION/CONT.                       | 2.17   | 0.46 | 2.50  | 1.86    | 0.73 | 2.09  | 1.22     | 0.73 | 1.72  | 0.80    | 0.80 | 1.24 | 0.57   | 0.50 | 0.97 | 6.62  | 3.22  | 9.84  | 8.52   | 18.36         |
|           | TOTAL                                 | 14.73  | 2.70 | 17.37 | 14.25   | 4.40 | 14.64 | 11.23    | 4.40 | 12.46 | 9.06    | 4.80 | 8.75 | 6.43   | 3.00 | 6.78 | 55.70 | 19.30 | 75.00 | 160.00 | 135.00        |

INFLATION

|                |     |      |
|----------------|-----|------|
| FX             | 6%  | 2.85 |
| LC(GOES INPUT) | 15% | 7.65 |
| CONTINGENCY    |     |      |
| CONST. COSTS   | 15% | 4.51 |
| OTHER COSTS    | 4%  | 3.35 |

TOTAL 16.36

|             |        |
|-------------|--------|
| TOTAL ESF   | 45.00  |
| TOTAL CA    | 30.00  |
| TOTAL GOES  | 60.00  |
| GRAND TOTAL | 135.00 |

TABLE II  
PROJECT 519-0320  
SUMMARY COST ESTIMATE  
(\$MILLION)

| COMPONENT                             | A I D        |              | E D E S     |              | T O T A L    |              | TOTAL         |
|---------------------------------------|--------------|--------------|-------------|--------------|--------------|--------------|---------------|
|                                       | FX           | LC           | FX          | LC           | FX           | LC           | PROJECT       |
| IPUB. SERVICES RESTORATION (I)        | 23.72        |              |             | 12.74        | 23.72        | 12.74        | 36.46         |
| IDEFERRED MAINT.& REPAIR (II)         | 4.30         |              |             | 30.41        | 4.30         | 30.41        | 34.71         |
| IWATER SUP., SANIT. & HEALTH (III)    | 5.66         | 16.08        |             | 8.33         | 5.66         | 23.41        | 30.07         |
| ITA, TRAINING, PROJECT SUPPORT (IV-A) | 12.40        |              |             |              | 12.40        | 0.00         | 12.40         |
| IEVALUATION/AUDIT (IV-B)              | 3.00         |              |             |              | 3.00         | 0.00         | 3.00          |
| INFLATION/CONTINGENCY (IV-C) #        | 6.62         | 3.22         |             | 8.52         | 6.62         | 11.74        | 18.36         |
| <b>TOTAL</b>                          | <b>55.70</b> | <b>19.30</b> | <b>0.00</b> | <b>60.00</b> | <b>55.70</b> | <b>79.30</b> | <b>135.00</b> |

|                 |     |              |
|-----------------|-----|--------------|
| # INFLATION:    |     |              |
| FX              | 6%  | 2.85         |
| LC (GOES INPUT) | 15% | 7.65         |
| CONTINGENCY     |     |              |
| CONST. COSTS    | 15% | 4.51         |
| OTHER COSTS     | 4%  | 3.35         |
| <b>TOTAL</b>    |     | <b>18.36</b> |

TABLE III  
PROJECT 519-0320  
FINANCIAL PLAN BY IMPL. AGENCY  
(\$MILLION)

| IMPLEMENTING AGENCY | COMPONENT I |       | COMPONENT II |       | COMPONENT III |      | COMPONENT IV-A |      | COMPONENT IV-B |      | COMPONENT IV-C |      | TOTAL |       |
|---------------------|-------------|-------|--------------|-------|---------------|------|----------------|------|----------------|------|----------------|------|-------|-------|
|                     | AID         | GOES  | AID          | GOES  | AID           | GOES | AID            | GOES | AID            | GOES | AID            | GOES | AID   | GOES  |
| ICEL #              | 17.84       | 0.23  |              |       |               |      |                |      |                |      |                |      | 17.84 | 0.23  |
| INDP                | 1.15        |       | 4.30         | 30.41 |               |      |                |      |                |      |                |      | 5.45  | 30.41 |
| ICEPA               | 2.03        | 6.46  |              |       |               |      |                |      |                |      |                |      | 2.03  | 6.46  |
| IANDA               | 2.70        | 6.05  |              |       | 19.07         | 7.12 |                |      |                |      |                |      | 21.77 | 13.17 |
| INDH                |             |       |              |       | 2.67          | 1.21 |                |      |                |      |                |      | 2.67  | 1.21  |
| IAID                |             |       |              |       |               |      | 12.40          |      | 3.00           |      |                |      | 15.40 | 0.00  |
| INFLATION/CONT. ##  |             |       |              |       |               |      |                |      |                |      | 9.84           | 8.52 | 9.84  | 8.52  |
| TOTAL               | 23.72       | 12.74 | 4.30         | 30.41 | 21.74         | 8.33 | 12.40          | 0.00 | 3.00           | 0.00 | 9.84           | 8.52 | 75.00 | 60.00 |

# Includes \$5.00 of helicopter services to be procured by AID

##

INFLATION

FX 6% 2.85

LC(GOES INPUT) 15% 7.65

CONTINGENCY

CONST. COSTS 15% 4.51

OTHER COSTS 4% 3.35

TOTAL 18.36

TABLE IV  
PROJECT 519-0320  
SUMMARY COST ESTIMATE BY INPUT  
(MILLION)

| COMPONENT   | INPUT                                       | AID   | GOES  | TOTAL PROJECT |
|-------------|---|-------|-------|---------------|
| I           | Commodities                                 | 18.72 |       | 18.72         |
|             | Helicopter Services                         | 5.00  |       | 5.00          |
|             | Labor - Salaries                            |       | 12.74 | 12.74         |
|             | Subtotal                                    | 23.72 | 12.74 | 36.46         |
| II          | Commodities (Imported)                      | 4.30  |       | 4.30          |
|             | Engineering & Const. Contracts              |       | 16.50 | 16.50         |
|             | Salaries                                    |       | 8.50  | 8.50          |
|             | Materials (Domestic)                        |       | 2.41  | 2.41          |
|             | Services                                    |       | 3.00  | 3.00          |
| Subtotal    | 4.30  | 30.41 | 34.71 |               |
| III         | Commodities                                 | 10.73 |       | 10.73         |
|             | In-country Training                         |       | 1.75  | 1.75          |
|             | Administrative Costs                        |       | 3.00  | 3.00          |
|             | Engineering & Const. Contracts              | 11.01 | 3.58  | 14.59         |
| Subtotal    | 21.74                                       | 8.33  | 30.07 |               |
| IV-A        | Long-Term TA                                | 7.00  |       | 7.00          |
|             | 35 person-years @ 200,000                   |       |       |               |
|             | Project Support @                           | 4.38  |       | 4.38          |
|             | Short-Term TA                               | 0.46  |       | 0.46          |
|             | 700 days @ \$650/day                        |       |       |               |
|             | Training                                    | 0.31  |       | 0.31          |
| Commodities | 0.25  |       | 0.25  |               |
| Subtotal    | 12.40                                       | 0.00  | 12.40 |               |
| IV-B        | Evaluation & Audit @ 4% of AID contribution | 3.00  |       | 3.00          |
| Subtotal    | 3.00  | 0.00  | 3.00  |               |
| IV-C        | Inflation/Contingency                       | 9.84  | 8.52  | 18.36         |
| Subtotal    | 9.84  | 8.52  | 18.36 |               |
| TOTAL       |   | 75.00 | 60.00 | 135.00        |

\*\*\*\*\*  
@ includes PSC's, commodities etc.

TABLE V  
PROJECT 519-0320  
PAYMENT VERIFICATION MATRIX  
(\$MILLION)

| METHOD OF IMPLEMENTATION   | METHOD OF FINANCING        | APPROX AMOUNT |              |               |
|--|----------------------------|---------------|--------------|---------------|
|  |                            | AID           | GOES         | TOTAL         |
| COMMODITIES<br>(Components I, II, III & IV-A)<br>Host-Country Procurement            | DIRECT L/COM<br>BANK L/COM | 34.00         |              | 34.00         |
| HELICOPTER SERVICES<br>(Component I)<br>Direct AID Procurement                       | DIRECT PAY                 | 5.00          |              | 5.00          |
| CONSTRUCTION CONTRACTS<br>(Components I & III)<br>Host-Country Procurement           | DIRECT REIMB.              | 11.01         | 20.08        | 31.09         |
| PROJECT SUPPORT, LOCAL COSTS<br>(Components I, II & III)<br>Host-Country Procurement | DIRECT PAY<br>BY GOES      |               | 31.40        | 31.40         |
| ITA, PROFIT-MAKING CONTRACTOR<br>(Component IV-A)<br>Direct AID Procurement          | DIRECT PAY                 | 7.46          |              | 7.46          |
| TRAINING, PROFIT-MAKING CONT.<br>(Component IV-A)<br>Direct AID Proc. or Placement   | DIRECT PAY                 | 0.31          |              | 0.31          |
| PSC, PROJECT SUPPORT<br>(Component IV-A)<br>Direct AID Procurement                   | DIRECT PAY                 | 4.38          |              | 4.38          |
| EVALUATION & AUDIT<br>(Component IV-B)<br>Direct AID Procurement                     | DIRECT PAY                 | 3.00          |              | 3.00          |
| INFLATION/CONTINGENCY<br>(Component IV-C)  | To Be Determined           | 9.84          | 8.52         | 18.36         |
| <b>TOTAL</b>   |                            | <b>75.00</b>  | <b>60.00</b> | <b>135.00</b> |

## VII PROJECT ANALYSIS SUMMARIES

### A. Technical Analysis.

One objective of the implementing agencies under the Project will be to select technology appropriate to the function to be served by any proposed intervention. The level of technology varies widely, from state of the art technology in electric power, to labor intensive rural roads, to installation of drilled wells, hand pumps and individual privies. The institutional capability to utilize technology, or the technology delivery system, varies widely among agencies, also. Technical aspects are discussed more fully in Annex I. It is concluded that the technical competence, in so far as hardware is concerned, exists in El Salvador to accomplish the tasks that the project requires. Further, they have been found to be appropriate to the tasks in the several institutions from past experience. The technologies pose no obstacle to implementation.

The ability to organize, manage, and utilize technology for optimum results does not exist in all of the implementing agencies, although CEL, ANTEL, and CEPA are exceptions. The difficulties will be overcome, where necessary, with technical assistance provided in this Project. The lack of adequate management skills and equipment, and weak interinstitutional and interagency coordination, not lack of individual technical competence, are the problems. This Project will resolve the difficulties through technical assistance and training. For further details, see Annex E.

### B. Social Soundness Analysis.

The social analysis, found in Annex F, outlines the salient characteristics of the country and its people. Section V.E, entitled Beneficiary Analysis, and Annex G, discuss the beneficiaries of each component and the impact of the entire project. At this point, it is important to note that the restoration, expansion and maintenance of all levels of infrastructure, including small town/rural water supply and sanitation (with its attendant health education), are highly desirable to the people of El Salvador. This is so because of the direct relationship between these activities and the expansion of employment opportunities, enhanced economic productivity, improved health, and the increased access to social services.

As such, the Project is both feasible and consistent with the social and cultural environment in which it will operate. To maximize the achievement of the Project purposes, however, it will be necessary for the implementation agencies and individuals to give due consideration to the potential socio-cultural problems discussed in the section on Project constraints (Part IV).

### C. Institutional Analyses.

#### 1. MOP.

Booz, Allen & Hamilton completed an institutional analysis of the Ministry of Public Works in February of 1989 that built on the damage assessment and

institutional assessment conducted by Development Associates in 1986 and 1988. All three reports noted serious weaknesses in the institution, especially those connected with the management of resources and the deployment of personnel and equipment.

Project 0320 has been designed to address these deficiencies through technical assistance and training. Specifically, the Project will include two management units in the appropriate agencies. These will strengthen MOP's capacity to adequately manage the Project inputs and carry out the restoration and deferred maintenance planned. (Annex I.3 contains more details on MOP and AME.)

## 2. ANDA.

The Salvadoran water authority was subjected to three recent studies to determine its capability to carry out its general functions and add those contemplated in this Project. WASH conducted an in depth study in 1988; Development Associates included that institution in its 1988 assessment, and Booz, Allen & Hamilton completed an institutional assessment in early 1989.

The common conclusions of these studies were that:

- ANDA has strong managerial and financial capability in urban infrastructure. However, the water authority has some important problems with its policy framework, i.e., tariff structure and with fee collection policies.
- ANDA has had very limited experience with rural water systems; however in the AID pilot project, the infrastructure was well done.
- ANDA does not possess the personnel to carry out the community organization and health education activities envisioned for this Project.

The Public Services Improvement Project will resolve the technical and management capacity problems in ANDA through technical assistance, training, adding personnel to its staff, and by the establishment of a management unit to help the authority meet the requirements of the Project. The tariff and collections problems will be addressed in the policy dialogue. (Details on the ANDA structure and capabilities are presented in Annex J.1.)

## 3. MOH.

The present Project will depend primarily upon the cooperation with and services of the Community Health and the Health Education Divisions. The 1988 evaluation of the community health services and some internal assessments found that several programs in the MOH were addressing much the same clientele, often bringing about duplication of effort and travel. The creation of the new Community Health Division was a move to consolidate the work and make the services more efficient.

The present Project will build on this more effective organization and bring about coordination between MOH and ANDA in the water supply, sanitation and health education component. Reactivation of an existing national level

committee, or a new one created for this project, will effect coordination between MOH-ANDA, and bring about regional, sub-regional and local cooperation between the personnel of these institutions. Technical assistance and training will further the MOH capacity to carry out its field activities and to create the necessary health education materials. (Annex I.2 presents additional information on MOH.)

#### 4. CEL.

The A.I.D. experience with CEL and the 1988 Development Associates assessment have shown the electric authority to be efficient in the implementation of the restoration of its infrastructure and in the managing of personnel, equipment, and accounting. It carries out its work effectively.

The present Project has made a provision for any technical assistance or training that may become needed for CEL although none has yet been specified. The electric authority does have some difficulties in making some of its collections, particularly with government institutions. A policy reform agenda item encourages attention to this problem through dialogue with GOES and CEL.

#### 5. CEPA.

The Executive Port Commission manages three utilities: the El Salvador International Airport at Comalapa; the Port of Acajutla; and the National Railways of El Salvador (that manages the Port of Cutuco). CEPA furnishes technical, planning, and accounting support to the three utilities. The 1988 Development Associates assessment and that conducted in the preparation of Project 0320 found it efficient in these functions. All three institutions have problems with their tariff structures. CEPA has prepared recommendations for updating the tariffs. The ongoing Mission policy dialogue seeks to remedy this deficiency and that of some fees owed to the three utilities for some time.

#### D. Economic Analysis.

While the Project has social and political goals, it was also seen as of considerable economic value to El Salvador. Obviously, repeated damage to the utilities brings about high costs for their restoration and repair. Similarly, with the indirect damage that occurs to machinery and equipment from low voltage and repeated service interruption while operating under load, plus the inability of the institutions to carry out the needed maintenance, the costs rise unusually high.

Despite these untoward factors, the economic analyses (Annexes G.1 and G.2) showed favorable cost-benefit ratios for each of the institutions in the Project and for the Project as a whole. Using the most conservative assumptions on benefits, the cost-benefit ratio, overall, is 1:73 when all costs borne by the Project and the utilities are entered into the calculation. If only the Project's contributions are taken into account, the cost-benefit ratio is even higher, approaching 1:92. The project is not only economically feasible, it makes a strong contribution to the economic stabilization of El Salvador, and to production capability of the country.

### E. Financial Analysis.

The financial analysis of the several institutions and their inclusion in the Project found CEL, CEPA, and ANTEL as financially responsible and requiring little or no assistance in this area. The current assessments and those related in the several studies performed on MOH, MOP, and ANDA discovered some weaknesses in the management of financial resources, as well as seriously lacking in GOES budget support. (See the Project analysis in Section VI, and detailed information in Annex D, and on AME in Annex I.3.)

The Project proposes a series of remedies to the weaknesses.

- The establishment of management units with financial managers in ANDA and in MOP (in addition to the AME management unit now in place).
- The provision of substantial technical assistance, and training as needed, to help the institutions modernize their financial management procedures and to monitor their utilization of Project funds.
- Funding for audits is incorporated as a part of the monitoring process.

In some cases, the improvement of the financial controls will require computerization equipment, and technical assistance and training on its use.

The Project has sufficient safeguards, technical assistance, and training so that the institutions can carry out their financial work effectively and accurately.

The Project will have a direct impact on reducing recurrent costs by the application of principles of effective management to keep operating costs in check. Furthermore, within the context of the broader Policy Dialogue with the GOES, the implementing agencies will be encouraged to reduce redundant staff, excess laborers, and to dispose of equipment which is not economically repairable.

## VIII. IMPLEMENTATION ARRANGEMENT AND EVALUATION.

### A. Implementation.

Project funds will be obligated under a single agreement between the Ministry of Planning and USAID. Action Plans will be developed with, and implementing letters issued to, the various implementing, or executing agencies of the government. Responsibilities are discussed in Section V. Procurement requirements and procedures are also shown in Sections V and VI.

### B. A.I.D. Management Arrangements.

The overall responsibility for the Project will rest with IRD, under the overall charge of a USDH Officer. A USPSC in IRD will manage the Project on a

day-to-day basis. In addition, one PSC project support staff advisor will be added to USAID/HPN and another added to in USAID/IRD will provide coordinated project management information on health and sanitation portions of the health/sanitation segment of the project, and to liaison between ANDA and MOH.

The USAID/HPN PSC will monitor and provide advice to USAID and participating GOES agencies, as the coordinator of the Health and community development (H/CD) aspects of the WS&S component, he/she will be under the supervision of the U.S. direct hire HPN staff and/or their designee. This coordinator will be directly responsible to monitor H/CD activities and coordinate these activities with the other HPN health programs, especially those that have program activities in the rural areas. These include the community health activities under APSISA, health education and materials development activities under the child survival strategy, and the rural programs for family planning promoter volunteers and the new program for family health volunteers.

The USAID/IRD PSC will monitor and provide advice to USAID and the participating GOES agencies, in his/her role as advisor on the health and sanitation issues of the WS&S component. He/she will be under the supervision of the U.S. direct hire IRD staff, and/or their designee. This advisor will be directly responsible for monitoring the development of such sub-project activities as water and sanitation system designs and construction, sewage treatment, water quality control, pumping systems, and appropriate technology as these relate specifically to health education and health issues.

The two PSCs will work closely together as liaisons between their respective USAID offices, and as liaisons between USAID/HPN and IRD and the Project's technical assistance team, MOH, and ANDA. Since both PSCs will be members of the Project Management group, the coordination between the two A.I.D. offices, and their respective functions in the project will be strong. The Directors of the HPN and IRD offices will monitor the liaison activities and be prepared jointly to eliminate any operational obstacles. In addition, four FSN technical specialists in IRD financed under the Project will monitor activities of each GOES agency.

The A.I.D. Office of Education and Training (OET) will provide guidance on integrating health and sanitation education into the school curriculum, and will coordinate with the Ministry of Education in selecting schools to receive water and sanitation facilities under this Project.

The Mission Program Office and Office of Projects will monitor the utilization and budgeting of counterpart funds as related to other GOES infrastructure activities to assure that scarce counterpart resources are applied for maximum impact. They will also take the lead in the detailed preparation of the various Project evaluations.

The Mission Office of Contracts (CO) will execute direct contracts for the PSCs and for the Institutional or Corporate Technical Assistance team. It will also execute short-term technical assistance contracts.

The Mission Controller Office involvement will consist of standard financial management services, i.e., accounting, voucher examination, cash management, audit liaison and financial analysis.

C. Implementation Schedule.

August, 1989:

- Project approved.
- Funds obligated in Project Agreement; Policy discussions continue.
- Funds available for Components I and IV.

October 1989:

- Conditions Precedent met.

Sept/Oct 1989:

- Advertise for technical assistance contract.

December 1989:

- MOP Component II submit Action Plans for Jan-June 1990.

January/February 1990:

- TA team mobilized.
- Caminos MU Action Plan approved.

March 1990:

- Caminos and ANDA policy and procedure manuals, contracting and procurement procedures being formulated.
- Financial management systems in MU's formulated and adopted.
- Develop and publish standards, procedures, requirements and forms for sub-project implementation plans.

April/May 1990:

- Caminos MU established and staffed.
- Caminos MU Action Plan for Component II prepared and approved.
- Tentative selection of first road sub-projects.
- Order imported commodities, Component II.
- Caminos prepares and organizes to perform sub-projects by force account, and begins force account work on sub-projects by labor intensive methods.

- First engineering contract for road maintenance sub-project awarded.
- GOES Central Coordinating Committee for WS&S component organized and meets.
- MOH and ANDA Action Plans for Component III prepared and approved.
- Order imported commodities, Component III.

June, 1990:

- WS&S component working committee of ANDA-ISDEM-MOH organizes and holds first meeting.
- Training for MOH field staff and ANDA promoters scheduled.
- First WS&S sub-projects for rural water points and sanitation selected.
- Personnel management systems in MU's formulated and adopted.
- AME begins to establish shop in Santa Ana.
- Health training aids and materials being developed.

July, 1990:

- Begin preparation of WS&S sub-project implementation plans at village level.
- Approval of first WS&S engineering contracts.

August, 1990:

- Agencies begin planning for second year Action Plan.
- Health education training aids and materials in use.

September, 1990:

- ANDA-ISDEM-MOH committee meets.
- Training performed for MOH field personnel and ANDA water promoters.
- ANDA regional offices established and staffed.
- ISDEM training program for municipal officials in WS&S procedures.

October, 1990:

- TA team begins to study water tariff and other policy issues, including staffing policy.

December, 1990:

- MOH-ISDEM-ANDA working committee meets.

January, 1991:

- AME begins organization of shop at San Miguel.
- All engineering, planning, construction, health education, continue routinely.

After January, 1991, all implementing agencies will carry on routine operations. Following are significant milestones scheduled.

February, 1991:

- First audit of Component II.

March, 1991:

- First audit of Component III.

May, 1991:

- First evaluation of Component III.
- Monthly: USAID and GOES review Project status and progress.
- Quarterly: ANDA-ISDEM-MOH committee meets.
- Annually: Agencies prepare Action Plans.

October, 1991:

- First evaluation of Component II.

October, 1992:

- Second audit of Components II and III, Component I if needed.

January, 1993:

- Evaluation of Components I, II, III.

October, 1994:

- Final audit of entire Project.
- Final evaluation of entire Project.

D. Sub-Project Selection.

1. Sub-Project Defined.

The term sub-project as used herein refers to discrete and bounded maintenance or construction tasks, such as repair of a clearly limited length of a specific road; or a water-sanitation undertaking in a specific locality including the necessary organizational, training, education, and health program related activities.

2. Responsibility for Sub-Project Selection.

The selection, management, scheduling, and execution of individual sub-projects will be the responsibility of the designated implementing agent: MOP-Caminos for roads; ANDA and the MOH for rural water-sanitation. The implementing agents shall seek the advice and assistance of local authorities at the appropriate level in selecting and executing specific sub-projects. Sub-projects selected and scheduling for their execution shall be subject to joint review and USAID approval. All sub-projects shall be examined and selections made after considering the criteria as set forth in the Project Description section above and Annex M.

E. Evaluation and Monitoring Arrangements.

The evaluation and monitoring arrangements will include continuous monitoring and formal evaluations over the life of the project. The semi-annual and formal project evaluations will focus on two elements: 1) providing continuous information on the implementation of the Project, and 2) periodically measuring the performance and adequacy of inputs, the performance of implementing agencies, progress toward outputs and goal attainment, the impact of policy reform (both accomplished and still needed) on the Project outputs and Project sustainability, the distributional impact of Project direct and indirect benefits, especially employment and income and health improvements, and identifying problem areas and possible solutions. Baseline data will be supplemented by, among other things, the Infrastructure Sector Assessment being conducted independently of this Project, and the policy dialogue impact papers to be prepared under the technical assistance component of this Project.

The Ministries of Health and of Public Works, CEPA, CEL and ANDA will establish a continuous monitoring program with semi-annual reporting to reflect project progress, problem areas and solutions, and overall impact. This reporting will be prepared by the MOH, MOP, CEPA, ANDA and CEL personnel, and will constitute the basis for the project formal evaluations. The continuous monitoring will provide information needed to evaluate the operations of the Project, so that any aspect of the Project's operation which detracts from effective implementation is quickly noted, understood, and corrected.

The results and data generated by the semi-annual reporting carried out by the respective implementing entities as baseline information will be used by outside contractors during the formal evaluations of the project. In doing so, the contractors will develop simple routine forms which the implementing entities will complete for subsequent data collection and analysis during the final evaluation.

Each of the components I, II, and III will be evaluated separately, and in some parts of the schedule at different times, due to differences in activity in the three components. Component III, Water, Sanitation and Health will be evaluated twelve months after the arrival of the technical assistance team. This evaluation will focus on the adequacy of baseline data collection, coordinating mechanisms between ANDA and MOH, and health education programs. Component II, Rural Roads Program will be evaluated six months later, after a small number of sub-projects have been completed by both contract and force account, in order to judge the relative effectiveness of the two methods, as well as implementing procedures generally.

A comprehensive mid-term evaluation, as well as a comprehensive end of project evaluation will be carried out by short-term consultants. In addition to measuring the success of the Project in meeting the Project purposes, the major evaluations will measure the increases in the agro-sector GDP, and reduction in the incidence of diarrheal and other water-borne infections. It is estimated that four or five consultants will be required for each evaluation effort in the following areas: infrastructure (roads, bridges, railroads, airports, and other public services), health, water and sanitation, and economic impact.

All the evaluation and monitoring arrangements will be funded under the Project. A total amount of approximately \$750,000 has been budgeted under the Project for evaluation activities.

F. Procurement Under All Components.

1. Responsibilities and Procedures.

In general, each implementing agency will be responsible for procurements of goods and services required for implementation of their approved Actions Plans.

- a. Procurement under Components II and III will be done primarily by host country contracting using competitive bidding procedures. In the Management Units, the technical assistance teams will help in developing and publishing standard procedures, and standard procurement documents as necessary.

The Project will devise methods to overcome the constraints posed by the limited availability of crushed stone and construction equipment to smaller contractors by providing these as government furnished equipment and/or material from MOP and AME to assure competitive bidding by as large a number of contractors as possible. Design of sub-projects for accomplishment by labor intensive methods will tend to minimize equipment needs, and will avoid mobilizing of large vulnerable fleets that would provide an attractive target for sabotage.

- b. Under Component I, the implementing agency or USAID, as circumstances may require, will procure imported commodities. After an initial announcement in the Commerce Business Daily soliciting expressions of interest from manufacturers and

suppliers, the USAID and implementing agencies will compile and maintain a list of potential suppliers. Due to the nature of the damage to be repaired, formal procurement procedures for each individual procurement will be waived. However, competitive procedures shall be used by USAID and/or the implementing agencies to the maximum extent practicable.

- c. Under Component IV competitive direct AID procurement procedures will be used to contract for technical assistance, audits and evaluations, and short-term training.

Additional description of procurement and payment procedures and responsibilities are discussed in Annex D.

## 2. Equipment and Commodities.

Actual quantities, and to some degree the nature of commodities to be purchased will depend on (1) the types and amount of damages sustained in the coming years, and (2) the requirements of sub-projects selected for implementation.

It is expected that foreign exchange funds will finance procurement of materials and commodities of which the following list is typical and illustrative:

- Shop tools and equipment.
- Water pumps, both hand pumps and motor driven.
- Drilling equipment and supplies.
- Pipe, valves, gauges, meters.
- Training aids and education materials.
- Light vehicles, including motorbikes.
- Electrical transmission and distribution equipment.
- Repair parts for equipment.
- Data processing equipment, primarily Personal Computers.
- Office equipment and supplies.
- Water quality control field kits and reagents.
- Water treatment chemicals.
- Simple surveying equipment and altimeters.
- Mobile radios and communications equipment.
- Handbooks and manuals.

Host country agencies have demonstrated their experience to carry out procurements of the nature envisioned under this Project with only minimal AID involvement.

### 3. Source and Origin.

Source and origin of commodities and services shall be the U.S. and CACM, including El Salvador. Source and origin waivers, in addition to any blanket waivers under which the Mission may operate, are not anticipated. See Section VI.

### 4. Procurement Waivers.

A waiver of advertising requirements of Handbook 1, Supplement B, Chapter 12.C.4.b. for procurements under the Restoration Component will be requested from the AA/LAC. However, as discussed above, an initial announcement will be placed in the Commerce Business Daily soliciting expressions of interest from manufacturers and suppliers, from which A.I.D. and implementing agencies will compile and maintain a list of potential suppliers. Due to the nature of the damage to be repaired, formal procurement procedures for each individual procurement will be waived. However, competitive procedures shall be used by USAID and/or the implementing agencies to the maximum extent practicable.

The need for additional waivers is not known at this time. In the past for similar activities, source-origin waivers were granted on the basis of security considerations. It may also be that standardization considerations might compel a request for approval of proprietary procurement. However, both of these issues are under Mission-wide study. Should further waivers be indicated, they will be sought during implementation.

## IX. ENVIRONMENTAL CONSIDERATIONS.

### A. Environmental Assessment.

Component I and Component II activities, restoration and maintenance of infrastructure, are by their nature neutral in their effect on the existing environment since these activities consist of restoring facilities rather than adding to or changing them. One exception may be the construction of a few rural access roads. In these instances, an environmental assessment will be prepared to ensure that there are no negative effects as a result of the construction activity. Generally, road upgrades have environmental enhancing effects.

Component III, rural water and sanitation construction is undertaken for the express purpose of changing the environment. The effect of the changes and the environmental implications of site selection and construction activities will be evaluated for each sub-project prior to commitment of funds for the sub-project.

The ANDA technical assistance team will assist ANDA personnel in developing an environmental assessment form and report format, for approval by USAID. The technical assistance team also will instruct ANDA Project personnel in preparing the environmental analysis and in changing of sub-project design parameters if the need is indicated by that analysis.

It is not expected that any of the simple sub-projects contemplated under the water and sanitation component of the Project will result in damage to the environment, but each sub-project will be analyzed to unexpected negative impacts do not develop as a result of construction activity.

**B. Beneficiary Impact.**

The introduction of the rural water and sanitation will produce the following beneficial environmental impacts.

- The provision of potable water will provide a most important home improvement in rural areas in El Salvador. It will satisfy the immediate cooking and washing needs and will promote a positive impact upon the health habits through health education and improved hygiene. Moreover, the beneficiaries will no longer provide themselves with water from contaminated sources nor buy it at overvalued prices.
- The provision of the water will correspond to the installation of community and/or household latrines and/or septic tanks to reduce the possibility of direct contamination to the new or repaired potable water systems.

**C. Assessment Criteria**

The following criteria will be applied in assessing the impact of the proposed WS&S sub-projects on the environment. Conformation of sub-projects to the following will be the basis for determining their acceptability from an environmental standpoint.

The community site must be suitable for long term settlement as demonstrated by the following considerations:

- the site is free from natural hazards in that it is not located near a river or a stream that is subject to flooding;
- the site is not subject to land slides nor is it such that vegetation and top soil get washed away regularly by surface water run-off; and,
- the water supply is sufficient for the sub-project site, and free of natural run-off contamination.

The following environmental considerations will be included in each sub-project design to the extent possible:

- the health education activities accompanying each sub-project must consider environmental issues;
- the water table levels must be analyzed;
- vegetation removal must be minimized;

- storage tanks to secure water supplies, satisfy demands, and offer sanitary storage will be provided where possible;
- adequate systems to accommodate sewage disposal will be provided; and,
- installation of community septic tanks or collection systems to replace individual septic tanks or pits, should be considered in each sub-project.

The GOES institutions responsible for the Project implementation are not fully versed in the application of procedures needed during the design and construction phases that help minimize adverse environmental impacts. Therefore, technical assistance will be provided to enhance the institutional capabilities to deal with environmental considerations. This TA will be of two types:

- assistance in conducting studies that would include the identification of potential environmental problems; and,  
  
assistance in the areas of minimum-cost water and sewage disposal design in rural areas to investigate adverse environmental impacts.

#### X. CONDITIONS AND COVENANTS

##### A. Conditions Precedent to First Disbursement

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

- 1) An opinion of the Attorney General of the Republic, or of counsel acceptable to A.I.D., that this agreement has been duly authorized and/or ratified by, and executed on behalf of, the Grantee and that it constitutes a valid and legally binding obligation of the Grantee in accordance with all of its terms.
- 2) A statement of the names of the persons holding or acting in the office of the Grantee, and a specimen signature of each person specified in such statement.

##### B. Condition Precedent to Subsequent Disbursements

For Component II:

- 1) Prior to the disbursement of A.I.D. funds, or to the issuance of any documentation pursuant to which disbursement will be made for the first year and each subsequent year of the Project, the GOES shall furnish to A.I.D., in form and substance satisfactory to A.I.D., a detailed time-phased Action

- 2) MOP shall establish a Management Unit in Caminos (MU), whose duties and responsibilities shall be jointly agreed upon by USAID/El Salvador and MOP.

For Component III:

- 1) Prior to the disbursement of A.I.D. funds, or to the issuance of any documentation pursuant to which disbursement will be made for the first year and each subsequent year of the Project, the GOES shall furnish to A.I.D., in form and substance satisfactory to A.I.D., detailed time-phased Action Plans. The Plan will include, among other things:

-evidence of reactivation of a national level coordinating unit to coordinate the activities of ANDA and MOH in implementation of the Project and provide direction as required to assure that all criteria are met for the water supply, sanitation and health education activities,

-plans to decentralize to regional offices the authority and responsibility for sub-project implementation, and

-detailed staffing patterns and details of employee responsibilities and communications channels.

- 2) No funds shall be disbursed for the construction of water systems until an environmental assessment (EA) has been completed and the recommendations of the EA have been incorporated into project implementation.

C. Special Covenants

For Component II:

- 1) The GOES will provide logistical support to the technical consultants financed in response to GOES requests under this Project.
- 2) The GOES will: (a) continue salary payments to public sector employees while they are participants in training programs financed under the Project; (b) provide individuals returning from training abroad with responsibilities at least commensurate with the responsibilities they had prior to training; and (c) obtain the written agreement of these individuals to continue working in the public sector for a period at least equal to the length of the training program abroad.
- 3) The Government of El Salvador will provide, during the life of the Project and after the Project is completed, budgetary support to MOP at a level adequate to continue the system of regular maintenance of roads.

- 4) MOP, working closely with the Court of Accounts, will initiate and pursue vigorously a program to dispose of junked equipment, and equipment beyond repair, from its inventory.
- 5) In case of conflicting claims on the use of AME equipment or vehicles funded by USAID, this project shall take precedence over all other activities or users.

For Component III:

- 1) The GOES agrees to provide, in form and content and by a date specified in PILs, a report indicating the procedures to be utilized to monitor the potability of water brought into villages under the Project and to monitor system maintenance needs.
- 2) The GOES agrees to facilitate that revenues collected by the local water users associations for maintenance will be retained by those associations and will be in addition to regular amounts budgeted by the Government for water system maintenance.
- 3) The GOES will provide logistical support to the technical consultants financed in response to GOES requests under this Project.
- 4) The GOES will: (a) continue salary payments to public sector employees while they are participants in training programs financed under the Project; (b) provide individuals returning from training abroad with responsibilities at least commensurate with the responsibilities they had prior to training; and (c) obtain the written agreement of these individuals to continue working in the public sector for a period at least equal to the length of the training program abroad.
- 5) The Government of El Salvador will provide, during the life of the Project and after the Project is completed, budgetary support to ANDA at a level adequate to continue the systems of regular maintenance of facilities established under the Project and adequate to cover any costs of maintenance not covered by the beneficiary communities.

3924B/August 2, 1989

(Super Copy 3810B)  
(Super Copy 3705B)  
(Super copy 3578B)  
(Super copy 3532B/ks)  
(Super copy VI-X 3671B/ks)

14 June 1989

28June89--ECON comments incorporated

28June89--HPN comments incorporated

8 July89--DK comments incorporated

11July89--SETEFE meeting comments incorporated

31July89--supercopied from Doc. 3810B

LIST OF ANNEXES

- A. PID Cables
- B. Logical Framework
- C. Application Letter
- D. Financial Analysis
- E. Technical Assistance
- F. Social Analysis
- G.1. Overall Economic Analysis
- G.2. Economic Analysis, Component III
- H. Technical Analysis
- I.1. Institutional Analysis - ANDA
- I.2. Institutional Analysis - MOH
- I.3. Institutional Analysis - MOP and CEPA
- J. Illustrative Road Sub-Projects and Road Design Standards
- K. Details of FENADESAL Restoration at Santa Ana/Santa Lucia
- L. Policy Reform Agenda
- M. Criteria for Sub-Project Selection
- N. Training Plan
- O. Illustrative Sub-Project Development for Water and Sanitation Component
- P. Discussion of Key Policy Issues
- Q. Project Check List
- R. 611 (e) Certification

ACTION AIDS INFO AMB DCM

ANNEX A

CIGXYCTUVZCZCSN0923  
 RP PJHSM  
 15 RUEPC #0716 0450955  
 ZNR 00000 ZZE  
 M 140954Z FEB 99  
 FM SECSTATE WASHDC  
 TO AMEMBASSY SAN SALVADOR, 2109  
 BT  
 UNCLAS STATE 046716

LCC: 4 345  
 14 FEB 99 2954  
 CN: 10102  
 CHR: AID  
 DAST AID

AIDAC

I.C. 12356: N/A

TAGS:

SUBJECT: DAEC REVIEW OF PID FOR THE EL SALVADOR PUBLIC SERVICES RECONSTRUCTION PROJECT 519-0320

1. A DAEC REVIEW OF THE SUBJECT PID WAS HELD ON 1/27/99. IN GENERAL, THE PID WAS WELL RECEIVED AS AN INITIATIVE TO PROVIDE IMPROVED PUBLIC SECTOR SERVICES TO THE RURAL POOR. THE PID IS HEREBY APPROVED WITH THE FACETIONS NOTED BELOW.

2. IT WAS AGREED DURING THE REVIEW THAT THE PROJECT'S EMPHASIS SHOULD BE SHIFTED FROM PUBLIC SECTOR INSTITUTIONAL STRENGTHENING TO DELIVERY OF SERVICES TO THE RURAL POOR TARGET GROUP. THE PROJECT PAPER WILL REFLECT THIS SHIFT THROUGH MODIFICATIONS TO BOTH THE TITLE AND THE PURPOSE STATEMENT(S) OF THE PROJECT AS WELL AS MEASURES OF EOPS.

ACCOMPLISHED

3. A PRINCIPAL CONCERN OF THE DAEC REVOLVED AROUND THE ISSUE OF WHETHER IT IS MORE APPROPRIATE TO SEPARATE THE HEALTH/WATER COMPONENT INTO A DISCRETE STAND-ALONE PROJECT OR TO INCLUDE IT AS AN INTEGRAL COMPONENT OF THE RECONSTRUCTION PROJECT. CONCERN WAS EXPRESSED THAT THE

HEALTH BENEFITS OF THE PROJECT WERE INADEQUATE TO JUSTIFY THE USE OF HEALTH FUNDS. THE QUOTE ENGINEERING UNQUOTE STRUCTURE OF THE OVERALL PROJECT REINFORCED THIS CONCERN. GIVEN THE FUNDING SOURCE (I.E. DA HEALTH FUNDS) A MUCH STRONGER HEALTH-RELATED JUSTIFICATION IS REQUIRED FOR USE OF HEALTH FUNDS AND THE INCLUSION OF HEALTH RELATED ACTIVITIES WITHIN A RECONSTRUCTION PROJECT THAN IS PROVIDED IN THE PID. PRIOR TO AUTHORIZATION OF THE PROJECT PLEASE DEVELOP (IN CONJUNCTION WITH WITH LAC/DR/HV STAFF) AND SUBMIT IN CABLE FORM TO LAC/DR FOR REVIEW AND APPROVAL: A) REVISED LOG FRAME DEMONSTRATING HEALTH RELATED OUTPUT INDICATORS AND EOPS, THAT ARE TRACKABLE WITHIN SARs AND ACTION PLANS; B) A REVISED BUDGET FOR THE HEALTH COMPONENT TO INDICATE THE ESTIMATED COST PER WATER SYSTEM AND AMOUNT OF FUNDS REQUIRED FOR HEALTH EXTENSION AND EDUCATION SERVICES AS WELL AS THE USE OF ESF LOCAL CURRENCY IN LIEU OF DA FUNDS TO FINANCE LOCAL COSTS WHENEVER POSSIBLE; C) AN EXPANDED HEALTH TECHNICAL ASSISTANCE PLAN TO UPGRADE AND

SAN SALVADOR 8263  
 PROVIDED INFO TO  
 AID/W

UNCLASSIFIED

STATE 046716

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STRENGTHEN LOCAL HEALTH SERVICES WHICH COMPLEMENT THE PROVISION OF NEW COMMUNITY-BASED WATER AND SANITATION SYSTEMS; AND L) A DISCUSSION INDICATING THE ROLE OF THE MISSION'S HEALTH OFFICE WITHIN THE OVERALL MANAGEMENT OF THE HEALTH COMPONENT OF THE PROJECT.

4. THE PP ITSELF, IN ADDITION TO REFLECTING THE SUBSTANCE OF THE ABOVE REQUESTED CHANGE, SHOULD SPELL OUT POLICY DIALOG ISSUES. ONE SUCH ISSUE WILL BE THE SUSTAINABILITY OF THE CONSTRUCTION AND MAINTENANCE PROGRAM AND HOST COUNTRY COMMITMENT TO FINANCE RECURRENT COSTS ONCE THE PROGRAM HAS BEEN INSTITUTIONALIZED WITH A.I.L. FUNDS. THE FORMALIZED INSTITUTIONAL LINKAGE BETWEEN THE MOP AND MOH FOR JOINTLY IMPLEMENTED PROJECT ACTIVITIES MUST ALSO BE DESCRIBED IN THE PP; AN MOU BETWEEN THE TWO INSTITUTIONS MAY BE APPROPRIATE TO INSURE THAT MOH PARTICIPATION IN THE INSTITUTIONALIZATION OF RURAL WATER SYSTEMS CONSTRUCTION RESULTS IN IMPROVED HEALTH STATUS. THE PP SHOULD FULLY DESCRIBE SELECTION CRITERIA TO BE USED TO CHOOSE INDIVIDUAL VILLAGES FOR NEW WATER SYSTEMS AND RURAL ROAD SECTIONS TO BE REHABILITATED AND MAINTAINED. ALSO, THE PP DESIGN SHOULD REFLECT THE USE OF PRIVATE SECTOR CONTRACTORS AND RURAL LABOR IN LIEU OF MOP FORCE ACCOUNT WHEREVER APPROPRIATE FOR ACCESS ROADS AND WATER SYSTEMS CONSTRUCTION, RECONSTRUCTION, AND MAINTENANCE ACTIVITIES. THE CURRENT AND POTENTIAL ROLES OF OTHER LABORERS IN THE ROAD MAINTENANCE AND WATER SYSTEMS CONSTRUCTION SHOULD BE PRESENTED IN THE PP AS WELL.

5. THE SIGNIFICANT SCALE OF THE PP DESIGN EFFORT WHICH THE MISSION PLANS TO UNDERTAKE WAS NOTED. PLEASE ADVISE IF LAC BUREAU CAN BE OF ASSISTANCE IN REVIEW OR FOLLOW-UP OF PIO/TS, CONTRACTS AND REPORTS. ARMACOST

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ACCOMPLISHED.

SEE PP ANNEXES  
L AND PSEE DISCUSSION OF  
COMPONENT IV.

SEE ANNEX M.

SEE SECTION II.

ACTION AIDS INFO AMB DCM

VZCZCSNO306  
 PP RUEHSN  
 DE RUEHC #01 2/01 2092108  
 ZNR UUUUU ZZH  
 P 282105Z JUL 89  
 FM SECSTATE WASHDC  
 TO AMEMBASSY SAN SALVADOR PRIORITY 0027  
 BT  
 UNCLAS STATE 240512

LOC: 425 462  
 28 JUL 89 2108  
 CN: 13616  
 CHRG: AID  
 DIST: AID

AIDAC

C.O. 12356:: N/A

TAGS:

SUBJECT: PUBLIC SERVICES IMPROVEMENT PROJECT NO.  
 519-0320: REVIEW OF MISSION RESPONSE TO DAEC COMMENTS  
 ON WATER AND SANITATION PROJECT COMPONENT

REF: (A) SAN SALVADOR 08263; (B) STATE 040716 (C) SAN  
 SALVADOR 08824

1: SUMMARY: THE MISSION RESPONSE (REF A) TO DAEC  
 COMMENTS (REF B) ON THE WATER AND SANITATION COMPONENT  
 OF THE SUBJECT PROJECT WAS REVIEWED AND APPROVED ON  
 THURSDAY, JULY 18, 1989. IN ACCORDANCE WITH DELEGATION  
 OF AUTHORITY NO. 400 DATED 9/1/86, THE AAA/LAC  
 REDELEGATES THE AUTHORITY TO THE MISSION DIRECTOR TO  
 APPROVE THE PROJECT PAPER AND AUTHORIZE THE PROJECT  
 SUBJECT TO THE FOLLOWING GUIDANCE:

2: PROGRAM MANAGEMENT: AID/W CONCORDS WITH THE  
 MANAGEMENT STRUCTURE PROPOSED IN SECTION 1.E. OF REF (A)  
 REGARDING THE PARTICIPATION OF THE MISSION'S HEALTH  
 OFFICE IN OVERALL PROJECT MANAGEMENT: THE MISSION IS  
 REQUESTED TO INCLUDE A SECTION IN ITS SEMI-ANNUAL REPORT  
 (SAR) ON PROGRAM MANAGEMENT WHICH ADDRESSES PROGRESS IN

WILL BE INCLUDED  
 IN SAR

IMPLEMENTATION OF THE PROPOSED MANAGEMENT STRUCTURE,  
 BOTH WITHIN THE MISSION AND AMONG THE PARTICIPATING GOVTS  
 MINISTRIES.

3. OUTPUTS INDICATORS AND ECPS: THE HEALTH INDICATORS  
 SHOULD BE TIME-PHASED IN ORDER TO GAUGE PROGRESS IN  
 ACHIEVING THE PROPOSED TARGETS AND SHOULD BE REPORTED ON  
 IN THE SARs: IN ADDITION, THE FOLLOWING ECPS SHOULD BE  
 REVIEWED/REVISED:

SEE PP OBJECTIVE  
 AND VERIFIABLE  
 INDICATORS

(A) "THE NUMBER OF PEOPLE SERVED BY WATER SYSTEMS  
 AND SANITARY FACILITIES INSTALLED OR REPAIRED -  
 ADD "AND FUNCTIONING."

SEE PP OBJECTIVE  
 AND VERIFIABLE  
 INDICATORS

(B) "NINETY PERCENT OF FAMILIES IN TARGET AREAS..."  
 - REPLACE "GOOD HYGIENE" WITH "CORRECT USE OF  
 WATER" (E.G. TRANSPORTED AND STORED IN SANITARY  
 CONDITIONS). CORRECT USE OF WATER IS AS IMPORTANT

SEE PP OBJECTIVE  
 AND VERIFIABLE  
 INDICATORS

AS SANITATION OR "GOOD HYGIENE."

(C) "EIGHTY PERCENT OF CHILDREN UNDER FIVE YEARS..." - IN FINALIZING THE PP, THE MISSION SHOULD DETERMINE IN THE PP WHETHER THIS TARGET IS ATTAINABLE SINCE THESE CHILDREN DO NOT ATTEND SCHOOL AND THEREFORE ARE NOT THE RECIPIENT OF THE PROPOSED SCHOOL EDUCATION PROGRAM.

THIS INDICATOR WAS DELETED

(D) THE MISSION SHOULD CLARIFY WHAT IS MEANT BY "SUPPORTING" IN EOPS (6).

SEE PP VERIFIABLE INDICATORS

4: OTHER MODIFICATIONS/CLARIFICATIONS: THE MISSION IS ALSO REQUESTED TO INCORPORATE THE FOLLOWING REVISIONS INTO THE FINAL PP:

(A) THE HEALTH-RELATED PROJECT PURPOSE IDENTIFIES "TO INCREASE ACCESS..." AND "TO PROVIDE TRAINING..." IT IS RECOMMENDED THAT THE PURPOSE INCLUDE TO INCREASE PROPER UTILIZATION OF THE WATER AND SANITATION SYSTEMS - PROVIDING TRAINING IS A NECESSARY, BUT NOT SUFFICIENT CONDITION FOR PROPER USE OF THESE SYSTEMS. APPROPRIATE INDICATORS SHOULD BE ADDED TO MEASURE UTILIZATION.

SEE PP OBJECTIVES AND VERIFIABLE INDICATORS

(B) THE PP DISCUSSES THE INTENT TO IMPLEMENT COST RECOVERY SYSTEMS. A COMPLETE DESCRIPTION OF HOW THESE SYSTEMS WILL BE IMPLEMENTED SHOULD BE INCLUDED IN THE PP.

SEE PP SECTION IV.E.c.3.(f)

(C) LIMITED INFORMATION IS GIVEN IN THE PP REGARDING ON-THE-JOB TRAINING OF LOCAL AGENCY STAFF. TO EFFECTIVELY IMPLEMENT THIS PROGRAM, THE MISSION MAY WISH TO DESIGN A TRAINING COMPONENT WHICH INCLUDES WORKSHOPS AND ON-THE-JOB TRAINING.

WILL BE DONE DURING PROJECT IMPLEMENTATION

(D) IT IS RECOMMENDED THAT THE USE OF RURAL SCHOOLS AS A MEDIUM FOR TEACHING AND TRANSFERRING INFORMATION SHOULD BE PILOT TESTED OR STUDIED AS OPERATIONS RESEARCH PRIOR TO EXPANDING THE APPROACH TO THE NATIONAL LEVEL.

WILL BE INCLUDED IN EVALUATIONS

(E) THE PP SHOULD INCLUDE AN ESTIMATED COST PER BENEFICIARY OF THESE SYSTEMS.

INCLUDED

5: ENVIRONMENTAL ASSESSMENT: PER WILSON/KASCHAK MEETING OF JULY 21, THE MISSION AGREED TO THE INCLUSION OF A CONDITION PRECEDENT TO DISBURSEMENT FOR THE WATER SUPPLY COMPONENT THAT NO FUNDS BE DISBURSED FOR THE CONSTRUCTION OF WATER SYSTEMS UNTIL THE ENVIRONMENTAL ASSESSMENT (EA) HAS BEEN COMPLETED AND THE RECOMMENDATIONS OF THE EA HAVE BEEN INCORPORATED INTO

INCLUDED

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PROJECT IMPLEMENTATION . THE EA SHOULD BE DEVELOPED AS AN ENVIRONMENTAL REVIEW DOCUMENT TO GUIDE SITE SELECTION , SUF - PROJECT SELECTION AND DEVELOPMENT . AND PROVIDE THE BASIS FOR SOUND ENVIRONMENTAL PLANNING AND MONITORING . THE ISSUES TO BE ADDRESSED IN THE EA HAVE BEEN FAXED TO THE MISSION . LAC / DR / EN SUGGESTS USE OF THE WASH II PROJECT TO DEVELOP SCOPE OF WORK AND CONDUCT EA . LAC / DR / EN LOOKS FORWARD TO RECEIVING EA SCOPE OF WORK AND WILL EXPEDITE REVIEW AND APPROVAL OF EA .

6: OUTSTANDING AID / W ACTIONS : THE WAIVER OF ADVERTISING FOR THE SUBJECT PROJECT IS BEING PROCESSED . THE MISSION WILL BE ADVISED AS SOON AS IT IS APPROVED . IT IS OUR UNDERSTANDING THAT THE CONGRESSIONAL HOLD ON THIS PROJECT IS STILL IN FORCE . WE WILL ADVISE THE MISSION WHEN THE HOLD HAS BEEN LIFTED SO THAT THE MISSION CAN PROCEED TO OBLIGATE . BAKER

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LOGICAL FRAMEWORK  
PUBLIC SERVICES IMPROVEMENT PROJECT NO. 519-0320

| NARRATIVE SUMMARY   | OBJECTIVELY VERIFIABLE INDICATORS   | MEANS OF VERIFICATION   | ASSUMPTIONS  |
|---|---|---|--|
| <b>GOALS</b>  |   |   |  |
| <ol style="list-style-type: none"> <li>1. To provide for economic and social stabilization and growth.</li> <li>2. To provide broad participation in the benefit of growth.</li> <li>3. To improve health of inhabitants in beneficiary communities.</li> </ol> | <ol style="list-style-type: none"> <li>1. No increase in the number of non kilowatt-hours of electricity.</li> <li>2. Increase in the agro-sector GDP in provinces.</li> <li>3. An increase in the number of reported and treated diarrhea cases by approximately 6% per year due to increase in detection and increase in population</li> </ol>                  | Surveys and Project records.  | <ol style="list-style-type: none"> <li>1. Discussion of policy reform agenda will result in policies and decisions which insure economic and institutional strength of infrastructure institutions and therefore the survivability of interventions made under the project.</li> <li>2. GOES policy will encourage rural development, and spreading of social and economic benefits among the rural population.</li> <li>3. Rural population will be objective and knowledgeable in responding in interviews.</li> </ol> |
| <b>PURPOSES</b>   |   |   |  |
| <ol style="list-style-type: none"> <li>1. Restore and preserve vital public services provided by the infrastructure agencies.</li> </ol>  | <ol style="list-style-type: none"> <li>1.a. 90% of the primary highways, 100% of the electrical transmission and distribution system, and 85% of ANDA-serviced water system are operational.</li> <li>1.b. The financial and administrative capability to restore the major public services above in a timely manner is maintained.</li> </ol>                    | 1. Surveys and Project records.   |  |
| <ol style="list-style-type: none"> <li>2. To improve and sustain the access of rural population markets.</li> </ol>   | <ol style="list-style-type: none"> <li>2.a. 2% annual increase in the level of traffic (ADT) on roads in the program.</li> <li>2.b. Achieve an annual reduction of 1% in the unit transportation cost of cargo (cost per ton kilometer).</li> <li>2.c. An increase in the capability of MOP to plan and implement repair and maintenance of secondary.</li> </ol> | <ol style="list-style-type: none"> <li>2.a. Traffic counts</li> <li>2.b. Evaluation study</li> <li>2.c. Evaluation study</li> </ol> | <ol style="list-style-type: none"> <li>2.a. Security conditions do not deteriorate.</li> <li>b. National policies do not inhibit markets and trade.</li> </ol>   |

3. To increase access to water supply and sanitation systems for rural populations, and to increase proper utilization of water and sanitation systems in beneficiary families.

- 3.a. 600,000 people served by new or repaired and functioning water systems and sanitary facilities, raising access from 13.5% to 30%
- b. 90% of families in target communities know and practice good and correct use of water (i.e. have and use soap, use latrine maintain clean and sanitary eating and cooking areas).
- c. 90% of schools in the target areas have adequate and clean latrines.
- d. Health and sanitation promoters have active contacts with users of 95% of rural potable water and sanitation points installed under this Project.

3.a. Surveys and questionnaires.

3.a. Responsibility, authority, and coordination issues concerning MDM and ANDA will be resolved.

- b. Local authorities will accept responsibility for sub-project planning, coordination, and documentation.
- c. Local people want facilities and will be willing to pay operating and

OUTPUTS

OBJECTIVES VERIFIABLE

MEANS OF

ASSUMPTIONS

INDICATORS

VERIFICATION

COMPONENT I

1. Restoration of ANDA water systems outside San Salvador.
2. Restoration of electric distribution and transmission systems.
3. Restoration of damaged railway facilities.
4. Restoration of damaged airport facilities.
5. Restoration of damaged ocean port facilities.
6. Restoration of bridges.

1. Annual decrease in number of systems out of service. Increase in amount of water sold.
2. Service outages of short duration. Increase in annual KWH sales.
3. Service interruptions of short durations. Number of locomotives in service does not decrease. Annual increases in passenger and freight traffic.
4. Service interruptions, if any, are minor. Safety record does not deteriorate. Security checks meet international standards.
5. Service interruptions, if any, are limited. Safety and security conditions do not deteriorate. Capability to load/unload ships does not deteriorate.
6. Traffic interruptions of short durations. Bridges in service.

1. ANDA records. Surveys.
2. CEL records.
3. FENADESAL records. Inspections.
4. CEPA records. Inspections.
5. Records of FENADESAL (Cutuco) and Acajutla Port. Inspection.
6. Inspection.

COMPONENT II

1. Repair and maintenance of secondary, tertiary, Rural "A" and Rural "B" roads. 1600 kilometers.
2. Maintenance, control, and operation of construction equipment and vehicles. Not less than 310 units.

1. Number of roads actually repaired.
2. Inventory of fleet. Equipment availability increases, and equipment downtime decreases annually.

1. Project records. Inspection.
2. Inspection. AME records.

1. Security conditions will not unduly limit access to sites of work. This project will receive priority in assignment and use of AME equipment.
2. Policy decisions will establish firmly the future role and status of AME, and the range of its responsibility.

COMPONENT III

- |   |   |  |  |
|---|---|--|--|
| 1. 120 small water systems repaired.  | 1. Number of systems actually repaired.   | 1. Project records and inspection.   |  |
| 2. 900 new small water and sanitation systems installed.  | 2. Number of systems actually installed.  | 2. Project records and inspection.   |  |
| 3. Health and sanitation training provided to population of 1020 communities.   | 3. Number of communities where training performed.  | 3. Project records and interviews in communities.  |  |
| 4. Water committees formed for each new system, or existing community-level committees accept additional responsibility to form or act as water committees. | 4. Number of committees actually formed and functioning.  | 4. Project records, inspection, and interviews.  |  |
| 5. Latrines installed for communities, schools, and homes in 1000 communities.  | 5. Number of communities where latrines installed.  | 5. Project records, inspection, and surveys.   |  |
| 7 Method for collection of user fees, and for maintenance and operation of system, in place and operating at each new system.                               | 6. Number of communities actually collecting fees and performing operation and maintenance.   | 6. Inspection, interviews, and surveys.  | 6. People are able to pay the user fee, and are willing to accept ownership of the system with responsibility for operation and maintenance. |
| 7. Regional shops of ANDA established, equipped, and staffed with manager, support personnel, technicians, and water promoters.                             | 7. Number and condition of regional shops in operation.   | 7. Actual count of shops, personnel, and equipment, and review of functions being performed. |  |
| 8. Authority and responsibility for rural water programs delegated by ANDA to regional offices.   | 8. Decisions and actions to implement rural projects and to provide maintenance backup for rural systems being made of regional level. Unit in place and functioning. Management systems in place utilized. | 8. Inspection, interviews, and surveys.  | 8. Future funding for regional offices and programs will be provided.  |

COMPONENT IV

- |   |   |   |  |
|---|---|---|--|
| 1. Management systems (MIS, Personnel, Accounting, Procurement, Contracting) installed in CAMINOS MU. | 1. Systems procedures published and being followed. | 1. Inspection. Review of documentation. |  |
| 2. Caminos Management Unit Established  | 2. Unit in place and functioning.                   | 2. Inspection and monitoring.           |  |
| 3. ANDA Management Unit expanded and fully staffed, and Management systems installed.                 | 3. Unit in place and functioning.                   | 3. Inspection and Monitoring            | 3. GOES and MOP policy does not prevent installation and use of precise modern system. |

4. Series of reports analyzing impact of selected policy dialogue issues on project outputs and project sustainability.

4. Reports delivered.

4. Monitoring.

4. Reports will influence

INPUTS

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IN MILLION DOLLARS

| COMPONENT I  |                          | A.I.D. | GOES  | TOTAL          |
|--|--------------------------|--------|-------|----------------|
| -----  |                          |        |       |                |
| 1. Commodities and labor required to restore: water and electric utilities; bridges; railroad; airport; ocean ports.                 | (COMMODITIES)<br>(LABOR) | 18.72  | 12.74 | 18.72<br>12.74 |
| 2. Helicopter Services   |                          | 5.00   |       | 5.00           |
| COMPONENT II   |                          |        |       |                |
| -----  |                          |        |       |                |
| 1. Commodities (repair parts, vehicles, data processing equipment, crushed stone, shop tools and equipment).                         |                          | 4.30   | 2.41  | 6.71           |
| 2. Engineering and construction contracts.   |                          |        | 16.50 | 16.50          |
| 3. Labor to perform construction and equipment maintenance.  |                          |        | 8.50  | 8.50           |
| 4. Services  |                          |        | 3.00  | 3.00           |
| COMPONENT III  |                          |        |       |                |
| -----  |                          |        |       |                |
| 1. Commodities (pumps, motors, valves, pipe, data processing equipment, office equipment, light vehicles, shop tools and equipment). |                          | 10.73  |       | 10.73          |
| 2. Engineering and construction contracts.   |                          | 11.01  | 3.58  | 14.57          |
| 3. In country training   |                          |        | 1.75  | 1.75           |
| 4. Administrative Costs  |                          |        | 3.00  | 3.00           |

COMPONENT IV

IN MILLION DOLLARS

|                         | A.I.D. | GOES  | TOTAL  |
|-------------------------|--------|-------|--------|
| 1. Technical Assistance | 7.46   |       | 7.46   |
| 2. Commodities          | 0.25   |       | 0.25   |
| 3. Project Support      | 4.38   |       | 4.38   |
| 4. Training             | 0.31   |       | 0.31   |
| 5. Evaluation/Audit     | 3.00   |       | 3.00   |
| 6. Contingencies        | 9.84   | 8.52  | 18.36  |
|                         | -----  |       |        |
| TOTAL                   | 75.00  | 60.00 | 135.00 |

LIFE OF PROJECT COST:

AID \$ 75,000,000  
GOES C/300,000,000

::

ANNEX D

FINANCIAL ANALYSIS

A. Responses to Financial Management Issues and Concerns.

1. Do the proposed implementing entities have adequate internal controls in place to safeguard and account for project resources?

AME Yes.

ANDA In the Management Unit, yes.

CaminoS In the Oficina Coordinadora del Presupuesto Extraordinario, yes.

CEL Organization-wide, yes. However, CEL needs to establish a separate accounting system for SETEFE-financed projects.

CEPA Organization-wide, yes.

FENADESAL Organization-wide, yes.

MOH Yes, in Divisions of Community Health and of Health Education.

2. Do the proposed implementing entities have an adequate accounting system for recording, summarizing and reporting on project costs?

AME Yes.

ANDA Yes.

CaminoS Yes, but the system is manual and therefore cumbersome, and probably would be overwhelmed by volume in its present form. Thus, to handle this Project, the system will be computerized.

CEL Yes, including major mainframe and fairly complete PC accounting systems. However, CEL needs to establish a separate accounting system for SETEFE-financed projects on this hardware.

CEPA Yes, including major mainframe and some PC accounting systems (Airport, Port).

FENADESAL Yes, including one PC.

MOH: Yes, using procedure of the APSISA project which established formal relationships between agencies at the national, regional, sub-regional, and local levels.

3. Do we need to budget funds for support to the proposed implementing entities so they can carry out the proposed additional activities?

MOP Yes. The Project will provide TA and training in technical design and implementation, in MIS and management of resources, and in financial management.

- ANDA** Yes. The Project will provide the same support as listed for MOP plus professional assistance in health and sanitation, and in community organization.
- MDH** Yes. The Project TA, training, and support will furnish help on the production of water/sanitation/ health materials.
- CEL, CEPA, and ANTEL--**Yes. A nominal amount will be available for TA if needed.

4. a) Who will do the procurement?

All procurement for technical assistance, audit, evaluation, and for offshore training will be direct AID contracts. All other procurement will be done by host-country contracts in accordance with host-country contracting procedures (AID Handbook No. 11). It is strongly recommended that host country agencies exercise authority to prequalify vendors for long-term facilitation of the Project's procurement procedures.

These agencies will purchase, with AID financing data-processing equipment, repair parts for equipment, light vehicles, tools and shop equipment, pumps, poles, transformers, insulators, switches, etc. Rental of helicopters as required for emergency repair of electric power systems, and project implementation will be done directly by A.I.D.

Procurements will be performed within the implementing agencies, thus:

- AME** AME in concert with the MOP Office of Procurement.
- ANDA** For FX funds, in the Management Unit. For LC funds, the Logistics and Procurement Office of ANDA, using "Instructivo 1.204" of SETEFE for purchases financed from extraordinary budget or ANDA procedures for those financed with ordinary budget resources. TA will review existing procurement procedures and recommend improvements.
- Camino**s For FX funds, the Oficina Coordinadora del Presupuesto Extraordinario. For LC funds, the Procurement Office of the Direccion General de Caminos, using "Instructivo 1.204" of SETEFE for purchases financed from extraordinary budget or MOP procedures for those financed with ordinary budget resources.
- CEL** For FX funds, the Management Unit at Santa Tecla in concert with CEL's Office of Procurement.
- CEPA** For FX and LC funds, the Procurement Department of CEPA (Airport, Port and FENADESAL) as currently practiced within the 519-0279 Project.

MOH AID, as with APSISA project, whereby procurement specifications are submitted to USAID/EL Salvador for direct purchase using FX funds; or for LC funds procurement are made in accordance with "Instructivo 1.204" of SETEFE, or MOH rules, as determined by source of funds.

b) Who will make the payments?

In all cases there is a distinction between FX and LC payments. Standard A.I.D. policies will guide the use of all A.I.D. funds, and "Instructivo 1.204" of SETEFE will apply in all cases where Project financed purchases are made locally, by the following organizations:

AME AME will make its payments through MOP's accounts payable department.

ANDA The Management Unit.

Camino s The Oficina Coordinadora del Presupuesto Extraordinario.

CEL The Management Unit at Santa Tecla.

CEPA For local purchases, the Accounts Payable Department of CEPA (Airport, Port and FENADESAL) as currently practiced within the 519-0279 Project.

MOH Community Health Office.

c) Is there adequate capacity in place to advertise, select, and monitor contractor performance?

AME At the present time, for present duties - yes.

ANDA No, per Booz, Allen and Hamilton, Inc., evaluation. TA is included for this. See Annex "E." (For additional information See Annex "I.1").

Camino s No, per Booz, Allen and Hamilton, Inc., evaluation. TA is included for this. See Annex "E."

CEL Yes.

CEPA Yes. (Airport, Port and FENADESAL)

MOH No, the TA will develop this capacity in the Ministry.

5. What implementation methods and what financing methods are best?

See Table V in the Financial Plan, Section VI.

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6. Is there adequate audit coverage? (i.e., external, internal, Court of Accounts.)

AME, ANDA, Caminos, CEL, CEPA (including FENADESAL) and MOH are subject to internal audits, although audit capability is not good in all cases. All have experienced external audits and welcome them as helpful for purposes of adequate financial management. The Court of Accounts review is narrow in scope and mostly deals with the legal aspects of expenditures. It is not yet fully capable of carrying out timely audits. 4% of AID funds (\$3 million) is set aside for activities such as financial reviews, financial monitoring, audits (pre-award surveys on new implementing agencies, concurrent audits, non-federal audits), and evaluations. Those funds will be administered by USAID/El Salvador.

7. Does MOP have adequate financial and management capabilities to manage Project funds?

No. The 2/23/89 Booz-Allen and Hamilton report specifies deficiencies and corrective actions that will be taken by the Management Unit. The Controller believes that a CP is required, as follows:

"USAID/El Salvador and MOP/Caminos shall jointly establish an AID project management unit within Caminos according to the charter recommended by the 2/23/89 "Institutional Evaluation of MOP," page 6, of Booz-Allen and Hamilton, Inc., or equivalent."

8. Assess and address the capacity of USAID/El Salvador to take on the additional activities (procurement, etc.). How much funds should be budgeted for this?

The additional work will require two PSC positions for placement in USAID/El Salvador: one will be a Health Specialist assigned to HPN and the other a Sanitation Engineer assigned to IRD. No extraordinary burden will be placed on the Contracting, Controller, Executive, or Projects Offices as to require additional staff.

9. Describe the disbursement procedures.

Standard AID Procedures (L/COM, Direct Payment) will apply. See Payment Verification Matrix, Table V Section VI.

10. Address the issue of recurrent costs.

See I. SUMMARY AND RECOMMENDATIONS., B. Issues., 1. Policy Dialogue., b. Recurring Costs and Sustainability.

11. Who will control funds? How will funds flow?

AID controls FX funds. AID/El Salvador issues Direct Letters of Commitment (and/or bank L/Coms if warranted) to the off-shore suppliers of commodities contracted by the implementing entities under host country

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contracting arrangements. The L/COMs are issued at the request of the implementing entities. Payments for AID contracts for TA, audits, and evaluations are made by AID/El Salvador. Standard A.I.D. procedures are used for disbursements for LC costs of AID inputs. These procedures call for provision of periodic advances (for periods of up to 90 days) with Project Manager's assurance of monthly liquidations of funds expended.

Control and flow of HC LC funds are subject to SETEFE regulations (i.e., Instructive 1204).

B. Allocation of DA Funds.

Total DA Costs

Component III

|                              |       |
|------------------------------|-------|
| FX requirement,              | 5.66  |
| FX for Local Currency,       | 16.08 |
|                              | ----- |
| Total DA Cost, Component III | 21.74 |

Component IV

|                                       |       |
|---------------------------------------|-------|
| 1. Training                           | .77   |
| 2. Project Support                    | 1.75  |
| 3. Evaluation/<br>Audit, 4% of \$30 M | 1.20  |
| 4. Inflation/Contingency              | 4.54  |
|                                       | ----- |
| Total DA Cost, Component IV           | 8.26  |
|                                       | ----- |

Total DA Cost = \$30 million

C. Methodology.

Information obtained for the purposes of this annex was collected by reading resource materials (i.e., previous reports, audit reports, corporate documents, etc.), by interviewing key persons inside AME, ANDA, Caminos, CEE, CEPA, FENADESAL and the MOH, and in USAID/El Salvador, as well as by performing departmental walk-throughs, brief reviews of corporate books of accounts, and brief reviews of accounting systems within each entity.

## ANNEX E

### TECHNICAL ASSISTANCE

#### I. TECHNICAL ASSISTANCE TEAM.

Long term technical assistance will be provided to the ANDA Management Unit, Caminos Management Unit, and AME. Short term assistance also will be provided to the ANDA and Caminos Management Units, and specific offices in the MOH, where needs are identified in technical and management areas. The team may provide occasional assistance to CEPA agencies if and when so directed by USAID.

Technical specialties in which long term assistance will be provided to the Management Units include Project Management, Documentation, Health Education and Community Organization, Sanitary Engineering, Financial Management, Personnel Management, and Data Processing - Management Information Systems. AME will also receive assistance in the field of management of equipment maintenance organizations and systems.

The team will spend approximately eighty percent of its time assisting with project planning and implementation and approximately twenty percent of its time on identification and study of policy and procedural issues which impede effective performance of the agencies. Typical of these issues are tariff structure of the utilities and government staffing patterns and policies. Other issues will be identified during the course of the project. The team will recommend changes where appropriate, and assist in implementing those recommendations.

During the first year a total of ten long term positions will be staffed under the project through a single contract with a consulting firm or joint venture to be selected and hired directly by USAID under customary competitive procurement procedures and funded under Component IV. Not all positions will be filled at the same time, but will be phased in over a few weeks. After the first year, long term positions will be phased out as the agencies reach proficiency in the various specialties. It is estimated that five positions under the contract will be required until the end of the project.

Short term technical assistance is planned for training programs in auditing, vehicle and fuel control, safety procedures, writing of technical specifications, procurement procedures, operations research, and health education materials development and training. Requirements will be identified by the long term technical assistance team with each Ministry as annual action plans are prepared.

During the first year, when the technical assistance effort is at full strength, the TA team will consist of the following positions, stationed as shown:

- 1 - Technical Assistance Team Leader, with clerical staff, in an independent office.

The Team Leader will supervise and be responsible for the work of the rest of the team under the institutional contract and will be available to assist with specific problems in AME, ANDA, Caminos, and with CEPA as required as and when directed by USAID.

A portion of the team, five or more members, will also occupy the independent office with the Team Leader, as described below.

- 2 - Project Manager Specialists, one to have his/her office with and adjacent to the manager of the Maintenance Unit in Caminos. The other, a specialist in the management of water companies, will have his/her office with the ANDA MU. Incumbents in these positions must have access to the Minister of Public Works or the General Manager of ANDA as required. The Project Manager Specialists shall assist with all phases of project and sub-project planning and implementation, including preparation of contract specifications and documentation.
  - 1 - Sanitary and Water Supply Engineer in ANDA MU. His/her office should be in ANDA, but may be in the independent project office, depending on availability of space.
  - 1 - Health Education and/or Training Specialist to work with ANDA MU and the MOH, including offices in the regions. Incumbent in this position will have his/her office in the independent office of the technical assistance team, with the Team Leader. The position will be required during the entire life of the project.
  - 4 - Professionals to work approximately half time in ANDA MU and approximately half time in Caminos MU. They will have their offices in the contract team independent office with the Team Leader, who will schedule and direct their activities as necessary.
    1. Financial and Accounting Specialist.
    2. Personnel Management Specialist.
    3. Data Processing - Management Information Systems.
    4. Community Development Specialist.
  - 1 - Management Advisor to AME.

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Illustrative duties to be assigned to the technical assistance team under the institutional contract include the following:

1. General organization and institutional development of AME, and the Management Unit in ANDA and Caminos.
2. Coordination between MOH and ANDA in the water supply and sanitation component of the project.
3. Developing of standard contract documents and procedures in the Management Units.
4. Establishing financial controls and procedures in the Management Units.
5. Establishing personnel management systems in the Management Units.
6. Installing and utilizing automated management information systems and data processing equipment in the Management Units and AME, including the regional offices of those agencies.
7. Developing, adopting, and utilizing sub-project selection criteria in ANDA and Caminos.
8. Evaluating technical aspects of sub-project design, including engineering; reviewing and upgrading engineering design standards and practices where appropriate.
9. Developing and using health education materials and training aids.
10. Reviewing ANDA costs, organization, personnel practices, and future requirements which affect the ANDA tariff structure and revenues; and assisting with determining potential future tariff structures.
11. Selecting and scheduling of sub-projects.
12. Accounting for all project resources assigned to the agencies to which the technical assistance teams are assigned.
13. Determining needs for off-shore training in specific skills or professions.
14. Preparing standard sub-project documentation requirements and procedures, and methodology for review and approval of those procedures.
15. Training in skills and techniques required of water promoters and health workers who will assist and train, and organize if necessary, local people and officials in meeting sub-project requirements.

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16. Preparing environmental assessment methodology for sub-projects and training ANDA and/or MOH professionals in making, documenting, and submitting of the assessment report for approval.
17. Reviewing indirect damage of facilities of ANDA, and Ministry of Public Works, and assessing the need for repair. Assist and consult with CEL and CEPA agencies in performing similar assessment on an ad hoc basis when directed by USAID.
18. Developing a sub-project review and approval process whereby sub-project selection and scheduling is performed at the lowest capable and responsible level in the applicable organization.
19. Planning and implementing development and expansion of regional shops and organizations of AME and ANDA.
20. Advising USAID of project planning and implementation status and problems.
21. Determining the need for equipment, machinery, and materials to be imported, and developing technical specifications therefor.
22. Developing and training functional components of the units to which assigned.
23. Identifying training needs in the agencies and developing an annual training plan.
24. Assisting ANDA, MOH, Caminos, and other parts of MOP, in areas of expertise for which assistance is provided in the Management Units and AME when requested, subject to approval of USAID before beginning major assistance to the parent organization.
25. Developing, installing, and monitoring the success and cost of quality control methodology for sub-projects.
26. Developing methodologies for sub-project investigation and documentation and selection that assure maximum involvement of local people; and maximum interaction between local authorities and central and/or regional authorities.
27. Identifying organizational elements, and future funding sources, which can assure future maintenance and operation of systems and works installed or repaired under this project, and advise the GOES and USAID of further action or decision required to assure that future operation and maintenance is in fact assured.

28. Designing sub-projects in roads and water supply which utilize labor intensive methods.
29. As noted above, approximately twenty percent of the time of the team will be spent in study of policy issues identified during the course of the project, preparing recommendations for change and working to effect those changes.

## II. MANAGEMENT INFORMATION SYSTEMS REQUIRED FOR HARDWARE AND SOFTWARE.

Ancillary to the design development process of the Public Services Improvement Project there occurred brief assessments of the current MIS status and needs of ANDA, Caminos MU, CEPA, FENADESAL, and CEL. The following comments will be used by the TA team as a basis for determining final MIS hardware needs:

### ANDA:

The general Finance Department under the direction of Licenciada Rosibel del Valle has mounted a modest entry into computerized data-accounting with one PC. The PC is located not in the department at its central offices location, rather, it is placed in the Departamento de Comercializacion, which is remote from the Finance Department. There is an expressed desire for more intense computerization in the form of additional PCs and financial management software, and appropriate training. The need is estimated at three (3) IBM-compatible PCs plus software and ancillary hardware for each.

The regionalization and expansion of the Management Unit of ANDA will require additional computerization of about four (4) PCs, plus two (2) additional ones for the TA team, for a total of nine (9) PCs, plus software and ancillary hardware for each.

### Caminos MU:

This Unit (Oficina Coordinadora del Presupuesto Extraordinario) has adequate internal controls in place to safeguard and account for project resources, albeit they are manual and cumbersome. Thus the Unit probably would be overwhelmed by volume in its present form once the 0320 project is implemented. Caminos possesses a decent computer operation center at the Avenida Venezuela site, to which the Management Unit has access only as recently as about April 10, 1989. The center is equipped with six PCs, only two of which are equipped with hard disks. The center is physically remote from the MU's offices (in a building about 100 meters separate from the MU's offices), however, thus making the interface of data with equipment less than convenient. The expressed need within the MU is for two PCs with 20 MB hard disks and financial management capability in the form of Lotus 1-2-3 or Lotus Symphony (in Spanish), and word processing capability in the form of WordStar or WordPerfect. (If Lotus Symphony is used, however, no additional word processing program procurement is necessary.)

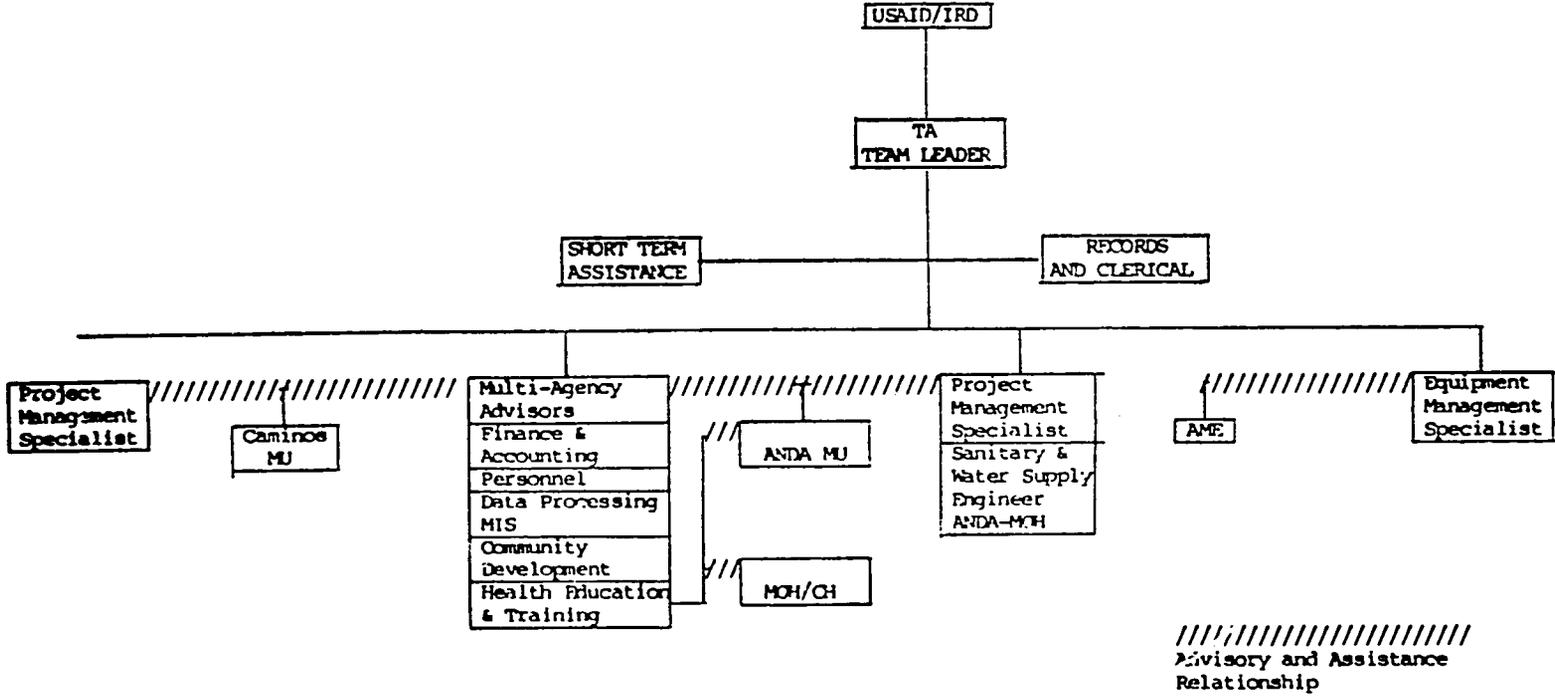
### III. TECHNICAL ASSISTANCE TEAM SCHEDULE.

Technical assistance budget is estimated on the terms of service of ten member team as follows.

| <u>Position</u>                          | <u>Person Years</u> |
|--|---------------------|
| Team Leader                              | 5                   |
| Project Management Specialist - ANDA     | 2.5                 |
| Project Management Specialist - Caminos  | 2.5                 |
| Sanitary and Water Supply Engineer       | 2                   |
| Health Education and Training Specialist | 5                   |
| Finance and Accounting                   | 5                   |
| Personnel Management                     | 1.5                 |
| Data Processing                          | 1.5                 |
| Community Development Specialist         | 5                   |
| Equipment Management Specialist          | 5                   |
|  | -----               |
| Total                                    | 35                  |

The development of the Management Units will be monitored during the early phases of the project. If it is determined that some positions can be phased out earlier without hazard to the Project, positions will be vacated, and the TA team subsequently augmented with additional short term technical assistance as necessary.

PROJECT 0320  
 TECHNICAL ASSISTANCE TEAM  
 ORGANIZATION



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## ANNEX F

### SOCIAL SOUNDNESS ANALYSIS

#### A. Analysis of the Social Situation

The social fabric of El Salvador has been affected by the decade of civil war. Project 519-0320 is an endeavor to reverse the negative effects that the loss of public services has entailed, and at the same time, improve health and increase economic productivity.

##### 1. Introduction to the Social Factors Study

The USAID/El Salvador CDSS and most of the Mission's other documents make frequent reference to the gravity of the war problem. It is an obstacle to every existing and near term development effort by the Mission and other donors, by the government, the private sector, and by the PVOs and NGOs. The war is a constraint to the Mission's projects that address major economic and social issues.

The policy of the US Government is to support the constitutional government of El Salvador and its work to improve the conditions in the country so that economic and social, and thus political, stabilization can occur. Political stabilization is expected to allow for additional improvements that will help address the problems that gave rise to the insurgency.

##### 2. Population

The 1988 population of El Salvador has been estimated by the UN Division of Statistics and the US Census Bureau at 5.4 million, the second largest in population in Central America after Guatemala. It is, however, the smallest country, with slightly more than 21,000 square kilometers, and it is the most densely populated country of all of Latin America. At the present crude birth and death rates per thousand, El Salvador's population will double in approximately 25 years.

Forty-six percent of its population is under age 15 and only four percent over age 65. According to the Population Reference Bureau, quoting UN and US Census Bureau figures for 1989, life expectancy at birth is 66 years: 58 for men and 66.5 for women.

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The 14 departments (major political subdivisions) are unevenly populated, as can be seen in Table 1. San Salvador, site of the capital, far outranks the others in total population and in density.

Table 1: Area and Density: 1986, 1989, and 1961,  
by Department

| Department   | SqKms | 1985   | Dens | 1986   | Dens | 1989   | Dens | (61 Dens) |
|--------------|-------|--------|------|--------|------|--------|------|-----------|
| Ahuachapan   | 1200  | 276.5  | 230  | 252.7  | 210  | 262.0  | 218  | (105)     |
| Santa Ana    | 2000  | 495.7  | 248  | 429.1  | 215  | 472.7  | 236  | (128)     |
| Sonsonate    | 1200  | 369.3  | 308  | 357.6  | 298  | 370.0  | 308  | (136)     |
| Chalatenango | 2000  | 259.2  | 130  | 148.3  | 74   | 226.1  | 113  | ( 64)     |
| La Libertad  | 1600  | 446.0  | 279  | 452.9  | 283  | 421.2  | 263  | ( 62)     |
| San Salvador | 1000  | 1108.1 | 1108 | 1196.1 | 1196 | 1053.2 | 1053 | (523)     |
| Cuscatlan    | 800   | 223.8  | 260  | 181.2  | 227  | 215.8  | 270  | (149)     |
| La Paz       | 1200  | 282.0  | 235  | 243.1  | 203  | 267.2  | 223  | (107)     |
| Cabanas      | 1100  | 201.5  | 183  | 133.5  | 121  | 179.8  | 163  | ( 86)     |
| San Vicente  | 1200  | 222.1  | 185  | 162.1  | 135  | 205.5  | 171  | ( 95)     |
| Usulután     | 2100  | 441.0  | 210  | 376.6  | 179  | 421.3  | 201  | ( 97)     |
| San Miguel   | 2100  | 485.2  | 231  | 405.2  | 193  | 503.5  | 240  | (112)     |
| Morazan      | 1400  | 237.8  | 170  | 143.0  | 102  | 205.5  | 147  | ( 82)     |
| La Union     | 2100  | 350.0  | 167  | 286.0  | 136  | 334.0  | 159  | ( 71)     |
| Totals       | 21000 | 5371.2 | 256  | 4767.4 | 227  | 5137.8 | 244  | (119)     |

Source: MIPLAN/Dirección General de Estadística (in DC Associates study for PRE, March 1989; and EMTECSA, 1985.

Notice in Table 2 that only one department, San Salvador, has a greater percentage of urban than rural population. Indeed, in most departments, the rural population outnumbers the urban by a margin of two to one, a few even more. The percentages emphasize the numerical importance of the rural sector but, as will be shown, the benefits of development have gone much more heavily to the urban groups, leaving few resources for the rural people.

Table 2: Urban and Rural Population (000s) for 1985 and 1986.

| Department   | Total 86 | Urban  | Rural | Total 89 | Urban           | Rural           |
|--------------|----------|--------|-------|----------|-----------------|-----------------|
| Ahuachapan   | 252.7    | 53.1   | 199.6 | 262.0    | 54.0            | 208.0           |
| Santa Ana    | 429.1    | 175.9  | 253.2 | 472.7    | 201.4           | 271.3           |
| Sonsonate    | 357.6    | 124.2  | 233.4 | 370.0    | 134.7           | 235.3           |
| Chalatenango | 148.3    | 51.9   | 96.4  | 226.1    | 62.8            | 163.3           |
| La Libertad  | 452.9    | 196.3  | 256.6 | 421.2    | 150.8           | 270.5           |
| San Salvador | 1196.1   | 1018.7 | 177.4 | 1053.2   | 828.9           | 224.3           |
| Cuscatlan    | 181.2    | 50.7   | 130.5 | 215.8    | 59.8            | 156.0           |
| La Paz       | 243.1    | 72.8   | 170.3 | 267.2    | 79.3            | 187.8           |
| Cabanas      | 133.5    | 40.1   | 93.4  | 179.8    | 30.9            | 148.9           |
| San Vicente  | 162.1    | 53.5   | 108.6 | 205.5    | 58.4            | 147.1           |
| Usulután     | 376.6    | 113.6  | 263.0 | 421.3    | 118.0           | 303.0           |
| San Miguel   | 405.2    | 141.8  | 263.4 | 503.5    | 166.2           | 337.3           |
| Morazan      | 143.0    | 42.9   | 100.1 | 205.5    | 38.2            | 167.3           |
| La Union     | 286.0    | 71.5   | 214.5 | 334.0    | 73.1            | 260.9           |
| Total %      | 4767.4   | 46.3%  | 53.7% | 5137.7   | 2056.5<br>(40%) | 3081.0<br>(60%) |

Source: MIPLAN (quoted in the DC and Associates Study for PRE, dated March 1989)

There is no one overall population figure upon which everyone agrees. For 1985, for example, two different estimates were found for department populations - both of them attributed to MIPLAN. According to the World Population Data Sheet of the Population Reference Bureau (quoting from United Nations Statistical Division and US Census Bureau data), El Salvador's population was estimated at 5.4 million in 1988. It is not clear, however, if and to what extent this figure excludes Salvadorans who have emigrated to other countries. One MIPLAN population estimate for 1985 places its initial population figure at 5,398,716, but then subtracted an emigrated population estimate of 483,722 for a total 1985 revised figure of 4,914,944. If the data even approaches reliability, they indicate that rural areas have grown significantly in population between 1986 and the present. This represents a change from approximately 53.7 percent to 60 percent. That seems to be at odds with the common beliefs that the rural people are flocking to the urban areas. It will remain for the 1990 census to determine what has happened.

### 3. Displaced Persons, Refugees, and Resettlement

There are several programs, including a large one in USAID, to assist displaced persons to return to their former home areas. Where that is not possible, resettlement is to other rural areas on government owned land, mostly on abandoned agrarian reform properties. According to the USAID/ES Action Plan for FY 1989, approximately 19,000 displaced persons (3,400 families) have been reintegrated into the economy since 1986. About 3,500 additional families will be resettled in 1990.

The University for Peace publication on Central American refugees listed nearly 2 million Salvadoran refugees located principally in the United States, Central America, and Mexico (in descending order by number). They appear to show a varying inclination to return to El Salvador. Few of those in the US have returned except for the few illegal persons that have been deported. Some of the refugees in the United Nations camps in Honduras have come back, some into displaced persons camps, some to their former areas of residence, and some are reported to have occupied unused lands in the conflictive areas. Eventually, those that remain in the refugee camps in Honduras are expected to be repatriated. Few of the Salvadoran refugees that obtained land or jobs in Honduras have come back. Very few of those resettled in Costa Rica intend to return.

#### 4. Rural/Urban Inequities

The war is not the only cause of the rapid increase in the populations of the major cities. As the remaining sections will show, the services to the rural areas, even small towns, are relatively few: low electrification, few potable water systems, insufficient access to schools generally and to the upper grades in particular, weak health care systems, and inadequate provision of farm credit and other inputs. There is also little land that can be acquired for the sons and daughters of the farmers, forcing them to seek wage labor, which is very scarce except during the coffee harvests, or migrate to the cities. This process may have been slowed because of the generally weak economic situation, but it will continue - and even proceed faster as jobs become available as the increases in industry and commerce are realized.

#### 5. Labor

According to an analysis of the El Salvador Household Employment Survey of 1986, labor force participation rates are high, especially for women, but real wages have deteriorated.

Unemployment prevails primarily among the young, a common situation in many countries, and especially when many have insufficient education for more technical jobs. Recruitment into the armed forces and allegedly into the insurgent ranks capitalize on the unemployed youth, according to some accounts.

#### 6. Land Tenure

According to a USAID-financed study by ENTECSA de CV (1985), rapid population growth and the lack of a comprehensive and coordinated plan for the use of the country's limited agricultural lands and forests have resulted in massive deforestation. Campesinos needing more land for subsistence agriculture, sugar and cotton planters, and cattlemen were cited as the principal destroyers. These depredations have accelerated soil erosion rates to irreparable levels in numerous areas. Large portions cannot be cultivated, and many other areas only with difficulty. The best land (Class I, II, and III) is seventeen percent of the total, and is farmed primarily by export producers of coffee, sugar and cotton.

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Prior to the agrarian reform law actions begun two decades ago, there were approximately 235,000 small farmers in El Salvador who owned parcels of land ranging in size from 4.9 hectares or less.

A major provision of the first phase of the reform legislation was the expropriation of lands from planters who owned more than 500 hectares. As shown in Table 5, before the agrarian reform, 202 planters owned 15.1% (218,641 hectares) of the farm land.

The expropriated land became part of the government patrimony, administered by the Salvadoran Institute for Agricultural Transformation (ISTA). Much of this land has been assigned to various agrarian reform cooperatives, individuals, and some displaced persons.

Table 5: Number and Size of Farms (in hectares) in 1971

| Farm Size   | Number Farms | % Of Farms | Land Area | % Of Land |
|-------------|--------------|------------|-----------|-----------|
| Less Than 2 | 191,527      | 70.71      | 151,326   | 10.4      |
| 2 - 4.9     | 43,414       | 16.03      | 131,985   | 9.1       |
| 5 - 9.9     | 15,598       | 5.76       | 110,472   | 7.6       |
| 10 - 49.9   | 16,150       | 5.95       | 342,430   | 23.6      |
| 50 - 99.9   | 2,238        | 0.83       | 154,164   | 10.6      |
| 100 - 500   | 1,739        | 0.64       | 342,878   | 23.6      |
| Over 500    | 202          | 0.07       | 218,640   | 15.1      |
| Totals      | 270,868      | 100.0      | 1,451,895 | 100.0     |

Source: Tercer Censo Agropecuario, 1971, DIGESTYC in ENTECSA CV

Recent statistics on land tenure point out that the amount of land in the large holdings has diminished and that the area and number of small holdings have increased. Despite the efforts of the government to redistribute some of the land, land is still a very scarce resource. The high birth rate ensures that land pressures will continue for a long time.

#### 7. Housing

The 1988 data from the Ministry of Planning, quoted in the Kast/FUSADES studies, stated that the population is contained in 1,027,537 "households" residing in 974,462 houses of varying sizes and quality. According to the same study, approximately 68% of all rural houses is rancho type buildings and have only one room. Some 38.6% lack sanitary facilities. The most recent figures quoted in the Mission CDSS list potable water at 13.5%. Over 53,000 families (254,760 persons) referred to as the "allegados" (relatives) do not have a home of their own but live in the homes of others.

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Table 6: Classification of Salvadoran Houses

| Description               | Number    | Percent |
|---------------------------|-----------|---------|
| Total families (extended) | 1,027,537 | 100.0   |
| Total house buildings     | 974,462   | 94.8    |
| Total livable houses      | 577,798   | 56.2    |
| in good condition         | 406,619   | 39.6    |
| in fair condition         | 171,179   | 16.7    |
| Total in poor condition   | 396,664   | 38.6    |
| Families without houses   | 53,075    | 5.2     |
| New housing units needed  | 449,739   | 43.7    |

Source: MIPLAN in Fundacion M. Kast report for FUSADES, Tomo V, Sector Vivienda, Dec. 1988

#### 8. Education

The World Bank data list El Salvador as one of the worst in educational coverage (56%) for children and youth of school age (7 to 18) in the Americas. Only Guatemala and Haiti provide less opportunity for primary through secondary and vocational school education. The M.Kast/FUSADES Education Sector study (1988) assumed that 100% of seven year old children enter the first grade. The dropout problem is complicated in that many children do not begin primary school until they are eight or nine years old. Large numbers of these children also fail to go beyond the first grade. In other words, incomplete basic education is the rule.

Of 230,000 children who began first grade in 1979, only 44,000 (19.1%) reached the ninth grade. Of the 230,000, forty thousand needed nine years of schooling to complete the six primary grades. Yet in spite of such a poor success rate, the first six primary grades consume fully 69% of the country's total education budget: 550 million colons (US\$ 110 million).

Table 7: Education Budget, 1988  
(550 Million Colones)

|                              |             |
|------------------------------|-------------|
| Primary Grades               | 69%         |
| Secondary & Vocational       | 7%          |
| Literacy and Adult Education | 1%          |
| Maintenance & Equipment      | 1%          |
| Regional Administration      | 5%          |
| Central Administration       | 6%          |
| Universities                 | 11%         |
|                              | <b>100%</b> |

Source: Fundacion M.Kast/FUSADES  
Vol. III Sector Educacion

Economic losses to the country due to dropout and grade repetition have been calculated by the World Bank at US\$74 million annually. However dim these few figures may paint the picture for the educational system in El Salvador, they are an improvement over past decades. They, nevertheless, suggest that a significant number of adult Salvadorans are actually or functionally illiterate.

#### 9. Health

All Salvadoran families have the legal right to receive health care at facilities operated by the Ministry of Public Health and Social Welfare (MOH). However, health services at MOH facilities in rural areas are sometimes unavailable. There are various reasons for this but lack of resources and distance are the major ones. Families living in remote areas cannot easily get to health centers - especially during the long rainy season.

The Pan American Health Organization (PAHO) has attempted to classify the state of health of the 35 American nations according to a rating of 1 to 35. In that classification, El Salvador was rated 8, i.e., that El Salvador has the eighth worst health situation in the hemisphere - between Peru (7th) and Mexico (9th). Haiti was judged to be the worst; the US best.

The precise nature of the Salvadoran health problem is difficult to determine because health records, from which health indicators are determined, are frequently unavailable or of dubious value. According to the Kast/FUSADES health sector analysis, death certificates are available for less than 50% of all the deceased. Even in many cases where death certificates are found, the cause of death was listed in terms of popular belief rather than scientific knowledge: i.e., the cause indicated is erroneous.

Reliable data that do exist indicate that the principal causes of death are diarrheal and respiratory diseases, especially for infants and children weakened by malnutrition. The Kast/FUSADES analysis stated that about 10% of infant deaths can be attributed to diarrheal and respiratory illnesses contracted during the perinatal period.

El Salvador's health status, however, has improved. Since 1979, the infant mortality rate has fallen from 77 deaths per 1000 live births, to a national rate of 50 per 1000 in 1983. It remains at 56/1000 in rural areas but at 47.8/1000 in the San Salvador metro area.

Severe and accute malnutrition has dropped from 18 to 15% for El Salvador, but the poor suffer from all types of malnutrition, especially that of the protein and calorie levels.

There are 405 ambulatory care centers throughout the country, 34 of which are closed in the Eastern and Central regions due to the civil conflict. Hospital care is available only in major urban areas. The country has national hospitals with a patient dismissal rate of 4.5 per every 100 people per annum.

El Salvador has a shortage of doctors: one of the lowest physician to population ratios in the Americas at 3.4 physicians per every 10,000 population. There is an approximately equal number of nurses and auxiliary nurses. Their ratio is about like that in other Latin American countries.

#### B. Statement of Social Soundness

The Public Services Improvement Project is comprised of four components; the first three have varying implementation agencies with some different social impacts. The fourth provides technical assistance, training and program support to the other three and thus introduces direct social impacts other than enhancing the other three. It will be dealt with generally in this statement as a part of the others.

Component I, Restoration of Public Services, and Component II, Deferred Maintenance, have as their primary functions the strengthening of services to the public.

Public roads (MOH) will positively affect a wide spectrum of the farmers, rural poor, commerce, and industry (particularly agroindustry). The roads, whether restored or constructed, will ease the transportation of the rural and small town peoples in the acquisition of inputs for their farms or businesses, in marketing the products of their labors, and thus has the possibility of increasing the returns from these.

Additionally, the roads enhance a wide variety of other services by making it easier for the residents to obtain the benefits of health, education, and other social services by facilitating transportation. Transportation as an enterprise, will realize savings from lower expenditures on fuel, parts, and repairs, which can improve their businesses and at least in some measure, help keep the costs down for those that use the cars, trucks, and buses.

The restoration of the other transportation elements, the CEPA institutions for the railway, airport, and the ports, bring about direct and indirect benefits to many in El Salvador. The immediate benefits are the reduction of costs and greater safety for the persons and businesses that utilize these utilities: greater speed and efficiency of handling freight at the ports, in facilitating the transport of passengers and freight at the airport, and the freight hauled on the railroad. As private sector businesses and industries that utilize the services realize savings in time and money for these services, the costs to the public for the products will remain much lower than if these were allowed to deteriorate further, and especially if they had to cease operations.

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The restoration of the CEL electric grid is of such wide spread and pervasive influence that a very high proportion of the population benefits directly through the provision of light and heat, and both directly and indirectly through the channeling of power to business and industry. Power outages reduce the efficiency of these enterprises (and its lack would close many of them down), raising the costs of products and diminishing the hours of employment for many technicians and laborers. When the power is available, many benefit.

ANDA, the water and waste disposal authority, will obtain help from this project in making the deferred maintenance to the systems that now serve fewer customers or serve them inadequately. While these mainly produce social benefits via safer water and better operation of the sewer systems, thus lessening health risks, they also serve many in the private sector commercial and industrial fields. Many depend on water and waste disposal in order to operate their enterprises effectively. That, in turn, increases the amount of employment and helps keep costs down for the products or services they offer.

It is not anticipated that ANTEL, the communications authority, will require much assistance from the project. Any that is carried out will bring both social and economic benefits to Salvadorans who utilize the communications. The private sector is especially affected when communications are weak or do not exist.

Component III, Water Supplies/Sanitation/Health Education, is intended primarily as a provision of social benefits, and these mostly to the small towns and villages. The reconditioning of existing systems for water supplies, and the construction of new ones, will ease the labor burden of those that now carry it, often from long distances. It will also help improve the health of the water users by furnishing potable water, absent in many of the areas contemplated in this project.

The sanitation component, some repair of existing systems and a great deal of latrine installation, has the potential for enormous health benefits. The previous discussion of intestinal diseases and infections emphasized the gravity of these problems in the target areas, some of which is due to inadequate waste disposal facilities and almost as frequently, the poor placement of them and the practices involved with their use.

Both the potable water and the latrine elements in the component will be accompanied by health education to assure their maximum resulting benefit. That service will also incorporate more instruction on preventive health generally, and thus will enhance the overall benefits of the systems.

Component III, in conjunction with component IV, also carries with it some additional social benefits: those emanating from the training and technical assistance furnished to the municipal officials and to the water user committees. First, the help in organization of the people to conduct a project is, in itself, a strong benefit for the planned sub-projects and in turn for those that these entities may undertake in the future. They will know how to obtain funds and do their own improvements. Second, some of the

persons will acquire more technical knowledge and skills; these too are not only important for the sub-projects but also because these skills can be employed in the future.

Component IV brings indirect benefits to many segments of the population. As the technical assistance, training, and program support improve the functioning of public employees, a potential for better future projects is engendered. Some elements of the component will directly improve the operational efficiency of the implementing agencies, bringing more and better sub-projects from the Public Services Improvement Project. They also provide a sustainability base for many years to come.

Viewing the Project as a whole, there are few indications of possible negative social benefits. Any large project that affects so many agencies, as it trains and gives experience to staff members who profit in varying degrees from the assistance, will bring about some modifications in the positions of the personnel. It is unlikely that these will be major.

Obviously, too, some beneficiaries will profit more than others from the restoration of services and the installation of new ones. As this occurs, some rearrangement of the social forces in the communities will take place. Overall, these will probably be few. They are insufficient as negative impacts to overshadow the immense amount of social benefits to the populations as a whole.

The employment of women ensures that they will benefit substantially from the restoration and deferred maintenance of the services. They are also major users of electricity and water, and thus benefit proportionately from the provision of these services. Further, women and girls bear the brunt of carrying water in the rural areas; bringing that resource near their residences saves them time and work. Finally, women will benefit from the anticipated improvements in the health of their children since they have primary responsibility to care for sick children, which is both costly and time consuming.

Summary Statement: The analysis finds many and substantial social benefits from the Public Services Improvement Project, and few and minor potential negative effects. In summary, therefore, the conclusion is that:

Project 519-0320 is socially sound and will bring many positive social benefits to the people of El Salvador

The social soundness analysis results in a strong recommendation that the project be funded and implemented.

## ANNEX G.1

### OVERALL ECONOMIC ANALYSES

#### A. Rationale

The Project, 0320, is divided into four components, each with specific goals, objectives, and activities that come together to form a single project. The present analysis deals directly with two of them:

- Component I: Public Services Restoration
- Component II: Public Services Deferred Maintenance and Repair

Component III: Rural Water/Sanitation/Health, was subjected to a separate economic analysis, Annex H.2, due to its different functions. Some data from that analysis are presented herein as necessary to integrate the economic picture of the project.

Component IV: Institutional Strengthening is subsumed within the other three with proportions of the funds by agency. Flexibility demands that those monies be divided as needed once the technical assistance team is in place and the final plans have been drawn up in conjunction with the implementing institutions and USAID.

#### 1. Component I: Public Services Restoration

The project budget items for restoration were necessarily calculated on the assumption that the level of direct damage due to guerrilla actions will continue approximately as experienced during 1987 and 1988 (that level has continued at about the same intensity so far in 1989). There were two important assumptions within this decision:

- (1) The number of attacks would remain high on CEL (electricity) and FENADESAL (railroad); some funds were allowed for MOP (primarily bridges) and ANDA (water). ANTEL (telephone switching centers) can be included in the contingency line. Although recent attacks have been few or none, they remain vulnerable.
- (2) The value of the damaged property and the restoration costs will remain lower than in the early years of the conflict because of increased security, hastened response time, and improved repair procedures.

However, a great deal of indirect damage has occurred as a result of the guerrilla actions. The attacks on CEL, of course, cause power outages. In

addition to the reduction in productive and social benefits from these outages, they also bring about damage because the electrical machinery and equipment are not sufficiently protected from the strain of stoppage while in operation. This type of damage has occurred to all of the public service agencies, although to varying degrees. The emergency part of this indirect damage restoration is included in Component I.

## 2. Component II: Deferred Maintenance

The major task in Component II is the repairs necessary due to deferred maintenance to the roads. Some portions of all the roads have been neglected because MOP could not reach the area where the repairs were needed and often because the budgets simply did not allow the maintenance to be carried out.

### B. Parameters of the Methodology

As a generality, since the frequency and severity of the war damage cannot be accurately predicted, those institutions subject to direct damage, and the indirect damage from the lack of or low voltage of the electricity, were examined under three possible assumptions about the uncertainties:

- (1) Damage will decrease by 25%;
- (2) Damage will remain at the 1987-1988 level;
- (3) Damage will increase 25%.

There is always a possibility that the circumstances could change. As purely illustrative cases, then the 25% reduced and augmented possibilities are calculated (See table I.3.). These examinations, a type of uncertainty analysis, serve two potential functions: (1) a reduction could release monies for other more productive uses, and, (2) the funds simply would not be spent. On the other hand, increased damages might cause a demand for more funds within this component of the project, either as new additions to it or subtractions of funds from other components because of the emergency nature of Component I.

This latter factor, emergency, is important in another way, that of examining the possibilities of sharp curtailment or outright cessation of the public services if the repairs are not made. The potential economic effects of such an eventuality are discussed.

Because of the variations in the provision of assistance to the different utilities, the rationale for calculating the costs is explained for each. The general procedure included the probable amounts suggested for each, plus a proportion of those costs in Component IV that is applicable to the institution (See tables E.2, F.2, G.2, and H.3).

The benefits were calculated with a formula that utilized the Central Bank gross domestic product for 1988 in current colons converted to dollars. The

mean 1984-1988 percentage change in the annual variation in the gross domestic product in constant 1962 colons was used (Table A) in calculating benefits for the next five years (Tables B and C) to account for inflation and other currency fluctuations.

A proportion of the 1988 current colon gross domestic product was estimated for the critical influence of each service on that economic sector (Table D). This was guided by the 1986 utilities study but always taking the most conservative stance. The CEPA institutions were not included in that earlier economic study and their critical influence was guided by known "products" serviced and their beneficiaries. Although there is some critical influence of the utilities on the financial, public administration, and personal services sectors, they were not utilized in these cost-benefit analysis, primarily because of the many alternatives open to them in the case of damage to the utilities.

All the tables are presented at the end of the narrative. These include those used in the derivation of general costs and benefits as well as those specific to each institution.

The normal calculation of costs and benefits for business would be to base the benefits on the increments of products or services that results from the cost inputs. That approach was used in these analyses for only part of two services: new roads and new water and new sanitation systems. The inputs to the remaining utilities are to keep those entities providing the present level of services plus a very small increase across the life of the project. Therefore, the costs affect the entire output of the utilities and the critical influence benefits are figured on the entire output since without the inputs, the utilities would essentially cease their provision of services.

### C. Institutional Analyses

#### 1. CEL (Electricity)

The direct restoration activities for CEL are included in Component I. They include the purchase of materials and the replacement of towers, lines, and other equipment directly or indirectly damaged by the guerrillas. Table E.2 details the costs estimated for the restoration and the CEL share of the Component I contingency and inflation line items. It also assigns a probable amount of the Component IV activities to the CEL costs.

The total project costs for CEL total \$20.1 million. Additionally, CEL always makes inputs of labor, supervision, and some materials, which it estimates to be about 40% of the value of the AID funds. The CEL inputs are estimated at \$7.25 million over the five years, bringing the total cost figure to \$27.35 millions.

Based on CEL calculations of its services to the several economic sectors, the critical influence benefits were estimated by year and for each sector (Table E.1). The estimated total benefits for the five years are \$4,714.39 million.

At the anticipated rate of damage, listed as 100% in Table I.3, the cost-benefit ratio for the inputs to CEL would be 1:172 (Table J). However, if the damages are only 75% of those anticipated (Table I.3), the cost-benefit ratio would be 1:230. Conversely, if they are more than expected and rise to 125% (Table E.3), the cost-benefit ratio would be 1:138. Although other damage possibilities are not shown, it can be seen from this latter figure that substantial increases in guerrilla attacks can drastically reduce the cost-benefit ratios.

These calculations must not mask the losses in case AID and other donors did not assist, and the consequent effects of the inevitable eventual cessation of electrical current generation and distribution.

CEL can be shut down by sabotage. The only question is how long it would take - probably not very long if the guerrillas decided to concentrate on the system as a whole and if the emergency repairs were not effected.

## 2. MOP: Roads and Highways

The costs for the restoration, mostly the replacement of bridges blown-up (Component I), and deferred maintenance (Component II) for the Ministry of Public Works systems roads and highways account for 37% of the Project funds. A small amount is included in Component I, restoration, and a much larger amount in Component II, deferred maintenance (Table F.2 gives the details). The maintenance is required because at times the MOP crews could not get to the sites because they were in the conflictive area much more often or because MOP did not have enough budget resources to carry them out.

Much of the work carried out on the roads and highways will be done via private contractors but some will be effected by the Caminos directorate of MOP. Viewing the two alternatives, MOP estimated that its inputs would amount to about 33% since even when work is done by contractors, much interviews and supervision must still be done by MOP personnel. The Project costs are \$49.3 million; when the MOP input is added to that, the total of all inputs is \$61.61 millions (The details by line item are provided in Table F.2.).

The benefits of the improvements to roads and the construction of new ones were somewhat more difficult than for the other utilities. A part of that is that the amount of travel now taking place on the damaged roads is largely unknown. To account for this factor, the benefits are reduced somewhat from the MOP calculations. The yearly and total benefits for this part of the project appear in Table F.1, and total, for the five years, \$3,893.36 millions.

The uncertainty level are applied to the MOP costs because of two factors: (1) the possibility of destroyed bridges and (2) the extent of damages brought on by deferred maintenance is not fully known. The uncertainty level are displayed in the MOP line of Table I.3. The results of the calculations for

the cost-benefit ratios by uncertainty level are shown in table J. At the 75% level, the ratio would be 1:84; at 100% of the expected costs, 1:63, and at 125%, 1:51. Again, the influence of additional guerrilla sabotage plus the deferred maintenance damage, loom large in their effects on the cost-benefit ratios.

### 3. CEPA; Transportation

The three CEPA utilities (ports, railroad, airport) are included in Component I, restoration. One of them, the railroad, has suffered and continues to be plagued by direct war damage. The ports and airport, while not directly attacked, have degenerated considerably in their service levels because of the indirect damage caused by current outages and surges, and by the lack of hard currency funds to replace and restore unusable equipment and instruments.

The CEPA Component I activities are primarily to make emergency repairs. All three utilities need dollar funding for replacement parts. Local currency funding is provided for the cases when the materials can be purchased in El Salvador. The total project costs are detailed in table G.2, and as with the other institutions, include the CEPA proportions of the contingency, inflation, and Component IV funds. The total project funds is \$13.3 million. These institutions have in the past, and will continue, to furnish not only the labor for the restoration work but also much of the materials, thus their calculation of their inputs are at 65%. When the CEPA inputs are added in, the total cost is \$19.58 millions.

The critical influence benefits for the three CEPA institutions were calculated from their past history of services plus the level that could be rendered with the restoration. These were viewed very conservatively for the ports and railroad since there are alternatives - trucks and ports in Guatemala. Table G.1 presents the annual and total calculated benefits. The latter was figured at \$2,432.89 millions.

The uncertainty levels were applied to the costs (Table I.3) with little doubt about the possibility of direct damage to the railroad, or about the extent of the loss of increased damage to the port and airport should restoration not be done - the recent history fully justifies such calculations.

The resulting cost-benefit ratios are displayed in the CEPA line in Table J. At 75%, the ratio is 1:166 since the benefits continue unchanged; only the costs are reduced. The historical based level, 100%, yields a ratio of 1:124 but at 125%, it is 1:99. The benefits are relatively large in relationship to the small costs involved in the restoration of the utilities.

### 4. ANDA/MOH (Water/Sanitation/Health)

The cost and benefits connected to this project were calculated in two ways for this analysis. First, the restoration costs were figured exactly as they were for the other institutions and benefits to be derived in the same way too. That is, this portion of the Project was applied to the benefits per

economic sector via the institution's estimates of its contributions to each (some reduction was made on these because of doubts about the projections). The benefits from this calculations, Table H.1, are provided in full by year and total.

Additionally, using the most conservative line, two other benefits were extracted from those in Annex H.2: increased water usage and the value of time saved. Each of these was divided into approximate yearly increments based on the Project time table of installation of new systems.

Table H.2 combines these three types of benefit for an overall total. The three together would result in \$1,347.31 million, with the restoration of services accounting for 93% of the total.

The costs for ANDA/MOH are relatively high because of the additions of the sanitary systems (mostly latrines) and the health education. Too, since ANDA is not now geared up to install latrines, nor to carry out the community organization necessary to assure adequate maintenance and usage of these systems. Large sums will be spent on technical assistance, training, and program support. The Component I, restoration, and component III, water/sanitation/health education, combined with the ANDA/MOH share of contingencies, inflation, audits, and evaluation raise the total to \$60.93 millions (Table H.3) including only a 20% input from the institutions.

The uncertainty levels were applied to both the restoration and the installation/repair of systems because there has been war damage to the ANDA installations in the past, and because there are many unknown factors related to the extent of the damaged water systems and their eventual repair. The calculated levels for costs are: 75% = \$45.7 millions; 100% = \$60.93; and 125% = \$76.17. (Table I.3)

The benefit-cost ratios for the ANDA/MOH parts of the Project are the lowest for any of the utilities, primarily resulting from the aforementioned inputs of community organization, health education, and the large amount of technical assistance and training required. When the uncertainty level costs are put into equation, the cost-benefit ratios (Table J) are: 75% = 1:29; and 125% = 1:19.

#### D. Project Costs Benefits

The three summary table (I.1 for benefits, I.2 for costs, and I.3 for the costs at the three levels of uncertainty) provide the overall data for the Project calculations. Each also has a total line that displays the combination for the four institutions.

Table J present the results of the calculations of cost-benefit analyses for

each of the institutions and for the Project, by the uncertainty level. The cost-benefit ratios by uncertainty level result as follows:

|      |      |
|------|------|
| 75%  | 1:97 |
| 100% | 1:73 |
| 125% | 1:58 |

To account for the time phasing of benefits and costs, present value calculations were also done utilizing 15 and 25% discounts. (See Table K). Even with these eventualities, the cost benefit ratios are acceptable: 15% = 59 and 25% = 67. The restoration of services vital to the economic sectors strongly influence the benefits.

It is obvious from the presentations on the separate institutions that the high ratios resulting from CEL and CEPA have a strong positive influence on the lower MOP and ANDA/MOH figures. The overall conclusions from these analyses are:

The cost-benefit ratio on each institution comprised in this project is sufficiently favorable to warrant its inclusion in the Project.

The cost-benefit ratio for the project as a whole is sufficiently positive to justify its funding.

Finally, because of the war and the potential level of sabotage, the possibility of the cessation, or severe reductions, of the services must be considered. The enormous disturbance to the economic, social, and political sectors of the country fully justify the conduct of the Project.

Table A: Annual and Mean Percentage Variation in Gross Domestic Product in Constant 1962 Colons by Sector: 1984-1988\*

| Sector              | 1984 | 1985 | 1986 | 1987 | 1988 | Mean |
|---------------------|------|------|------|------|------|------|
| Agriculture         | 3.3  | -1.1 | -3.1 | 2.5  | 2.4  | 0.8  |
| Mining/Quarry       | 2.7  | 0.0  | 2.6  | 12.8 | 15.9 | 6.8  |
| Industry/Manu.      | 1.3  | 3.7  | 2.5  | 3.0  | 3.5  | 2.8  |
| Construction        | -5.7 | 4.6  | 2.6  | 14.0 | 17.3 | 6.6  |
| Electric/water      | 2.7  | 5.0  | 2.5  | 2.0  | 2.1  | 2.9  |
| Trans/Storage/Comm. | 2.8  | 1.9  | 0.4  | 1.8  | 2.3  | 1.8  |
| Commerce            | 1.9  | 0.5  | 0.3  | 2.1  | 2.5  | 1.5  |

\* 1988 is a projection based on the performance of the first six months.

Source: Central Reserve Bank 09-30-88

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**Table B: 1988 Colon GDP and Projected Increases from Mean 1984-1988  
Annual Variation to 1989-1994 by Sector (\$ Million)**

|                    | 1988          | 1989         | 1990         | 1991         | 1992         | 1993         | 1994         | total        |
|--------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Agriculture        | 714.3         | 5.71         | 5.76         | 5.81         | 5.85         | 5.90         | 5.95         | 34.98        |
| Mining/Quarry      | 9.2           | 0.63         | 0.67         | 0.71         | 0.76         | 0.81         | 0.87         | 4.45         |
| Industry/Manu      | 899.0         | 25.17        | 25.88        | 26.60        | 27.35        | 28.11        | 28.90        | 162.01       |
| Construction       | 43.1          | 2.84         | 3.03         | 3.23         | 3.45         | 3.67         | 3.92         | 20.14        |
| Elec/Water         | 12.5          | 0.36         | 0.37         | 0.38         | 0.39         | 0.41         | 0.42         | 2.33         |
| Trans/Storage/Comm | 239.4         | 4.31         | 4.39         | 4.47         | 4.55         | 4.63         | 4.71         | 27.06        |
| Commerce           | 1771.2        | 26.57        | 26.97        | 27.37        | 27.78        | 28.20        | 28.62        | 165.51       |
| <b>TOTALS</b>      | <b>3688.7</b> | <b>65.59</b> | <b>67.07</b> | <b>68.57</b> | <b>70.13</b> | <b>71.73</b> | <b>73.39</b> | <b>416.4</b> |

Source for 1988: Central Reserve Bank: 1-20-89

**Table C: Projected GDP for 1989-1994 by Sector and Year from Means  
Variation 1984-1988\***

| Sector             | 1990           | 1991           | 1992           | 1993           | 1994           | Total          |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Agriculture        | 720.01         | 725.77         | 731.58         | 737.43         | 743.33         | 749.28         |
| Mining/Quarry      | 9.83           | 10.50          | 11.21          | 11.97          | 12.78          | 13.65          |
| Industry/Manu      | 924.17         | 950.05         | 976.65         | 1004.00        | 1032.11        | 1061.01        |
| Construction       | 45.94          | 48.97          | 52.20          | 55.65          | 59.32          | 63.24          |
| Electric/Water     | 12.86          | 13.23          | 13.61          | 14.00          | 14.41          | 14.83          |
| Trans/Storage/Comm | 243.71         | 248.10         | 252.57         | 257.12         | 261.75         | 266.46         |
| Commerce           | 1797.77        | 1824.74        | 1852.11        | 1879.89        | 1908.09        | 1936.71        |
| <b>TOTALS</b>      | <b>3754.29</b> | <b>3821.36</b> | <b>3889.93</b> | <b>3960.06</b> | <b>4031.79</b> | <b>4105.18</b> |

**Table D: Described Critical Influence (%) of Utilities by Sector**

| Sector              | CEL | MOP | CEPA | ANDA |
|---------------------|-----|-----|------|------|
| Agriculture         | 10  | 20  | 15   | 5    |
| Mining/Quarry       | 10  | 25  | 20   | 5    |
| Industry/Manu.      | 45  | 20  | 15   | 10   |
| Construction        | 20  | 20  | 15   | 5    |
| Electric/Water      | 20  | 10  | 5    | 20   |
| Trans/Storage/Comm. | 10  | 15  | 10   | 5    |
| Commerce            | 20  | 20  | 10   | 5    |

Table E.1: Electricity (CEL) Calculated Critical Influence Benefits  
by Economic Sector and Year

| Sector             | 1990          | 1991          | 1992          | 1993          | 1994          | Total          |
|--------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Agriculture        | 72.58         | 73.16         | 73.74         | 74.33         | 74.93         | 368.74         |
| Mining/Quarry      | 1.05          | 1.12          | 1.20          | 1.28          | 1.37          | 6.02           |
| Industry/Manu      | 427.53        | 439.49        | 451.80        | 464.45        | 477.45        | 2260.72        |
| Construction       | 9.79          | 10.54         | 11.13         | 11.86         | 12.65         | 55.97          |
| Electric/Water     | 2.65          | 2.72          | 2.80          | 2.88          | 2.97          | 14.02          |
| Trans/Storage/Comm | 24.81         | 25.26         | 25.71         | 26.10         | 26.65         | 128.61         |
| Commerce           | 364.95        | 370.42        | 375.98        | 381.62        | 387.34        | 1880.31        |
| <b>TOTALS</b>      | <b>903.36</b> | <b>922.71</b> | <b>942.36</b> | <b>962.60</b> | <b>983.36</b> | <b>4714.39</b> |

Table E.2: CEL Costs by Source, Year, and Component (\$ millions  
and equivalent; FX and LC combined)

| Source             | 1990        | 1991        | 1992        | 1993        | 1994        | Totals       |
|--------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Component I        | 4.84        | 4.35        | 3.92        | 2.50        | 0           | 15.61        |
| I:Cont./Infla.     | 0.66        | 0.62        | 0.54        | 0.45        | 0.26        | 2.53         |
| IV:TA/Support etc. | 0.42        | 0.39        | 0.39        | 0.38        | 0.38        | 1.96         |
| CEL input(40 %)    | 2.20        | 1.99        | 1.78        | 1.18        | 0.10        | 7.25         |
| <b>TOTAL CEL</b>   | <b>8.12</b> | <b>7.35</b> | <b>6.63</b> | <b>4.51</b> | <b>0.74</b> | <b>27.35</b> |

Table F.1: Roads (MOP) calculated Critical Influence Benefits by Year and  
Economic Sector

| Sector             | 1990          | 1991          | 1992          | 1993          | 1994          | Total          |
|--------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Agriculture        | 145.15        | 146.32        | 147.49        | 148.67        | 149.86        | 737.49         |
| Mining/Quarry      | 2.63          | 2.80          | 2.99          | 3.19          | 3.41          | 15.02          |
| Industry/Manu      | 190.01        | 195.33        | 200.80        | 206.42        | 212.20        | 1004.76        |
| Construction       | 9.79          | 10.44         | 11.13         | 11.86         | 12.65         | 55.87          |
| Electric/Water     | 1.32          | 1.36          | 1.40          | 1.44          | 1.48          | 7.00           |
| Trans/Storage/Comm | 37.22         | 37.89         | 38.57         | 39.26         | 39.97         | 192.91         |
| Commerce           | 364.95        | 370.42        | 375.98        | 381.62        | 387.34        | 1880.31        |
| <b>TOTALS</b>      | <b>751.07</b> | <b>764.56</b> | <b>778.36</b> | <b>792.46</b> | <b>806.91</b> | <b>3893.36</b> |

**Table F.2: MOP (caminos/AME) Costs by Source, Year and Component (\$Millions and Equivalent; FX and LC combined)**

| Source             | 1990         | 1991         | 1992         | 1993         | 1994        | Totals       |
|--------------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Component I        | 0.40         | 0.40         | 0.40         | 0.30         | 0           | 1.50         |
| I:Cont./Infla.     | 0.01         | 0.01         | 0.01         | 0.01         | 0.01        | 0.05         |
| Component II       | 9.15         | 8.15         | 7.40         | 5.90         | 4.31        | 34.91        |
| II:Cont./Infla.    | 1.33         | 1.18         | 1.07         | 0.84         | 0.60        | 5.02         |
| IV:TA/Support etc. | 1.67         | 1.56         | 1.54         | 1.53         | 1.53        | 7.83         |
| MOP input(33 %)    | 3.27         | 2.82         | 2.74         | 2.05         | 1.42        | 12.30        |
| <b>TOTAL MOP</b>   | <b>15.83</b> | <b>14.12</b> | <b>13.16</b> | <b>10.63</b> | <b>7.87</b> | <b>61.61</b> |

**Table G.1: Transportation (CEPA) Calculated Critical Influence Benefits by Year and Economic Sector**

| Sector             | 1990          | 1991          | 1992          | 1993          | 1994          | Total          |
|--------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Agriculture        | 108.87        | 109.74        | 110.61        | 111.50        | 112.39        | 553.11         |
| Mining/Quarry      | 2.10          | 2.24          | 2.39          | 2.56          | 2.73          | 12.02          |
| Industry/Manu      | 142.51        | 146.50        | 150.60        | 154.82        | 159.15        | 753.58         |
| Construction       | 7.35          | 7.83          | 8.35          | 8.90          | 9.49          | 41.92          |
| Electric/Water     | 0.66          | 0.68          | 0.70          | 0.72          | 0.74          | 3.50           |
| Trans/Storage/Comm | 24.81         | 25.26         | 25.71         | 26.18         | 26.65         | 128.61         |
| Commerce           | 182.47        | 185.21        | 187.99        | 190.81        | 193.67        | 940.15         |
| <b>TOTALS</b>      | <b>468.77</b> | <b>477.46</b> | <b>486.35</b> | <b>495.49</b> | <b>504.82</b> | <b>2432.89</b> |

Table G.2: CEPA (Ports, Railroads, Airport) Costs by Year and Component  
(\$ Million and equivalency; FX and LC combined)

| Source             | 1990        | 1991        | 1992        | 1993        | 1994        | Totals       |
|--------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Component I        | 2.09        | 2.03        | 1.92        | 1.82        | 1.80        | 9.66         |
| I:Cont./Infla.     | 0.23        | 0.33        | 0.25        | 0.29        | 0.58        | 1.68         |
| IV:TA/Support etc. | 0.42        | 0.39        | 0.39        | 0.38        | 0.38        | 1.96         |
| CEPA input(65 %)   | 1.36        | 1.32        | 1.25        | 1.18        | 1.17        | 6.28         |
| <b>TOTAL CEPA</b>  | <b>4.10</b> | <b>4.07</b> | <b>3.81</b> | <b>3.67</b> | <b>3.93</b> | <b>19.58</b> |

Table H.1: Water (ANDA) Calculated Critical Influence Benefits from Component I, Restoration, by Year and Economic Sector (excludes Component III Benefits)

| Sector             | 1990          | 1991          | 1992          | 1993          | 1994          | Total          |
|--------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Agriculture        | 36.29         | 36.58         | 36.87         | 37.17         | 37.46         | 184.37         |
| Mining/Quarry      | 0.53          | 0.56          | 0.60          | 0.64          | 0.68          | 3.01           |
| Industry/Manu      | 95.01         | 97.67         | 100.40        | 103.21        | 106.10        | 502.39         |
| Construction       | 2.45          | 2.61          | 2.78          | 2.97          | 3.16          | 13.97          |
| Electric/Water     | 2.65          | 2.72          | 2.80          | 2.88          | 2.97          | 14.02          |
| Trans/Storage/Comm | 12.41         | 12.63         | 12.86         | 13.09         | 13.32         | 64.31          |
| Commerce           | 91.24         | 92.61         | 93.99         | 95.40         | 96.84         | 470.08         |
| <b>TOTALS</b>      | <b>240.58</b> | <b>245.38</b> | <b>250.30</b> | <b>255.36</b> | <b>260.53</b> | <b>1252.15</b> |

Table H.2: ANDA/MOH Benefits Summary (\$ Millions)

| Type                 | 1990          | 1991          | 1992          | 1993          | 1994          | Totals         |
|----------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| General Service(H.1) | 240.58        | 245.38        | 250.30        | 255.36        | 260.53        | 1252.15        |
| Increased Water Use  | 5.24          | 9.38          | 12.60         | 13.11         | 14.01         | 54.34          |
| ValueTimeSaved       | 4.12          | 6.08          | 8.10          | 9.65          | 12.87         | 40.82          |
| <b>TOTAL</b>         | <b>249.94</b> | <b>260.84</b> | <b>271.00</b> | <b>278.12</b> | <b>287.41</b> | <b>1347.31</b> |

Note: The earnings from saved lives also provide economic benefits but they fall outside the project period.

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Table H.3: ANDA/MOH (Water/Sanitation/Health) Cost by Year and Component (\$ millions; PX and LC combined)

| Source                 | 1990         | 1991         | 1992         | 1993         | 1994        | Totals       |
|------------------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Component I            | 1.81         | 1.66         | 1.32         | 1.32         | 1.32        | 7.43         |
| I:Cont./Infla.         | 0.29         | 0.26         | 0.21         | 0.24         | 0.25        | 1.25         |
| Component III, all     | 9.72         | 9.52         | 7.26         | 5.82         | 3.45        | 35.77        |
| IV:TA/Support etc.     | 1.67         | 1.56         | 1.54         | 1.53         | 1.53        | 7.83         |
| ANANDA/MOH Input(20 %) | 2.31         | 2.24         | 1.72         | 1.43         | 0.95        | 8.65         |
| <b>TOTAL ANDA/MOH</b>  | <b>15.80</b> | <b>15.24</b> | <b>12.05</b> | <b>10.34</b> | <b>7.50</b> | <b>60.93</b> |

Table I.1: Summary of all Benefits by Agency (\$ millions)

| Agency       | 1990           | 1991           | 1992           | 1993           | 1994           | Totals          |
|--------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| CEL          | 903.36         | 922.71         | 942.36         | 962.60         | 983.36         | 4714.39         |
| MOP          | 751.07         | 764.56         | 778.36         | 792.46         | 806.91         | 3893.36         |
| CEPA         | 468.77         | 477.46         | 486.35         | 495.49         | 504.82         | 2432.89         |
| ANANDA/MOH   | 249.94         | 260.84         | 271.00         | 278.12         | 287.41         | 1347.31         |
| <b>TOTAL</b> | <b>2373.14</b> | <b>2425.57</b> | <b>2478.07</b> | <b>2528.67</b> | <b>2582.50</b> | <b>12387.95</b> |

Table I.2: Summary of all Costs by Agency (\$ millions)

| Agency       | 1990         | 1991         | 1992         | 1993         | 1994         | Totals        |
|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| CEL          | 8.12         | 7.35         | 6.63         | 4.51         | 0.74         | 27.35         |
| MOP          | 15.83        | 14.72        | 13.16        | 10.63        | 7.87         | 61.61         |
| CEPA         | 4.10         | 4.07         | 3.81         | 3.67         | 3.93         | 19.58         |
| ANANDA/MOH   | 15.80        | 15.24        | 12.05        | 10.34        | 7.50         | 60.93         |
| <b>TOTAL</b> | <b>43.85</b> | <b>40.78</b> | <b>35.65</b> | <b>29.15</b> | <b>20.04</b> | <b>169.47</b> |

Table I.3: Summary of Total Costs by Uncertainty Level by Agency

| Agency       | 75%           | 100%          | 125%          |
|--------------|---------------|---------------|---------------|
| CEL          | 20.51         | 27.35         | 34.19         |
| MOP          | 46.21         | 61.61         | 77.01         |
| CEPA         | 14.69         | 19.58         | 24.48         |
| ANANDA/MOH   | 45.70         | 60.93         | 76.16         |
| <b>TOTAL</b> | <b>127.11</b> | <b>169.47</b> | <b>211.84</b> |

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ECONOMIC ANALYSIS OF WS&S AND HEALTH COMPONENT

1. Introduction. The WS&S project deals with subprojects ranging from improvements and repairs in existing water and sewer systems, to the installation of small and simple systems and hand pumped wells and latrines in cantons of under 400 inhabitants, with associated health promotion and education.

The following analysis uses data prepared on a sample of projects financed by the Interamerican Development Bank (IDB) financed in El Salvador. The economic justification for repairing similar systems, one area of emphasis for the present project, usually can flow easily from the a priori analysis that led to building them, because they recuperate lost production, or extend coverage, for a fraction of the original construction cost. The analysis of simple hand pumps also can borrow from this data, taking into account differences between this technology and the more complicated and more costly systems of the sample that provide water directly to household lots.

The sanitation component of the present project requires relatively smaller funding but has important health benefits. Studies by the World Health Organization estimate that appropriate improvements in excreta disposal can reduce diarrheal morbidity among young children by 22%. This compares very favorably with the 16% reduction that improvements in water quality can provide and the 25% reduction associated with the availability of water, or the 37% that comes from combining water quality and availability. Also, the benefits of the investments in rural water systems are threatened if sanitation is not properly addressed. Given these facts and the difficulty of quantifying the benefits of the very cost effective latrine and sewer repair projects that the present project will finance, their justification is taken *prima facie*.

2. Project Sample. During preparation for the last loan (No. ES-0054) to finance rural water supply systems in El Salvador, the Interamerican Development Bank undertook an economic analysis of the impact of such projects it had financed earlier in 123 communities, with a total population of 70,000, using data valid as of December, 1984. The survey of 560 homes representing 30 water systems, permits estimating population served, number of workers, monthly family income, daily water consumption before the projects began and the price of water if it had been sold locally.

As mentioned above, the survey results readily apply to the repair and improvement activities that the present project will offer, and can be adjusted to accommodate the canton level hand pumps. The systems in the survey introduced water to communities through housetaps. The justification

repairing similar systems because substantially less costly repairs or extensions derive large benefits by putting sunk investment to better use. In the case of introducing hand pump technology, adjustments are required to account for the additional time it takes to fetch water compared with hoesetaps, and the possibility that the villagers will use less water because of this inconvenience.

### 3. Benefit/Costs Analysis

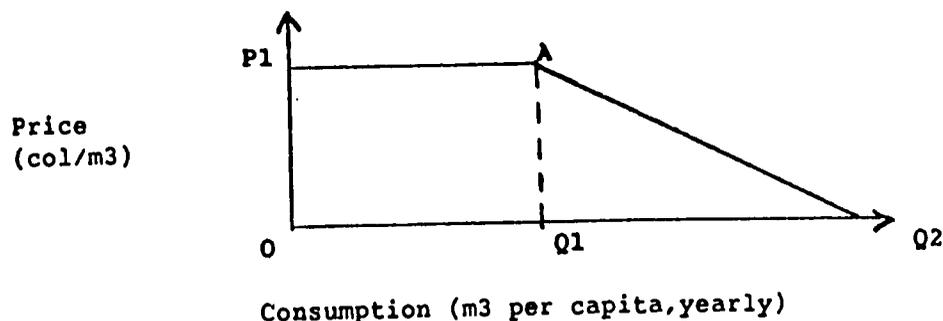
a. Benefits. The benefits of water projects include time savings and greater consumption of water, reduced labor expenditure, and better living and health conditions, the latter depending on additional inputs such as sanitation improvements and hygiene education if maximum impact is to be obtained from the community water supply program.

The survey focused only on the value of the water consumed, measured by people's willingness to pay for it. The conclusions are conservative from this perspective, because of not attempting to quantify the additional value of health benefits.

A simple, two part approach was used to estimate the value of water, using economic accounting prices. The first part concerns the value of the quantity of water that the villagers had previously purchased from local suppliers, or more commonly fetched themselves, often from polluted streams. The accounting price used in these respective cases was the price they pay for water or the value of time that women and children had been dedicating to fetching water and which could be freed due to the projects. The value of this time was estimated at 25% of the rural, daily wage rate. The study found that on the average, rural people in El Salvador each use about 8.11 cubic meters of water per year (or 22 liters per day), valued at US\$2.30 per cubic meter in financial prices, or US\$1.82 in accounting prices (using a general conversion factor of 0.79). So about US\$15 of time can be freed for each person, using accounting prices to represent the value to the country of this time. This value varies significantly between the various communities, depending on their particular situation.

An increase in water consumed is the second benefit that can be quantified. Studies in El Salvador indicate that consumption should reach 100 liters per capita (36.5 cubic meters per year) with the new hoesetap systems. Above this amount, water essentially has no marginal value for home use, as people do not consume more even though no additional charges would be made. Assuming that the marginal economic value of a cubic meter of water falls steadily from US\$1.82 to zero as per capita consumption rises from 8.11 cubic meters each year to 36.5 cubic meters, the value of the increase in water used due to the projects would be about US\$27 per capita.

These estimates of the two directly quantifiable benefits of water projects are shown in the following diagram:



In El Salvador,  $P_1$  is US\$1.82 per cubic meter (using shadow prices), the value of water that is fetched.  $Q_1$  is about 8.1 cubic meters per capita each year, the quantity of water people consume on the average in rural areas. So the area  $P_1-A-Q_1-0$  is the value of this water, or US\$15. With the hometaps, water consumption increases from  $Q_1$  to  $Q_2$ , or to 36.5 cubic meters per capita, at which point its marginal value falls to zero. So the value of that increase is the area  $A-Q_1-Q_2$ , or US\$27 per annum. Summing the value of water consumed before the project to the value of the increase in water used, one reaches the total benefits in the area  $P_1-A-Q_2-0$ , which is US\$42 per capita each year, or US\$1.15 per cubic meter.

As a comparison, water costs less than US\$0.10 per cubic meter in urban areas of El Salvador, substantially less than the cost to rural people walking kilometers to supply their families, often from sources of dubious quality. The emphasis of this project on rural areas, attempts to address this regressive impact of existing policy that is common among developing societies, by delivering good quality water at substantially lower real costs for the villagers.

b. Costs. Both the investment and operating costs of the 30 projects covered by the sample, were adjusted by economic conversion factors to reflect broader prices and market distortions. The per capita investment cost was about US\$97 using financial prices of 1984 (or US\$84.50 using shadow prices), 21% of which was needed for imported components. Operating and maintenance costs were about US\$0.64 per capita yearly (US\$0.78 using shadow prices). The present values of operations and maintenance over 20 years is about 20% of the value to the economy of the initial investment in systems requiring pumping, and 11% in gravity fed systems.

c. Results. The average economic internal rate of return to these projects is 42%, varying greatly by locality depending on such factors as distance to the existing source of water. In no case did this measure of resource allocation drop below 12%, a standard cut off point, with only 5 of the 30 projects having rates of return below 20%.

AID has financed water system repair and improvement projects through ANDA in a pilot program, with an average per capita cost of US\$25 in financial prices producing benefits that compare favorably with the projects discussed above, demonstrating their economic justification.

The wells with handpumps that ANDA will install with AID financing in a very small cantons, are more costly, averaging US\$8770 per well serving 150 people, or US\$59 per capita current price (about US\$48 per capita using accounting prices). Benefits for these wells can be less than for hometaps, but probably not less than two thirds to one half if located in communities that really need the water projects. However, because of the low investment cost compared to systems with hometaps, their rate of return is above 40%, after adapting the analysis described above as shown in Table 1. This justifies the use of this cost effective technology from the perspective of resource allocation.

4. Capacity to Pay. Experience around the world indicates that the success of handpump water supplies is related to a sense of community ownership of the well and pump. Community participation that is limited to contribution of free labor, results in nothing more than a small cost saving. As a minimum, the community should manage, maintain the pump and perform routine repairs; pay in full for the operation and maintenance costs for a level of service such as the well and handpump (US\$100 to \$200 per year is common, or US\$0.70 maximum for a family each month); and also assume responsibility for the full incremental cost of any higher service level that the community elects.

Household surveys in El Salvador estimate that 20% of rural families have income below US\$800 per year, and 7% below US\$480. From 3% to 4% of their income can be allocated to water and sanitation, according to international organizations. Thus, monthly charges for maintenance of up to US\$1.20 is affordable for more than 90% of rural families, and US\$2.00 for 80%. As the present project will work in some of the smallest cantons, the lower of these levels should be a good baseline. This more than adequately covers the US\$0.70 that may be needed for maintenance.

MOH charges for rural water systems confirm this payment capacity. Current monthly charges are US\$1.40 for systems with pumps (including US\$0.40 to amortize house connections), and US\$1.00 for gravity systems (with the same amortization payment).

Families also pay US\$21 up-front fees to the MOH. Communities working with Save the Children have contributed US\$40 to US\$100 per family up-front charges. The 25 families that a handpump will supply thus may be able to raise a total of from US\$550 to US\$2500. These figures are below the approximate minimum US\$17,000 they would need in order to cover the incremental cost for a small system with hometaps and electric or gasoline engine pump. This shows that the handpump alternative will be the most cost-effective technology, unless a gravity fed system is possible.

**TABLE 1**  
**BENEFIT/COST CALCULATIONS FOR**  
**HAND PUMPS IN EL SALVADOR**

**Investment Costs (One Time)**

|           | <u>Price</u> | <u>Economic Value</u> | <u>Per Capita Econ Value</u> | <u>Conversion Factor</u> |
|-----------|--------------|-----------------------|------------------------------|--------------------------|
| Well cost | 7770         | 6183                  |                              | 0.79                     |
| Pump      | 1000         | 1000                  |                              | 1.00                     |
| Subtotal  | 8770         | 7183                  | 48                           |                          |

**Operation Costs (Yearly)**

|             |         |        |           |              |
|-------------|---------|--------|-----------|--------------|
| Maintenance | 100-200 | 79-158 | 0.52-1.05 | 0.79<br>0.79 |
|-------------|---------|--------|-----------|--------------|

**Benefits (Yearly)**

|                        |                               |                               |                       |      |
|------------------------|-------------------------------|-------------------------------|-----------------------|------|
| Time Savings           | 1520-1900                     | 1200-1500                     | 8-10                  | 0.79 |
| Additional Consumption | <u>2660-3420</u><br>4180-5320 | <u>2100-2700</u><br>3300-4200 | <u>14-18</u><br>22-28 | 0.79 |

**Net Yearly Benefits**

21.50-27      0.79

IRR = 44.6% - 56.2% for 20 years with 10 year life of mechanical parts.

ANNEX H  
TECHNICAL ANALYSIS

I GENERAL.

The technologies applied in the various components of this project vary widely in their complexity, although each is at an appropriate level for the requirements and social conditions for each task.

II ELECTRIC POWER.

In the electric power field where there is no room for error, tried and proven methods for making quick repair are utilized by highly skilled personnel using state-of-the-art tools and techniques. The technical capability of the CEL organization has been proven over the years and there is no reason to change or question the technological practices in effect.

III ROADS.

In road maintenance, it is intended that technology applied in each project be appropriate for the location, class, and condition of the road, the size of the sub-project and the location of the work. Wherever feasible, labor intensive construction techniques, with maximum use of local unskilled labor is proposed. The sub-projects which most easily lend themselves to this methodology will be relatively small jobs on remote roads which carry light traffic and where mobilizing of a modern equipment is not economical or is otherwise undesirable.

Contractors exist in El Salvador who can provide the equipment and know how to re-build high class roads which carry heavy traffic. They will be utilized where the nature of the work demands it. However, one of the tasks of the new Roads Management Unit in Caminos, with the help of technical assistance, will be to evaluate each sub-project and design it in such a way that appropriate technology will be utilized.

There are a number of reasons to keep the technology used on road projects at the lowest possible level that will produce a serviceable all weather road at a not unreasonable cost. Job opportunities should be generated for the unskilled whenever it can be done without detriment to the work, and that will be done. Use of machinery implies import of equipment, parts, fuel, and lubricants that require foreign exchange that might be used for other higher priority purposes. As a general rule, on road work such as that proposed under this project, one should attempt to do with machinery only that which cannot be done by labor, provided a willing and able work force is available.

#### IV EQUIPMENT AND MAINTENANCE.

To the extent that machinery is required for road construction and maintenance, that machinery will need the support of a capable repair and logistic system. All machinery requires preventive maintenance, plus minor, and from time to time, major, repairs. Shops, maintenance equipment, qualified personnel, and well organized control, procurement, and financial management systems must be in place and functioning if machinery is to be utilized effectively.

Such a support and control system for equipment, machinery, and vehicles does not exist in the government agencies which will implement this project. The AME organization provides support and control for a limited amount of equipment in the MOP, but its role is limited and, at present, circumscribed. Since equipment management, control, and maintenance require modern, though not necessarily advanced, technology, AME is seen as both a service organization and technology transfer agent. AME will train personnel and continue to develop its organization. It is the intent of this project that AME expand to the Regional and eventually to the Department levels, raising the shop and organizations to a modern level of performance.

Unfortunately, the major impediments in the path of AME expansion and to raising the technological level of shops throughout the MOP organization will be institutional, not technical. Institutional inertia and resistance must be surmounted before technical performance can be raised to a level that will support fleets of construction equipment and vehicles, and thereby support road construction and maintenance programs.

Experience has shown ANDA maintenance shops to be deficient also, especially at regional level. Regional shops, as well as the rest of the regional organization of ANDA, will be strengthened, and established where they do not exist.

#### V RAILROAD.

The railroad has the technical competence and willingness to keep the railroad operational, as has been proved repeatedly through the years. Support provided under this project will enable the railroad to utilize its technical abilities, and will hold the organization together.

#### VI PORTS.

The ports are critical to the economic life of the people. Port management has showed its ability to keep the ports operating, albeit sometimes at reduced levels because of lack of maintenance funds. Higher levels of technology; that is, modern and better, larger, equipment; are needed at Acajutla, but that is not proposed under this project. It is expected that at least some assistance will be provided by other donors.

## VII AIRPORT.

The airport, by its nature requires application of a relatively sophisticated technology. A moderate level of assistance under this project is expected to help the airport maintain the levels of technical proficiency required for it to continue to perform its role. Short term technical assistance will be required from time to time as new problems develop or are recognized.

## VIII RURAL WATER AND SANITATION.

In the rural water and sanitation phase of the project, a need exists to keep unit costs low while installing systems and providing training which the targeted beneficiaries will accept and utilize. At least in the early stages of the project very careful consideration must be given to the social aspects of the environment where a system is proposed. It will require more than one meeting with the local water user committee to determine the design, organization, financial, health, and social parameters that must govern selection, construction, utilization and future maintenance of a sub-project. Thus, the technical approach to the project and sub-project implementation must consider carefully social factors that affect the user and the supplier.

Regardless of the type of system, the locations of water sources and supply points, and the sanitation facilities selected for installation, the technical competence in engineering and construction in El Salvador exists to do the physical work. Skilled individual health workers, social promoters, and educators also exist to accomplish the health education tasks. However, the mobilization of all social, health, and hardware resources required to assure the success of individual water/sanitation sub-projects will require new or revitalized institutions at local, regional, and national level. It will also require changes in practices and policies of existing institutions, some of which will be reluctant to accept new responsibilities or to relinquish control over allocation of resources.

On the physical side, the technical analysis has found that the ANDA/MU and the design contractors have been using ANDA's design norms, and typical component plans for rural water systems. The assessment of the Pilot Potable Water and Environmental Support Project by the WASH team found that the norms are adequate for the rural systems considered in the project, although this WASH teams adds the additional recommendation that distribution tanks be constructed using 2 cells of equal volume each, so cleaning and maintenance can be done without interruption of service. Review and updating of design standards, where required, will be done with technical assistance.

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For water points in rural areas, driven wells with a handpump has proved to be an appropriate low cost technology to supply drinking water in areas where the geologic strata and aquifers are suitable. The criteria of serving 25 families per well will be maintained.

In some rural areas that are more densely populated, electric motor driven pumps will be considered as a possibly more effective alternative. Consideration must be given to operational cost and maintenance problems that are greater than with hand pumps.

To determine if the water provided is really safe, water testing routines will be enforced under the project. Bacteriological and chemical analyses should be done at least every two months and if such tests prove that water is polluted, then the necessary methods of treatment should be taken as needed. Excreta disposal by means of latrines will be as important as the construction of the water system. Construction of both will be implemented simultaneously. Community participation in the selection of a suitable technology as well as in the construction phase will be required and encouraged. Selected technology will take into consideration local preferences, the availability of labor, and the ability and willingness of future users to cover the costs of maintenance. Special attention will be given to the location of the latrines to prevent pollution of water sources, and run-off water from handpumps and washing facilities will be disposed of by means of a sump, or french, drain.

#### IX SUMMARY.

The purely technical capability to solve the problems presented by this project, defined here as the engineering and construction capabilities, and the skills of individual health workers, social promoters, and educators; exist. The institutional apparatus to apply available technology does not.

In short, technical capability to execute the relatively simple sub-projects contemplated is adequate.

Given the financial resources provided by USAID, the primary constraints in this project are not technological but institutional, with important institutional constraints imposed by national policy. The individual technical skills exist. The delivery systems to place the skills on the project and achieve optimum results do not. It is in the delivery systems that technology required for this project is deficient. It is for this reason that technical assistance is provided. It is vital to the project.

INSTITUTIONAL ANALYSES: ANDA

1. **Background.** AID has gained firsthand knowledge of the institutional capacity of ANDA by implementing the pilot project for rural water supply over the past two years. It also commissioned a WASH evaluation of the program in 1988, and Booz, Allen and Hamilton, Inc. (BAH) assessed the institutional capacity of ANDA in February 1989. on this experience as well as discussions with key technicians in the GOES.

Though created as an autonomous public enterprise to provide water and sewerage for the entire country according to GOES executive branch Decree 341 of 1961, ANDA temporarily delegated this authority to the MOH in 1971 for communities with populations of under 2000. ANDA directly manages the water and sewer systems in the urban areas of El Salvador, and today has about 225,000 connections in the capital city and 75,000 in other cities, mostly in the two secondary cities of San Miguel and Santa Ana.

The Health Engineering Bureau of the MOH managed rural water and sanitation until 1980, when the MOH created a division with more operational autonomy to implement the National Plan for the Water and Sanitation Decade. Three loans of the Interamerican Development Bank, dating 1972, 1977 and 1985, supported the work of the MOH. The second and subsequent loans of IDB do not serve towns with fewer than 300 people. AID provided technical assistance and, for two years, special ESF resources as the government's counterpart funds for the latest IDB loan of US\$21 million.

Though the IDB-funded, MOH special division gained a very rich experience in rural water supply and sanitation, it performed unsatisfactorily in implementing the latest IDB funded program. In the first two years of execution, only US\$ 13,000 of the first disbursement was utilized, while the division drew about \$2,000,000 in counterpart funds for administrative costs. The difficulty stems from the low priority that the MOH gave the effort, limiting program support and diverting resources from the division to other MOH requirements. The WASH evaluation in 1988 also noted that at least 35 of the 323 small town water systems that the MOH operates and maintains, and from which it collects small fees of users, were not functioning due to the problem of deferred maintenance.

The poor implementation record led to a presidential decision on December 12, 1987, to move the division out of the MOH to ANDA. Despite lengthy proceedings and studies between ministries, AID, and the IDB, this transfer has not taken place. AID stopped supporting the unit at the end of 1988, at which time Japan began a two-year program to continue a reduced level of funding. Improved performance of the division in recent months is an encouraging sign that its possible transfer to ANDA would rapidly build ANDA's capacity for dealing with the very specific problems of rural areas, to compliment the now demonstrated efficiency of private contractors in doing the heavier construction work.

2. The pilot project and the management unit of ANDA. ANDA's commitment in recent years to rural water supply, is limited to the AID rural water pilot project. This consisted of contracting private companies to construct and repair rural water systems that AID financed and implemented through a special project Management Unit (MU) which today has a staff of 14.

The pilot project demonstrated that private contracting can address the problems that plagued MOH efforts. ANDA has the capacity to (a) plan, design through contractors, and manage the construction of rural water facilities, and (b) properly manage and account for project funds, such that post-project audits could be conducted successfully. The experience of the pilot project shows how to improve on this institutional base. A high degree of operational autonomy permitted the Management Unit to meet targets.

It is quite clear that the pilot project lacked sufficient focus on important other components. These included: community promotion with training to maintain the systems, in coordination with sanitation and health education and linkages with other agencies in this regard; maintenance and operations and the establishment of user fee systems; and, water source development and biological testing. Thus, the Management Unit will have to be expanded both to increase coverage and to take on additional functions, as set out below.

3. Necessary institutional strengthening of Management Unit and ANDA.

A. Organization. The Management Unit obviously will have to scale up from a current annual operating budget of about US\$100,000 in order to handle approximately four times its current level of operations. The operating budget probably will surpass US\$600,000, as discussed below.

Key among the new functions it will assume will be community promotion, which does not currently exist in ANDA. The project will provide funding and technical assistance to the Authority to establish the necessary criteria, regulations, training materials, etc. The TA will include a community promotion specialist long term, who together with management specialists, will be expected to develop new forms of organizational decentralization and coordination with the MOH, mayors and the MEA program, and ANDA. At least one promoter for every 30 communities that will have sub-projects should be in place before any construction is initiated. The ANDA Training Unit will develop the training program for some thirty or more water promoters within ANDA. The Unit will then work with the ANDA regional office water promoter staff to monitor their promotion activities, update their training, and provide guidance in the water promotion activities. ANDA's Training Unit is new and will need assistance to train and later monitor the performance of ANDA water promoters. This is needed to rapidly increase their capabilities in water promotion and community development required to carry out WS&S activities.

The MU will link its community water promoters to over 500 MOH health promoters, or to health specialists in cooperating PVO's, in all communities to be served. To achieve health targets, the project will merge construction and health targets into a single standard. Also, the construction of sanitation systems will be obligatory for any potential project beneficiary who does not have adequate facilities. The project will provide a long term health specialist to the project support group of AID.

As indicated in the Policy Reform Agenda, a GOES policy decision will be needed to determine whether ANDA or the MOH is responsible for maintaining the repairs, improvements, and enlargements in towns where ANDA does not currently manage the systems or receive income. This may imply shifts in which organization receives user fees and GOES operational funding.

The Management Unit also will begin to maintain the very small water systems of the pilot and present projects. This capability will become even more important, if the GOES makes ANDA responsible for operating and maintaining the systems in larger rural towns, currently a task of the MOH.

Developing decentralized, regional autonomy and learning how to use this in order to coordinate efforts with local authorities and health workers from the MOH, will be the challenges for management. The regional offices should be staffed and functioning before project funds are disbursed. They will include at least one civil engineer, a maintenance technician/trainer, driver/mechanic and water promoters. Each regional office also will have a repair shop with tools, a warehouse with a stock of spare parts and a pick-up truck.

New models of community level management of water and sanitation systems are needed so that the communities will sustain the systems with their own manpower and finance routine maintenance themselves. The project will provide technical assistance in this area, developing operational models initially, that later can be applied throughout the country.

B. Training and Technical Assistance. Technical assistance will be given to help develop engineering, organizational structures, community promotion and coordination, and the evaluation of the health education aspects of this project. The TA will take into account the recommendations of WASH, and those of Booz-Allen & Hamilton, Inc.

In order to improve the skills of current staff, and to ensure the consistency of new staff skills at the onset of the project, ANDA's Training Unit will be responsible for the organization of short courses and lectures in selected topics of engineering as the work being done requires them. Depending on the topic to be covered, the Unit will select the people to attend.

Short Courses: (5 days each)

- Environmental sanitation: sewage and excreta disposal for rural areas and small communities.
- Design of small water systems.
- Water quality.

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**Lectures: (1 day)**

- Garbage disposal.
- Water catchment and conservation.
- Water quality and necessary treatment.
- Appropriate technology.
- Criteria for community selection.

On the issue of water quality, it is important to note that, by law, the Ministry of Health has the responsibility to oversee water quality control as established by Decree No.50 published in the official newspaper on October 16, 1987. The Ministry's standards are outlined in "Apuntes Sobre la Calidad de las Aguas de Uso Potable" prepared by the Department of Environmental Sanitation. ANDA has water quality control programs, so its laboratories will be used as well. It is the responsibility of ANDA to produce safe water, and the responsibility of MOH to act as quality control agent to assure that safe water is produced. Staff of the regional offices of the MU will be trained and equipped to run bacteriological water quality tests using field laboratory kits. Samples used to make more complete chemical and bacteriological analyses will be sent to MOH Central laboratories from those areas where pesticides are used for agricultural purposes.

Experienced Salvadoran or foreign professionals will be hired to impart the courses or the lectures. To improve the efficiency of the courses and lectures, short visits to neighboring countries with similar conditions and problems will be organized in order to learn their experiences. A total of 5 visits to other countries, with 2 to 3 persons attending, will be organized to study rural WS&S technical and managerial aspects.

C. Staffing. Over staffing and low salaries drive the more experienced technical people to leave ANDA, as happens in other public sector institutions in El Salvador. The Management Unit will need to draw on experienced community promoters from outside the company, and on qualified technical people from within. There is a clear need to include civil engineers, maintenance technicians, and drivers/mechanics on the staff in the regional offices, which can be accomplished by redeployment from within ANDA, and at least one Sanitary Engineer at the M.U., to ensure the technical soundness and implementation of the sub-projects.

A salary scale that provides incentives for the key people in the unit, above the normal scale of ANDA, would help to keep personnel of critical importance, provided ANDA accepts this. There is a precedent for this in the special unit that manages the current IDB project.

Staffing requirements will depend on whether or not ANDA is given responsibility to maintain the water and sanitation systems in towns of 300 to 2000 population currently under MOH responsibility. When functioning at full capacity, the Management Unit will probably take on the structure shown in Appendix 1 of this Annex, with from about 80 to 130 employees. Option A assumes that the unit will maintain only the systems in towns under 400

population; Option B assumes it also will have to maintain and operate the systems in towns that the MOH currently manages. The yearly budget in these two cases will look something like the following:

ESTIMATED YEARLY COSTS OF MANAGEMENT UNIT

AT FULL CAPACITY (US\$000)

|                            | <u>OPTION A</u>                                    | <u>OPTION B</u>                                      |
|----------------------------|--|--|
|                            | Maintenance and<br>Operation in<br>Towns under 400 | Maintenance and<br>Operation in<br>Towns under 2,000 |
| Salaries                   | 330  | 515  |
| Travel                     | 60   | 70   |
| Various Services           | 30   | 50   |
| Materials & Services       | 80   | 100  |
| Hand Pump Repairs          | 100  | 100  |
| Maintenance and Operations | —  | <u>240</u>   |
| Total Costs                | 600  | 1075   |
| Users Fees                 | —  | <u>240</u>   |
| Net Costs                  | 600  | 835  |

The project will provide counterpart funding for at least the lower estimates of these recurring costs that user fees and direct charges on sub-project beneficiaries probably will not cover. AID's policy dialogue with the GOES on continuing this support, in addition to contemplating macro issues, will have to deal with the GOES funding and fees for water from small towns, that the MOH now receives.

D. Financial Management. ANDA receives no revenue to date for serving rural areas through the Management Unit. The authority's overall financial position is weak, because revenues are too low and operating efficiency is poor, but improving. The longer-term outlook is troubling for sustaining and expanding the service coverage in rural areas through ANDA.

Other sources of income and techniques to pass responsibility to local water committees for paying recurrent costs, will help. But the long-term financial projection for ANDA should be continually monitored. Technical assistance will provide for this and develop new cost accounting procedures to determine what it costs to operate and maintain water and sanitation systems in specific towns.

Technical assistance will aid ANDA to establish financial and operational goals for ANDA and monitor compliance, as a basis for AID dialogue with the GOES on making informed policy decisions to improve overall financial health of ANDA and other related institutions. The policy dialogue is needed to avoid an accelerated downward spiral in urban areas of deferred maintenance, greater plant obsolescence, higher operating costs and deteriorating service, that will affect the authority's capacity also to service poorer rural areas. Until the

present project, ANDA has been discussing these points and reporting on progress only with the Interamerican Development Bank.

Booz-Allen and Hamilton report that ANDA has relatively well-developed financial management systems, with the essential components to provide auditable records. However, there have been problems with the auditability of several prior projects and it is nearly impossible for ANDA's internal auditors to devote much of their already limited capacity and time to the present project. Problems of auditability also have arisen when projects were declared "urgent." In light of this experience and due to the scale of this project, frequent audits are recommended. Operational audits will include a review of action plans and of compliance with all project components including in all sub-projects, construction of water and sanitation facilities, health education and community promotion.

**E. Technical Management, Program Coordination and Monitoring.** The Management Unit and AID have been monitoring the engineering and financial aspects of the rural water project. The WASH evaluation in 1988 considered that some costs were too high and that the sanitation component needed to be developed, and made many recommendations that have not yet been implemented. ANDA civil and sanitary engineers will join the unit and in the regions, as a precondition to disbursements under the present project. The project will include technical assistance of two sanitary engineers, one for long term technical assistance to the Management Unit and the other for project monitoring and evaluation by AID. As one of its tasks, the TA team will review the advisability of the MU doing its own project supervision, other than sub-contracting, as a way to lower supervision costs.

Considering the good results obtained during the Pilot Project with the private sector, it is advisable to continue using this practice for design work and construction of water systems and sanitation. These works should be monitored by the sanitary engineer assigned to the ANDA Management Unit. As the number of new water systems will increase the number of pre-qualified contractors should be increased. As more firms meet pre-qualifications standards, more selection options will be available to ANDA M.U.

In order to obtain qualified firms for these kind of works, help of the Camara Salvadorena de la Construccion, and the local section of the Interamerican Association of Sanitary and Environmental Engineering (AIDIS), should be requested in order to get a roster of their members interested in providing the required technical services. A board of engineers of the M.U., with the advice of a Sanitary Engineer, should make the final selection on contracts in order to determine the most suitable.

A fair and logical fee schedule should be established using the criterion of a higher percentage for smaller projects and a smaller percentage for larger projects. Consideration should be given to the fact that the lower bid is not necessary the most qualified to realize a job.

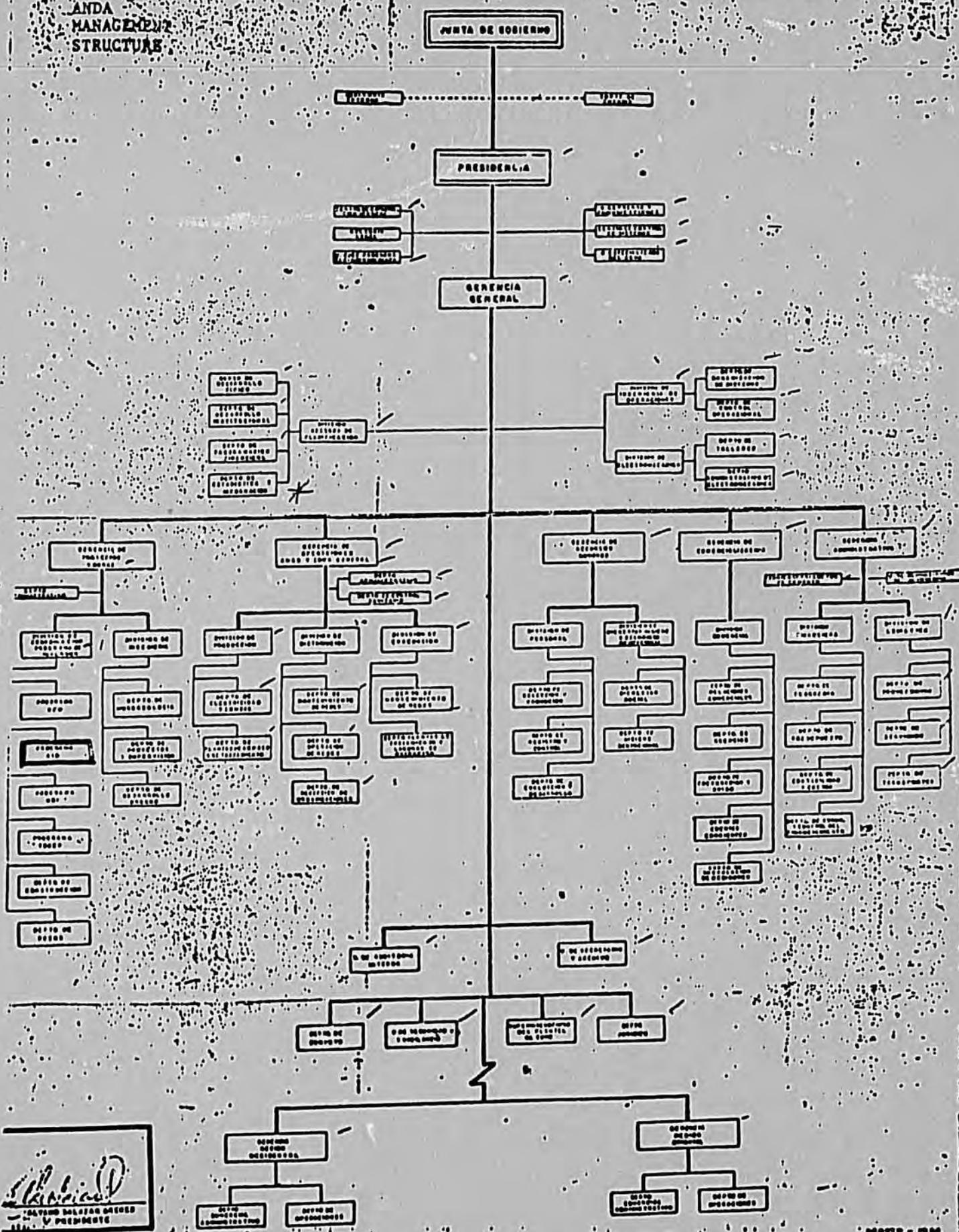
The project's use of several agencies with varied technical capabilities and institutional structures and regulations will require considerable TA and project support to develop mechanisms for joint project planning, development and monitoring, procurement processes are well established and meet the essential requirements for integrity in that they generally ensure selection of qualified firms or suppliers, involve price competition and are documented in contracts. Inefficiencies in this process can be addressed by some short term technical assistance.

The procurement process for the pilot project provided the general manager a degree of autonomy in the selection of contractors that departs from normal procedures in ANDA. In as much as no waiver for advertising is being requested for this component of the project, and in order to increase competition as much as is possible in order to bring down the cost of construction contracts, the technical assistance team will determine and participate in a new contractor selection and procurement process that is more visible to the responsible line departments of ANDA and to AID.

F. Procurement. Booz Allen and Hamilton found that ANDA's current

ANEXO D  
OVERALL  
ANDA  
MANAGEMENT  
STRUCTURE

ORGANIGRAMA DEPARTAMENTALIZADO DE ANDA



*Alfonso*  
ALFONSO SALAZAR GARCÉS  
PRESIDENTE

DESARROLLO INSTITUCIONAL

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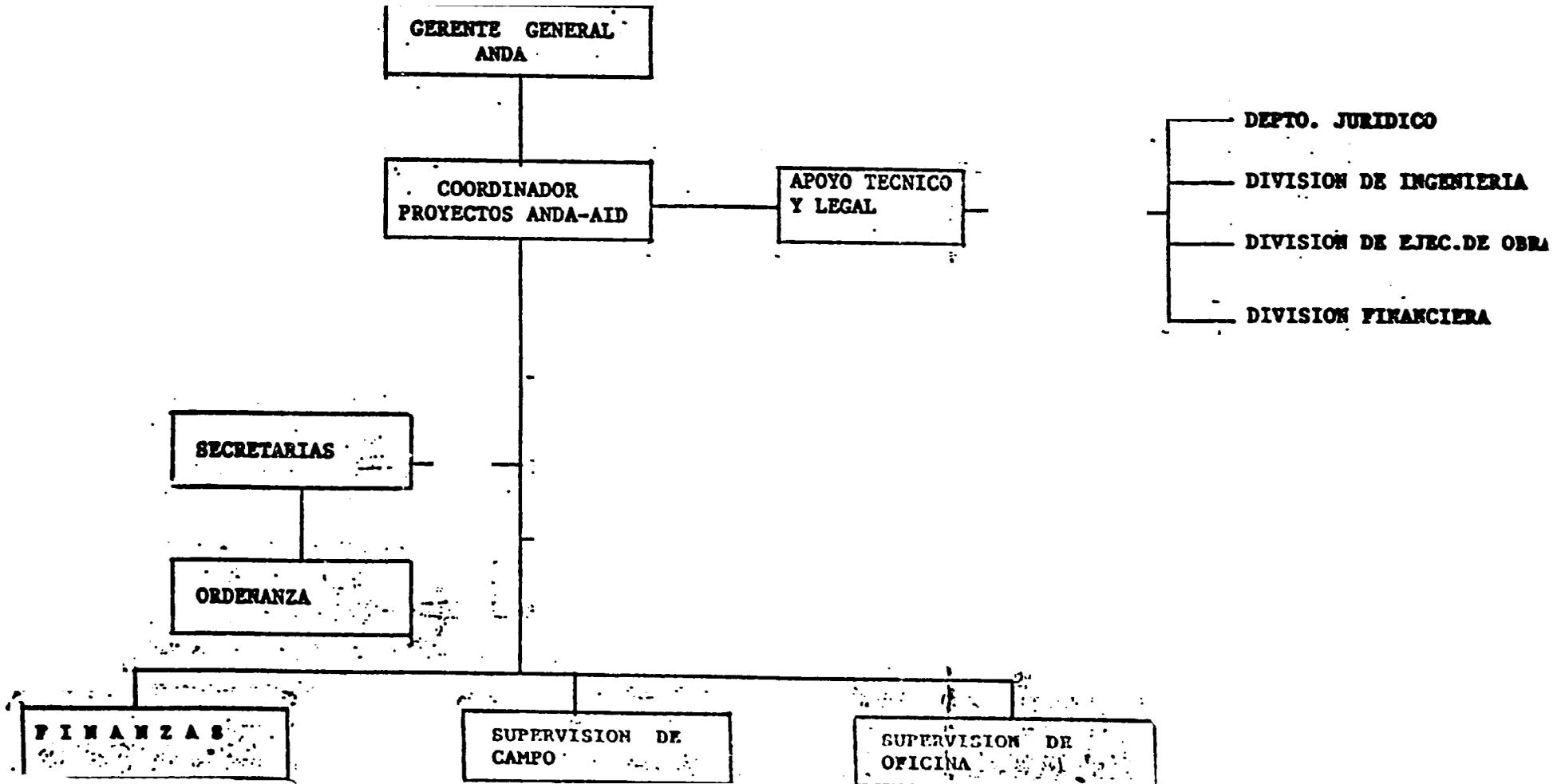
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ANNEX D

CURRENT ORGANIZATIONAL  
STRUCTURE OF ANDA MANAGEMENT UNIT

ORGANIGRAMA DE LA UNIDAD COORDINADORA  
DE LOS PROYECTOS A.N.D.A. - A.I.D

ANEXO No.5



ANNEX I.2

INSTITUTIONAL ANALYSES:MOH

1. Health Promotion. The MOH Community Health Program joined, in early 1989, over 500 health promoters from the ARS, ACS and HOPE projects into one program to address preventive health programs in rural and peri-urban areas. The coverage is approximately 800,000 persons. The promoters work under the direction of the Department of Community Health with close relationship and reporting to the regional health teams/offices.

The 1988 MOH/APSISA evaluation of the organizational and technical aspects of the ARS and ACS programs was done to assess their performance and the possibility of their merger. The evaluation recommended the unification of these two promoter programs, with the HOPE promoters, and the strengthening of the organizational aspects at the local, regional and national levels, including the information systems, logistics and supply systems, and the training and supervision to support the revitalized program.

The evaluation underscored the need for the strengthening of the CH program to allow the MOH to expand its coverage of basic health services.

The new Community Health structure unites these previously separated, and perhaps duplicate programs, into one structure with one technical and administrative direction, logistics and support system and will provide supervision monitoring and evaluation of activities. The regional MOH supervisory staff will assume responsibility for the supervision of the unified program.

2. Promoter Distribution. Health promoters are currently distributed in all five health regions, and the regional and local health establishments provide support in the form of supervision and coordination of activities.

Data available in late 1988 for each region and district showed the following distribution of MOH promoters:

TABLE 1: Distribution by Region and Department

| <u>Region</u> | <u>Department</u> | <u>Number of MOH Promoters</u> |
|---------------|-------------------|--------------------------------|
| Occidental    |                   | (78)                           |
|               | Santa Ana         | 24                             |
|               | Ahuachapan        | 30                             |
|               | Sonscuate         | 23                             |
|               | S.de la Frontera  | 1                              |
|               |                   | -----                          |
|               | Subtotal          | (78)                           |

|              |              |       |
|--------------|--------------|-------|
| Central      |              | (100) |
|              | La Libertad  | 78    |
|              | Chalatenango | 22    |
|              |              | ----- |
|              | Subtotal     | 100   |
| Paracentral  |              | (100) |
|              | San Vicente  | 35    |
|              | La Paz       | 22    |
|              | Cabañas      | 32    |
|              | Cuscatlán    | 11    |
|              |              | ----- |
|              | Subtotal     | 100   |
| Oriental     |              | (233) |
|              | Morazan      | 70    |
|              | La Union     | 117   |
|              | Usulután     | 21    |
|              | San Miguel   | 25    |
|              |              | ----- |
|              | Subtotal     | 233   |
| Metropolitan |              | (11)  |
|              | San Salvador | 11    |
|              |              | ----- |
|              | Subtotal     | 11    |
|              | Grand Total  | 522   |

It should be noted that the distribution of promoters is not equal across regions. It should also be recognized that, in addition to MOH promoters there are also some two thousand health volunteers, health and community development promoters from PVO's, and special/vertical program promoters (F P, general community development workers). There are, of course, extension workers from the Ministry of Agriculture as well.

A brief analysis indicates that Morazan and La Union have low ratios of 2,223 and 2,390 rural persons per promoter where Cuscatlan and Usulután have approximately 14,500 rural persons per promoter. Chalatenango is the worse off by far with only 22 MOH promoters with a ratio of 81,650 rural persons per population.

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The standards for promoter/rural populations vary by country but often the usual 2,000/promoters is far exceeded in the rural areas in El Salvador.

TABLE 2: Number, Distribution by Departments and Promoter Per Rural Population.

| Department       | Population<br>Total 1989<br>in 000 | Population<br>Rural 1989<br>in 000 | Number of<br>MOH<br>Promoters | Rural<br>Population<br>per MOH<br>Promoters |
|------------------|------------------------------------|------------------------------------|-------------------------------|---|
| Ahuachapan       | 262.0                              | 208.0                              | 30                            | 6.933                                       |
| Santa Ana        | 472.7                              | 271.3                              | 24                            | 11.301                                      |
| Sonsonate        | 370.0                              | 235.3                              | 23                            | 10.230                                      |
| S.de la Frontera |                                    |                                    | 1                             |   |
| Chalatenango     | 226.1                              | 163.3                              | 22                            | 81,650                                      |
| La Libertad      | 421.2                              | 270.5                              | 78                            | 3,469                                       |
| San Salvador     | 1053.2                             | 224.3                              | 11                            | 20,390                                      |
| Cuscatlán        | 215.8                              | 156.0                              | 11                            | 14,182                                      |
| La Paz           | 267.2                              | 187.8                              | 22                            | 8,536                                       |
| Cabañas          | 179.8                              | 148.9                              | 32                            | 4,653                                       |
| San Vicente      | 205.5                              | 147.1                              | 35                            | 4,203                                       |
| Usulután         | 421.3                              | 303.0                              | 21                            | 14,429                                      |
| San Miguel       | 503.5                              | 337.3                              | 25                            | 13,492                                      |
| Morazan          | 205.5                              | 167.3                              | 70                            | 2,390                                       |
| La Unión         | 334.0                              | 260.9                              | 117                           | 2,223                                       |
| Totals           | 513.7                              | 3081.0                             | (526)                         | (60% rural)                                 |

### 3. MOH Materials Development

Within this project, to achieve the defined health indicators necessary for WS&S subcomponent success, active health education and promotion will be a vital part of the project. Materials for the MOH and ANDA water, sanitation and health promotion of community leaders, groups, school classes, etc., will have to be developed.

The Health Education Division of the Ministry of Health (MOH/HE) will develop materials (posters, small booklets, fliers, radio messages) to support the work of MOH health promoters, supervisors, ANDA water promoters and other agents. These workers will organize, promote and educate the communities to develop and properly use WS&S systems and to adopt proper hygienic habits. The training needed for this staff will be described below. In order to develop the materials, the WS&S component will support the MOH/HE Division that currently has trained staff with capacities in materials development.

The WS&S component will fund the following training of staff in the development and distribution of health education materials.

- One twelve-day training program in print materials development for 30 Health Education Division Staff from the central and regional offices.
- A five-day, more advanced training program in print materials development for 12 advanced staff.
- A five-day observation trip for each of 10 advanced level staff to third country WS&S and health programs.
- One eight-day course for 12 staff in radio message development.
- One eight day course for 6 staff in preparation of video tape.

Short term local and expatriate TA will be contracted to assist in developing these courses. Considerable private sector capability exists in print, radio and video materials development and should be used whenever possible. Evaluation of the effectiveness can also be done by contracted TA working closely with the HE Division. The monitoring of radio messages can also be contracted out to private sector if needed.

The following list is illustrative of the HE materials needed:

|         |  |
|---------|--|
| 15,000  | WS&S health education posters            |
| 15,000  | WS&S health education folders            |
| 600     | WS&S health education flip charts        |
| 400,000 | WS&S health education leaflets           |
| 5 - 10  | Radio spot messages                      |
| 6       | (stations) Purchase of radio air time    |
| 40      | Video cassettes                          |
| 10      | Electrical generators for video machines |

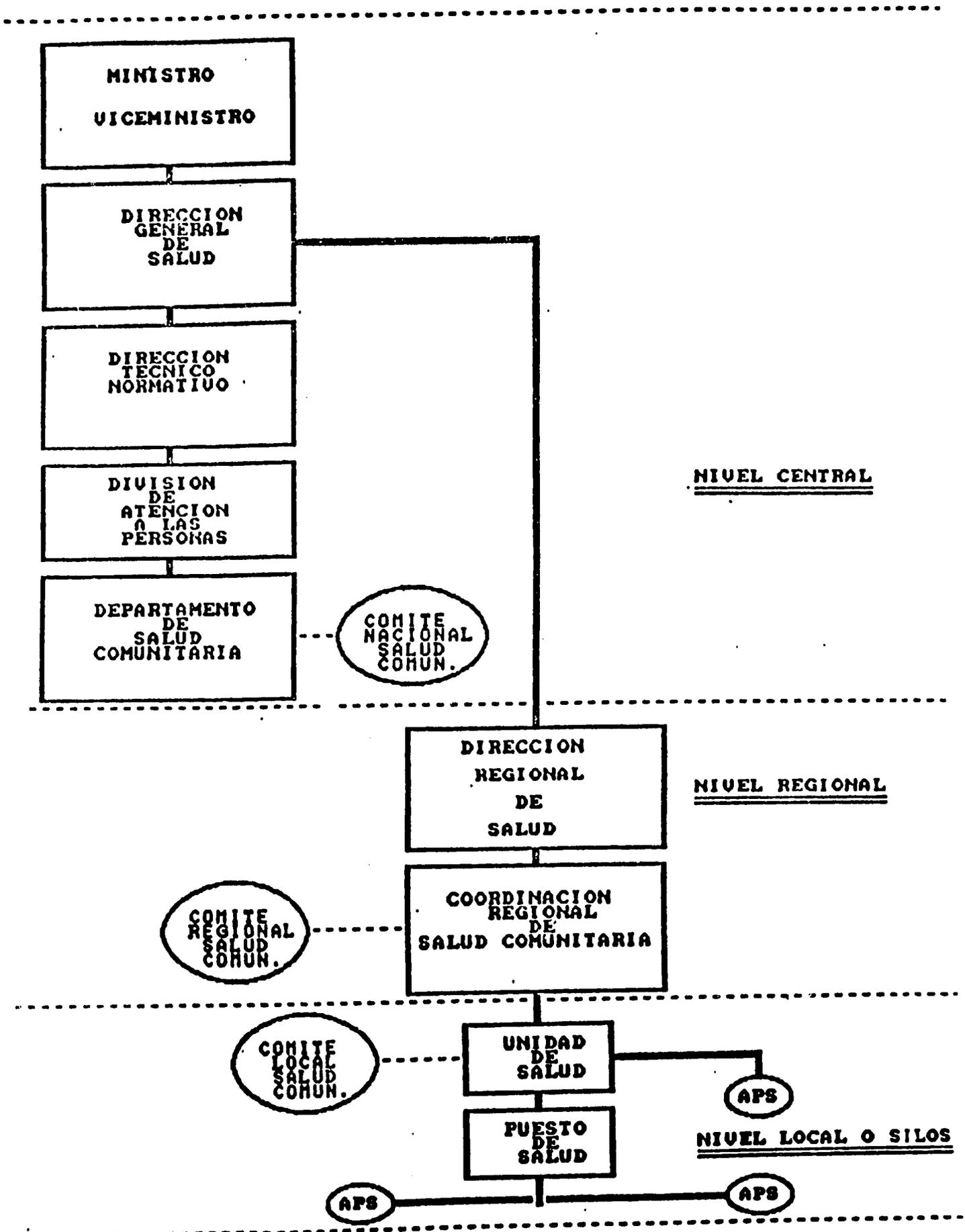
4. Health Education Activities. The MOH Health Education Division, which has staff in the central and regional offices, will develop health education activities in the community for the WS&S and health component. Some activities that will be carried out in the identified communities in which WS&S systems are to be installed include the development of materials by community members with the assistance and guidance of MOH/HE staff promoters, and the testing for the accuracy and appropriateness of messages.

Over 500 MOH promoters will receive training to carry out the vast majority of the health education activities that will be their responsibility under the project. They will be trained in a series of short sessions by the MOH Health Education and Community Health central headquarters and regional staff to strengthen their health education skills. This training will fall within the larger reorganization, upgrading, and support activities for the community health activities under the APSISA project.

The overall approach of the WS&S and health project and particularly the health education methodology will focus on the participative approach often used. This will require the retraining and coaching of staff, particularly technical construction staff and contractors to use this type of communication with communities.

The ANDA water promotion activities will include some health education activities. Current ANDA promotion activities are focused on survey of physical facilities and construction plans. Since ANDA promotion will focus on organizing the community and the legal and construction activities, they will have need for only limited health educational capabilities. This does, however, assume that the project will work in areas where MOH and other capable promoters are working who can assist ANDA and provide the health education activities to complement ANDA's water production activities in the areas where there are no MOH health promoters. If MOH promoters do not exist in the communities, the WS&S and health project will need to identify other agents who can be used to carry out the health education activities. This choice will need to be carefully considered as this will imply the training of other personnel or agents from other agencies.

# ESTRUCTURA DEL PROGRAMA DE SALUD COMUNITARIA



SOURCE: PLAN de ACCION 1985A

### ANNEX I.3

#### INSTITUTIONAL ANALYSIS: MOP, AME, AND CEPA

##### 1. MOP.

An institutional evaluation of the Ministry of Public Works, which built on the findings regarding institutional deficiencies identified in the 1988 damage assessment by Development Associates, was completed by Booz, Allen & Hamilton, Inc., on 23 February, 1989. The Project has been designed in consideration of these deficiencies and will address them through TA. Specifically, the Project will include two management units, one for Caminos operations, and a continuation of that already existing for AME, plus any specific help on a MIS.

MOP is a large and complex organization. It employs approximately 17,700 people, of whom about 9,800, or 55%, are in the General Directorate for Roads and Highways (Caminos). The Caminos mission is to construct and maintain rural roads, defined as roads outside the urban areas where DUA has responsibility. It is with Caminos that planning and coordination of the secondary and tertiary road maintenance segment of the project will be effected.

The General Directorate for Urban Planning and Architecture (DUA), 6,600 employees, has the task of building and maintaining urban streets and surface drainage. Under the Project, the primary relationship with DUA will be in the area of equipment maintenance and shop facilities (AME). Urban street work is not contemplated under the Project.

In general, personnel policies, financial management, contracting, procurement, and planning procedures are poorly organized and implemented. (Approximately 93% of the MOP ordinary, or operating, budget is spent for salaries.) Thus equipment and road maintenance, are neglected. Most work that is accomplished is done under the extraordinary, or investment budget, which again gives short shrift to maintenance. In Caminos, 59% of the extraordinary budget is spent for salaries, over and above the salaries paid under the operating budget, because these projects usually employ contract personnel.

The third element of MOP with which this project is concerned directly is the Administration of Machinery and Equipment, (AME). AME presently employs 445 persons. Approximately half of the employees consist of drivers and operators, since AME operates and controls much of the equipment for which it has responsibility. AME has been quite effective in maintenance and control of a large but limited portion of the MOP vehicle fleet, primarily construction equipment and vehicles purchased by AID. In attempting to institutionalize the AME organization, to take over all Caminos and DUA equipment, and to expand into the regions and departments, some resistance was met within the Ministry, but further negotiations can resolve the problem.

The status and future evolution of AME are serious concerns. They should be resolved with the Ministry at the earliest possible time. Otherwise, the

equipment fleet now operating is expected to be short lived and ineffective if one is to judge by the large inventory of deadlined equipment parked in the Caminos and DUA shop compounds.

In summary, the Ministry problems are not insolvable. There are some technically well qualified people in some of the skill positions. The institutional problems noted must be overcome if the Ministry and its Directorates are to render the services to meet national objectives. Technical assistance will be required in both AME and Caminos in order to achieve the outputs

## 2. AME: ADMINISTRACION DE MAQUINARIAS Y EQUIPO (MACHINERY AND EQUIPMENT ADMINISTRATION)

AME is an AID-sponsored institution attached to MOP which originally was organized to maintain and control vehicles and construction equipment purchased for the Ministry with AID funds. It provides equipment and vehicles to Caminos and DUA and supervises operation and maintenance of these units. In its initial role AME has been quite successful and effective, and provides a demonstration of what can be done in El Salvador in the field of equipment maintenance and operation under proper management.

The present status of AME, and more especially its future, is somewhat uncertain. The need to institutionalize AME in order to modernize control and maintenance of a greater percentage of the MOP fleet is apparent, since AME performs the only effective equipment management and maintenance in the Ministry. Until the concept is accepted by the new administration, however, planning for future development of AME is, in effect, contingency planning.

If AME accepts responsibility for additional Caminos and DUA equipment, additional funding will be required. And the additional funding level will have to be high enough to support the AME operation at its present level of effectiveness. The most logical source of funds is the Ministry, or the Caminos and DUA, budgets, if AME continues its present organization configuration.

The configuration which would prove most effective in the long term, however, would establish AME as a Directorate General on a par with Caminos and DUA. Under this concept, AME would be charged with management and maintenance of equipment assigned to the Ministry just as Caminos and DUA are responsible for management of construction and maintenance of roads and streets assigned to the Ministry. Obviously, proper funding must be assured if the present high level of AME performance is to be maintained. If properly established and supported, much of any additional cost would be offset in savings in fuel, tires, and other consumables.

If it is assumed that AME is to become a permanent and properly organized element of the MOP, and will be provided with the funds required to serve its

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optimum purpose, one would expect the ultimate form and functions of AME to be as described below. It would require perhaps four years to reach the configuration and assume all of the duties described, but an adequately funded plan for implementation could establish all systems in place by the end of that period.

The Ultimate Organization.

- AME will operate the only MOP shop in San Salvador.
- AME will operate regional shops in Santa Ana, San Miguel, San Vicente, which will be the only MOP shops in those cities.
- All Departmental shops in the other Departments will be transferred to AME, who will operate one small shop in each Department.

The Ultimate Functions

- The San Salvador shop will:
  - (1) Control and support the regional shops.
  - (2) Manage and provide to MOP, Caminos, and DUA vehicles and construction equipment as required. AME will provide drivers and operators for equipment assigned, and will control fuel issue, vehicle maintenance. Equipment or vehicles not in use will be returned to AME yard for maintenance and/or re-assignment as required.
  - (3) Order and warehouse parts, tires, etc.
  - (4) Maintain vehicle inventory and maintenance records.
  - (5) Dispose of obsolete equipment and vehicles, and all units damaged beyond repair.
  - (6) Perform all maintenance of vehicles in the capital area, and major repairs on regional and departmental vehicles which are beyond the capability or capacity of the regional shops.
  - (7) Manage AME budget and AME personnel system; train departmental and regional personnel.
- Regional shops will:
  - (1) Control and support Departmental shops.
  - (2) Perform second echelon maintenance functions beyond capability and/or capacity of departmental shops. Send major repair work to San Salvador.
  - (3) Maintain a small inventory of high use consummables.
  - (4) Control fuel, tires, and other consummables to all MOP vehicles and equipment at regional level.
  - (5) Operate, control, and maintain units assigned to MOP, Caminos, and DUA at regional level.
- Departmental shops will:
  - (1) Operate, control and maintain vehicles and equipment assigned to MOP, Caminos, and DUA at departmental level.
  - (2) Control fuel, tires, and other consummables to all MOP vehicles and equipment at departmental level.
  - (3) Perform first echelon, preventive, maintenance on all MOP vehicles at departmental level, and keep records thereof.

- (4) Send all larger repair and maintenance jobs to the regional shops.

AME as now constituted in San Salvador does not have staff, facilities nor funds to assume responsibility for Caminos and DUA fleets. It is not anticipated that all the funds required for the expansion can be provided under this project. Thus the roles of AME can expand only in carefully controlled steps as funds become available from the GOES.

A shop could be built in Santa Ana during the first year of the project. New tools and shop equipment will be required, as Caminos and DUA shops have almost nothing with which to work. If necessary for practical reasons, those shops could continue to operate for two to three years.

After the Santa Ana shop is established and institutionalized, a second regional shop could be established at San Miguel, provided funds continue to be made available, beginning toward the end of the second year of the project.

The AME system will not be fully effective until it has the capacity, including funding, to manage the complete San Salvador fleets of Caminos and DUA. This is a large undertaking, the cost of which has not been determined and the accomplishment of which is not contemplated under this project.

Nevertheless, improvement in field operations could be effected by proceeding with the Santa Ana and the San Miguel shops. Those shops could provide AME equipment to Caminos and DUA to supplement those fleets, until such time as those fleets, with the necessary funds are transferred to AME.

During the implementation of this Project, rival claims for and disputes over assignment of AME equipment will arise between Caminos MU, other Caminos offices, and DUA. USAID must insist that this project have priority, and take precedence over any other use for AID funded equipment, short of true emergency.

Funding for AME under this project has been estimated at \$250,000 and 15 million colones per year. Funds in addition to that, if required, should be provided by the Ministry of Public Works from sources other than this Project.

The estimated level of expenditure will permit AME to maintain the AID funded fleet, and slowly to expand its operation. The funding level is not adequate to support all Caminos and DUA equipment by the end of the project, nor is it intended to. If those responsibilities are assigned to AME by MOH, other GOE funds must be made available.

### 3. CEL.

CEL is the national commission responsible for generation and transmission of electric power in all of El Salvador. CEL was designed primarily as a wholesale producer and transmitter of power under ordinary circumstances. Because of the war, it also distributes power as

a retailer in most areas. In effect, CEL acts as a unified national utility, managing all aspects of generation, transmission, and distribution.

The CEL organization chart, and charts for some of the CEL departments and divisions, are shown in Annex D. The organization has remained stable for some time, and is functioning well. Some skilled engineers and middle management personnel have left the organization for better pay over the last several months, and have been replaced with less experienced personnel. This has been inconvenient, and made matters difficult for the remaining employees, but so far it has not degraded the level of CEL performance. CEL has an effective planning department also, and has prepared plans for system expansion and reconstruction to meet the steadily increasing power requirements.

In light of its performance to date, it is concluded that CEL has the institutional capacity and technical capability to manage the resources provided by this project, and to achieve the purpose for which the resources are provided.

#### 4. CEPA.

The Executive Port Commission (CEPA) is a semi-autonomous organization that manages three institutions: FENADESAL, that administers the railway and the Port of Cutuco; the Port of Acajutla; and the El Salvador International Airport. The board members are industry and other private sector representatives, with the president appointed by the President of the Republic. CEPA carries out some administrative functions for its member institutions but each is headed by a general manager who is responsible for the day to day operations.

The accounting for CEPA and the three institutions is audited internally and externally. The audit reports show that the procedures are sound and accurate.

In addition to their earnings from tariffs and fees for the services rendered, the Government of El Salvador provides some monies for minor capital investment and to help pay for the costs of repairs incurred from deferred maintenance. All three institutions show an increase in earnings since 1985 but these are insufficient to cover the unusual expenses due to direct and indirect damage occurring from the war.

In an effort to further cover the costs of the institution, CEPA, with the help of its three institutions, has prepared a document that recommends raising the tariffs. The document is currently being considered by the board; if approved, it will be submitted to the government and assembly for their approval.

USAID/El Salvador has assisted all three of the CEPA institutions during the last year. Upon presentation of urgent needs, the Mission has purchased replacement parts for machinery and equipment, for electrical

installations, and for security equipment. CEPA has met all USAID requirements for presentation of its needs, for installing/replacing the parts without labor or other materials costs to the project, and has accounted accurately for the assistance.

a. El Salvador International Airport.

The airport was completed just before the war began; it did not even have one year of operation before the conflict. While the airport has suffered no direct guerrilla damage, the indirect effects have been great. Most of these derive from power outages and low voltage, which caused severe damage to all of the instruments and equipment dependent on electrical power. These problems were compounded by the institution's inability to replace parts or to carry out preventive maintenance.

The airport fees and tariffs have never covered the annual expenses. As soon as the war began, air traffic dropped off drastically. Even with reduced personnel, the earnings were less than the expenditures. A major problem is the large debt to the EXIMBank, from which interest and principal payments began immediately.

A.I.D. assistance has been instrumental in beginning to bring the facilities into conformance with FAA requirements (the x-ray and baggage scan equipment has not yet been received but is expected soon). With the purchase of parts, instruments, and an emergency generator (a second has been ordered), the electric current needs during outages or low voltage periods can be met. The installation of protective devices for the electrical equipment will further reduce damage.

In addition, from its own funds, the airport has made major changes in its security arrangements. It is constructing sentry posts around the perimeter of the boundary fence; those will be occupied by the air force, furnishing additional security to the facilities. The administration has also trained its security forces (via a contract with an Israeli firm) and has repositioned its security, partially with non-uniformed guards to assure security without frightening the passengers and airline crew members. With the assistance of the Ministry of Hacienda, it has made arrangements so that only the airport and customs personnel can carry weapons inside the airport, further heightening its security arrangements.

b. Port of Acajutla.

This Pacific installation is the major port for the nation. Until 1979, its revenues exceeded its expenses. Agricultural and manufactured products declined rapidly with the war; imports, too, decreased although not as precipitously. The earnings fell below expenditures. The central government began to provide some subvention, but the port authority has not been able to make the necessary repairs or carry out critical maintenance of some important components of the port facilities.

Unfortunately, the port is not built inside a bay but rather is extended out into the Pacific, which allows substantial and continuing wear from

wave action. Storms have increased the damages. The main access pier, and to some extent some of the others, are seriously deteriorated, endangering the operation of the port. Further, the frequent power outages and low voltage have damaged the electrical equipment and machinery to an extent that some are now inoperable. Motor equipment, too, has suffered from the port's inability to purchase parts and effect appropriate maintenance.

USAID/El Salvador has assisted materially with the emergency operations of the port, purchasing necessary replacement items and parts, as well as with a radio communications system to improve security. With these, the port has been able to continue operations.

The port authority has also done a great deal of work, with its own resources, to shore up the damaged pier, make some other repairs, and to enhance its security system. Fishing and pleasure boats have been barred from the port area; sentry posts have been installed around the perimeter; the inspection point has been moved farther from the entry to the port; lights have been installed around the fence and along the beach area. A new security chief, well trained, has been hired to oversee all phases of safety. The installation is far more secure than before.

Two other donors have expressed interest in assisting the port to bring its operations into more effective use. The West Germans have signed an agreement to conduct a technical study of the pier and other port installations; bids are now being received for the conduct of this study. The Japanese Government has made a study of the difficulties encountered with machinery and equipment; it has said that it will announce a grant for the purchase of new equipment (with unrestricted origin).

c. National Railways of El Salvador.

The railway system (formerly two British owned companies) manages all of the rail lines and the Port of Cutuco near La Union on the Gulf of Fonseca. It has a major repair and maintenance shop in San Salvador and shops for minor work at several points in the country. Until the early 1970s when world prices fell for most of El Salvador's products, the revenues exceeded the expenses; they remained approximately in balance until 1978 but left insufficient funds for needed capital investment. The prices of products continued to decline and so did their production; the war caused enormous decreases. Cotton is reduced to very low levels. Coffee is increasing, but slowly. Fertilizer imports are smaller. Cement, a major component in the railroad business, has varied but is currently substantial.

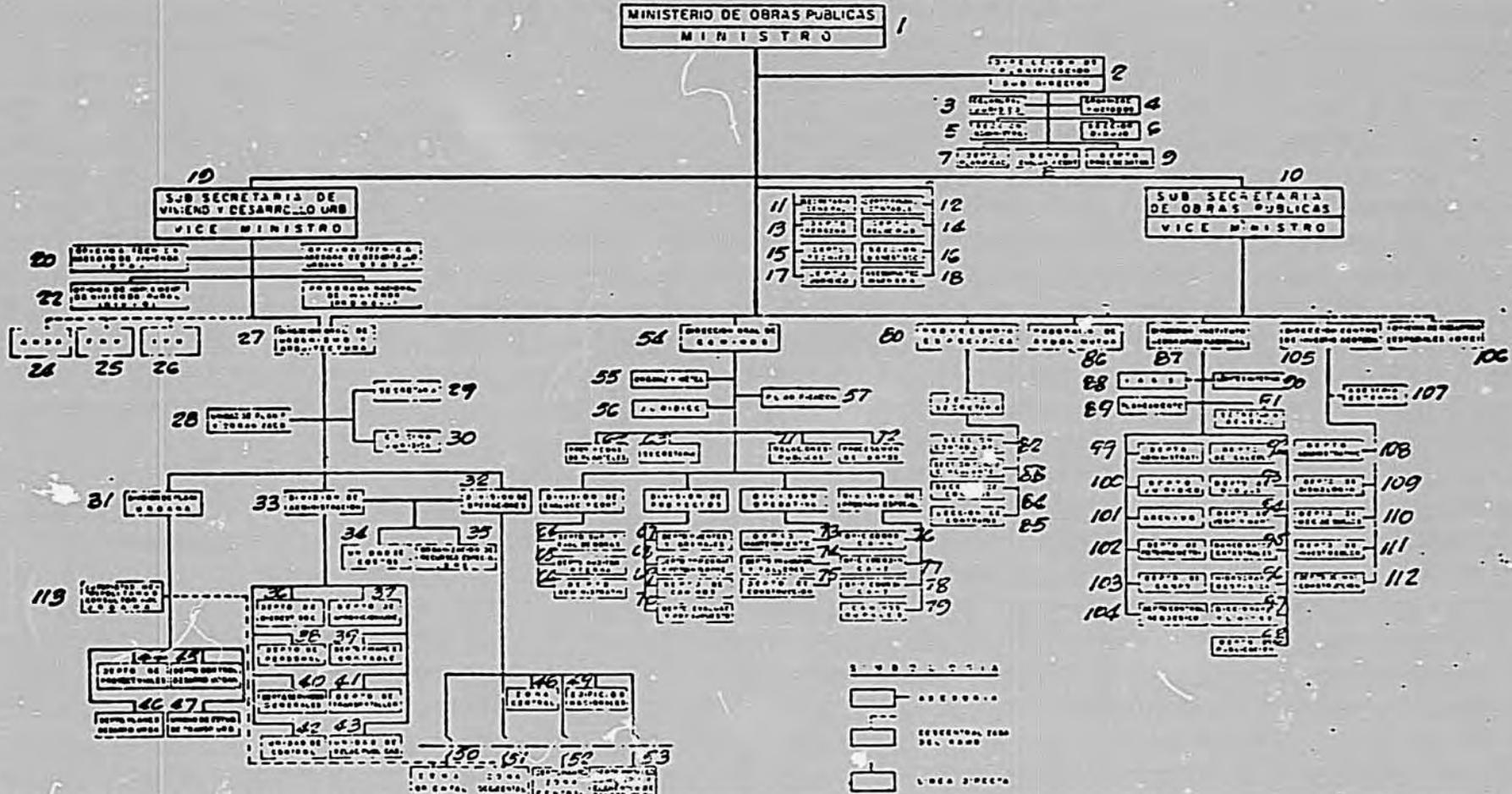
The railroad has suffered extremely heavy, direct guerrilla damage. Beginning in 1980, it has lost tracks, stations, repair equipment, locomotives, and rolling stock. At one point, it was down to three locomotives. FENADESAL has a small staff. It has reduced its staff 30% during the period but its dedicated corps of personnel has been able to keep operations going despite several deaths during guerrilla attacks. It also "manufactures" parts and

with almost superhuman effort, has now 11 locomotives on line and two more will have repairs completed soon. It has substituted metal for most of the wood on the cars, uses platforms in front of the locomotives to blow up the explosives before the locomotive gets to that point, and has greatly increased its security.

AID has been able to help FENADESAL with small replacements and repair parts from the emergency funds under the Public Services Restoration project since the damage was direct. The Mission has also purchased a high quality radio communications system for the railroad, making it possible for security forces and repair crews to arrive quickly at the scene of damage, and thus reducing time lost from service.

FENADESAL, with its own resources, has effected major structural reconstruction at the Port of Cutuco. Two ships had seriously damaged the pier and repairs were delayed for some time. Too, the security arrangements have been enhanced, even though this port has never received direct war damage. The improved port allows the diversion (some is already occurring) of some traffic from Acajutla to relieve the load there until major repairs/reconstruction can be effected at that port.

**MINISTRY OF PUBLIC WORKS ORGANIGRAM**  
**ORGANIGRAMA DEL MINISTERIO DE OBRAS PUBLICAS**



MINISTRY OF PUBLIC WORKS  
 MINISTERIO DE OBRAS PUBLICAS  
 DIRECTORATE OF PLANNING  
 DIRECCION DE PLANIFICACION  
 EL SALVADOR, C.A.

ELABORADO:  
 Done by UNIT OF ORGANIZATION AND METHODS  
 UNIDAD DE ORGANIZACION Y METODOS

AUGUST OF 1985  
 AGOSTO DE 1985  
 DIBUJO SECCION DE DIBUJO

**English Key to Organization Chart for the:**

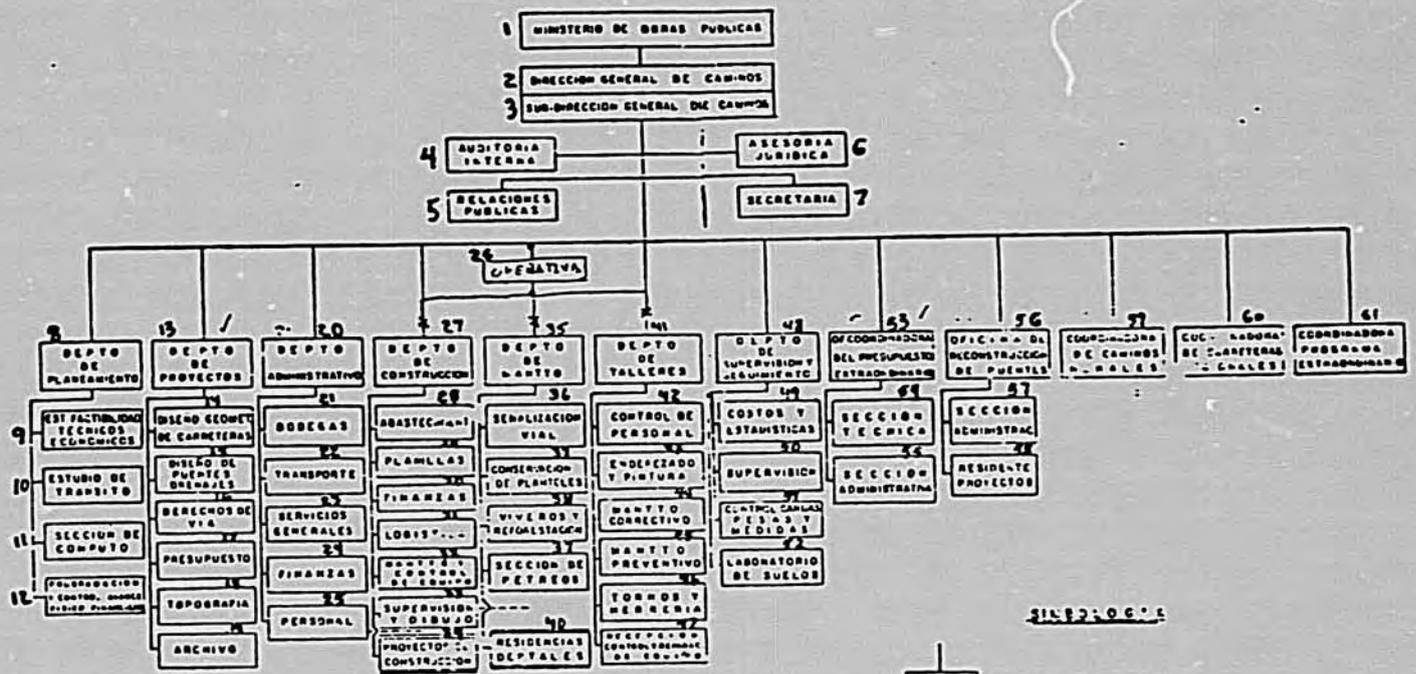
**MINISTRY OF PUBLIC WORKS**

1. Ministry
2. Directorate of Planning - Sub Director
3. Juridical Assessor
4. Organization and Methodology
5. Administrative Section
6. Drafting Section
7. Planning Department
8. Evaluation and Control Department
9. Data Processing Department
10. Sub-Secretary of Public Works - Vice Ministry
11. General Secretary
12. Finance and Accounting Department
13. Personnel Department
14. Public Relations Department
15. Technical Department
16. Social Welfare Department
17. Juridical Department
18. Technical Assessor of Engineering
19. Sub-Secretary of Housing and Urban Development - Vice Ministry
20. Technical Officer of Housing Assesory
21. Technical Office of Urban Development Assesory
22. Rural Housing Implementation Office
23. National Housing Program
24. ANDA - National Administration of Aqueducts and Sanitary Sewer
25. FNV - National Housing Fund
26. IVU - Institute of Urban Housing
27. DUA - Directorate of Urbanism and Architecture
28. Planning and Organization Unit
29. Secretary
30. Legal Office
31. Urban Planning Division
32. Operations Division
33. Administrative Division
34. Costs Unit
35. Special Resources Organization
36. Social Welfare Department
37. Supply Department
38. Personnel Department
39. Finance and Accounting Department
40. General Services Department
41. Transportation and Shop Department
42. Control Unit
43. Public Relations Unit
44. Road Projects Department
45. Urban Development Control Department
46. Urban Development Planning Department
47. Urban Transportation Studies Unit
48. Central Zone
49. National Buildings

50. Oriental Zone
51. Occidental Zone
52. Maintenance Department - Central Zone
53. Material Supply and Constructio Elements Department
54. General Directorate of Roads and Highways (DGC)
55. Organization and Methodology
56. Legal
57. Planning
58. Projects and Construction of Nursery Buildings
59. Secretary
60. Public Relations
61. Data Processing
62. Evaluation and Accounting Division
63. Projects Division
64. Projects Supervision Department
65. Internal Auditory Department
66. Administrative Department
67. Bridge and Drainage Department
68. Topography and Terrestrial Photogrametry Department
69. Roads Department
70. Evaluation Department
71. Operative Division
72. Special Programs Division
73. Maintenance Department
74. Transportation and Shops Department
75. Construction Department
76. Coordination Office, CA-1, (Panamerican Road)
77. Coordination Office, CA-2 (Coastal Road)
78. Coordination Office, CA-3 (
79. Rural Roads
80. Specific Storage
81. Secretary Department
82. Accounting Section
83. Circulatory Funds Section
84. Purchasing Office
85. Contracts Section
86. Mutual Help Program
87. IGN - National Geographic Institute - Directorate
88. IAES
89. International Limits
90. Planning
91. General Secretary
92. Calculation Department (Structural)
93. Drafting Department
94. Verification and Maintenance Department
95. Cadastre Data Bank
96. Geophysic Hydrography
97. Dictionary and Limits
98. Publication Department
99. Administration Department
100. Legal Department
101. Archives
102. Photometry Department
103. Field Department
104. Geodesic Control Department

- 105. Geotechnical Investigation Center - Directorate
- 106. Special Resources Office
- 107. External Assessory
- 108. Administrative Department
- 109. Sysmology Department
- 110. Soil Mechanics Department
- 111. Geology Investigation Department
- 112. Construction Materials Department
- 113. Metropolitan Speedways - Urban Roads Consultory

ORGANIGRAMA DE LA DIRECCION GENERAL DE CAMINOS



SILBO LOGO



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## General Directorate of Caminos Organization Chart Key

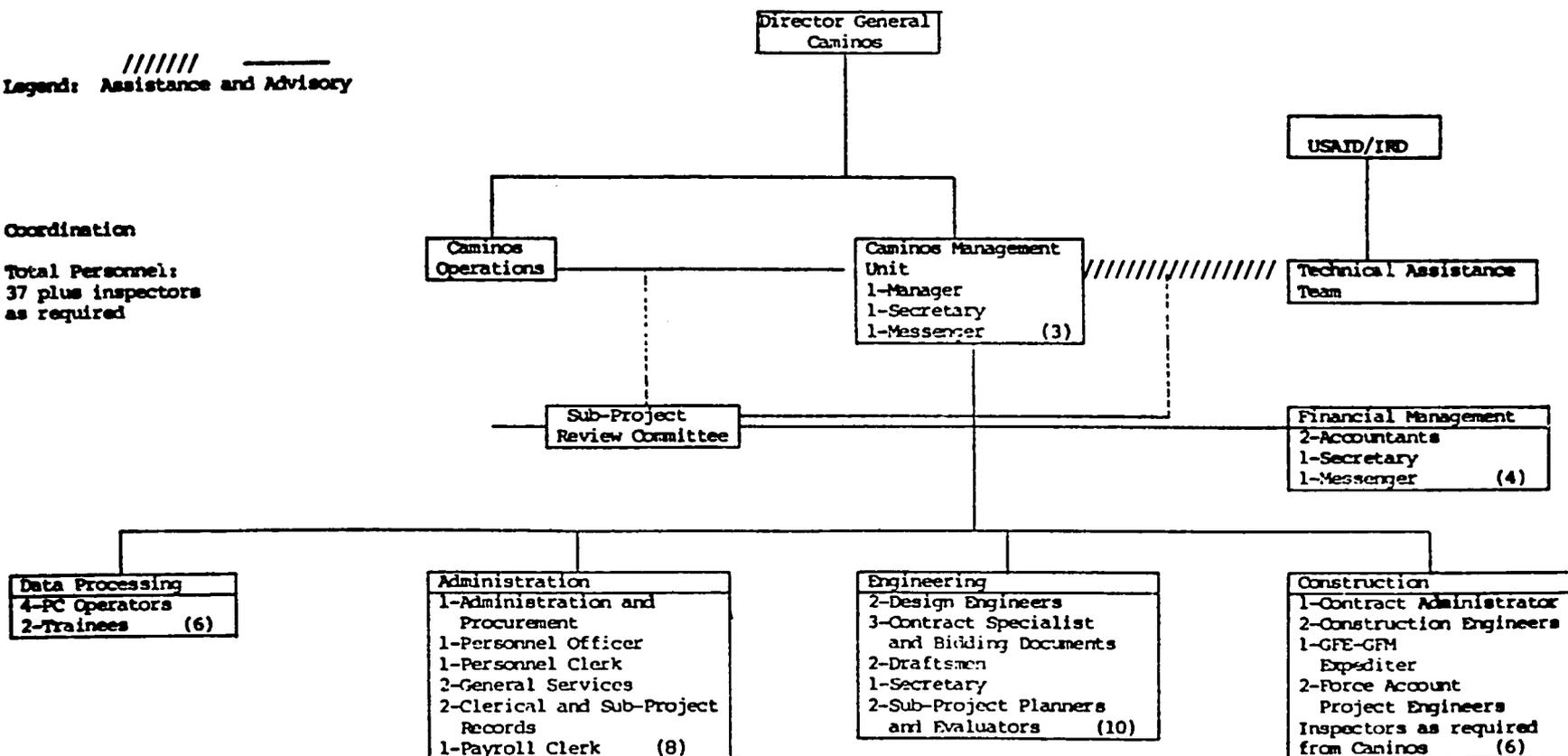
- 1.- Public works Ministry
- 2.- General Directorate of Caminos
- 3.- General Sub-Directorate of Caminos
- 4.- Internal Audit Office
- 5.- Public Relations Office
- 6.- Legal Department
- 7.- Secretary
- 8.- Planning Department
- 9.- Technical & Economic Feasibility Studies
- 10.- Traffic Studies
- 11.- Data Processing Section
- 12.- Program Finance and Control
- 13.- Projects Department
- 14.- Highway Design
- 15.- Bridges and drainage Design
- 16.- Real Estate Acquisition
- 17.- Budget Unit
- 18.- Topography Unit
- 19.- Archives Section
- 20.- Administration department
- 21.- Warehouse Unit
- 22.- Transport Unit
- 23.- General Services Unit
- 24.- Finance Unit
- 25.- Personnel Unit
- 26.- Operations Department
- 27.- Construction Department
- 28.- Supply Unit
- 29.- Payroll Unit
- 30.- Finance Unit
- 31.- Logistics Unit
- 32.- Equipment Control and Maintenance Unit
- 33.- Supervision and Drawing Unit
- 34.- Project Construction Unit
- 35.- Maintenance Department
- 36.- Traffic Signals Unit
- 37.- Building Maintenance Unit
- 38.- Reforestation and Green Houses Unit
- 39.- Geological Section
- 40.- Zoning Offices
- 41.- Garage Department
- 42.- Personnel Control Unit
- 43.- Body Shop
- 44.- Corrective Maintenance Unit
- 45.- Preventive Maintenance Unit
- 46.- Lathes and Blacksmith's Shops
- 47.- Equipment Control and Repairs
- 48.- Supervision and Evaluation Department
- 49.- Cost Accounting and Statistics Unit
- 50.- Supervisory Unit
- 51.- Measurement and Weight Control Unit
- 52.- Soil Laboratory
- 53.- Extraordinary Budget Coordination Office

- 54.- Technical Section
- 55.- Administration Section
- 56.- Bridges Reconstruction Office
- 57.- Administration Section
- 58.- Residential Projects
- 59.- Rural Roads Coordination
- 60.- Regional Roads Coordination
- 61.- Extraordinary Program Coordination

**CAMINOS MANAGEMENT UNIT  
ORGANIZATIONAL RELATIONSHIPS AND PROPOSED  
INITIAL STAFFING PATTERN\***

Legend: **//////** ———  
Assistance and Advisory

Coordination  
Total Personnel:  
37 plus inspectors  
as required



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## ANNEX J

ILLUSTRATIVE ROAD SUB-PROJECTS AND DESIGN STANDARDSA. ILLUSTRATIVE LIST OF ROADS SUGGESTED FOR REPAIR.

| <u>1. AID/Rural Development.</u>                             | <u>Kilometers</u> |
|--|-------------------|
| <u>Road</u>  |                   |
| <u>Phase I with DPS</u>                                      |                   |
| El Cortijo - Ahuachapan                                      | 2                 |
| El Socorro - La Union  | 2                 |
| Santa Teresa - San Vicente                                   | 1                 |
| <u>Other Phase I</u>   |                   |
| Veracruz - La Libertad                                       | 2                 |
| Chiquileca - La Libertad                                     | 6                 |
| Santa Cruz Tazulath - Sonsonate                              | 12                |
| San Alfredo - La Libertad                                    | 6                 |
| <u>Phase III</u>   |                   |
| Finca Orlita - Panchimalco (San Salvador)                    | 4                 |
| Coop. Rio Grande - Moncagua (San Miguel)                     | 3                 |
| Coop. El Progreso - Moncagua (San Miguel)                    | 2.5               |
| Coop. Francisco Israel - Lolotique/<br>San Miguel Diaz de RL | 4                 |
| Coop. Nueva Vida - El Transito/San Miguel                    | 4                 |
| Coop. San Jose Gualoso - Chirilagua/<br>San Miguel           | 4                 |
| Coop. La Pelota - San Miguel/San Miguel                      | 3                 |
| Coop. Colorado - Pasaquina/La Union                          | 4                 |
| C. Juan Ucesista - Yayantique/La Union                       | 6                 |
| C. Nueva Generacion - El Carmen/La Union                     | 12                |
| C. Brisas Marinas - La Union                                 | 6                 |
| C. Escarbadero - Estanzuelas/Usulután                        | 6                 |
| C. Potrero Grande - Estanzuelas/Usulután                     | 8                 |
| C. El Taburete - Fco. Javier/Usulután                        | 5                 |
| C. La Cabana - San Agustin/Usulután                          | 8                 |
| C. Ista el Refugio - Usulután                                | 10                |
| C. Nombre de Dios - Rosario de Mora/<br>San Salvador         | 5                 |
| C. Tiragran - Panchimalco/San Salvador                       | 4/5               |
| C. La Virtud - San Juan Opico/La Libertad                    | 6.5               |
| C. Santa Emilia - San Juan Opico/La Libertad                 | 6.5               |
| C. San Cristobal - Jayaque/La Libertad                       | 7                 |
| C. Santa Rosa - San Matias/La Libertad                       | 5.5               |
| Coop. Chutia - Chiltiupan/La Libertad                        | 6                 |
| C. Santa Marta - Huizucar/La Libertad                        | 6                 |
| C. Buena Fe - San Juan Opico/La Libertad                     | 5                 |
| Coop. Tres Pinos - Tamanique/La Libertad                     | 8                 |
| C. El Rosario - El Rosario/La Libertad                       | 4                 |
| C. El Socorro - Huizucar/La Libertad                         | 6                 |

|    |   |     |
|----|---|-----|
| 2. | <b>FUSADES.</b>   |     |
|    | Usulután - Puerto Parada  | 10  |
|    | La Unión - Barrancones  | 50  |
|    | La Unión - Los Jíotes   | 7   |
|    | Carasucía - Garita Palmera  | 10  |
|    | Puente Río Banderas - Coop. Palo Combo  | 5   |
|    | Río Sirama - La Montosa/La Unión  | 7   |
|    | Santa Tecla - Comsagua - Chiltiupan -<br>Carretera Litetoral  | ?   |
|    | Carretera Sonsonate - Sacacoyo  | ?   |
|    | Ateos - Jayaque   | 9   |
|    | Sonsonate - San Pedro Puxla - Apaneca   | 35  |
|    | Accesos de Sonsonate - Ahuachapan con<br>Carretera Litoral en los Departamentos<br>de La Libertad y La Paz. | ?   |
| 3. | <u>MOP: Caminos/Special List</u>  |     |
|    | C. El Castaño (external)  | 1.5 |
|    | C. La Magdalena (internal/external)   | 16  |
|    | C. San Isidro ( internal)   | 20  |
|    | C. San José Miramar (internal/external)   | 11  |
|    | Coop. Miravalles (internal/external)  | 12  |
|    | Coop. Tonoal (internal/external)  | 8   |
|    | Coop. Amate de Campo (internal/external)  | 13  |
|    | C. San Sebastián (internal/external)  | 7   |
|    | Coop. El Jabali (internal/external)   | 11  |
|    | Coop. El Carmen (internal/external)   | 9   |
|    | C. Los Lagartos (internal/external)   | 15  |
|    | C. El Tatuano (internal)  | 5   |
|    | C. San José La Paz (internal)   | 10  |
|    | Coop. San Carlos (internal/external)  | 6   |
|    | * Palo Combo (internal/external)  | 8   |
|    | Coop. El Eden (internal)  | 5   |
|    | Coop. Nueva Guayaba (internal)  | 3   |
|    | Coop. Santa Rita (internal)   | 2   |
|    | C. San José de Luna (internal)  | 5   |
|    | C hoja de Sal (internal)  | 5   |
|    | C. Barra Ciega (internal)   | 4   |
|    | Coop. El Chino (internal)   | 2   |
|    | Coop. Nueva Esperanza (internal)  | 10  |
|    | *C. Santa Teresa (internal)   | 2   |
|    | Coop. La Reina (internal)   | 2   |
|    | Coop. Copapayo (internal)   | 8   |
|    | C. Talcualhuya (internal)   | 4   |
|    | *C. El Tránsito (internal)  | 5   |
|    | *Buena Vista - Ahuachapan   | 4   |
|    | Cumaesland - La Libertad  | 6   |
|    | San Alfonso - La Libertad   | 5   |
|    | Acopacomun - La Unión   | 5   |
|    | *Palo Combo - Sonsonate   | 5   |
|    | * Chiquilecas - La Libertad   | 5   |
|    | Rancho Monte - Vista - Santa Ana  | 6   |

|  |      |
|--|------|
| 4. <u>MOP:Caminos/Departmental Priorities.</u>                             |      |
| <u>Ahuachapan</u>  |      |
| Interconnection CA:2 - CA:8 LD; CA:2 - Camino Jujutla (CA:8)               | 34   |
| CA:2 - Barra de Santiago   | 3.2  |
| Ahuachapan - Tacuba  | 17.2 |
| *CA:8 - San Francisco/Km. 2  | 5    |
| *CA:8 - Agua Caliente  | 15   |
| Atiguizata - San Lorenzo - El Portillo                                     | 9.3  |
| San Jose El Naranjo - Las Delicias - CA:2                                  | 7.8  |
| <u>Santa Ana</u>   |      |
| Interconnection CA:1 - San Pablo Tacachico                                 | 20.8 |
| CA:12 - El Ronneo  | 7.3  |
| CA:1 - El Porvenir   | 5    |
| Chalchuapa - Las Cruces  | 8    |
| CA:1 Santiago de la Frontera - San Antonio Pajonal                         | 14.2 |
| <u>Sonsonate</u>   |      |
| Interconnection (CA:2, CA:8) Santo Domingo LD Ahuachapan Guaymango Jujutla | 5.9  |
| San Antonio del Monte - Santo Domingo de Guzman                            | 11   |
| San Julian - Cuisnahuat  | 10   |
| Interconnection (CA:1, CA:8) link Cerro Verde                              | 4    |
| San Antonio del Monte - Santa Catarina - Masahuat - Salcoztitan            | 15.5 |
| Nahuizalco - Juayua  | 8.5  |
| <u>La Libertad</u>   |      |
| *San Juan Opico - San Faelo Tacachico                                      | 14   |
| CA:2 - Tamanique   | 15.6 |
| Zaragoza - San Jose Villanueva   | 4    |
| CA:2 Tastapeque - Santa Tecla  | 44.7 |
| *Ateos - Los Alpes - Tepecoyo  | 6    |
| Santa Tecla - San Juan los Planes - El Boqueron                            | 3    |
| *Ateos - Jayaque   | 9.6  |
| Teotepeque - Jicalapa  | 3.4  |
| *Opico - San Matias  | 5    |
| <u>Chalatenango</u>  |      |
| El Paraiso - Tejutla   | 8    |
| Chalatenango - Las Vueltas - Ojos de Agua                                  | 23.2 |
| Chalatenango - San Francisco Lempa - San Luis del Carmen                   | 20.7 |
| CA:3 - Obra Juego - Agua Caliente  | 12.3 |
| Tejutla - San Francisco Morazan - San Rafael                               | 16.5 |
| CA:3 - Concepcion Quezaltepeque - Comalapa                                 | 13.1 |

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|   |      |
|---|------|
| Presa 5 de Noviembre - S. Antonio de la Cruz  | 4    |
| Nueva Concepcion - El Barcaje   | 13   |
| Nueva Concepcion - Potrero Sula -<br>Guarnecis - Santa Ana                                | 17   |
| CA:4 - La Reina   | 3.1  |
| CA:3 - Nueva Concepcion - Hda. Santa Elena  | 8    |
| CA:3 - Metaxate - La Granja - Hda. San<br>Francisco                                       | 8    |
| Agua Caliente - Santa Rita - Cimarron   | 13   |
| CA:3 - Nueva Concepcion - Metapan   | 20   |
| (Chalatenango - CA:4) El Tablon - San<br>Rafael - Dulce Nombre de Maria -<br>San Fernando | 27   |
| <u>La Paz</u>   |      |
| CA:2 - El Nilo  | 11   |
| (CA:2 to pavement) San Marcelino El Zapote  | 19   |
| CA:2 - La Zunganera   | 9.5  |
| *CA:2 - Hoja de Sal   | 10   |
| Santo Tomas - San Miguel Tepezontes -<br>Cojutepeque in La Paz                            | 23.7 |
| Cojutepeque - Santiago Texacuangos -<br>San Juan Tepezontes                               | 2    |
| San Miguel Tepezontes - Lago de Ilopango  | 4.3  |
| CA:1 San Ramon - Verapaz  | 2    |
| CA:2 San Jose La Montana in La Paz  | 14.8 |
| San Pedro Nonualco - Jerusalem  | 12.8 |
| CA:2 - San Pedro Masahuat - San Antonio<br>Masahuat - San Miguel Tepezontes               | 15   |
| Zacatecoluca - El Nilo  | 4    |
| CA:2 El Recreo - San Francisco Los Reyes -<br>Hato Los Reyes                              | 20   |
| CA:2 San Juan Talpa   | 4    |
| Comalapa - Tepalhuasco  | 7.8  |
| <u>Cuscatlan</u>  |      |
| Tejutepeque - San Ramon (LD La Paz)   | 4    |
| CA:1 - Tonacatepeque  | 4    |
| San Ramon - Verapaz (LD San Vicente)<br>(San Rafael Cedros - Sensuntepeque)               | 3    |
| Sensuntepeque - El Rosario - Cuscatlan  | 5.4  |
| (CA:1) Monte San Juan   | 3.9  |
| Santo Tomas - Cojutepeque (T. Cuscatlan)  | 11.7 |
| Suchitoto - Aguacayo - CA:4 LD  | 19   |
| Suchitoto - Embalse Cerron Grande   | 3    |
| San Pedro Perulapon - San Bartolo Perulapia   | 1.7  |
| CA:1 Santa Cruz Michapa   | 1    |
| Intersection (Suchitoto Cinquera)<br>Tenancingo   | 10   |
| CA:1 - San Juan Peruapan  | 3    |

|  |     |
|--|-----|
| Interconnection (CA:1 Ilobasco) El Rosario | 5.5 |
| Cojutepeque Cerro Las Pavas                | 2   |
| Cojutepeque Cojuapa - Lago de Ilopango     | 9.8 |
| Jutaqua Oratorio de Concepcion Montepeque  | 9   |

San Vicente

|  |      |
|--|------|
| CA:1 Km. 90 San Idelfonso Pue'le Titihuapa<br>LD Cabanas | 18.9 |
| CA:2 - El Palomar - Tecoluca                             | 18   |
| San Esteban Catarina - San Lorenzo -<br>San Sebastian    | 10   |
| CA:1 San Ramon - Verapaz                                 | 4    |
| CA:1 San Ramon - San Vicente                             | 7    |
| Tecoluca - Zacatecoluca - El Playon                      | 10.9 |
| San Vicente - Tecoluca, El Marguezado                    | 12.5 |
| CA:1 Km. 60 - Laguna de Apastepeque                      | 3    |
| CA:2 San Nicolas Lempa - La Pita                         | 21.3 |
| San Lorenzo - Santa Lucia - San Esteban<br>Catarina      | 5    |
| Santa Clara - San Idelfonso                              | 22   |
| CA:1 Km. 60 - Apastepeque                                | 2    |
| San Vicente - Nuevo Tepetitán Verapaz -<br>Jerusalén LD  | 12.8 |
| (CA:1 San Ramon) San Felipe - San Lazaro                 | 12   |
| (CA:1 San Sebastian) La Labor LD Cuscatlan               | 3    |
| Canton La Labor - Los Laureles                           | 2    |
| La Labor LD Cabanas                                      | 2.5  |
| Verapaz - Guadalupe - San Pedro Nonualco LD              | 6.1  |

Cabanas

|  |      |
|--|------|
| (CA:2 - Ilobasco) Sensuntepeque                                  | 7.6  |
| Ilobasco - Caserio La Quesera                                    | 3.5  |
| Ilobasco - Tejutepeque - Cinquera LD                             | 22.5 |
| Sensuntepeque - Rosas - Villa Victoria                           | 12   |
| Pte. Tithuapa - Villa Dolores Sensuntepeque                      | 21.8 |
| Villa Victoria - San Pedro El Palomar                            | 21   |
| Tejutepeque - Jutiapa - Cerron Grande                            | 12   |
| Presa 5 de Noviembre - Nombre de Jesus                           | 3    |
| Chorrera El Guayabo - Sensuntepeque -<br>San Lorenzo - El Volcan | 11   |
| Sensuntepeque - Nombre de Jesus                                  | 16   |
| Sensuntepeque - Aguazarra - Presa 5 de<br>Noviembre              | 8    |
| Villa Dolores - San Carlos                                       | 11   |
| (LD Ilobasco) San Francisco Irahela -<br>Potrerillos             | 7    |
| Ilobasco - San Miguel - Menjivar - Hoyos                         | 6.7  |
| Ilobasco - San Miguel - Azacualpa                                | 4.1  |
| (San Rafael - Ilobasco) - Agua Zarca                             | 6    |
| Sensuntepeque - El Tablon  | 12   |

|   |      |
|---|------|
| Santa Cruz - Titihuapa                                      | 3.2  |
| Villa Dolores - Chapulcaro                                  | 10.5 |
| <u>Morazan</u>  |      |
| CA:7 - Sociedad - Corinto                                   | 25   |
| CA:7 - El Rosario   | 8    |
| CA:7 - Oscicala - San Isidro                                | 18   |
| Perquin - Sabanetas - (Honduras border)                     | 20.3 |
| (Oscicala - San Simon) -Gualococtl                          | 2    |
| LD - Guatajiagua - Yamabal - San Francisco<br>Gotera        | 21.7 |
| Gotera - Locotruillo -Cacaopera - Delicias<br>de Concepcion | 19.4 |
| Ruta Militar - Chilango                                     | 9.6  |
| CA:7 - Chilango   | 1.6  |
| (Oscicala - San Simon) - Agua Zarca                         | 1.9  |
| (San Simon - El Carrizal) - San Antonio<br>del Mosco        | 3    |
| CA:7 - Azambala - Joateca                                   | 18   |

\* These listing appear in more than one list; because of the more differences in identification, there are probably more.

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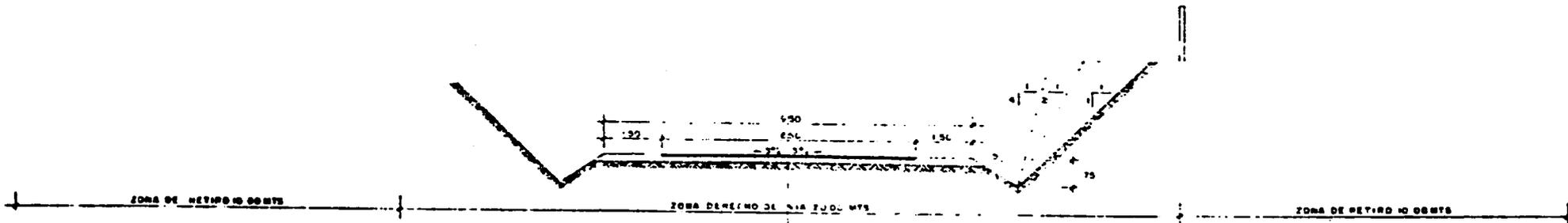
ROAD DESIGN STANDARDS  
 N O R M A S   D E   D I S E Ñ O  
 CLASIFICACION SECUNDARIA

| CRITERIO DE DISEÑO                         | TERRENO PLANO   | TERRENO ONDULADO  | TERRENO MONTAÑOSO |
|--|-----------------|-------------------|-------------------|
| Velocidad de Diseño                        | 80 k/h          | 70 k/h            | 50 k/h            |
| Pendiente Maxima                           | 5 %             | 6 %               | 8 %               |
| Radio Minimo                               | 150.00 m        | 100.00 m          | 60.00 m           |
| Distancia Minima entre Curvas Horizontales | 60.00 m.        | 60.00 m           | 60.00 m           |
| Distancia Minima de Visibilidad            | 130.00 m        | 100.00 m          | 80.00 m           |
| Ancho de la Vía                            | 9.50 m          | 9.50 m            | 9.00 m            |
| Ancho del Pavimento                        | 6.50 m          | 6.50 m            | 6.50 m            |
| Ancho de Bermas                            | 1.50 m          | 1.50 m            | 1.50 m            |
| Ancho de Rodamiento en los Puentes         | 7.40 m          | 7.40 m            | 7.40 m            |
| Ancho de la Zona de Derecho de Vía         | 20.00 m         | 20.00 m           | 20.00 m           |
| Ancho de la Zona de Retiro                 | 10.00 m         | 10.00 m           | 10.00 m           |
| Carga de Diseño para Puentes.              | H15-S12         | H15 - S12         | H15- S12          |
| TIPO DE PAVIMENTO                          | TRAT.SUP.SIMPLE | TRAT. SUP. SIMPLE | TRAT.SUP. SIMPLE  |
| TRATAMIENTO DE BERMAS                      | MAT.SELEC.COMP. | MAT.SELEC.COMP    | MAT.SELEC. COMP.  |

DIRECCION GENERAL DE CAMINOS

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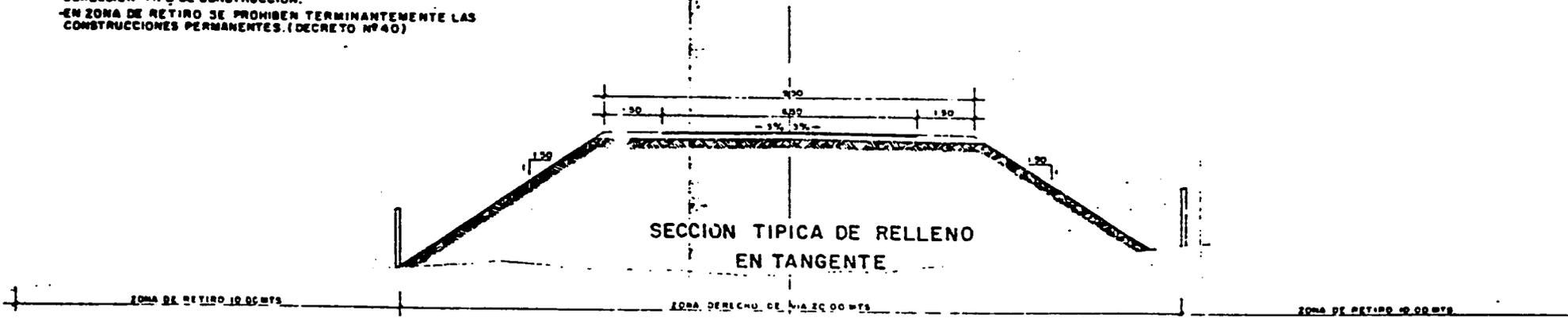
SECCIONES TÍPICAS  
CLASIFICACION SECUNDARIA



SECCION TÍPICA DE CORTE  
EN TANGENTE

**NOTA:**

- EN ZONA DE DERECHO DE VIA SE PROHIBE TERMINANTEMENTE CUALQUIER TIPO DE CONSTRUCCION.
- EN ZONA DE RETIRO SE PROHIBEN TERMINANTEMENTE LAS CONSTRUCCIONES PERMANENTES. (DECRETO N°40)



SECCION TÍPICA DE RELLENO  
EN TANGENTE

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NORMAS DE DISEÑO

CLASIFICACION TERCIARIA

| CRITERIO DE DISEÑO                         | TERRENO PLANO   | TERRENO ONDULADO | TERRENO MONTAÑOSO |
|--|-----------------|------------------|-------------------|
| Velocidad de Diseño                        | 60 k/h          | 50 k/h           | 40 k/h            |
| Pendiente Maxima                           | 6 %             | 8 %              | 10 %              |
| Radio Minimo                               | 150.00 m        | 100.00 m         | 40.00 m           |
| Distancia Minima entre Curvas Horizontales | 50.00 m         | 50.00 m          | 50.00 m           |
| Distancia Minima de Visibilidad            | 120.00 m        | 100.00 m         | 80.00 m           |
| Ancho de la Vía                            | 6.00 m          | 6.00 m           | 6.00 m            |
| Ancho de Rodamiento en Puentes.            | 6.50 m          | 6.50 m           | 6.50 m            |
| Ancho de la Zona de Derecho de Vía         | 20.00 m         | 20.00 m          | 20.00 m           |
| Ancho de la Zona de Retiro                 | 4.00 m          | 4.00 m           | 4.00 m            |
| Carga de Diseño para Puentes.              | H15-S12         | H15-S12          | H15-S12           |
| TIPO DE SUPERFICIE                         | MAT.SELEC.COMP. | MAT.SELEC.COMP.  | MAT.SELEC.COMP.   |

NORMAS DE DISEÑO

CLASIFICACION RURAL

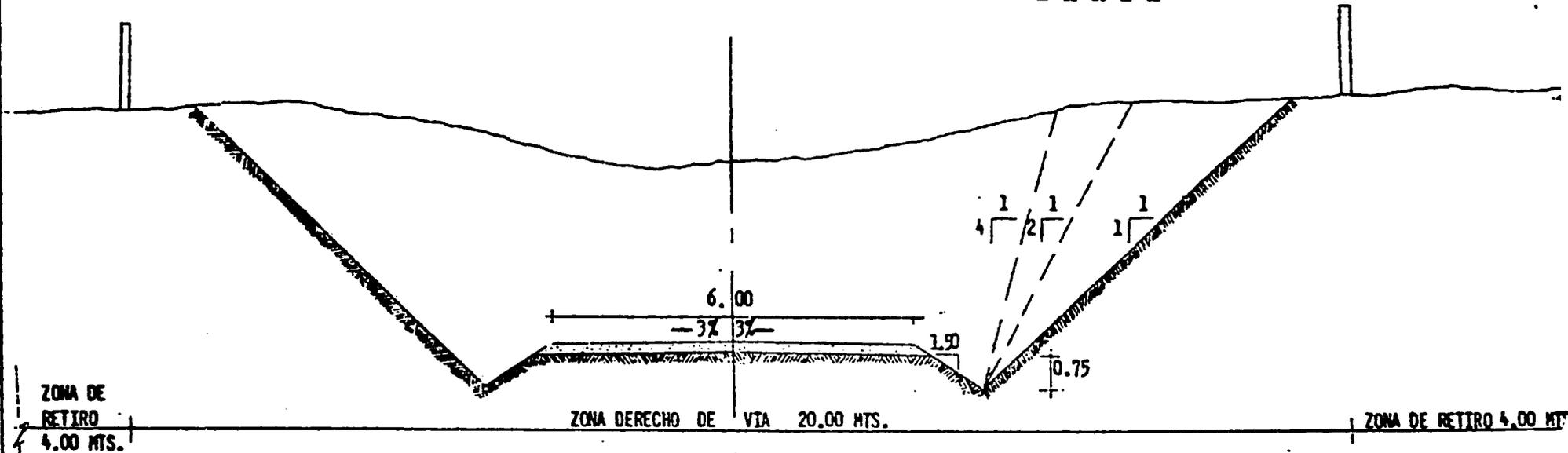
*Camino Rural*

| CRITERIO DE DISEÑO                  | TERRENO PLANO | TERRENO ONDULADO | TERRENO MONTAÑOSO |
|-------------------------------------|---------------|------------------|-------------------|
| Velocidad de Diseño                 | 50 k/h        | 40 k/h           | 30 k/h            |
| Pendiente Maxima                    | 6 %           | 8 %              | 12 %              |
| Radio Minimo                        | 67.00 m       | 53.00 m          | 20.00 m           |
| Distancia Minima de Visibilidad     | 90.00 m       | 60.00 m          | 45.00 m           |
| Ancho de Vía                        | 5.00 m        | 5.00 m           | 5.00 m            |
| Ancho de Rodamiento en los Puentes. | 3.00 m        | 3.00 m           | 3.00 m            |
| Ancho de la Zona de Derecho de Vía  | 15.00 m       | 15.00 m          | 15.00 m           |
| Ancho de la Zona de Retiro          | 4.00 m        | 4.00 m           | 4.00 m            |
| Carga de Diseño para Puentes.       | H1544         | H1544            | H1544             |
| TIPO DE SUPERFICIE                  | REVESTIDA     | REVESTIDA        | REVESTIDA.        |

DIRECCION GENERAL DE CAMINOS.

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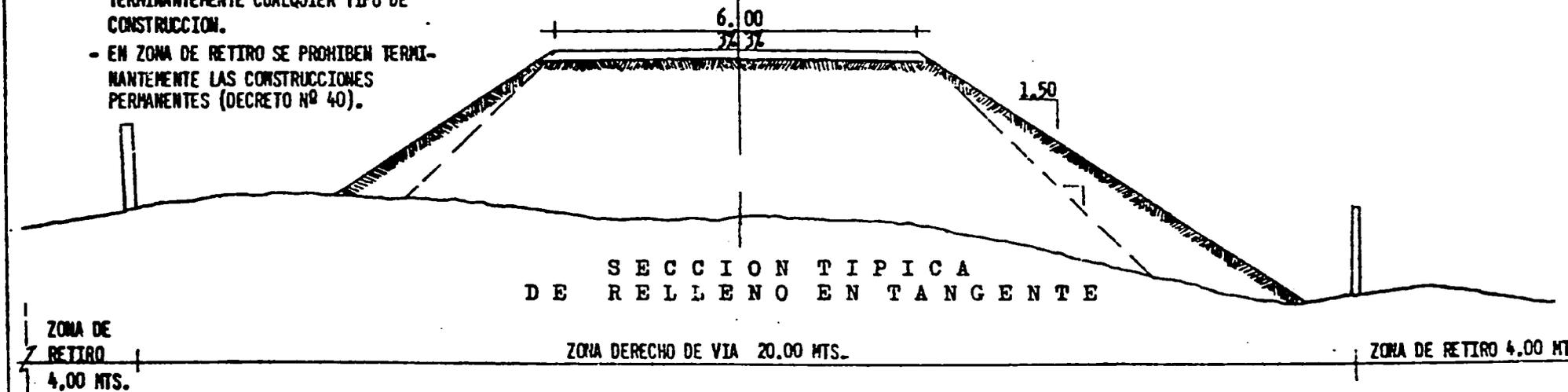
SECCIONES TÍPICAS  
CLASIFICACION TERCIARIA



NOTA:

- EN ZONA DE DERECHO DE VIA SE PROHIBE TERMINANTEMENTE CUALQUIER TIPO DE CONSTRUCCION.
- EN ZONA DE RETIRO SE PROHIBEN TERMINANTEMENTE LAS CONSTRUCCIONES PERMANENTES (DECRETO Nº 40).

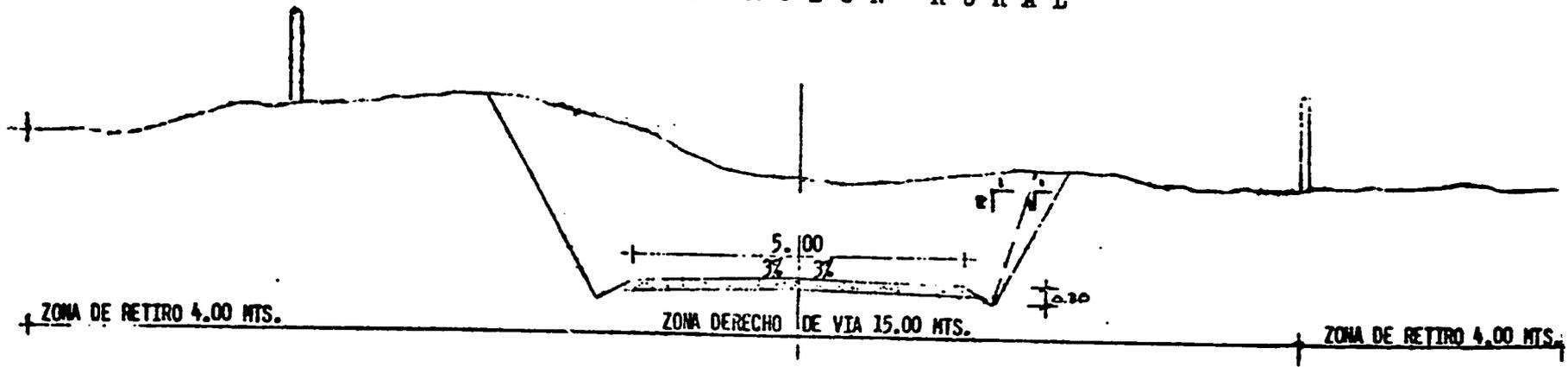
SECCION TIPICA DE CORTE  
EN TANGENTE



SECCION TIPICA  
DE RELLENO EN TANGENTE

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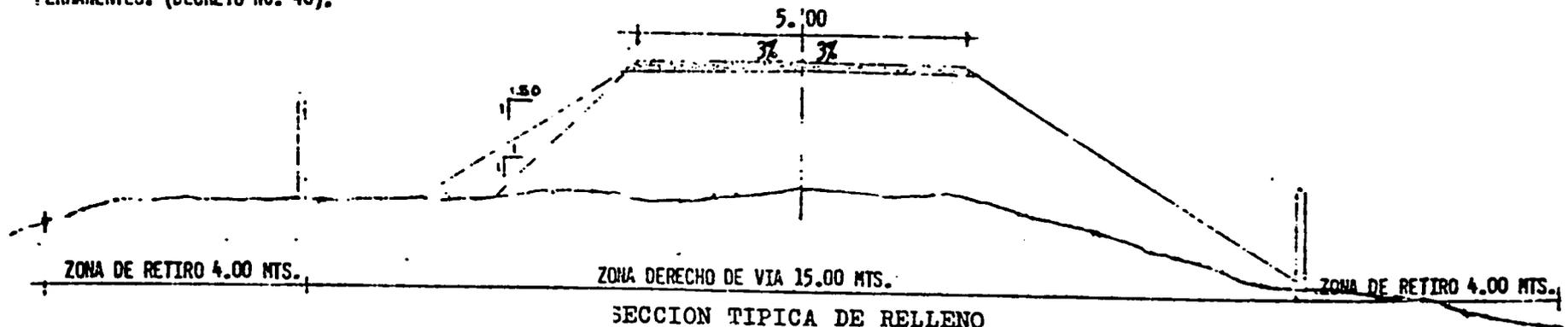
SECCIONES TIPICAS  
CLASIFICACION RURAL



SECCION TIPICA DE CORTE  
EN TANGENTE

NOTA:

- EN ZONA DE DERECHO DE VIA SE PROHIBE TERMINANTEMENTE CUALQUIER TIPO DE CONSTRUCCION.
- EN ZONA DE RETIRO SE PROHIBE TERMINANTEMENTE LAS CONSTRUCCIONES PERMANENTES. (DECRETO No. 40).



SECCION TIPICA DE RELLENO  
EN TANGENTE

## ANNEX K

### DETAILS OF FENADESAL RESTORATION AT SANTA ANA/SANTA LUCIA

Two British railway companies operated in this region; even both essentially served Santa Ana, no connection was ever built between them, leaving 4.5 Kms. between the two stations. Although FENADESAL has long wanted to connect the two lines, it has been unable to do so because of its financial constraints.

The Santa Lucia line begins at the border with Guatemala, goes through a very productive farming area, including the Antiocuvo Irrigation System, and into Santa Lucia. From that point, it veers into Ahuachapan with one line, which then goes to San Salvador. Another follows the valley down to San Salvador.

Throughout the war, the Santa Ana line, that curves toward Guatemala and then across portions of Morazan and Chalatenango has been the prime target for guerrilla attacks. The intensity of the attacks continues to this day. The ideal would have been to abandon that line but throughout the early part of its curve out of Santa Ana, it serves the heaviest coffee producing area of the nation. The line simply could not be abandoned without disrupting the flow of coffee to Acajutla and Cutuco. Similarly, the fertilizer and other inputs for the coffee farms also have been primarily carried by the railroad since trucks will not normally go into the area because of the danger.

FENADESAL proposes a restoration project that would allow the services to and from the coffee areas but allow them to bypass the conflictive area. It is now necessary for one train a day into the area and one out. The financial losses are not only great because of the incessant guerrilla attacks, but also because that long curve up through Morazan and Chalatenango is expensive because of the distance and the small amount of freight generated for and from the area.

The proposal is to build a connection between the Santa Ana yards and those in Santa Lucia. This would allow the reduction of the Santa Ana station to a loading dock; the traffic would then be taken to Santa Lucia where the cars would be added to others waiting there. For most daily trips, this would reduce the need for the present two locomotives five times a week to one. That reduction would allow more service to the cement factories where the locomotives are badly needed, bringing in more income while reducing expenses.

The Central American Railway Association, CEPA, and the Government of El Salvador have been negotiating with the railway company and the Government of Guatemala for some time to achieve an important interconnection between the two countries. During the height of the guerrilla action in El Salvador, Guatemala abandoned 113 Kms. from the El Salvador border toward the capital and Puerto San Pedro de Castilla. The long disuse has taken its toll, reducing the line to a point where a great deal of reconstruction will be required. The Central American Bank for Economic Integration has expressed some interest in restoring this stretch but no firm decision has been made by it or the Government of Guatemala.

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The restoration of this portion of the ocean to ocean, Port of Acajutla to Port San Pedro de Castilla, is of utmost importance for El Salvador. Many of its products are now hauled at very high expense to the Guatemalan ports and some imports make the return trip. Guatemala has a Pacific port, Quetzal, but no rail connection. Guatemalan shippers, too, would benefit from the less expensive freight charges of the railroad. Both would benefit from less destruction to the highway system wrought by the over-loaded trucks.

FENADESAL project that if it were allowed the abandon the Santa Lucia/Ahuachapan line, which also has low traffic and many squatter problems, many rails and ties would become available. If that should not be possible, FENADESAL proposes to buy used rails from the U.S. (the lines there are replacing the 95 pound rails with 120). This would be a substantial savings.

The rough estimates for the project include \$200,000 for the purchase of spikes, guards, and the used rails. The labor and most of the other materials could be supplied by FENADESAL although some, as yet undetermined, amount of local currency might be required.

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## ANNEX L

### POLICY REFORM AGENDA

#### A. ANDA Mandate to Oversee Rural Water.

Responsibility for WS&S in communities with populations under 2,000, originally resting in ANDA, was temporarily delegated to the Ministry of Health in 1971, under an agreement that was renewed in 1985. In 1988 the GOES reached a decision to return rural water responsibility to ANDA but did not implement it. At the present time both the Ministry of Health and ANDA are executing rural water supply projects in towns and communities of different sizes, but under this project ANDA will be working in communities with populations under 2,000.

Moreover, the 1988Codigo de Salud indicates that the MOH has the legal responsibility: for environmental sanitation (sewage, garbage, and potable water); to regulate the activities of all sanitary engineering works/systems; and, to set standards and require compliance for all potable water. All construction or repairs or modifications to such systems must be reviewed and approved by the MOH. Thus, legally, ANDA must have the cooperation and assistance of the MOH to accomplish its project objectives.

The future responsibility of ANDA and the MOH in the field of national water supply, including rural water, should be clearly defined very early in the project implementation phase, if not before the project begins. This will be important: in designing ANDA expansion in the regions; in defining the role ANDA will play in providing assistance to small communities in system maintenance; in rationalizing ANDA nationwide tariff schedules; and, in assigning project funds to ANDA and the MOH.

This entire matter should be discussed with the new government at an early date. It is important to the project to determine that the range and limits of authority of both ANDA and the MOH be delineated, to assure that critical coordination and planning can go forward.

#### B. Improve ANDA Financial Systems.

The Booz-Allen and Hamilton, Inc. report of February, 1989 has highlighted a number of weaknesses that inhibit the effectiveness of ANDA financial management, and made several recommendations for improvement. Implementation of some of the recommendations will require policy decisions or other administrative action by the new national administration. One of the functions of the ANDA technical assistance team will be to assist in improving financial systems and procedures within the bounds of current regulations. Training in auditing and accounting will be provided in the first instance so project funds and projects can be controlled, but also to strengthen the ANDA system to permit more efficient use of resources system-wide after the project ends.

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C. Improvements to Collections in ANDA and CEL.

By far the greatest percentage of delinquent accounts with both utilities are those of government agencies and units at both national and local level. So long as this condition exists ANDA will not achieve the status of a self supporting utility, and will be unable to develop an organization to provide support to rural systems installed under this project. This problem will require action by the national government also and should be included in the agenda to be discussed with the new administration.

D. CEL Tariff Adjustment.

Cost of operation and maintenance have grown at a faster rate than have revenues during the last few years, to the extent that CEL has operated at a loss for the last three years. For the future health and credit worthiness of CEL as a utility, revenues must be increased to exceed normal operating, maintenance, and capital costs.

E. Increased Use of Private Sector.

The rural water/sanitation and rural road maintenance portions of the project will utilize private sector contractors for both engineering and construction. There has been limited but recent success in working with private contractors on rural water sub-projects, although the costs have been unusually high, and there are contractors with varying degrees of capability in road maintenance. Use of the private sector is a basic policy of this project, although there is a need to establish carefully and maintain closely the criteria by which contractors are selected and used. Use of force account is proposed only on carefully selected projects or in areas where the private sector contractor or work force is saturated. Development of the private sector is consistent with policy, and is also more efficient if properly managed.

The project's WS&S component will require a major effort from the MOH Community Health Division to expand health and WS&S promotion. To assist, private sector firms can be used to provide technical assistance in material development; training, research and data collection and analysis, and perhaps assistance in the organization of quarterly interinstitutional ANDA/MOH meetings. On this latter point, the private sector could be contracted to assist in workshop design, training, and materials development.

At the community level, the TA team and MOH/ANDA project managers should also consider the utilization of PVO's, church groups, and benefactor societies to: augment the number of promoters and communities promoted; combine the WS&S and health education with other child survival interventions; carry out research and technology development; train community workers; and, offer logistics support. Many of these groups have long-term and strong contact within many of the targeted communities.

**F. Reorganization and Reduced Staffing, MOP and ANDA.**

These are long term goals that will require decisions and policy changes at the national level by the new administration if they are to be achieved. As a corollary to improved management systems upon which technical assistance teams will work with MOP (Camino and AME) and ANDA counterparts, some improvements in organization and minor reductions in headquarters staff may be effected. However, for the WS&S component, ANDA is expected to add a corps of water promoters and other staff, such as sanitary and civil engineers and supervisory and systems maintenance personnel, within the MU and ANDA regional offices.

The MOH does not anticipate additional staff for this project, but recent policy dialogue has resulted in an MOH requirement to absorb approximately 70 health promoters per year. The addition of staff in ANDA and the MOH are essential if the health objective of the WS&S component are to be met. This is especially true at the regional level where strong inter-institutional coordination with the village participants by health and water promoters, will be critical.

Most technical assistance work will be done with specific management units, however, with access to the Minister or General Manager for policy determination and consultation. That is, management improvements will be a specific goal in the Management Units, but broad efforts across the entire Ministry, including ANDA, are not planned. Therefore, major reorganization and reduced staffing in MOP and ANDA are not projected as a result of this project alone, although both should be objectives of ongoing consulting with GOES.

Another item that will be addressed is that of over staffing, which is very much a part of the recurrent cost problem, especially since a high proportion of the present budgets of MOP, ANDA, and some other agencies is spent on personnel salaries and benefits. A.I.D. will encourage agencies to "streamline" their operations to reduce recurrent costs as well as to ensure adequate levels of government support for maintenance until rate structure adjustments can be made.

It is recognized that wholesale layoffs of personnel are not feasible until other work can be found for the present excess employees. However, overstaffing increases cost and reduces efficiency and will affect adversely sustainability of improvements for which this project is undertaken. It prevents maintenance of facilities and equipment to the extent that investment and productivity both are lost. Neither equipment, nor existing nor new facilities repaired or built under this project will be maintained until costs and overstaffing are brought under control.

**G. Develop Sound Investment Plans in ANDA and MOP.**

It will be a function of technical assistance teams to determine the long range planning processes in MOP and ANDA, and the quality of plans that are produced by those procedures. It is anticipated that

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the planning process can be improved by those teams during the scheduling of sub-projects under the road maintenance and rural water/sanitation parts of the project. Additional, relatively short term, technical assistance can be provided during the middle to late part of the project term if the need is indicated. The ANDA policy for fees to maintain/replace investments will need strict review.

Medium and long term plans for development of infrastructure, with present maintenance costs balanced against future investment cost, are important economically. They assure, or at least provide for, efficient use of resources, which are never adequate to meet all needs. If new construction goes forward on a facility of any kind while maintenance of a similar facility is neglected for lack of funds, one stands to lose the latter and the national economy stands still, or goes backward.

ANNEX M

CRITERIA FOR SUB-PROJECT SELECTION

1. Accessibility.

The sub-project area and work site must be reasonably accessible without undue risk to the executing agent, whether the sub-project is accomplished by force account, or, more often, by a private sector contractor. Further, paths of access, almost exclusively roads and bridges, must be adequate to permit transit by any equipment and materials required for sub-project execution.

2. Community Support.

Sub-projects will be implemented and education undertaken only where they have wholehearted support and cooperation of the local population. It is not the intent of this Project that the sub-project selection process be completely pre-empted by central government while wishes of the rural people are ignored. Nevertheless, the local population or authorities must accept the criteria carefully crafted and established by the implementing agencies and meet local responsibilities when such are established.

3. National Priority.

National transportation priorities may require that certain secondary and tertiary roads take precedence; especially when such roads support other critical programs, when such roads connect one important national route to another, or when they provide an alternate route for other roads that have been interdicted.

Water sub-project needs identified under other programs such as MEA or agricultural programs but which are beyond the technical or financial capability of that program may also generate a priority need for specific water and sanitation sub-projects.

4. Support Other AID Initiatives-Interventions.

The USAID supports a number of programs at both national and local level which can and may generate needs for road maintenance to meet transportation needs or for water and sanitation in small population centers. Due notice should be taken of these needs in comparing potential sub-projects.

5. Socio-Economic Return.

Sub-projects should be sited in locations where they serve the greatest numbers, within limits of the targeted groups and areas, and where they potentially make the greatest contribution to production, especially in agriculture. It also will be desirable to perform several sub-projects in a general locality before moving to another location in order to develop a uniform level of service and to avoid cost of moving out and back.

6. Do Not Compete with Other Donors.  
This Project is designed specifically to provide assistance in sub-sectors in which other donors and programs are not actively undertaking the same activities. Care must be exercised to assure that selected sub-projects do not expand into locations and functions that are targeted by others to eliminate duplication and confusion.
7. Relative Financial Cost.  
All other criteria being equal, or nearly so, sub-projects should be executed at sites with the least cost relative to other sub-projects in order to utilize the available resources to serve the greatest number of people and to meet the greatest number of needs.
8. Equitable Distribution of Resources and Benefits to the Extent Feasible.  
Within the limits set by other criteria, a sincere effort must be made to reach rural populations in geographically wide spread parts of the country. Equity does not mean equal sub-projects or equal money spent in every Department or region, however. An effort shall be made to redress imbalances in the state of development and availability of public services in various parts of the country, while meeting other criteria and contributing to national goals.

In addition to the general criteria above for all sub-projects, water-sanitation sub-projects shall meet additional criteria as shown below, in order to assure community organization for and acceptance of the project, to maximize health benefits, and to assure future maintenance of the facilities.

1. Water User Committee and Recurrent Costs.  
The establishment of the user committee, with adequate female participation, and the agreement of the community to support recurrent costs, primarily operation and maintenance, through some combination of fees, taxes and local materials.
2. Documentation.  
The sub-projects will be implemented only when there is documentation demonstrating that: (a) the available morbidity and mortality data shows a high prevalence of water borne diseases; (b) there is unreasonable distance to, or seasonal unavailability of potable water and adequate sanitation; (c) there is a positive environmental impact of the WS&S system; (d) females have participated in the decision-making processes affecting site selection, type of water system, ownership of the system, user fee structure, and so forth; and, (e) that the sub-project implementation plan is approved by the local authorities, ANDA and the MOH, as one of a number of viable sub-projects to be undertaken, detailing the schedule and costs of activities needed to implement the sub-project.

3. Access.  
Sub-project selection will be dependent on the availability of the necessary infrastructure to permit routine contacts for construction, supervision, technical assistance, and maintenance.
4. Schools.  
If the target community has an elementary school, the action plan must stipulate that the school receives a water point, latrines and, if possible, wash basins.
5. Community Size.  
Communities generally should have 2,000 or fewer inhabitants for improvements or repairs to existing systems, and under 400 to receive new water systems.

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## ANNEX N

### TRAINING PLAN

#### A. Overview.

The Project will provide funds for the training of individuals at a number of levels within the implementing agencies. Among others: mid and upper level management staff will receive training in management techniques and planning, as appropriate; technical staff will receive training in such areas as Financial Management, Auditing, Management Information Systems, staffing and personnel, and program planning; MOH central and regional staff will receive training in educational materials development, and in water supply, sanitation and health issues; some 500 MOH health promoters will receive training in health issues relating to WS&S that can be transferred to some 600,000 sub-project beneficiaries; and 30 ANDA water promoters will receive training in community organization practices and in the relationship between WS&S and health.

Much of the work of the TA team will be in on the job training of individuals and small groups. This type of training is not included in the rest of the training plan.

All training will support Project goals through long-term and short-term activities that enhance the capability of Salvadorans in objective policy formation, program planning and implementation, and program/project monitoring. Although some long-term U.S. based training may be required, short-term in-country and/or third country training will form much of the effort as the importance of maintaining human resources in key positions in El Salvador at present makes the extended absences of mid and top level managers and critical technical staff undesirable when it can be avoided.

With some exceptions, such as with the MOH and ANDA trainees, the selection of individuals to be trained, and the precise training programs, must await the initiation of the work of the TA teams and the preparation of the first year Action Plans by the implementing agencies. The members of the TA teams will not only provide a good deal of the needed training, but they will also assist the implementing agencies to prepare their respective Action Plans, each of which will contain a training needs assessment and training plan. The Project will complement other Mission training programs by financing specialized training not covered by funding from other projects and by supporting unanticipated training opportunities that are consistent with project objectives.

#### B. Training Goal and Objectives.

The goal of the training funded under the Public Services Improvement Project is to contribute to the formation of human resources with enhanced capability to analyze information and, based on such analyses, to develop policies, programs, and program implementation and monitoring procedures that will contribute to achieving the Project purposes.

The objective of the training is to increase the expertise of host country staff in the areas addressed by the three project components. This will be achieved by training Salvadoran professionals in the U.S., El Salvador or in third countries, who are staff in public sector entities such as the Ministries of Health and Public Works, ANDA, CEL, and CEPA.

#### C. Constraints to Meeting Training Objectives.

There are a number of potential constraints to the implementation of the training activities that must be considered in the development of this training plan. One constraint is the training must be juxtaposed with government and private sector human resource needs. Training should not lead to the loss of needed expertise at a crucial juncture in program development and implementation.

An important constraint, present in training for the public sector, is the possibility that after long-term training, a professional will not return to a relatively low paying job in the government but will look for other employment. Thus, while the overall human resource base may be augmented if the individual remains in El Salvador, the specific match of increased skills to a particular government sector may be lost. Finally, English language capability is generally lacking among technicians and managers in the public sector and to some extent in the private sector. This requires extensive investment in English language training for long-term U.S. based trainees or in the provision of local, when possible, training and training materials in Spanish.

#### D. Training Strategy.

To advance the training goals of the Project, a strategy that minimizes the potential constraints discussed above will be implemented. This strategy emphasizes: a) short-term training in the USA in Spanish or in Spanish-speaking countries thereby overcoming the lack of English language proficiency of the potential beneficiaries; b) short-term training in El Salvador to contextualize training, increase cost effectiveness, and reduce the negative impact of extended absences for potential trainees; c) recruitment for further graduate training of young Salvadorans with recent advanced degrees who are not presently employed by the government, if such training is determined to be necessary; d) inclusion in the Project Agreement a clause that encourages the GOES to sign agreements with potential candidates so that they will return to work for at least a period equal to the training period; e) training of potential trainers to create the greatest possible multiplier effect; and f) flexibility in the training plan to allow for unanticipated (ad hoc) training opportunities.

#### 1. Short-term International Training.

Depending upon the results of the training needs assessments, short-term training may be carried out in the U.S., Latin America or other less developed (941) countries. Trainees will be sent to courses, seminars, and professional advancement conferences ranging from a few days duration

up to several months. As necessary, training will be provided at institutions that offer instruction and materials in Spanish: institutions such as the University of New Mexico, the University of Pittsburgh, the University of Puerto Rico, the Graduate School of the USDA, the school for International Training in the United States, and the Agricultural Planning Institute in the Dominican Republic (CADER) or INCAE in Costa Rica.

2. Short-term In-country Training.

Short-term training in-country will also be in the form of courses, seminars and conferences. At times, as in the case of the use of personal computers for management decisions related to infrastructure maintenance by engineers of the Ministry of Public Works, the in-country training will represent follow-up courses to contextualize earlier instruction.

However, the training may also be a series of related courses, or a single course designed to address a specific problem or area. When possible, courses will be planned for early morning or evening hours so that they do not interfere with trainee work schedules. Training providers will be institutions specializing in general areas such as the University of New Mexico or the School of International Training in Management and Public Administration, or in specific content such as PADCO in computerized construction modeling, and the Center for Disease Control in medical service delivery.

3. Long-term International Training

Long-term training will be in specialized areas where a need within El Salvador for highly trained human resources is recognized by the implementing agencies, the TA teams, and/or A.I.D. Trainees for Ph.D. programs will be selected from among the pool of professionals possessing MA degrees. In order to reduce the expense of family maintenance, they could be selected from recent graduates, such as returning CAPS scholars who do not have families to support and are not necessarily employed in the public sector. For trainees working in public sector positions, candidates should be sought who have links to training institutions and universities in El Salvador to increase the multiplier effects of the training. With the exception of professionals with previous U.S. training or those attending long-term training in Spanish, six months of intensive English language instruction must also be included in the training plan.

4. Activities Identified.

As noted above, the precise training needs of the eight implementing agencies, with some exceptions, are not known at the present time. It is anticipated that the majority of training to be undertaken under the Project will be short-term training in El Salvador, the U.S., or a third country. The short-term in-country training will have the advantages of being cost effective and allowing greater numbers of individuals including A.I.D. technicians, to participate in training activities. Short-term international training will allow quick response to specific technical needs. On the assumption that some limited long-term, U.S.-based training will be required, some funds have been budgeted for it training in Component IV. The costs for all other training will be covered by Components I, II and III, as appropriate.

**E. Brief Description of Illustrative Training Activities by Components**

1. Component I. No training is envisaged under this Component, given the nature of the war-related restoration work to be undertaken through the Component. The skills to accomplish these activities already exist in sufficient numbers in El Salvador.
2. Component II. The specific training needs to be addressed under this Component will be identified in the first year Action Plans produced by the Project's implementing agencies. Among other things, these will include training in some or all of the following: project management; data processing; accounting and auditing; sub-project implementation plan design and preparation; community organization for access road sub-projects; and quality control, inspection and testing systems.
3. Component III. Specific training activities that have been identified for this Component include: short-courses in El Salvador in printed materials, radio messages, and video tape development for staff of the MOH's Health Education Division; observation trips for Health Education and Community Health Division staff to third countries to review other WS&S and health programs; training for ANDA staff in new forms of organizational decentralization and financial management; training for ANDA water promoters in community organization and, with MOH health promoters, in the relationship of WS&S to health; short courses for appropriate ANDA staff in such areas as environmental sanitation, water quality, water catchment and conservation, and appropriate technology; and short courses for regional ANDA and MOH staff, with mayors and other municipal officials, in the criteria for sub-project selection and in the formulation of sub-project implementation plans.
4. Component IV. The specific training to be funded under this project will be determined during the first year of project implementation.

**F. Selection Criteria.**

Short and long-term U.S. and third country training as well as short-term training in El Salvador will be available, and candidates approved for training will satisfy one or more of the following criteria:

1. appropriateness of candidate's experience and/or education to the training activity;
2. potential of candidates to contribute to the strengthening of El Salvador's economic and social structure;
3. ability of long-term candidates to meet the entrance requirements of an advanced degree program at an appropriate training institution; and

4. likelihood that the trainee will be effectively employed upon completing training.

In addition, the training activities selected for funding within the project will meet one or more of the following criteria:

1. training in line with Project goal's and objectives;
2. training consistent with one or more of the Mission Action Plan objectives;
3. training not provided for by any existing projects within a Technical Division;
4. training to upper level public sector managers that is critical to improving policy dialogue and planning skills;
5. specialized training in project development, project implementation or project monitoring that will increase expertise among career employees in priority development areas;
6. training for trainers that will provide a multiplier effect in both the design of policy and strategy reformulations and the implementation of resulting programs;
7. training that is carried out in a cost effective manner, and
8. training must be completed at an appropriate time within project timeframe.

#### G. Phasing of Activities.

As indicated earlier, the scheduling of this training will depend upon the input of the implementing agencies, the TA teams, and A.I.D. Nevertheless, all training activities will be phased to maximize the effects of training. Initial training activities will focus on mid-level managerial and technical staff in the public sector, whose positions will be critical to Project implementation. Training that is crucial to ongoing Project implementation, such as that for mayors and local leaders participating in the preparation of sub-project implementation plans, will take place early in the life of the Project.

#### H. Training Costs.

As has been noted several times in this training plan, the precise training needs of the implementing agencies are not known at this time, and thus training costs for the LOP cannot be estimated.

However, when the TA teams are in place, and when the implementing agencies have produced their first year Action Plans, which will be required to include detailed training plans, it is recommended that the following amounts be utilized to determine training costs:

|  |          |
|--|----------|
| 1. Short-term in-country training per month    | \$1,734  |
| 2. Short-term international training per month | \$5,000  |
| 3. U.S. Long-term training per year            | \$25,000 |

These training costs were estimated in two ways. First, for international training the latest figures for average long-term and short-term training carried out by the Office of Education and Training (OET) of USAID/El Salvador were used. These figures were used rather than the figures for the El Salvador CAPS program, because CAPS participants have a different profile than the individuals to be trained under this program. Thus, the figures of \$25,000/year and \$5,000/month were used for long- and short-term international training respectively.

In-country training costs were estimated by averaging the monthly costs from four distinct recent training activities (one in Agriculture, one with the Court of Accounts, and two through the Office of Private Enterprise) as varied as those to be carried out under this Project. The average participant-month cost resulting from this analysis was \$1734.

In addition, it should be noted that the budget for Component IV includes a dollar-funded line item of \$310,000 for training. This line item will be utilized to fund a maximum of six person years of U.S. long-term training, for a total of \$150,000: the remaining \$160,000 will be utilized to support U.S. and/or third country nationals to design and hold training programs in El Salvador.

#### I. Relationship to Other A.I.D. Training Programs.

CAPS. The training to be provided in this project is aimed at a different target population than that of the El Salvador CAPS program. Whereas CAPS is directed primarily at young, rural, disadvantaged students and women with the potential for leadership, the present Project targets individuals who already occupy managerial and technical positions within the GOES.

Mission Training Plan. The Project will provide for training of personnel in response to sectoral needs. It is thus complementary to existing Mission training efforts.

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ANNEX O

ILLUSTRATIVE SUB-PROJECT DEVELOPMENT  
FOR WATER AND SANITATION COMPONENT

While it may vary based on local conditions, the following steps are illustrative of sub-project development.

1. Regional representatives of ANDA and the MOH instruct local officials and canton representatives concerning standard procedures and requirements that must be met prior to construction of WS&S facilities, including the need for health instruction to the people.
2. ANDA water promoters and MOH health promoters, with consent of local officials, canvass selected villages to determine the desires of the people concerning the WS&S systems and their willingness to accept project conditions. Base line health data will be collected at this time by the MOH and the community as described above; sanitation base line data by the ANDA promoter and the community.
3. If the people express a desire to proceed, the ANDA and MOH promoters will encourage the mayor or other local officials to organize one or more water committees to prepare for and accept the systems, or to accept the sub-projects as municipal projects owned and maintained by the municipality.
4. When agreement is reached to proceed, the MOH and ANDA promoters with MOH assistance, will help local leaders organize a water user group or groups. Health education discussions commence with the people at this time. Organization and health instruction may be by canvass or by village meeting depending on local conditions and customs.
5. An ANDA regional representative will make an environmental assessment and report. Health education discussions will continue.
6. When the local committee is formed and it or the municipality has signed an agreement to accept, operate, and maintain the sub-project; when all sanitation data has been collected; and when the community has agreed to the type and location of system(s) to be installed, all of these facts will be documented in a standard format by the MOH health promoter and ANDA water promoter and signed by both promoters and by a responsible local official or officer of the water committee. An agreement will be signed for each pump or system, but when more than one system is to be installed in a single municipality at the same time, all may be incorporated into a single sub-project implementation plan. If only a single pump or system is to be installed, the document, when signed by the local authorized representative, will constitute the sub-project implementation plan. The Technical Assistance teams will assist ANDA and the MOH in the development of standard formats for single and multiple system sub-project implementation plans.

7. The sub-project implementation plan, when completed and signed, will be submitted to the ANDA regional office where it will be reviewed for approval. Any discrepancy shall be resolved by the responsible promoter or his/her superior. The mayor or local water committee chairman will be notified immediately if the plan is not approved, and the reason given.
8. The ANDA regional office will advise the Management Unit in San Salvador that the sub-project is approved. The MU will negotiate an engineering contract for preparation of plans, specifications, and bidding documents based on agreements reached in the sub-project implementation plan. The design, specifications, and bidding documents will include both the water system and the latrines.
9. When engineering is complete the project will be advertised for bid by all prequalified bidders. The construction contract will be awarded to the lowest responsible bidder.
10. The ANDA promoter and the MOH health worker will continue to call on the village people to discuss organization, health, and sanitation matters during the construction of the WS&S systems.
11. When all construction is completed by the contractor, including installation of latrines, the designated local authority will accept ownership of the system and sign a receipt for it in a public ceremony organized by the ANDA and MOH promoters, and attended by all interested parties who have participated in accomplishment of the work.
12. Follow-up visits and training by the health and water promoters, with decreasing frequency, during the first year of the WS&S operations will be mandatory to sustain the systems and the health improvements.

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ANNEX P

DISCUSSION OF KEY POLICY ISSUES

1. Policy Dialogue.

a. Tariff Structure.

A key issue recognized by the PDC is that of the current tariff structures. Six of the implementing agencies produce revenues in the form of user fees or payment for services. These agencies are autonomous or semi-autonomous government authorities, and include three operating agencies under CEPA:

- (1) the international airport at Comalapa,
- (2) the railroad, FENADESAL, which also manages the port at Cutuco,
- (3) the ocean port at Acajutla, and three of the national utilities,
- (4) CEL, the electric power authority,
- (5) ANDA, the national water authority, and
- (6) ANTEL, the national communication authority.

ANTEL, the communicating authority, is eligible for restoration assistance under Component I should it suffer severe damage. However, revenues of ANTEL usually cover all costs, although it has had trouble in getting access to foreign exchange in the past. Assistance should not be required unless the rate of sustaining damage increases significantly. Its tariff structure, at this time, is not a major issue.

The first five institutions - the International Airport at Comalapa, FENADESAL, the Port of Acajutla, CEL, and ANDA - all have inadequate rate structures; their officially approved rates do not cover their operations and maintenance costs. As part of the policy dialogue, A.I.D. will press GOES to modify the rate structures of these agencies both to cover operations and maintenance costs and to reduce or eliminate the subsidy to urban users.

ANDA has been unable to collect bills from many of its customers, and government entities are the primary offenders. This problem must be addressed, partly through vigorous collection efforts, partly through government pressures to assure that bills are paid, and perhaps also in the considerations for any new rate structures. This problem is included in the Policy Reform Agenda, Annex L.

Continuous damage inflicted to the utilities by the guerrillas inflates recurrent costs to the provision of public services. Those costs are high, especially in the cases of CEL and FENADESAL, and cannot be passed on to the customers. It is this situation that is to be alleviated in part by this project. Project inputs compensate for present overall expenditure-income imbalance.

b. Recurrent Costs and Sustainability.

The previous discussion of tariffs is central to the issue of recurrent costs. This key issue was raised in the PID and was further discussed at

the PID review in AID/W. At the present time, most of the implementing agencies simply do not generate enough revenues to meet their normal maintenance and new capital outlays.

The A.I.D.-GOES policy dialogue related to the FY 1989 ESF Balance of Payments program has included the utility rate question. The GOES has agreed to review and act on the situation in CEL beginning late in FY 1989, and has already made an initial tariff adjustment. An ANDA rate increase is expected in August 1989, consistent with its IDB water project agreement. The policy dialogue will continue to emphasize the need for periodic rate adjustments so that these agencies can carry out routine maintenance, cover reasonable operating costs, and make investments in new projects or extensions of their services.

The maintenance component in this Project will aid in reducing recurrent costs by preserving the facilities, thereby reducing the cost of future reconstruction. Policy and organizational changes brought about through this Project will assist in solving the recurrent cost problems of MOP and ANDA, but as long as the war continues progress toward sustainability will only be partial, not complete.

c. Formalization of MOH-ANDA Relationship.

Another key issue discussed at the PID review in AID/W and by the Project Development Committee (PDC) was the administrative arrangements for this component. PLANSABAR, the Rural Water Agency in the MOH, is not capable of managing this scale of Project, while ANDA, the National Water Authority, was considered capable but did not view the provision of essential complementary health activities as a part of its mandate. Based on extensive consideration of the issue, the Project Development Committee recommends that a coordinating unit for rural water be reinstated at the central government level with ANDA and MOH membership. A Memorandum of Understanding will be executed between MOH and ANDA that will establish joint and individual responsibilities for implementation of the rural water supply, sanitation and health component of the Project. ANDA is to manage the design and construction of water and sanitation facilities and will take the lead in seeking out and helping to organize community groups, while MOH, through the promoters in the Community Health Branch, will provide health education. Another organization, the Salvadoran Institute for Municipal Development (ISDEM in Spanish), will provide training as needed in community organization. The coordinating mechanism and methodology, and relationships between the agencies, is discussed in more detail in Section V.

2. Policy Reform Agenda.

During Mission review, it was determined that the Project presents a strong opportunity for leverage in pressing for certain policy reforms. Satisfactory implementation of reforms proposed in the Agenda will have a significant effect on the long term effectiveness of this Project, and will be critical in promoting sustainability.

The Policy Reform Agenda items, discussed in Annex L, are the need: (1) to delineate clearly the roles, functions and responsibilities of ANDA and the Ministry of Health (MOH) in the area of providing and servicing rural water supply and sanitation systems; (2) to establish new regulations designed to strengthen the financial management systems of ANDA and MOP to permit more efficient and effective use of scarce financial resources; (3) to increase the collection rate for ANDA and CEL fees; (4) to reorganize staffing in MOP and ANDA, especially in terms of strengthening their regional offices; and (5) to enhance long-term investment planning in ANDA and MOP to ensure the continued development and maintenance of infrastructure.

### 3. Waiver of Advertising.

To avoid serious delay in implementation of the predecessor Public Services Restoration Project (519-0279), USAID/El Salvador obtained a blanket waiver of the advertisement requirement in order to meet the emergency needs of the Project for goods and services. Guerrilla sabotage and natural disaster that damage vital public services infrastructure occur in an unpredictable fashion and a quick reaction to minimize the negative impact of damage on the human and physical ecology, and on productivity, has been found to be essential. However, for all procurements, either formal or informal competitive procedures were used (e.g., bids were requested from a short list of 15 to 40 suppliers). The Project Design Committee recommends a blanket waiver of advertising for procurement of goods provided under the Public Services Restoration component (Component I); accordingly, the Project Authorization includes this waiver. Procurement under the other components will utilize normal competitive procedures, whether performed by USAID direct contracting or host country procurement.

### 4. Dollars to Finance Local Costs.

Another issue raised at the DAEC review of the PID was the use of dollars to finance local costs. Of the \$30 million budgeted by A.I.D. for the Rural Water Supply component, approximately \$19.4 million is estimated for local costs to supplement the C50 million (\$10 million equivalent) to be provided by the GOES in the Rural Water Supply and Sanitation Component. The Project Design Committee recommends this use of dollars is necessary to realize the impact desired (i.e., reduction of infant mortality through an increase in the proportion of rural dwellers having access to safe water), since the host country counterpart contribution to the total project (\$60 million equivalent, or 44% of total project costs.) is already large.

It is important, also, to relate the large GOES contribution to its low ability to finance such projects. The war effort consumes many resources, reducing the budgets of the other ministries. Further, the war plus problems of weak prices for Salvadoran products, diminish the funds available. As examples, the constant 1962 colon GDP calculations of the Central Reserve Bank show a mean 1984-1985 growth of only 0.8% for agriculture (the largest export sector); only 2.8% for industry and manufacturing; and just 1.5% for commerce. Only mining and construction, both small contributors, have real growth of more than 3%. The slow growth means less income for the government, thus AID must assist more if new projects, such as water and sanitation, are to be undertaken.

ANNEX Q  
PROJECT CHECK LIST  
5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A includes criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance; B(2) applies to projects funded 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? YES YES

A. GENERAL CRITERIA FOR PROJECT

- 1. FY 1989 Appropriations Act Sec. 523; FAA Sec. 634A. If money is sought to obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified? YES INCLUDED IN GLOBAL CN FOR 1989
- 2. FAA Sec. 611(a)(1). Prior to an obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance, and (b) a reasonably firm estimate of the cost to the U.S. of the assistance? YES. UNIT COST ESTIMATES BASED ON A CONTRACTED FIELD STUDY AND VERIFIED BY THE CURRENT EXPERIENCE OF MISSION TECHNICIANS USED FOR COMPONENT III. UNIT COST ESTIMATES FOR COMPONENTS AND II ARE BASED ON MISSION FIELD EXPERIENCE. NO SUB-PROJECTS WITH COST MORE THAN \$500,000.
- 3. FAA Sec. 611(a)(2). If legislative action is required within recipient country, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance? N.A. RATIFICATION IS REQUIRED, BUT PAST EXPERIENCE IS THAT THE ASSEMBLY WILL TAKE NECESSARY ACTION WITHIN PERIOD SPECIFIED FOR MEETING CONDITIONS PRECEDE

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4. FAA Sec. 611(b); FY 1989 Appropriations Act Sec. 501. If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.) YES
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively? YES
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. NO
7. FAA Sec. 601(a). Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. YES
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). N.A.

9. FAA Secs. 612(b), 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars. YES
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? NO
11. FY 1989 Appropriations Act Sec. 521. 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? N.A.
12. FY 1989 Appropriations Act Sec. 549. Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel? NO
13. FAA Sec. 119(g)(4)-(6) & (10). Will the assistance (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other YES  
NO

- wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas? NO
14. FAA Sec. 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? N.A.
15. FY 1989 Appropriations Act. If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? N.A.
16. FY 1989 Appropriations Act Sec. 538. If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? N.A.
17. FY 1989 Appropriations Act Sec. 514. If funds are being obligated under an appropriation account to which they were not appropriated, has prior approval of the Appropriations Committees of Congress been obtained? N.A.
18. State Authorization Sec. 139 (as interpreted by conference report). Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). WILL BE DONE

**B. FUNDING CRITERIA FOR PROJECT**

**1. Development Assistance Project Criteria**

- a. FY 1989 Appropriations Act Sec. 548  
(as interpreted by conference report  
for original enactment). If  
assistance is for agricultural  
development activities (specifically,  
any testing or breeding feasibility  
study, variety improvement or  
introduction, consultancy,  
publication, conference, or  
training), are such activities (a)  
specifically and principally designed  
to increase agricultural exports by  
the host country to a country other  
than the United States, where the  
export would lead to direct  
competition in that third country  
with exports of a similar commodity  
grown or produced in the United  
States, and can the activities  
reasonably be expected to cause  
substantial injury to U.S. exporters  
of a similar agricultural commodity;  
or (b) in support of research that is  
intended primarily to benefit U.S.  
producers?

N.A.

- b. FAA Secs. 102(b), 111, 113, 281(a).  
Describe extent to which activity  
will (a) effectively involve the poor  
in development by extending access to  
economy at local level, increasing  
labor-intensive production and the  
use of appropriate technology,  
dispersing investment from cities to  
small towns and rural areas, and  
insuring wide participation of the  
poor in the benefits of development  
on a sustained basis, using  
appropriate U.S. institutions;  
(b) help develop cooperatives,  
especially by technical assistance,  
to assist rural and urban poor to  
help themselves toward a better life,  
and otherwise encourage democratic  
private and local governmental

IN PP

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institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries.

- c. FAA Secs. 103, 103A, 104, 105, 106, 120-21; FY 1989 Appropriations Act (Development Fund for Africa). Does the project fit the criteria for the source of funds (functional account) being used? YES
  
- d. FAA Sec. 107. Is emphasis placed on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? YES
  
- e. FAA Secs. 110, 124(d). Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? YES
  
- f. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority? YES

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9. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government. IN PP
- h. FY 1989 Appropriations Act Sec. 536. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? NO
- Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? NO
- Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? NO
- i. FY 1989 Appropriations Act. Is the assistance being made available to any organization or program which has been determined to support or participate in the management of a program of coercive abortion or involuntary sterilization? NO
- If assistance is from the population functional account, are any of the funds to be made available to voluntary family planning projects which do not offer, either directly or through referral to or information about access to, a broad range of family planning methods and services? N.A.

- j. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? YES
- k. FY 1989 Appropriations Act. What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)? CAN NOT BE DETERMINE AT THIS TIME
- l. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (a) stress the importance of conserving and sustainably managing forest resources; (b) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (c) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (d) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (e) help conserve forests which have not yet been degraded by helping to increase YES

production on lands already cleared or degraded; (f) conserve forested watersheds and rehabilitate those which have been deforested; (g) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (h) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (i) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (j) seek to increase the awareness of U.S. government agencies and other donors of the immediate and long-term value of tropical forests; and (k) utilize the resources and abilities of all relevant U.S. government agencies?

- m. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving the planting of exotic plant species), will the program or project (a) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (b) take full account of the environmental impacts of the proposed activities on biological diversity?

N.A.

- n. FAA Sec. 118(c)(14). Will assistance be used for (a) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (b) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas? NO
- o. FAA Sec. 118(c)(15). Will assistance be used for (a) activities which would result in the conversion of forest lands to the rearing of livestock; (b) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undegraded forest lands; (c) the colonization of forest lands; or (d) the construction of dams or other water control structures which flood relatively undegraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development? NO
- p. FY 1989 Appropriations Act. If assistance will come from the Sub-Saharan Africa DA account, is it (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) being provided in accordance with the policies contained in section 102 of the FAA; N.A.

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(c) being provided, when consistent with the objectives of such assistance, through African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (d) being used to help overcome shorter-term constraints to long-term development, to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (e) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

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9. FY 1989 Appropriations Act Sec. 515.  
If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same general region as originally obligated, and have the Appropriations Committees of both Houses of Congress been properly notified?

2. Development Assistance Project Criteria  
(Loans Only)

- a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest.
- b. FAA Sec. 620(c). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?
- c. FAA Sec. 122(b). Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

3. Economic Support Fund Project Criteria

- FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?
- b. FAA Sec. 531(e). Will this assistance be used for military or paramilitary purposes?
- c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

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SC(3) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. PROCUREMENT

1. FAA Sec. 602(a). Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? YES
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him? YES
3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? N.A.
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) N.A.

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5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.) NO
6. FAA Sec. 603. Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates? NO
7. FAA Sec. 621(a). If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? YES
8. International Air Transportation Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available? YES
9. FY 1989 Appropriations Act Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? YES

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10. FY 1989 Appropriations Act Sec. 524. If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? N.A.

B. CONSTRUCTION

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used? NO
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? YES
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP), or does assistance have the express approval of Congress? N.A.

C. OTHER RESTRICTIONS

1. FAA Sec. 122(b). If development loan repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter? N.A.
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N.A.

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3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? YES --
4. Will arrangements preclude use of financing:
- a. FAA Sec. 104(f); FY 1989 Appropriations Act Secs. 525, 536. (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; or (4) to lobby for abortion? N.A.
- b. FAA Sec. 483. To make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? N.A.
- c. FAA Sec. 620(g). To compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? N.A.
- d. FAA Sec. 660. To provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? N.A.
- e. FAA Sec. 662. For CIA activities? N.A.

- f. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? YES
- g. FY 1989 Appropriations Act Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel? YES
- h. FY 1989 Appropriations Act Sec. 505. To pay U.N. assessments, arrearages or dues? YES
- i. FY 1989 Appropriations Act Sec. 506. To carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? YES
- j. FY 1989 Appropriations Act Sec. 510. To finance the export of nuclear equipment, fuel, or technology? YES
- k. FY 1989 Appropriations Act Sec. 511. For the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? YES
- l. FY 1989 Appropriations Act Sec. 516; State Authorization Sec. 109. To be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress? YES
- 5. FY 1989 Appropriations Act Sec. 584. Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate? YES

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CERTIFICATION PURSUANT TO SECTION  
611(e) OF FAA 1961 AS AMENDED

Background

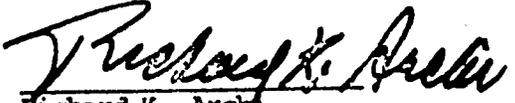
The years of civil conflict and economic stagnation have created a wide range of problems for the people and the government of El Salvador. Damage to, lack of expansion of, and failure to perform maintenance on infrastructure has reduced the provision of public services, especially in rural areas, and has contributed to poor health, and reduced economic productivity. Infrastructure restoration and expansion is critical to productivity, to public health, and to economic and social stability. This Project will address four aspects of the problem: (1) restoration and indirect damage; (2) deferred maintenance and repair of secondary, tertiary, and lower class roads; (3) rural water and health; and (4) institutional strengthening and improvements to the infrastructure policy framework.

The project will: (1) support restoration of services interrupted and facilities damaged or destroyed as a result of insurgent activity or natural disaster; (2) assist in performance of deferred maintenance and repair of indirect damage to rural roads, and in maintenance of AID financed construction equipment required for road maintenance; (3) construct and repair small rural water systems and sanitary facilities, and provide health education, in rural communities; and, (4) provide technical assistance in water and sanitation (ANDA), and in roads (MDP), sub-sectors to assist in project management and to enhance the implementing institutions' capability to perform their functions and sustain Project activities.

Certification

I, Richard K. Archi, Acting Principal Officer of the Agency for International Development in El Salvador, having taken into account, among other things, the maintenance and utilization of projects in El Salvador previously financed or assisted by the United States, do hereby certify pursuant to Section 611 (e) of the Foreign Assistance Act of 1961, as amended, that in my judgement El Salvador has both the financial capability and the human resources capability to effectively implement, utilize and maintain the El Salvador Public Services Improvement Project, 519-0320.

This judgement is based upon the Project analysis as detailed in the El Salvador Public Services Improvement Project Paper and is subject to the conditions imposed therein.

  
Richard K. Archi  
Acting Director  
USAID/EL Salvador  
  
Date

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