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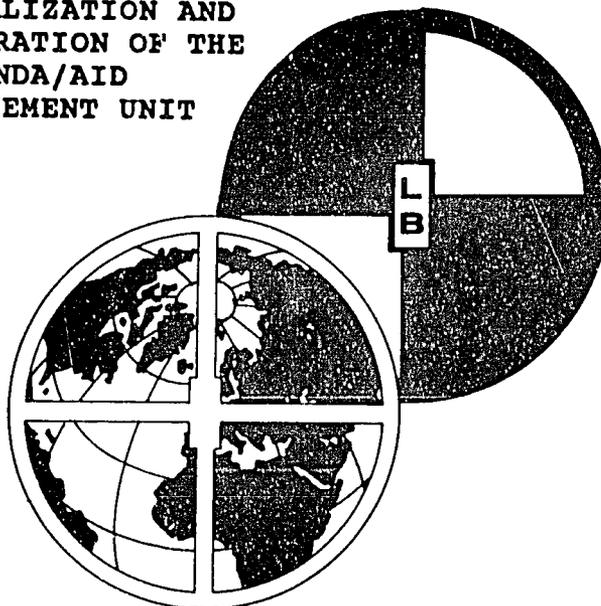
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**THE ORGANIZATION OF ANDA:**

**REGIONALIZATION AND  
INCORPORATION OF THE  
ANDA/AID  
MANAGEMENT UNIT**



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**DRAFT REPORT**

**THE ORGANIZATION OF ANDA:**

**REGIONALIZATION AND  
INCORPORATION OF THE  
ANDA/AID  
MANAGEMENT UNIT**

**prepared by**

**T. Dwight Bunce**

**under the auspices of the  
Public Services Improvement Project**

**sponsored by  
The Government of El Salvador  
and  
The United States Agency for International Development**

**April 13, 1992**

**Louis Berger International, Inc.  
San Salvador, El Salvador**

draft  
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## EXECUTIVE SUMMARY

### I. INTRODUCTION

#### A. Need for the Study

The need for the present study arose in the context of the 320 Project, a project sponsored by the Government of El Salvador and the United States Agency for International Development to improve public services in El Salvador.

In the case of the water and sanitation component of the project, there is concern that upon the project's conclusion ANDA will have difficulty in serving the new beneficiaries and in replicating the 320 model in other rural communities. The study is to address how the Project can be modified, especially in its institutional and decentralization aspects, to achieve sustainability.

### II. ANALYSIS OF THE CURRENT SITUATION

#### A. OVERVIEW OF THE PROVISION OF WATER AND SANITATION SERVICES TO THE RURAL POPULATION

The 320 Project and indeed ANDA itself are operating in the context of a confusing patchwork quilt of institutions and programs providing various potable water and sanitation services to El Salvador's rural population.

##### 1. COVERAGE

Coverage of the rural population's potable water and sanitation needs is woefully incomplete.

##### 2. SERVICE PROVIDERS

###### a. Numerous Providers

There is a bewildering array of Salvadoran and international organizations providing or financing various potable water and sanitation services to the rural population.

###### b. PLANSABAR

PLANSABAR was created by Resolución Ministerial No. 332 of the

MSPAS in October, 1980, with the general objectives of helping the economic and social progress of rural areas, through better sanitary conditions. This organization focuses on urban populations of between 300 and 2,000 persons.

PLANSABAR has over the years built 219 potable water systems, of which 150 are gravity systems and 69 make use of pumps, with an estimate population served of 281,792 people. Most of the projects were constructed with the financing of BID, which occurred in three phases. The third phase of BID's financing ended in December, 1991, and it is uncertain at present whether there will be a fourth phase. In the meantime, PLANSABAR continues to operate water systems in communities throughout the country.

### **c. Municipalities**

#### **1.) Municipal Water Systems**

Municipalities are significant providers of potable water in many smaller towns but not of sewerage.

The 72 municipal water systems are in 13 of the 14 *Departamentos*, the *Departamento de San Vicente* being the exception. It is notable that 51 of the 72 municipal water systems, or 71%, are in four *Departamentos* associated with the recent conflict.

#### **2.) Municipal Powers**

The Municipal Code has many features that are pertinent to the provision of potable water and sanitation services in the country's 262 municipalities:

1. Municipalities are empowered to provide water and sewerage services (Article 4, paragraphs 5 and 25),
2. Municipalities could acquire property and rights of way, if necessary, by eminent domain (Article 118).
3. Municipalities have the option of delivering services through its own divisions, or through contracts with other organizations, or by awarding franchises (Article 7).
4. A municipality can operate individually or form associations with other municipalities, and may, likewise individually or collectively, delegate authority to entities established to pursue specific municipal purposes (Articles 11, 14, 17, and 18):
5. Citizens in public meetings may express their views to

the municipal councils. After a 'Popular Consultation,' the council may not proceed contrary to the majority opinion (Articles 115 and 116).

These powers enable municipalities to act more vigorously on their own, or, by the same token, be more effective partners to national organizations, such as ANDA.

### **3.) Relationship between Municipalities and ANDA**

Taken together the Law of ANDA (discussed in a later section) and the Municipal Code imply the following:

1. ANDA retains its country-wide authority, including the right of eminent domain, to provide water and sewerage services (Law of ANDA and Article 5 of the Municipal Code).
2. ANDA is required to coordinate with the Municipalities (Articles 6 and 12 of the Municipal Code) concerning its public works and provision of services in the concerned municipalities.
3. Municipalities are separately empowered to provide potable water and sanitation services in their jurisdictions.

The present study assumes the continued dominant role of ANDA.

#### **d. Gaps, Duplication, and Coordination**

In short the rural potable water and sanitation sector is characterized by institutional fragmentation. The impending **Plan Nacional de Reconstrucción** will only make the picture more complicated.

It is inefficient to have multiple service providers helping adjacent rural communities, especially when they are distant from major cities and the connecting roads are poor. The duplication is particularly regrettable when the overall coverage and related quality of service to rural residents are so low.

## **B. THE 320 PROJECT**

### **1. Goal, Purposes, and Outputs**

The Public Services Improvement Project, referred to as the 320 Project in accordance with its USAID number, has the following goals:

1. To provide for economic and social stabilization and growth
2. To provide broad participation in the benefit of growth
3. To improve health of inhabitants in beneficiary communities .

2. **Component III: Water Supply, Sanitation, and Health**

Component III serves two ranges of settlement size:

- A. Communities with populations of approximately 400 or fewer people

They are to be provided with hand-pumps and latrines. As indicated in Cuadro II-5, 900 hand-pumps are to be installed in 300 *caseríos* located in 60 cantones to benefit 112,500 people. These beneficiaries are to receive 11,812 latrines.

- B. Communities between 400 and 2,000 people

For these larger communities improvements to existing "systems" are to be designed and then made. The 46 systems, which were *PLANSABAR* or *ANDA* systems, typically involve an electric or diesel pump, a storage tank, and a distribution network. There are domestic connections as well as public taps. Of the 30,800 beneficiary families, 4,620 are to receive latrines through the project.

2. **Ministry of Public Health and Social Assistance**

a. **Roles**

The *Ministerio de Salud Pública y Asistencia Social (MSPAS)* plays the lead role in selecting the smaller communities where the hand-pumps are to be installed. Upon installation of the hand-pumps or water systems, and of the latrines, it becomes the responsibility of the Health Promotor to educate the people about proper practices of sanitation and hygiene.

b. **Organization**

The organizational structure of the 320 Project on the health side is horizontal. At each level from community up to the national level, the 320 project-staff are part of other health offices at that level. The 320 project staff receive guidance from project and non-project personnel and they must share vehicles and other administrative staff with non-project staff.

### 3. ANDA/AID Management Unit: Organization, Functions, and Personnel

#### a. Principal Functions

Once the MSPAS selects the small communities, the ANDA/AID Management Unit (hereafter MU) has the responsibility to see to it that the hand-pumps and latrines get installed and a local Water Committee gets established and operating. On the technical side, the MU conducts feasibility studies to make sure that there is an adequate water supply in the selected communities. The MU contracts the drilling of wells and the construction of the latrines with private contractors and then provides construction supervision. On the promotion side, the MU's Water Promoters follow a carefully designed series of steps to involve the community.

From a management viewpoint, the MU, a branch of ANDA, has a daunting task. It is grappling with kinds of elements which ANDA typically does not deal with:

- a new kind of beneficiary (small, often remote, communities),
- a new, albeit simple, kind of technology (hand-pumps and latrines)
- a new kind of local institution building (the *Comités de Agua*)
- a new kind of coordination (the close link with the MSPAS).

ANDA's unfamiliarity with these new elements makes it more difficult for the MU to carry out the standard activities of project implementation. The funding and technical assistance provided with USAID's help are useful but also necessitate that senior MU management time must be devoted to the coordination with USAID.

All in all the MU has an ambitious set of functions to perform in a project which breaks new ground for ANDA.

#### b. Organization and Personnel

##### 1.) Central Office

The MU (*Gerencia ANDA/AID*) was established as a separate unit within ANDA because it was funded externally (by a *Presupuesto Extraordinario*).

The MU employs 59 people, 44 of whom work in the central office

in San Salvador, an office which also serves the central region of the country.

The employees of the MU are hired on a contract basis; they are not regular employees of ANDA.

## **2.) Regional Offices**

At present the MU Office for the Eastern Region has seven employees: Regional Coordinator Rafael Martinez; three Water Promoters in the Promotion Unit; a maintenance technician in the Supervision of Works section; and a secretary and a driver in the Administration and Transportation Department. The Office has one vehicle and three motorcycles. The MU Office uses space in the regional offices of ANDA on the outskirts of the City of San Miguel.

The Regional Office for the Western Region, which shares office space with the Regional Office of ANDA in Santa Ana, is barely adequate, although it is much better than the Eastern one.

## **3.) Predominantly Vertical Structure of the ANDA/AID Management Unit**

The MU relies heavily on its own employees, its own budget, its own computers, and its own vehicles and office supplies. There are of course some elements of horizontal cooperation between the MU and ANDA/ANDA, such as the sharing of office space in San Salvador, Santa Ana, and San Miguel.

In short, the MU has a predominantly vertical structure: it retains significant control over its own resources, human and material, to accomplish its specific objectives.

## **4. Outlook for Sustainability**

### **a. Definition of Sustainability**

Sustainability embraces the continuation of benefits to the beneficiaries of the project as well as the replication of the project's approach to provide benefits to new beneficiaries.

### **b. Comités de Agua**

The key institution being created by the project at the local level is the Water Committee. The assessment of the sustainability of the Water Committees is mixed but, on balance, positive, on the assumption of post-project continued external guidance and training. After the end of the 320 Project some organization needs to replace the MU as the supplier of training and technical assistance to the Water Committees.

**c. The ANDA/AID Management Unit**

Given the state of existing commitments, it is unlikely, after the project ends, that (then previous) project beneficiaries will receive continuing help (through the *Comités de Agua*) and even more unlikely that the 320 Project model will be replicated in new communities.

**1.) Mandate**

There is no present commitment from ANDA or any other Government of El Salvador agency to help the Water Committees once the project has ended, nor to replicate the model.

**2.) Resources**

Through experience gained in implementing the project and the provision of training and equipment (computers and vehicles), the MU should have a good capability, administrative as well as technical, by September, 1994. The administrative costs of the MU are presently funded by USAID. Who will pay the bill? Who will pay for the needed technical assistance and training for the Water Committees?

The MU is set up as a "vertical" program within ANDA with contract employees. Such arrangements make it easy to shut down operations upon the end of the project.

In short, more than a quarter of a million beneficiaries could be left stranded after September, 1994, and the 320 model not replicated in new communities. The outlook for sustainability is bleak.

**C. ANDA**

**1. Responsibilities**

ANDA is empowered to provide water and sanitation services through El Salvador; to charge user fees that cover all costs plus a margin of safety; to take real property by eminent domain; and to enjoy an exemption from taxes and import duties. ANDA must receive prior approval of its proposed user fees from the Executive Branch of Government. ANDA must serve the social needs of the public, while fully covering its costs through user fees.

**2. Services Provided**

Although other providers have played an increasing role in recent years, ANDA continues to provide the lion's share of water and sanitation services in the country. Metropolitan San Salvador (*Area Metropolitana de San Salvador*), accounts for more than half

of ANDA's activity.

Much of ANDA's activities are concentrated in the big cities, not only in San Salvador but in Santa Ana and in San Miguel as well. But ANDA also serves a wide range of other municipal seats from cities such as Sonsonate (population of 52,784) and Chalatenango (13,699) to San Juan Tepezontes (Department of La Paz, 1,550) and Perquín (Department of Morazán, 518).

In the 400 to 2,000 settlement population settlement range, ANDA, PLANSABAR, municipalities and (eventually) the 320 Project's water systems (as contrasted with the hand-pumps) are or will be providing services to various communities. In this range, there is no clear pattern, by geographic area or settlement size, of which organization serves which community; it is a hodgepodge. For hamlets of fewer than 400 people, on the other hand, the 320 Project plays a dominant role, as other organizations do not normally serve such small communities.

### 3. Functions, Organizations, and Personnel

#### a. Junta de Gobierno

ANDA is governed by a policy-making *Junta de Gobierno* (Board of the Government).

#### b. Central, Regional, and Departamental Offices

Below the *Junta de Gobierno* is the Office of the President (*Presidencia*). Most of the offices of ANDA operate under the supervision of the General Manager. There are seven *Gerencias* or Major Operating Units, five of which are devoted to specific functions and two regional ones, which embrace various functions.

Because of inadequate funds, ANDA has difficulty providing training to its employees and in paying high enough salaries to retain its technical staff.

ANDA has decentralized operations and revenue collection to a significant extent and wishes to decentralize itself further. Major new efforts to decentralize--say, in the design and execution of works, or in financial management--would, however, require increases in staff and the budget. The budget in turn is limited by revenue collections, which are constrained by policy factors discussed in the next sub-section. Policy changes would open the door to many positive changes for ANDA, among which is further decentralization.

### 4. Finances

In 1990 ANDA incurred costs of 152 million colones, as shown in Cuadro II-11, of which more than two-thirds was for the operation

of systems, administration, and finance.

ANDA does not maintain segregated accounts on a system-by-system basis. ANDA is unable to distinguish among systems which have different potential capability of cost recovery.

ANDA is receiving some subsidy from external sources and there is probably some cross-subsidization going on within ANDA in which the more affluent, and heavy water using customers in Metropolitan San Salvador, are subsidizing other users.

### 5. Concluding Observations

Although ANDA has made some excellent progress in decentralization, it still is fairly centralized. The inability to compare costs and revenues, or costs and benefits, on a system-by-system basis, is a notable shortcoming in an organization that needs to do more to build customer loyalty and collect more user fees as services are simultaneously improved. ANDA continues to need external financing to operate and grow.

Finally, without major reform it almost certainly will not be in any condition to take on the burden of attending to the needs of the more than of quarter of a million of projected 320 Project beneficiaries, much less replicate the model in other small communities.

## III. IMPLEMENTATION PLAN

### A. STRATEGY

#### 1. Need

From the analysis of the previous chapter, the need for a strategy to achieve the sustainability of the 320 Project is evident:

- o The 320 Project is in the process of generating more than a quarter of a million beneficiaries, who will need continuing post-project guidance and training, especially for their *Comités de Agua*.
- o ANDA without major reform will, almost certainly, not be in any condition to take on this new burden. ANDA is already struggling to carry out its traditional, but still ambitious, program, which is oriented toward cities.

- o Thus the danger exists that the 320 Project beneficiaries will be left stranded after September 1994 and the 320 model not replicated in new communities.

## 2. Major Thrusts

There are two major thrusts in the Implementation Plan:

- o Redesign the 320 Project so that it will be less costly to sponsoring organizations to implement and, after the project, to sustain.
- o Strengthen and restructure ANDA so it can better afford to subsidize post-project assistance to the 320 beneficiaries and to replicate the 320 model.

## 3. Governing Principles

There are two important principles that should be applied in the Implementation Plan for both the 320 Project and ANDA: Cost Recovery and Institution Building.

### B. MODIFICATION OF THE 320 PROJECT

The bleak sustainability outlook for the 320 Project is largely due to problems in the design of the project.

#### 1. Design Changes

#### 320 Design Recommendation # 1:

The 320 Project should be redesigned to involve the *alcadías* in the execution of the project and in the subsequent assistance to the Water Committees. ANDA and USAID should solicit the participation of municipal associations in this redesign effort. When a local community and its *alcadía* met certain requirements, ANDA would agree to pay certain construction costs and provide certain technical assistance and training to the Water Committees, which the *alcadía* would have helped organize.

#### 320 Design Recommendation # 2:

**ANDA should stock in its national and regional warehouses replacement parts for the 320 Project equipment (pumps, etc.) and sell them to the Water Committees.**

**320 Design Recommendation # 3:**

**ANDA should have some continuing responsibility for the replacement of pumps and other water equipment. A cost sharing arrangement among ANDA, the Alcaldía, and the Water Committee should be investigated.**

**320 Design Recommendation # 4:**

**The Project should seek ways to reduce costs to the sponsoring organizations, especially to ANDA. The 320 Project should require more beneficiary contribution, of both in cash and in-kind, to the costs of the hand-pumps/systems than the project has at present.**

**320 Design Recommendation # 5:**

**The Water Committee with the assistance of the Alcaldía should make financial projections, not only for operation and maintenance expenses, but for the costs of replacement, upgrading, and expansion.**

**320 Design Recommendation # 6**

**Further consideration needs to be given to determining how ANDA, after the 320 Project ends, can continue to promote the construction of latrines in concert with its potable water programs in small towns and hamlets.**

**320 Design Recommendation # 7:**

**The 320 Project should in the future have a more decentralized design and implementation than it presently has. Pending a more permanent solution, an office in San Miguel should be immediately rented for the**

**320 Project, big enough to provide offices for the present and planned new MU staff as well as to accommodate MSPAS staff, who may need space (at least on a visiting basis). More of the MU personnel presently based in San Salvador should be reassigned to Santa Ana and San Miguel.**

**320 Design Recommendation # 8:**

**Consideration should be given in a redesign of the water supply component to concentrating efforts, perhaps in a phased manner, in certain geographical areas to attain administrative efficiency.**

**320 Design Recommendation # 9:**

**In the selection of the beneficiary communities, use community participation and administrative efficiency, as well as health factors, as selection criteria. For a given time period, the MSPAS should identify two or three times the number of communities that could be served by the 320 Project so that ANDA would have some flexibility in applying the other criteria.**

**320 Design Recommendation # 10:**

**Within the 320 Project give much higher priority to the long-term strengthening of ANDA as an institution.**

**320 Design Recommendation # 11:**

**In the 320 Project consideration should be given to choosing a few Departamentos in which special efforts would be made to implement the project and to integrate its management into ANDA.**

**320 Design Recommendation # 12:**

**The 320 Project Agreement Completion Date should be extended two years to September 30, 1996, to provide enough time to implement the**

**proposed design changes and increase the prospects for sustainability.**

**320 Design Recommendation # 13:**

**The sponsors of the 320 Project should agree as soon as possible on the kinds of changes they want made to the Project. With that guidance, a small redesign team should prepare all the proper documentation for the formal approvals. In the meantime, Project implementation should go forward unabated in accordance with its current design.**

**C. STRENGTHENING OF ANDA**

**1. The Vision**

This section presents a Vision for what ANDA could become in the next several years and a series of specific recommendations to achieve it. The new ANDA envisioned here would be stronger. It would meet all its responsibilities better and be better able to absorb the costly burden of the 320 Project.

The Vision is summarized in schematic form in Gráfico III-1, which shows the proposed new relationships among:

- o Sources of Financing
- o ANDA at the National Level
- o Operating Systems at Two Levels:
  - Big Urban Systems
  - Small Urban and Rural Systems
- o ANDA's Clients, the Users.

The Vision presented here is of course subject to modification. Since it is internally consistent, a different policy on user fees, for example, could imply a different composition of ANDA's governing board and a different internal structure. The present section then can also be used as a framework for analysis. Ultimately, many of the matters discussed are matters of judgment, requiring further discussion and study; some will require political decisions.

**2. Governing Policies**

**a. Criterion of Self-Financing**

**RECOMMENDATION ON ANDA STRENGTHENING # 1:**

The Law of ANDA should be amended to provide for the full application of the Criterion of Self-Financing [*Criterio de la Empresa Auto-Financiable*) only to the country's large urban systems.

**b. Criterion of Public Social Service**

**RECOMMENDATION ON ANDA STRENGTHENING # 2:**

The Law of ANDA should be amended to give ANDA more flexibility in the pursuit of improved social services. Except in the big urban systems, user fees would not have to cover all costs, as Article 3 presently provides.

**c. Decentralization**

**RECOMMENDATION ON ANDA STRENGTHENING # 3:**

The Law of ANDA should be amended to state that decentralization of ANDA is one of ANDA's governing policies.

**d. User Fees**

**RECOMMENDATION ON ANDA STRENGTHENING # 4:**

The Law of ANDA should be amended to provide that user fees in a given water and sanitation system should be based on the costs of that system.

**RECOMMENDATION ON ANDA STRENGTHENING # 5:**

The Law of ANDA should be amended to encourage the rates for water

and waste-water services to be adjusted periodically and routinely due to cost increases.

e. **Municipal Linkage**

**RECOMMENDATION ON ANDA STRENGTHENING # 6:**

The Law of ANDA should be amended to encourage ANDA to cooperate with the municipalities, and to provide ANDA with flexibility to do so.

3. **Delegation of Power to ANDA**

a. **Authority of ANDA's Governing Board**

**RECOMMENDATION ON ANDA STRENGTHENING # 7:**

The Law of ANDA should be amended to allow the governing board of ANDA to make decisions on rates charged users without any further approval from any higher authority.

b. **Composition of ANDA's Governing Board**

**RECOMMENDATION ON ANDA STRENGTHENING # 8:**

The Law of ANDA should be amended to increase the membership on the present Junta de Gobierno to permit the participation of more representatives of the private sector and the inclusion of mayors.

c. **Subsidies, Debt Reduction, and Financial Support**

**RECOMMENDATION ON ANDA STRENGTHENING # 9:**

The Government of El Salvador should provide, and encourage the international donor agencies to provide, funds or other assistance to ANDA for the subsidization of water and sanitation services to those

unable to pay the full costs of such services.

**RECOMMENDATION ON ANDA STRENGTHENING # 10:**

The Government of El Salvador should relieve ANDA from the obligation of repaying a significant part of its debt.

**RECOMMENDATION ON ANDA STRENGTHENING # 11:**

The Government of El Salvador should provide, and encourage the international donor agencies to provide, financial support to increase service coverage and to strengthen ANDA as an institution.

**4. Internal Restructuring of ANDA**

**RECOMMENDATION ON ANDA STRENGTHENING # 12:**

ANDA should be restructured in order to be able to better accomplish the revised policies of ANDA.

**RECOMMENDATION ON ANDA STRENGTHENING # 13:**

National level *Gerencias* should concentrate on national level activities. They should also provide support to the decentralized operating systems without interfering with decision-making and implementation that can be carried out at regional and system levels.

**RECOMMENDATION ON ANDA STRENGTHENING # 14:**

Each big urban system should have its own Manager, who reports directly to the General Manager, and who supervises a range of supporting offices. System-level accounting should produce financial statements for each system.

**RECOMMENDATION ON ANDA STRENGTHENING # 15:**

The Manager of each big urban system should be counseled frequently by an Advisory Commission, made up of local residents and chaired by the mayor. ANDA would delegate as much decision-making power as possible to the Manager; the Manager in turn would work closely with the Advisory Commission.

**RECOMMENDATION ON ANDA STRENGTHENING # 16:**

ANDA should delegate much more authority to the Regional Managers, who would supervise the small urban and rural systems. The three regional offices should in turn be further decentralized to the level of the *Departamento*.

**RECOMMENDATION ON ANDA STRENGTHENING # 17:**

Within the three regional *Gerencias*, accounting should be disaggregated to the *Departamento* level, in part to enable policy makers to know how much subsidy is required at this level for a given level of service.

**RECOMMENDATION ON ANDA STRENGTHENING # 18:**

ANDA at the regional level should develop systematic and formal linkages with the *alcaldías* and their associations.

**RECOMMENDATION ON ANDA STRENGTHENING # 19:**

The Regional Offices of ANDA should manage ANDA's small urban and rural systems and direct, or least coordinate, other such systems supported by the national government and international donors and lenders. The implementation of the 320 Project (or its successor) should be merged into the Regional Offices.

**RECOMMENDATION ON ANDA STRENGTHENING # 20:**

**ANDA should conduct an educational program with its customers so that they understand the new policies. Increases in user fees should be phased in, as the services provided by ANDA improve.**

**5. Pilot Cities Program**

**RECOMMENDATION ON ANDA STRENGTHENING # 21:**

**ANDA should design and implement a Pilot Cities Program in selected cities in close coordination with the alcaldías to help those cities and to strengthen ANDA.**

## **I. INTRODUCTION**

### **A. Need for the Study**

The need for the present study arose in the context of the 320 Project, a project sponsored by the Government of El Salvador and the United States Agency for International Development to improve public services in El Salvador.

In the case of the water and sanitation component of the project, there is concern that upon the project's conclusion ANDA will have difficulty in serving the new beneficiaries and in replicating the 320 model in other rural communities. The study is to address how the Project can be modified, especially in its institutional and decentralization aspects, to achieve sustainability. The study is to propose recommendations that are practical. Further background and the specific tasks to be carried out in the preparation of this study are in the Scope of Work, which is an annex to this report.

### **B. Approach adopted and Organization of the Report**

Following this introductory chapter, the second chapter analyzes the current situation. The first section of Chapter II reviews the confusing patchwork quilt of organizations providing potable water and sanitation services in El Salvador. The provision of these services by municipalities is reviewed. The powers of the Municipalities to undertake such activities under the recent Municipal Code are analyzed.

Chapter II continues with analysis of the 320 Project, which is one provider of such rural water and sanitation services. Emphasis is placed on the organizational aspects. The chapter concludes with a review of ANDA's responsibilities under the law; the services it provides; its functions, organization, and, personnel; and its finances.

An Implementation Plan is presented in Chapter III. The plan's strategy has two principal parts:

- o modify the design of the 320 Project so that the post-project burdens are reduced
- o strengthen and restructure ANDA as an institution so that it can better absorb the 320 beneficiaries and replicate the 320 model in other communities.

The second section of Chapter III offers 12 recommendations to modify the design. The third section presents a vision of what a

strong, decentralized ANDA could look like in several years. Then 19 recommendations are presented to help ANDA realize that vision.

**C. Acknowledgements**

## II. ANALYSIS OF THE CURRENT SITUATION

### A. OVERVIEW OF THE PROVISION OF WATER AND SANITATION SERVICES TO THE RURAL POPULATION

The 320 Project and indeed ANDA itself are operating in the context of a confusing patchwork quilt of institutions and programs providing various potable water and sanitation services to El Salvador's rural population.

#### 1. COVERAGE

Three recent documents show that coverage of the rural population's potable water and sanitation needs is woefully incomplete. ANDA provided the following estimates in its Boletín Estadístico for 1990 (p. 11):

POPULATION	PERCENTAGE WITH SERVICES	
	Potable Water	Sanitation
RURAL	11.4 %	38.1 %
URBAN	87.0 %	87.5 %
TOTAL	48.0 %	62.6 %

The *Plan Nacional de Saneamiento, 1991-2000*, [hereafter in this report, *Plan Nacional*] prepared by a consultant (Robert Hart, ca. January 1992) working with ANDA, the PanAmerican Health Organization, and the World Health Organization, projects the investments necessary to increase the coverage significantly by the year 2000. For example, attainment of 90 % coverage for both kinds of services in the urban areas, and 60 % in the rural, implies an annual average investment cost of \$ 35 million (in 1991 dollars) between 1991 and 2000.

Planning for Water and Sanitation Programs in Central America (WASH Field Report No. 334, June 1991) makes similar estimates of the current rural coverage, estimates the costs of meeting WASH targets, identifies funding commitments from national and international sources, and estimates the funding shortfall through 1995. WASH targets are a 35 % coverage for water and 52 % for sanitation. For rural water, \$ 30.7 million of investment is needed by 1995, of which 15.9 is committed; the investment shortfall is \$ 14.8 million. For rural sanitation, \$ 8.8 is needed and \$ 5.7 committed, leaving a shortfall of \$ 3.1 million.

## 2. SERVICE PROVIDERS

### a. Numerous Providers

There is a bewildering array of Salvadoran and international organizations providing or financing various potable water and sanitation services to the rural population. The institutions include:

- ANDA
- 320 Project
- **Unidad Ejecutora del Plan Nacional de Saneamiento Básico Rural** (hereafter, **PLANSABAR**)
- Municipalities and their supporting organizations
- United States Agency for International Development
- InterAmerican Development Bank (hereafter BID)
- Reconstruction Loan Corporation of the Federal Republic of Germany (known by the initials "KfW")
- Save the Children
- United Nations Development Programme
- Pan American Health Organization
- UNICEF
- **Fondo de Inversión Social**

The institutions' interventions vary with respect to:

- approach (for example, in the balance between external assistance and self-help; or a few services as contrasted with integrated rural development),
- target service levels for water and sanitation,
- cost recovery from user fees or in-kind contributions,
- size of settlements to be benefitted,
- geographic areas of eligibility and priority,
- time period for implementation, and
- amount of funding.

Seventeen internationally funded programs are listed in Cuadro II-1. Although ANDA remains the dominant domestic institution for implementing these programs, municipalities and the MSPAS also participate.

The rural water and sanitation efforts of ANDA as well as the 320 Project are discussed in later sections of this chapter. In this section, the roles of PLANSABAR and the municipalities are briefly discussed in the following sub-sections.

#### **b. PLANSABAR**

PLANSABAR was created by Resolución Ministerial No. 332 of the MSPAS in October, 1980, with the general objectives of helping the economic and social progress of rural areas, through better sanitary conditions. This organization focuses on urban populations of between 300 and 2,000 persons. It frequently provides water to several caseríos, linking them by pipe to a central source of water. This may be contrasted to the general approach of the 320 Project, wherein hand-pumps are provided to discrete small settlements without any pipe distribution systems nor connection to any nearby hamlets.

As shown in Cuadro II-2, PLANSABAR has over the years built 219 potable water systems, of which 150 are gravity systems and 69 make use of pumps, with an estimate population served of 281,792 people. Most of the projects were constructed with the financing of BID, which occurred in three phases. The third phase of BID's financing ended in December, 1991, and it is uncertain at present whether there will be a fourth phase. In the meantime, PLANSABAR continues to operate water systems in communities throughout the country.

As an indication of the complexity of the provision of services, it may be noted that in 1991 the 320 Project, through an agreement between ANDA and PLANSABAR, took on the responsibility to design and construct improvements to some 40 PLANSABAR potable water systems. ANDA will replace PLANSABAR as the operating agency for these systems.

#### **c. Municipalities**

##### **1.) Municipal Water Systems**

Municipalities are significant providers of potable water in many smaller towns but not of sewerage. As indicated in Cuadro II-3, 72 municipalities provide potable water, accounting for 27 % of the 262 municipios. Caution should be exercised in interpreting these figures.

Many municipios consist of a town, the cabecera municipal, which could be translated as the 'municipal seat,' surrounded by cantones, which are usually rural hinterland with perhaps some

small settlements (**caseríos**). The "municipal" water systems typically only serve the municipal seats and immediately adjacent urban areas.

The municipal water systems are also only in the smaller towns. All the big cities of the country have their water supplied by ANDA. Nevertheless, it is, especially from an institutional viewpoint, important that more than a quarter of the municipal seats in El Salvador have municipal water systems.

The 72 municipal water systems are in 13 of the 14 **Departamentos**, the *Departamento de San Vicente* being the exception (Cuadro II-4). It is notable that 51 of the 72 municipal water systems, or 71%, are in four **Departamentos** associated with the recent conflict:

<u>Departamentos</u>	<u>Municipal Water Systems</u>	
	Number	Percentage
Chalatenango	18	25 %
San Miguel	7	10 %
Morazán	18	25 %
La Unión	8	11 %
Sub-Total	51	71 %
Remaining 8	21	29 %
Total	72	100 %

Six of the seven **municipios** in the **Departamento de San Miguel** are located north of the Pan American Highway, some in the far north.

Municipalities have been helped in recent years by agency of the national government, CONARA, the National Commission for the Restoration of Areas (*Comisión Nacional de Restauración de Areas*), and the Municipal Action Program, (*Municipalidades en Acción*). CONARA reports that from 1986 through 1989, there were 655 potable water and sewerage public works carried out through municipalities costing 35.22 million colones (compiled from CONARA, "Cabildos Abiertos, La Revolución Pacífica en El Salvador," Cuadro en página 15). Although channeled the public works were conceived and financed through municipalities and CONARA, many of the assisted systems have been ANDA systems, as contrasted with the municipally owned water systems. At present, two of the seventeen investment programs listed in Cuadro II-1 have a municipal focus.

## 2.) Municipal Powers

Through the new *Código Municipal* of 1986 the powers and potential

for action by municipal governments have increased. By Decree No. 274 of the *Asamblea Legislativa* municipal governments were given more powers and more responsibility in adhering to the views of their citizens. Key provisions of the Municipal Code relating, at least potentially, to the provision of water and sanitation services, are provided in Annex 2.

The Municipal Code has many features that are pertinent to the provision of potable water and sanitation services in the country's 262 municipalities:

1. Municipalities are empowered to provide water and sewerage services (Article 4, paragraphs 5 and 25),
2. Municipalities could acquire property and rights of way, if necessary, by eminent domain (Article 118).
3. Municipalities have the option of delivering services through its own divisions, or through contracts with other organizations, or by awarding franchises (Article 7).
4. A municipality can operate individually or form associations with other municipalities, and may, likewise individually or collectively, delegate authority to entities established to pursue specific municipal purposes (Articles 11, 14, 17, and 18).
5. Citizens in public meetings may express their views to the municipal councils. After a 'Popular Consultation,' the council may not proceed contrary to the majority opinion (Articles 115 and 116).

These powers enable municipalities to act more vigorously on their own, or, by the same token, be more effective partners to national organizations, such as ANDA.

### 3.) Relationship between Municipalities and ANDA

Taken together the Law of ANDA (discussed in a later section) and the Municipal Code imply the following:

1. ANDA retains its country-wide authority, including the right of eminent domain, to provide water and sewerage services (Law of ANDA and Article 5 of the Municipal Code).
2. ANDA is required to coordinate with the Municipalities (Articles 6 and 12 of the Municipal Code) concerning its public works and provision of services in the

concerned municipalities.

3. Municipalities are separately empowered to provide potable water and sanitation services in their jurisdictions.

The present study assumes the continued dominant role of ANDA, although there are other institutional models that El Salvador could consider, for example, turning selected urban systems over to the municipalities. Such other models are beyond the scope of this study.

This study, with its focus on ANDA, will recommend ways in which ANDA and the municipalities can collaborate. To anticipate for a moment, the broad recommendation is that ANDA and the municipalities become true partners, taking advantage of the different capabilities and assets that each possesses. In such a process ANDA would, as an automatic byproduct conform to Articles 6 and 12 of the Municipal Code. Specific recommendations will address how ANDA can reorient itself to join forces with the municipalities.

#### d. Gaps, Duplication, and Coordination

In short the rural potable water and sanitation sector is characterized by institutional fragmentation (*Plan Nacional, Anexo No. 9, DIAGNOSTICO DEL SECTOR, por el Ministerio de Planificación y Coordinación del Desarrollo Económico y Social, p. 49*).

The impending **Plan Nacional de Reconstrucción** will only make the picture more complicated. This plan is intended to help the reconstruction of the country following the signing of the peace agreement in January 1992. Priority is to be given in the plan to the formerly conflictive areas, which include major portions in the northern and eastern parts of El Salvador. The plan, which is just now obtaining its financing, will probably include some new rural water and sanitation projects as well as funding increases for existing ones.

There may also be a number of modifications to existing programs, with funding separate from the **Plan Nacional de Reconstrucción**. For example, the 320 Project is presenting considering modifying its community selection criteria in order to give priority to the formerly conflictive zone.

Recognizing the plethora of organizations implementing water and sanitation programs, the Government of El Salvador established a coordinating committee, the **Comité Nacional de Instituciones de Agua Potable y Saneamiento (CONIAPOS)**. ANDA provides technical support to (CONIAPOS). At present the staff of CONIAPOS is obtaining information from implementing organizations and putting it in a computerized data base. When completed, information will

be readily retrievable, for example, by municipality for each intervention. This data base will provide vital information for a thorough understanding of what's happening in this sector, as the *Plan Nacional* observes (p. 1).

Although not yet documented in this rigorous and detailed fashion, it is presently known that there are duplication and gaps in the services provided to the rural population. In the Departamento de La Paz, for example, two adjacent municipalities are assisted as follows:

#### MUNICIPIO DE OLOCUILTA

- ANDA provides water in the town of Olocuilta
- PLANSABAR assists the Cantón de La Esperanza, just north of the town of Olocuilta
- Some of the southern cantones are being assisted by the 320 Project
- PLANSABAR is helping the town of Olocuilta obtain chlorine.

#### MUNICIPIO DE CUYULTITAN

- the Municipio de Cuyultitán has its own potable water system in the town of Cuyultitán
- PLANSABAR is helping the town of Cuyultitán obtain chlorine.

It is inefficient to have multiple service providers helping adjacent rural communities, especially when they are distant from major cities and the connecting roads are poor. The duplication is particularly regrettable when the overall coverage and related quality of service to rural residents are so low.

It may be noted that the *Plan Nacional* (Summary, pp. 21-22) basically accepts the *de facto* division of implementing responsibilities and proposes that CONIAPOS carry out planning functions (that is, presumably to increase coverage and eliminate duplication of effort) and help coordinate with international organizations. In this fashion CONIAPOS would become a new layer of bureaucracy in the planning process, inserted between ANDA, PLANSABAR, and the municipalities on one level, and MIPLAN (*Ministerio de Planificación y Coordinación del Desarrollo Económico y Social*) at a higher level.

The approach taken in the present study is to have overall planning remain an ANDA function, although very much decentralized within ANDA and coordinated closely with the

municipalities at regional and local levels.

## B. THE 320 PROJECT

### 1. Goal, Purposes, and Outputs

The Public Services Improvement Project, referred to as the 320 Project in accordance with its USAID number, has the following goals:

1. To provide for economic and social stabilization and growth
2. To provide broad participation in the benefit of growth
3. To improve health of inhabitants in beneficiary communities

[Much of the material in this section is taken from the **Project Paper**].

Those goals are to be furthered by the attainment of the following three purposes:

1. Restore and preserve vital public services provided by the infrastructure agencies.
2. To improve and sustain the access of rural population markets.
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.

Purposes are to be pursued through accomplishment of a long list of outputs, which are grouped according to the following four project components:

- I. Public Services Restoration
  - II. Secondary, Tertiary, and Lower Class Rural Road Deferred Maintenance and Repair
  - III. Water Supply, Sanitation, and Health
  - IV. Institutional Strengthening, Project Support, Monitoring and Evaluation, and Contingency
2. Component III: Water Supply, Sanitation, and Health

In the context of the present study, it is the third component which is of principal interest. It should be noted, however, that under Component I the 320 Project procures equipment for ANDA to facilitate the restoration of services which had been curtailed because of war-related damage to equipment. It is under Component IV that ANDA receives technical assistance from Louis Berger International, Inc., financed by USAID. Subsequent references in this report to the 320 Project should be understood as references to the third component of the project.

Component III serves two ranges of settlement size:

- A. Communities with populations of approximately 400 or fewer people

They are to be provided with hand-pumps and latrines. As indicated in Cuadro II-5, 900 hand-pumps are to be installed in 300 *caseríos* located in 60 cantones to benefit 112,500 people. These beneficiaries are to receive 11,812 latrines.

- B. Communities between 400 and 2,000 people

For these larger communities improvements to existing "systems" are to be designed and then made. The 46 systems, which were *PLANSABAR* or ANDA systems, typically involve an electric or diesel pump, a storage tank, and a distribution network. There are domestic connections as well as public taps. Of the 30,800 beneficiary families, 4,620 are to receive latrines through the project.

## 2. Ministry of Public Health and Social Assistance

### a. Roles

The *Ministerio de Salud Pública y Asistencia Social (MSPAS)* plays the lead role in selecting the smaller communities where the hand-pumps are to be installed. A key criterion is the availability to the community of a Health Promotor. These Promoters are paid by the *MSPAS* and live in the municipio, usually in a cantón and sometimes in the small communities slated to receive help from the 320 Project.

Upon installation of the hand-pumps or water systems, and of the latrines, it becomes the responsibility of the Health Promotor to educate the people about proper practices of sanitation and hygiene. People need to be educated, for example, on how to store the water obtained from hand-pumps, so it does not become contaminated.

Another example of essential follow-on health promotion is

instruction in the use and maintenance of latrines. More than half of the latrines to be installed are ones that are intended to generate fertilizer (abono). It is expected that the proper use of these latrines will require major and continuing educational efforts by the Health Promoters.

#### b. Organization

The organization of the MSPAS as it concerns the 320 Project is illustrated in Gráfico II-1. The 320 Project educational activities are among the many activities which are the responsibility of the Health Promoters in the cantones. The Health Promoters are supervised by the Medical Director of the their municipio's health clinic (*Establecimiento de Salud*). It is both the 320 Educator and the 320 Inspector at the regional level who "coordinate" the 320 work of the Promotor. The Inspectors and others, including the LBII technical assistance team, provide the Promotor with materials and training. The Inspectors and Educators visit the Promoters in their communities and advises them. The 320 Inspector and the 320 Educator have different bosses and share another one as well. Their common boss is the head of Community Health at the national level.

The chart also suggests that the 320 Project is one small part of a much larger health program that reaches out to the municipal seats and the cantones. The 320 Project has been integrated into the existing structure of the MSPAS; the project's health interventions were not set up as a separate, single-purpose program.

The organizational structure of the 320 Project on the health side is horizontal. At each level from community up to the national level, the 320 project-staff are part of other health offices at that level. The 320 project staff receive guidance from project and non-project personnel and they must share vehicles and other administrative staff with non-project staff (e.g., drivers and secretaries).

### 3. ANDA/AID Management Unit: Organization, Functions, and Personnel

#### a. Principal Functions

Once the MSPAS selects the small communities, the ANDA/AID Management Unit (hereafter MU) has the responsibility to see to it that the hand-pumps and latrines get installed and a local Water Committee gets established and operating. On the technical side, the MU conducts feasibility studies to make sure that there is an adequate water supply in the selected communities. The MU contracts the drilling of wells and the construction of the latrines with private contractors and then provides construction supervision.

On the promotion side, the MU's Water Promoters follow a carefully designed series of steps to involve the community. The promotional efforts result in the creation of a local *Comité de Agua* to which local landowners make available land for the hand-pumps. Training is provided to Water Committee members so that they can oversee the operation of the hand-pumps by the beneficiaries, provide for the maintenance of the hand-pumps and latrines, collect user fees, and coordinate and receive guidance from the MU and from the MSPAS.

In the case of the 46 systems, the MU reviews the proposed improvements and then contracts with the private sector for them to be carried out. The promotion effort is similar. Since the systems are more sophisticated than the hand-pumps, the burdens on the Water Committee are correspondingly more heavy.

Because the construction of the public works is funded by USAID, the MU must adhere to certain USAID as well as Government of El Salvador requirements. This places a heavy administrative burden on the MU as it must move not only the 320 Project Component III Annual Action Plans but groups of construction projects through a series of reviews and approvals from:

- ANDA
- SETEFE (*Secretaría de Tesorería y Financiamiento Externo*)
- USAID
- *Corte de Cuentas*.

Upon obtaining the final approval from the *Corte de Cuentas*, the MU can authorize the contractor to begin drilling or construction. It is partly because of the number and length of the administrative steps that the project is further along on promotion than on construction (Cuadro II-6).

Another function of the MU is to coordinate with the senior management of ANDA as well as well USAID. ANDA itself has assigned some non-320 Project activities to the MU, such as some work on Tax Free Zones (*Zonas Francas*).

From a management viewpoint, the MU, a branch of ANDA, has a daunting task. It is grappling with kinds of elements which ANDA typically does not deal with:

- a new kind of beneficiary (small, often remote, communities),
- a new, albeit simple, kind of technology (hand-pumps and latrines)
- a new kind of local institution building (the *Comités de Agua*)

- a new kind of coordination (the close link with the MSPAS).

ANDA's unfamiliarity with these new elements makes it more difficult for the MU to carry out the standard activities of project implementation. The funding and technical assistance provided with USAID's help are useful but also necessitate that senior MU management time must be devoted to the coordination with USAID.

All in all the MU has an ambitious set of functions to perform in a project which breaks new ground for ANDA.

## b. Organization and Personnel

### 1.) Central Office

The MU (*Gerencia ANDA/AID*) was established as a separate unit within ANDA because it was funded externally (by a *Presupuesto Extraordinario*). It was also probably convenient for ANDA to treat the 320 Project in this fashion for reporting purposes and because, as discussed in the previous sub-section, the 320 Project departs in several significant ways from ANDA's customary way of doing business.

On ANDA's organization chart (presented later in this chapter) the MU appears between the President of ANDA and ANDA's General Manager (*Gerente General*). This would suggest that the MU's manager would be the President. In fact MU Manager Engineer Mauricio Chicas receives guidance from ANDA's General Manager as well as from the President. Engineer Chicas participates along with the other ANDA managers in weekly management meetings.

The MU employs 59 people, 44 of whom work in the central office in San Salvador, an office which also serves the central region of the country (Gráfico II-2). It is projected by the MU that its operational costs will be as follows for the 12 months ending June 30, 1992:

<u>CATEGORIES</u>	<u>COLONES</u>
Personnel Services Includes salaries, fringe benefits, and per diem of staff	2,008,151
Non-Personnel Services Includes advertisements, printing, rental of equipment and offices, and maintenance of equipment and vehicles	451,500
Materials and Supplies Office supplies, tires and tubes for	683,526

vehicles, and parts for office equipment  
and vehicles

TOTAL

3,143,177

The employees of the MU are hired on a contract basis; they are not regular employees of ANDA. In fact some of them resigned their positions with ANDA, receiving their severance pay in the process, in order to join the MU. Although ANDA may wish to absorb some of these contract staff upon the termination of the project (now scheduled for September 30, 1994), there is no obligation on ANDA's part to do so.

## 2.) Regional Offices

The organization of the two regional offices--one for the eastern and one for the western region--is illustrated in Gráfico II-3, which shows the organization of the MU in the eastern region. This region consists of the Departments of Morazán, San Miguel, La Unión, and Usulután. Significant parts of these Departments were scenes of fighting during the recent conflict.

At present the MU Office for the Eastern Region has seven employees: Regional Coordinator Rafael Martinez; three Water Promoters in the Promotion Unit; a maintenance technician in the Supervision of Works section; and a secretary and a driver in the Administration and Transportation Department. The Office has one vehicle and three motorcycles.

The MU Office uses space in the regional offices of ANDA on the outskirts of the City of San Miguel. There are electrical control panels for pumps on one wall. There are only three desks, which the staff share on an *ad hoc* basis. The office's size is minuscule and its character dismal. This atrocious office itself is an implementation problem, which must be overcome before other improvements -- more staff, computers, etc.-- can be made. Regional Coordinator Martinez estimates that a proper office, big enough to serve the project's health as well as ANDA MU staff, could be rented in San Miguel for between two and three colones per month.

The Regional Office for the Western Region, which shares office space with the Regional Office of ANDA in Santa Ana, is barely adequate, although it is much better than the Eastern one. And plans are proceeding in Santa Ana for the construction of a proper 320 Project Regional Office. The Western office employs eight people in a similar organizational structure as the Eastern Office.

It is the Water Promoters from the regional MU Offices which organize, guide, and advise the *Comités de Agua* in the communities, as suggested by the solid line in Gráfico II-3. Of

course the members of the Water Committee are working as volunteers so the direct supervision has less clout than if the MU were paying someone at the community level. The Promotion Unit also collaborates with the Health Promoters at the community level, as shown by the dashed line in the chart.

### 3.) Predominantly Vertical Structure of the ANDA/AID Management Unit

A consolidated organization chart, showing the health and MU elements at the national, regional, and community levels, is presented in Gráfico II-4. Coordination between the head of Community Health (*Salud Comunitaria*) and the manager of the MU is indicated by the dashed line as it the contemplated collaboration between the Health Promotor and the Water Committee at the level of the community.

The MU relies heavily on its own employees, its own budget, its own computers, and its own vehicles and office supplies. There are of course some elements of horizontal cooperation between the MU and ANDA/ANSA, such as the sharing of office space in San Salvador, Santa Ana, and San Miguel.

In short, the MU has a predominantly vertical structure: it retains significant control over its own resources, human and material, to accomplish its specific objectives.

## 4. Outlook for Sustainability

### a. Definition of Sustainability

In considering the project's implementing institutions, the interest goes beyond successful project execution during the life of the project. Another critical purpose in strengthening institutions is to achieve "sustainability." This term, in the context of a water and sanitation project, may be explained as follows:

Sustainability is the process, or more precisely a set of processes, by which project benefits endure over a long period. The benefits of a sustainable project should continue, and preferably be increased, after the donor discontinues assistance, assuming the project been correctly designed and implemented. A fundamental ingredient of sustainability is the existence of institutions with a mandate and the resources to operate and maintain facilities that supply benefits to targeted populations and to reinforce health education messages. [emphases added]

"Evaluation Guidelines for Community-Based Water and Sanitation Projects," Technical Report No. 64, May

1990, Water and Sanitation for Health Project (WASH), sponsored by the U.S. Agency for International Development, p. 29

Sustainability embraces the continuation of benefits to the beneficiaries of the project as well as the replication of the project's approach to provide benefits to new beneficiaries.

In this section observations about the sustainability of the 320 Project are offered. They are necessarily judgmental because they are concerned with the future.

**b. *Comités de Agua***

The key institution being created by the project at the local level is the Water Committee. It may be said to have a "mandate" to supply water to its local community, inasmuch as water is an essential commodity and the hand-pumps/systems are under its control.

In assessing the Committee's "resources," the positive aspects may outweigh the negative ones:

**Local Staff:**

The Water Committee members and officers are volunteers, who, however, may be reimbursed for their costs of travel, etc. They live in their communities and receive training, at least during the life of the project, from the MU. Low levels of literacy may prove to be troublesome.

External training and guidance are especially needed because of the turnover in Committee membership.

**Income:**

The Water Committees establish and collect user fees to operate and maintain the hand-pumps/systems. This is a very positive factor for sustainability. It will, however, require continued diligence on the part of the Committee to collect sufficient funds.

Lurking on the horizon is the eventual replacement of the hand-pumps/systems. It would require a significant effort on the part of the Committee to collect enough funds to replace major portions of the pumps, storage tanks, and pipes.

**Technical Know-How:**

The initial training from the MU should acquaint Water

Committee members with the basic requirements of operating and maintaining the hand-pumps/systems.

The systems are much more sophisticated than the hand-pumps. The Water Committee is required to hire an operator; the operator must be approved by ANDA. Daily maintenance is also required. This will, however cost more money, require higher user fees, and thereby place more bookkeeping and collection burdens on the Committee.

The assessment of the sustainability of the Water Committees is mixed but, on balance, positive, on the assumption of post-project continued external guidance and training.

After the end of the 320 Project some organization needs to replace the MU as the supplier of training and technical assistance to the Water Committees. Unfortunately, as discussed in the next sub-section, there is little reason to be optimistic that the MU will continue after the 320 Project terminates in September, 1994.

### c. The ANDA/AID Management Unit

Given the state of existing commitments, it is unlikely, after the project ends, that (then previous) project beneficiaries will receive continuing help (through the *Comités de Agua*) and even more unlikely that the 320 Project model will be replicated in new communities.

#### 1.) Mandate

There is no present commitment from ANDA or any other Government of El Salvador agency to help the Water Committees once the project has ended, nor to replicate the model. One MU official flatly said that upon the end of the project ANDA would not continue the effort.

#### 2.) Resources

Through experience gained in implementing the project and the provision of training and equipment (computers and vehicles), the MU should have a good capability, administrative as well as technical, by September, 1994. The administrative costs of the MU are presently funded by USAID. Who will pay the bill? Who will pay for the needed technical assistance and training for the Water Committees?

At best the 320 Project model has user fees covering operation and maintenance costs. The construction costs were donated to the beneficiary with USAID funding. Who will pay for installing hand pumps/systems and latrines in any new communities?

As discussed above, the MU is set up as a "vertical" program within ANDA with contract employees. Such arrangements make it easy to shut down operations upon the end of the project. [By the same token, the outlook for sustainability is more positive for health promotion because of the horizontal organization of the 320 Project's health interventions.]

In short, more than a quarter of a million beneficiaries could be left stranded after September, 1994, and the 320 model not replicated in new communities. The outlook for sustainability is bleak.

## C. ANDA

### 1. Responsibilities

ANDA, the *Administración Nacional de Acueductos y Alcantarillados*, operates under Decree # 341 of 1961, as amended. Article 2 provides that ANDA's objective is to provide water and waste-water services to the inhabitants of the Republic. Article 3, paragraph k., provides that ANDA will acquire, use, and treat surface and subsurface water and dispose of them for populated and rural areas. Article 68 exempts ANDA from taxes and import duties; Chapter VIII gives ANDA the power of eminent domain.

Of particular importance to the present study is Article 3, paragraph p., which provides that ANDA is:

To submit for approval to the Economic Branch of the Executive Power reasonable user fees

- for the use of the facilities of the Institution, or
- for services of potable water, sewerage or other articles or services sold, loan or supplied by ANDA

and to charge accordingly for the same user fees which will be applied in the percentage and in the form that the *Junta de Gobierno* may determine.

Such user fees should be established with

- a criterion of a self-financing enterprise, together with
- a criterion of public social service;

and should be sufficient to cover and provide a margin of safety for:

- 1.- The expenses incurred by the Institution in the operation; maintenance; administration; and the improvement, development, and expansion of its installations and properties; and
- 2.- The payment of capital, interest, and other charges on its bonds and other obligations, with the objective of maintaining the capacity of complying with the terms of agreements entered into with creditors.

...

[emphases added; freely translated and formatted]

In supplying its water and sanitation services, ANDA is charged with pursuing two high-level goals: self-financing and social service to the public. There is a crucial trade-off here. Strict adherence to full cost recovery from user fees limits ANDA's scope to provide services to lower income portion of the population. Full fledged efforts to provide good services to the entire population could conflict with the required cost recovery.

ANDA, then, is empowered to provide water and sanitation services through El Salvador; to charge user fees that cover all costs plus a margin of safety; to take real property by eminent domain; and to enjoy an exemption from taxes and import duties. ANDA must receive prior approval of its proposed user fees from the Executive Branch of Government. ANDA must serve the social needs of the public, while fully covering its costs through user fees.

## 2. Services Provided

Although other providers have played an increasing role in recent years, ANDA continues to provide the lion's share of water and sanitation services in the country. As shown in Cuadro II-7, ANDA provided 312,834 water and 244,784 sanitation services in the country by the end of 1990. Those service levels correspond to supplying 1,836,684 urban dwellers and 67,200 rural inhabitants with water; and 1,468,704 urban dwellers with sewerage.

Key indicators of ANDA are provided on a national and regional basis in Cuadro II-7. AMSS, or Metropolitan San Salvador (Area Metropolitana de San Salvador), accounts for more than half of ANDA's activity measured by the following indicators:

- service of potable water
- sewerage service
- production of water
- consumption of water
- billings
- number of ANDA employees

- installed water meters.

The last item is striking; 9 out of 10 of the country's water meters are in Metropolitan San Salvador. This urban area with far less than half the country's population receives more than half of ANDA's services. This in part reflects ANDA's mandate to recover costs; the middle and upper income population of San Salvador can afford to pay user fees based on metered consumption.

The Central Zone of ANDA consists of the non-metropolitan parts of the Departments of San Salvador, La Libertad, Chalatenango, Cuscatlán, Cabañas, La Paz, and San Vicente; the Western Zone of Santa Ana, Ahuachapán, and Sonsonate; and the Eastern Zone of Morazán, San Miguel, La Unión, and Usulután. Generally speaking, the Central and Western Regions have similar shares of ANDA's activities; the Eastern Region lags.

Much of ANDA's activities are concentrated in the big cities, not only in San Salvador but in Santa Ana and in San Miguel as well. But ANDA also serves a wide range of other municipal seats from cities such as Sonsonate (population of 52,784) and Chalatenango (13,699) to San Juan Tepezontes (Department of La Paz, 1,550) and Perquín (Department of Morazán, 518) [data from the *Boletín Estadístico, ANDA, 1990*].

Of the 177 municipal seats served by ANDA, it is notable that 69 or 39 % of them have urban populations of under 2,000 (Cuadro II-8). Moreover, ANDA provides potable water in the countryside: in 1990 ANDA served 67,200 people in 35 cantones and caseríos (*Boletín, Cuadro 43*). In the smaller municipal seats and hamlets ANDA does not provide sewerage and potable water may be supplied less than 24 hours per day.

In the 400 to 2,000 settlement population settlement range, ANDA, PLANSABAR, municipalities and (eventually) the 320 Project's water systems (as contrasted with the hand-pumps) are or will be providing services to various communities. In this range, there is no clear pattern, by geographic area or settlement size, of which organization serves which community; it is a hodgepodge. For hamlets of fewer than 400 people, on the other hand, the 320 Project plays a dominant role, as other organizations do not normally serve such small communities.

At the smaller end of the scale of settlement size, ANDA supplies water to certain communities and municipalities, PLANSABAR, and the 320 Project serve others.

### 3. Functions, Organizations, and Personnel

#### a. Junta de Gobierno

ANDA is governed by a policy-making *Junta de Gobierno* (Board of

the Government) with the following members voting to decide matters:

President of ANDA  
 Representative of the Ministerio de Obras Públicas  
 Representative of the Ministerio del Interior  
 Representative of the Ministerio de Salud Pública  
 y Asistencia Social  
 Representative of the Cámara Salvadoreña de la Industria  
 de la Construcción

The President of ANDA and each of the other four representatives have alternates, who may cast decisive votes when the respective representative is absent.

The President and his alternate (*suplente*) are appointed by the President of the Republic. The three ministerial representatives and alternates (*adjuntos*) by the Executive Power in those ministries; and the representative and alternate (*adjunto*) of the Chamber by the Chamber.

The *Junta de Gobierno*, with four of its five voting members appointed by the Government, is well named. As arm of the government, pursuing public purposes, it is indeed proper that the Government, meaning the national government, be well represented.

As a "semi-autonomous" entity, however, it would be appropriate for there to be more representation from other sectors of society. A broader-based Board of Directors could improve linkages between ANDA and other key sectors of Salvadoran society and provide helpful policy guidance to ANDA on topics such as financial management and community contributions. In the Implementation Plan (chapter III of this report) recommendations are offered for the inclusion of mayors and the expanded participation of the private sector.

b. Central, Regional, and Departamental Offices

Below the *Junta de Gobierno* is the Office of the President (*Presidencia*), as shown in Gráfico II-5. The functions of external audit and the liaison with external auditing and the *Corte de Cuentas* fall between the Board and the President. Under the President is the General Manager, with the legal office falling between them. Also shown as being between the President and the General Manager are the management units for two externally funded projects: the 320 Project and the Rio Lempa project.

Most of the offices of ANDA operate under the supervision of the General Manager. There are seven *Gerencias* or Major Operating Units, five of which are devoted to specific functions and two

regional ones, which embrace various functions.

The allocation of ANDA's some 3,400 employees, regionally and by *Gerencia*, is shown in Cuadros II-7, 9, and 10 (The tables do not include the contract employees of the 320 Project). Seventy-one percent of the work-force is devoted to Metropolitan San Salvador; the balance in declining percentages to the rest of the Central Zone, to the Western Region, and to the Eastern Region.

The *Gerencia de Proyectos y Obras*, which designs and oversees construction projects, has 194 employees and the unit which operates the water and sanitation systems has the most employees, 1,418. The *Gerencia de Comercialización*, which collects the user fees, has 390. The Western and Eastern office have 360 and 312 employees, respectively. Since most of those regionally based employees are devoted to operations (pump operators in particular) and the collection of fees in the *Agencias*, there are more workers devoted to these functions than indicated by their respective (national) *Gerencias*.

Because of inadequate funds, ANDA has difficulty providing training to its employees and in paying high enough salaries to retain its technical staff. Young engineers often start out at ANDA and then move to better paying jobs; ANDA loses the benefit of their experience.

In the Gráfico II-6 the organization chart of ANDA has been simplified and rearranged to show its geographic structure at three levels (indicated on the right side): National; Regional and Metropolitan San Salvador; and Departamental. The footings indicate that certain regional and department offices are in the Western, Central, or Eastern Regions. The decentralization of the 320 Project to the regional level is shown in Gráfico II-6.

As shown by the first tier of offices under the General Manager, four important functions are predominantly carried out at the national level: Planning; Design and Construction of Works; Administration and Finance; and Personnel. Two *Gerencias* have been decentralized to a significant extent, as illustrated in more detail for the Eastern Region in Gráfico II-7. The eastern operations office employees about 250 people, about 170 of whom are pump operators located in 59 pumping stations. Of the approximately 55 people in the eastern administrative/marketing office, 37 work in the four marketing (or collection) agencies at the department level.

ANDA has decentralized operations and revenue collection to a significant extent and wishes to decentralize itself further. Major new efforts to decentralize--say, in the design and execution of works, or in financial management--would, however, require increases in staff and the budget. The budget in turn is limited by revenue collections, which are constrained by policy

factors discussed in the next sub-section. Policy changes would open the door to many positive changes for ANDA, among which is further decentralization. Chapter III of this report presents specific recommendations on the policy changes and on decentralization.

#### 4. Finances

In 1990 ANDA incurred costs of 152 million colones, as shown in Cuadro II-11, of which more than two-thirds was for the operation of systems, administration, and finance. The balance of costs was for works (18%), including studies and construction, and for debt servicing (14%). In 1990 received user fee payments of 127 million (*Boletín Estadístico, ANDA, 1990, Cuadro 82*), leaving a balance of 25 million to be financed from other sources.

The 127 million of fees received in 1990 was a sharp increase over previous years reflecting the application of new and higher rates:

YEAR	MILLIONS OF COLONES
1986	75
1987	74
1988	84
1989	85
1990	127

(from *Boletín Estadístico, ANDA, 1990, Cuadro 82*)

Between the end of 1988 and 1990 total assets rose by 88 million, from 730 to 818 (Cuadro II-12); most of the increase reflected increases in real property and their improvements. The asset growth was made possible by capital contributions from the Government of El Salvador and international organizations, which more than offset cumulative operating losses during this period. It should be noted, however, that in 1990 ANDA had an operational profit of 9.6 million; the previous year had loss of 33.4 million and the year before that, 22.4 million.

ANDA does not maintain segregated accounts on a system-by-system basis. In the City of San Miguel, for example, revenues are collected by the *Agencia* and the money sent to ANDA in San Salvador. The Eastern Regional Office, also in San Miguel, supervises the operators of the pumps which serve the city, but the operators are paid by a *Gerencia* at the national level. The planning, design, and execution of new projects for San Miguel-- such as a contemplated new dam or more wells-- would be carried out in San Salvador. Accordingly, the costs and revenues for the system serving the *Municipio de San Miguel* are not available. This has consequences:

- It is not known whether the San Miguel system is making or losing money.
- If the system were losing money, ANDA could attempt corrective measures to comply with its self-financing criterion. ANDA needs disaggregated accounting data to improve its decision-making process on a system-by-system basis.
- Local citizens--*los Migueleños*--do not understand how much they, collectively, are paying nor how much the system costs ANDA to operate.
- Absent proper system-level financial statements, local citizens would be reluctant to pay more even if better service were promised. They would tend to view ANDA as a remote, national organization and be unsympathetic to the very real problems which ANDA confronts.
- ANDA might under other circumstances enlist the support of local citizens, perhaps through the municipalities, in bearing some of the capital costs of improvements.

More broadly, ANDA is unable to distinguish among systems which have different potential capability of cost recovery. Santa Ana's system probably has the potential to become completely self-sustaining; a small town does not. Without disaggregated financial information, ANDA cannot give those systems the different treatment that they should get.

ANDA is currently undertaking, with the help of the IBM World Trade Corporation, improvements in the computerization of its billing, including its further decentralization. This is an important step in the right direction.

The financial relationships among the Government and international organizations, ANDA, and users are presented in schematic form in Gráfico II-8. In the center is ANDA, which to some extent (avoiding exaggeration) can be thought of a Black Box. Into this box comes financing and subsidies from the Government of El Salvador, the InterAmerican Development Bank, USAID, and other organizations; debt service is paid by ANDA on the financing portion of these inflows.

ANDA provides water and sanitation services in a highly variable level of service from place to place. ANDA receives user fees. In many areas ANDA customers suffer deficiencies in water quality, inadequate quantities received, and interruptions in the service. These problems result in additional costs to customers in the form of private cisterns, well and pumps, and the purchase of bottled water. Uniform national water rates, although they may be unevenly enforced, bear no clear relationship with the

costs of providing services in a given system.

ANDA is receiving some subsidy from external sources and there is probably some cross-subsidization going on within ANDA in which the more affluent, and heavy water using customers in Metropolitan San Salvador, are subsidizing other users.

##### 5. Concluding Observations

Although ANDA has made some excellent progress in decentralization, it still is fairly centralized. The inability to compare costs and revenues, or costs and benefits, on a system-by-system basis, is a notable shortcoming in an organization that needs to do more to build customer loyalty and collect more user fees as services are simultaneously improved. ANDA continues to need external financing to operate and grow.

Finally, without major reform it almost certainly will not be in any condition to take on the burden of attending to the needs of the more than of quarter of a million of projected 320 Project beneficiaries,  
much less replicate the model in other small communities.

### III. IMPLEMENTATION PLAN

#### A. STRATEGY

##### 1. Need

From the analysis of the previous chapter, the need for a strategy to achieve the sustainability of the 320 Project is evident:

- o The 320 Project is in the process of generating more than a quarter of a million beneficiaries, who will need continuing post-project guidance and training, especially for their *Comités de Agua*.
- o ANDA without major reform will, almost certainly, not be in any condition to take on this new burden. ANDA is already struggling to carry out its traditional, but still ambitious, program, which is oriented toward cities.
- o Thus the danger exists that the 320 Project beneficiaries will be left stranded after September 1994 and the 320 model not replicated in new communities.

##### 2. Major Thrusts

There are two major thrusts in the Implementation Plan:

- o Redesign the 320 Project so that it will be less costly to sponsoring organizations to implement and, after the project, to sustain.
- o Strengthen and restructure ANDA so it can better afford to subsidize post-project assistance to the 320 beneficiaries and to replicate the 320 model.

Sections B and C of this chapter make recommendations concerning these major elements in the strategy.

##### 3. Governing Principles

There are two important principles that should be applied in the Implementation Plan for both the 320 Project and ANDA: Cost Recovery and Institution Building.

### a. Cost Recovery

The experience of other countries shows that cost recovery merits high priority:

Inadequate cost recovery was shown to be **the most severe constraint** on water supply in developed and developing countries. Developing countries, supported by external agencies, have emphasized implementation, while operation and maintenance has often been neglected. Since Governmental funding and external support are insufficient, consumer payments have become necessary.

...water payments from consumers in developing countries is [sic] possible to a larger extent than previously believed.

[emphasis added]

"Paying for Water in Developing Countries," Tapio S. Katko, Tampere University of Technology, Publication No. 74, p. 8.

Broadly speaking, the potential to recovery costs from user fees increases with settlement size. In larger settlements, there may be a higher share of middle and upper income families as well as commercial and industrial water users with a higher ability to pay. There may be economies of scale in obtaining, storing, and distributing water to larger settlements. In a big city, the water and sanitation services can be run on a business-like basis, very much in accord with ANDA's "criterion of a self-financing enterprise."

In a small towns and hamlets, the ability to pay of residents is typically lower and the dispersion of the housing units raises water delivery costs. If smaller settlement size is also associated with lower educational levels, more health promotion may be needed to obtain the desired health benefits from the water and sanitation improvements. To a limited extent, these factors can be offset by community contributions--cash or in-kind--to reduce construction costs to sponsoring organizations.

Costs can also be reduced by simpler technology, such as hand-pumps in the 320 Project, but that may also mean low service levels to beneficiaries. That may be appropriate to bring benefits into balance with costs.

In the case of El Salvador it appears in general that potential cost recovery increases with size of settlement. After all, Metropolitan San Salvador with 57 % of the country's water services and 66 % of the sewerage, has 68 % of the billings (Cuadro II-7). Cost recovery, as far as the author of this study has been able to ascertain, has not been rigorously analyzed in El Salvador. It is not known at what settlement population level break-points for recovery of all costs, or only operation, maintenance, and replacement costs, or only operation

and maintenance costs.

The *Plan Nacional de Saneamiento, 1991-2000*, (p. 31), suggests for El Salvador that:

- cities of over 50,000 people could recover all costs through user fees, including repayment of debt at market rates of interest.
- cities 2,000 to 50,000 people could recover the costs of administration, operation, maintenance, and depreciation. (This inclusion of depreciation allows for the setting aside of monies in those amounts in a sinking funds to provide for eventual replacement costs.)
- communities from 500 to 2,000 inhabitants could recover from user fees the costs of administration, operation, and maintenance. Other costs would be subsidized.
- for communities with fewer than 500 people, the costs of administration, operation, and maintenance would be covered by a mixture of user fees and subsidies.

The *Plan Nacional* also recommends lower service levels for the smaller settlements. While the break-points of 50,000 people, 2,000 people, and 500 people do not appear to be based on a rigorous analysis of Salvadoran data, they provide an excellent initial framework and starting point for further study of cost recovery.

It may be noted that the *Plan's* judgment about the smaller communities is similar to the analysis in the second chapter of this report. At best the user fees in the under 400 people communities would cover operation and maintenance. There will be administrative costs to ANDA to continue to provide technical assistance and training to the Water Committees, thus continuing subsidy is required. For the 320 "systems" the present study concludes that continuing administrative cost (subsidized) will also be required. Although a more dense settlement of 2,000 people may be able to pay more per person, the costs of a "system" are higher, as discussed in chapter II.

For ANDA's supply of services to cities larger than 2,000 people, there may be considerable unexploited potential to collect higher revenues.

#### b. Institution Building

The crucial role of institution building in sustainability was emphasized in the previous chapter (section B., 4., a.). One additional point is made here.

Different institutions are useful for different things. As discussed in the previous chapter, the 320 Project gets ANDA involved in new kinds activities at a time when it has its hands full with its

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traditional ones. In the following sections ways are proposed to either help ANDA do some of the new activities better or to shift them to another, more suitable, institution.

## B. MODIFICATION OF THE 320 PROJECT

The bleak sustainability outlook for the 320 Project is largely due to problems in the design of the project.

### 1. Design Changes

The following paragraphs presents recommendations concerning needed changes in the design of the 320 Project.

#### 320 Design Recommendation # 1:

The 320 Project should be redesigned to involve the *alcaldías* in the execution of the project and in the subsequent assistance to the Water Committees. ANDA and USAID should solicit the participation of municipal associations in this redesign effort. When a local community and its *alcaldía* met certain requirements, ANDA would agree to pay certain construction costs and provide certain technical assistance and training to the Water Committees, which the *alcaldía* would have helped organize.

ANDA has strong capabilities in potable water systems and in urban sewerage. ANDA is not significantly decentralized to the municipal level, much less to the community level; nor does ANDA have much capability in organizing communities. On the other hand, municipalities know the needs and wishes of their citizens, especially through the Open Town Meetings, but lack ANDA's technical expertise.

It would be cheaper for municipalities rather than for ANDA to organize the local Water Committee, with assistance from ANDA on the aspects that are related to the operation and maintenance of the systems. The organizational aspects, however, such as recruitment of Committee members and bookkeeping, could be managed by the *Alcaldía*.

This arrangement would shift a lot of the local promotional effort from the ANDA/AID Management Unit to the *alcaldía*. There would be a net savings overall and a great savings to the Management Unit.

The shifting of local organization and oversight to the *alcaldía* is

consistent with the principle of matching tasks to existing institutional capabilities.

### **320 Design Recommendation # 2:**

**ANDA should stock in its national and regional warehouses replacement parts for the 320 Project equipment (pumps, etc.) and sell them to the Water Committees.**

This recommendation makes use of the existing warehouses of ANDA.

### **320 Design Recommendation # 3:**

**ANDA should have some continuing responsibility for the replacement of pumps and other water equipment. A cost sharing arrangement among ANDA, the Alcaldía, and the Water Committee should be investigated.**

Given the technical nature of the equipment and economies to be achieved by using ANDA's regional warehouses, it appears appropriate that ANDA continue, after the 320 Project ends, to supply equipment to the communities. Cost sharing may be the best solution given the low income levels of the communities. The availability of "free" replacement pumps, for example, would be a disincentive to proper maintenance by the Water Committee.

### **320 Design Recommendation # 4:**

**The Project should seek ways to reduce costs to the sponsoring organizations, especially to ANDA. The 320 Project should require more beneficiary contribution, of both in cash and in-kind, to the costs of the hand-pumps/systems than the project has at present.**

Beneficiary contributions will reduce costs to project sponsors and increase the likelihood that the beneficiaries will subsequently operate and maintain their equipment properly. The alcaldías could play useful roles in explaining the local contribution requirements to the potential beneficiaries and subsequently in overseeing compliance.

### **320 Design Recommendation # 5:**

**The Water Committee with the assistance of the Alcaldía should make financial projections, not only for operation and maintenance expenses, but for the costs of replacement, upgrading, and expansion.**

Over time there will be an need to replace equipment; upgrading and expansion may be needed as well. The hand-pumps are built in such a way as to facilitate later replacement by a submersible pump.

Although, as discussed in the previous chapter, the Water Committee may have a "mandate" of sorts from the 320 Project to supply water to the community, the backing of the Alcaldía could strengthen the Committee's standing considerably. The *alcaldía* could oversee the bookkeeping, for example, and help the members make financial projections. Its participation could also help keep the *alcaldía* informed of the very real needs of the Water Committee.

### **320 Design Recommendation # 6**

**Further consideration needs to given to determining how ANDA, after the 320 Project ends, can continue to promote the construction of latrines in concert with its potable water programs in small towns and hamlets.**

The current project design assumes that the latrine-owning households will use the latrines, benefiting from the education programs of the local Health Promoter, and will maintain the latrines. It is also implicitly assumed that when the regular-type latrine fills up, the owners will find a new site, dig the hole, and move the old latrine over. It is recognized that the *abonera* latrines will require continuing educational efforts for their economic benefits to be realized. Thus a continuing strong role for the Health Promoters is part of the sustainability of the latrine program.

After the project ends, ANDA will need, not only to find the money, but to organize itself properly, in order provide both potable water and sanitation to the country's small towns and hamlets. ANDA in its general program will need to establish some program guidelines for linking the two services--e.g., a rural or small town dwelling must have a good latrine before ANDA will provide a household water connection.

### **320 Design Recommendation # 7:**

**The 320 Project should in the future have a more decentralized design and implementation than it presently has. Pending a more permanent solution, an office in San Miguel should be immediately rented for the**

**320 Project, big enough to provide offices for the present and planned new MU staff as well as to accommodate MSPAS staff, who may need space (at least on a visiting basis). More of the MU personnel presently based in San Salvador should be reassigned to Santa Ana and San Miguel.**

The standardization (currently underway) of the contracting documents for the 320 Project ins an important enabling steps for the decentralization of project administration to the regional level. Although some of the contracting steps--say, the approval of the *Corte de Cuentas*--must remain at the national level, ANDA's own technical review and much of the financial management should be delegated down to the Regional Managers.

The proposed linkages between ANDA and the municipalities (and their associations) could also facilitate decentralization even more. For example, ANDA could collaborate with the evolving coordinating offices of *alcaldías* at the departmental level.

### **320 Design Recommendation # 8:**

**Consideration should be given in a redesign of the water supply component to concentrating efforts, perhaps in a phased manner, in certain geographical areas to attain administrative efficiency.**

Groupings of communities within *Municipios*, which is already occurring in the 320 Project, can reduce the administrative costs to the Management Unit and the construction costs to the private contractors. Similarly, it may be worthwhile for certain areas within regions to be tackled in a phases. During a given time period, the Management Unit could give priority to a certain Department or part of a Department, perhaps setting up a temporary office there or making use of existing *Agencias* of ANDA. A balance should be struck between such concentration and having some participation in the Project throughout the country.

### **320 Design Recommendation # 9:**

**In the selection of the beneficiary communities, use community participation and administrative efficiency, as well as health factors, as selection criteria. For a given time period, the MSPAS should identify two or three times the number of communities that could be served by the 320 Project so that ANDA would have some flexibility in applying the**

### **other criteria.**

At present the MSPAS rates communities on factors such as distance from water, time to get to the water, and percentage of dwellings with latrines. The list of communities with the most need is then transmitted to ANDA, which carries out feasibility studies to determine if there is sufficient water to supply the hand-pumps or systems.

The recommendations continue the health ratings by the MSPAS, taking advantage of existing health data produced by the local Health Promoters, and ANDA's feasibility analysis. By giving ANDA two or three times the number of communities that could be served, ANDA would have flexibility to give desirable weight to administrative efficiency and community participation in the selection process.

### **320 Design Recommendation # 10:**

**Within the 320 Project give much higher priority to the long-term strengthening of ANDA as an institution.**

In the overall design of the 320 Project, ANDA is to benefit from equipment purchases (Component I), purchase of commodities and training (Component III), and technical assistance (Component IV). This help, while useful, will not, result in the strengthening and restructuring of ANDA, for which recommendations are offered below (in section C of this chapter).

Within the fairly broad limits set forth in the Project Paper and other project documents, consideration should be given to using the 320 Project as a vehicle for planning and then implementing the changes.

### **320 Design Recommendation # 11:**

**In the 320 Project consideration should be given to choosing a few Departamentos in which special efforts would be made to implement the project and to integrate its management into ANDA.**

Several of the preceding Design Recommendations (e.g., # 5, 7, 8, and 9) would require the Project to focus its management at the regional, *Departamento*, or municipal level. Recommendations to strengthen ANDA also suggest more decentralization (e.g., # 18 and 19 below), as part of a package of policy and structural changes for ANDA.

In a few selected *Departamentos* these recommendations could be applied

vigorously during the life of the 320 Project. In this fashion, the MU would be decentralized further to the *Departamento* level and ANDA strengthened at this level so that the MU could be integrated into ANDA. The *Departamentos* could be chosen to obtain one from each of the three ANDA regions and to have part of the ex-conflict zone included.

### **320 Design Recommendation # 12:**

**The 320 Project Agreement Completion Date should be extended two years to September 30, 1996, to provide enough time to implement the proposed design changes and increase the prospects for sustainability.**

For some of the 11 design changes implementation could, with the agreement of the parties, begin fairly rapidly (say, in two or three months). Examples are stocking parts in ANDA's warehouses, increased beneficiary contribution, and further decentralization of the ANDA/AID Management Unit.

More time is needed for the recommendations concerning involvement of the *alcaldías*, strengthening the financial capabilities of the Water Committees (with municipal assistance), geographical phasing, and integrating the Management Unit into ANDA's (evolving) structure. For many recommendations, time may be required for one or more of the following activities:

- to provide more detailed analysis;
- to confer with other organizations (e.g., municipal associations);
- to draft appropriate documentation, such as Project Implementation Letters and changes to the current Action Plan;
- to obtain written approvals from ANDA, MSPAS, and USAID;
- to implement the changes
- to make final modifications to promote sustainability.

Only making the "quick-to-implement" changes would not improve the prognosis for sustainability from "bleak" to "good." Sustainability would remain in jeopardy.

### **320 Design Recommendation # 13:**

**The sponsors of the 320 Project should agree as soon as possible on the kinds of changes they want made to the Project. With that guidance, a small redesign team should prepare all the proper documentation for the formal approvals. In the meantime, Project implementation should go forward unabated in accordance with its current design.**

The formal redesign should include not only changes arising from this study but those resulting from the recommendations of Herbert Caudill, Jr. (a U.S. Public Health Service Engineer currently working with USAID/Honduras).

It is very disruptive to project management for major design changes to be implemented in a piecemeal fashion. Many of the proposed changes are interrelated and should be considered jointly. The changes should be implemented as a package; of course there can be phasing within the package.

The proposed "small redesign team" should not be people with current responsibilities for implementing the project. They need to concentrate on getting results within the present design. The redesign team would confer periodically with those implementing the 320 Project.

The composition of the redesign team and the time it would need would depend upon the guidance provided ANDA, MSPAS, and USAID. If those organizations basically accept the recommendations of the present report, a two-person team may be needed for approximately two months.

## **C. STRENGTHENING OF ANDA**

### **1. The Vision**

This section presents a Vision for what ANDA could become in the next several years and a series of specific recommendations to achieve it. The new ANDA envisioned here would be stronger. It would meet all its responsibilities better and be better able to absorb the costly burden of the 320 Project.

The Vision is summarized in schematic form in Gráfico III-1, which shows the proposed new relationships among:

- o Sources of Financing
- o ANDA at the National Level
- o Operating Systems at Two Levels:

- Big Urban Systems
  - Small Urban and Rural Systems
- o ANDA's Clients, the Users.

The next sub-section of this section proposes major revisions in the policies governing ANDA. The following sub-section makes recommendations giving more power to ANDA to carry out its revised mandate from the country. A major internal restructuring of ANDA is then proposed, which would further decentralize ANDA and incorporate the present ANDA/AID Management Unit.

The last sub-section suggests a Pilot Cities Program, which could be carried out simultaneously with the proposed institutional changes, or before them, as a way of testing the waters.

The Vision presented here is of course subject to modification. Since it is internally consistent, a different policy on user fees, for example, could imply a different composition of ANDA's governing board and a different internal structure. The present section then can also be used as a framework for analysis. Ultimately, many of the matters discussed are matters of judgment, requiring further discussion and study; some will require political decisions.

## 2. Governing Policies

### a. Criterion of Self-Financing

#### RECOMMENDATION ON ANDA STRENGTHENING # 1:

The Law of ANDA should be amended to provide for the full application of the Criterion of Self-Financing [*Criterio de la Empresa Auto-Financiable*) only to the country's large urban systems.

The large urban systems have the potential to become fully self-supporting ("*autosostenible*" en Gráfico III-1); other systems do not. The law should be revised to remove that requirement from the other systems, opening the path to their orderly, reasonable, and explicit subsidization.

### b. Criterion of Public Social Service

#### RECOMMENDATION ON ANDA STRENGTHENING # 2:

The Law of ANDA should be amended to give ANDA more flexibility in

**the pursuit of improved social services. Except in the big urban systems, user fees would not have to cover all costs, as Article 3 presently provides.**

The present law presents ANDA with a difficult and unresolved trade-off between self-sufficiency and social service.

The Law should be amended to allow ANDA to provide services to those with little ability to pay, while encouraging cost recovery within reason. Within the big, self-supporting, urban systems, this means that there would be cross-subsidization. That is, commercial, industrial, and the more affluent (and heavy water-using) private customers would subsidize services to the poor. For the small urban and rural systems, ANDA needs flexibility to provide a mixture of external subsidies and internal cross-subsidies.

Eventually, much of the analysis and decision-making concerning how to pay for services to those least able to pay should be made at the level of each system. The law should be amended to give ANDA the necessary flexibility.

**c. Decentralization**

**RECOMMENDATION ON ANDA STRENGTHENING # 3:**

**The Law of ANDA should be amended to state that decentralization of ANDA is one of ANDA's governing policies.**

The present law does appear to give the *Junta de Gobierno* the authority to decentralize ANDA's offices in an administrative sense. A new provision in the law encouraging ANDA to decentralize both decision-making and the implementation of decisions would give useful guidance to ANDA's governing board.

**d. User Fees**

**RECOMMENDATION ON ANDA STRENGTHENING # 4:**

**The Law of ANDA should be amended to provide that user fees in a given water and sanitation system should be based on the costs of that system.**

Consistent with the philosophy of matching costs and revenue on a system by system basis, user fees for services from a given system should be tailored to the costs of that system. There should be no

uniform national system of water or waste-water rates; the uniformity should be in the application of the principle that fees should be based on cost to the extent possible.

### **RECOMMENDATION ON ANDA STRENGTHENING # 5:**

**The Law of ANDA should be amended to encourage the rates for water and waste-water services to be adjusted periodically and routinely due to cost increases.**

ANDA should have the power to increase rates as costs go up. Some cost increases may reflect the general inflation in the country; some may be due to special local circumstances (a drought, for example) affecting particular operating systems.

ANDA should not have to struggle continually to catch up with cost increases. Naturally, good management seeks to minimize costs to the extent possible. But unavoidable and necessary cost increases may necessitate some combination of user fee increases, service reductions, and increased subsidy. ANDA would evaluate these cost increases on a system by system basis. The purpose of the recommendation is simply to give ANDA the power to pass on cost increases promptly when it determines that is the proper course to take.

#### **e. Municipal Linkage**

### **RECOMMENDATION ON ANDA STRENGTHENING # 6:**

**The Law of ANDA should be amended to encourage ANDA to cooperate with the municipalities, and to provide ANDA with flexibility to do so.**

In general ANDA should endeavor to work in active cooperation with the municipalities. The new Municipal Code gives the municipalities a remarkable degree of flexibility in forming associations and awarding contracts. The Law of ANDA should give ANDA the power to work cooperatively and creatively, with the municipalities. Any impediments in the Law of ANDA to mutually agreeable cooperation should be removed.

### **3. Delegation of Power to ANDA**

#### **a. Authority of ANDA's Governing Board**

65

## **RECOMMENDATION ON ANDA STRENGTHENING # 7:**

**The Law of ANDA should be amended to allow the governing board of ANDA to make decisions on rates charged users without any further approval from any higher authority.**

Article 3 presently provides that the *Junta de Gobierno* submit proposed rate changes to the Economic Branch of the Executive Power. This provision should be deleted. In its place should be a statement empowering the governing board of ANDA to make those decisions.

As an implementing agency, ANDA needs control over the rates it charges its customers. This control is an important element in strengthening ANDA as a business-like organization. The role of the government should be to set high level policies. Such policies are already reflected in the Law of ANDA, although the present report suggests that some revisions.

Of course it is sometimes argued that rate increases should be made at a higher level because the increases can impose a hardship on the poor. The implementation of Recommendation # 2 above and of # 9 below will promote ANDA's contribution to the needs of the poor. Tying rate increases to political approvals delays increased revenue for ANDA, thereby weakening ANDA overall, including its ability to provide services to the poor.

### **b. Composition of ANDA's Governing Board**

## **RECOMMENDATION ON ANDA STRENGTHENING # 8:**

**The Law of ANDA should be amended to increase the membership on the present Junta de Gobierno to permit the participation of more representatives of the private sector and the inclusion of mayors.**

It is suggested that the Board be broadened to include other important viewpoints and constituencies. More private sector representation reflects the increasing emphasis ANDA will need to place on matching costs and revenues, and to financial management in general. The inclusion of mayors is consistent with the proposed expanded roles for the *alcaldías* as important future partners of ANDA under the policy set forth in Recommendation # 6 above.

An illustrative revised membership of the board is provided in Cuadro III-1, in which the number of voting board members doubles. In this arrangement there are, in addition to the President of ANDA: three

representatives from line ministries; three from the private sector; and three mayors.

This topic merits much further consideration. There are obviously numerous ways of broadening the Board. Related issues also deserve study, such as length and staggering of terms.

**c. Subsidies, Debt Reduction, and Financial Support**

**RECOMMENDATION ON ANDA STRENGTHENING # 9:**

**The Government of El Salvador should provide, and encourage the international donor agencies to provide, funds or other assistance to ANDA for the subsidization of water and sanitation services to those unable to pay the full costs of such services.**

In the proposed scheme, the needy in the big urban areas will be assisted through cross subsidies from other clients. But the required subsidies to provide services needy people residing elsewhere must come from outside sources. As the *Plan Nacional de Saneamiento* states (p. 33):

Promover la mayor obtención de donaciones para utilizarlas en inversiones que beneficien a los estratos económicamente más débiles. [Encourage the obtaining of grants to be used in investment that benefit the economically weakest strata.]

This is quite properly a responsibility of the Central Government.

**RECOMMENDATION ON ANDA STRENGTHENING # 10:**

**The Government of El Salvador should relieve ANDA from the obligation of repaying a significant part of its debt.**

The *Memoria de Labores, 1990*, (p. 43) noted that ANDA had asked the Central Government and other entities for help in paying off previous debt to free up ANDA's funds for investments that would have "...un alto contenido social." (a high social content) Whether it is done to achieve that laudable purpose or to implement the ambitious ANDA strengthening program of this report, ANDA needs financial help. Elimination of debt would release the future debt service payments for other purposes.

**RECOMMENDATION ON ANDA STRENGTHENING # 11:**

**The Government of El Salvador should provide, and encourage the international donor agencies to provide, financial support to increase service coverage and to strengthen ANDA as an institution.**

Major additional resources are needed to provide adequate potable water and sanitation services to urban and rural populations. If coverage is increased in concert with the recommended program of strengthening ANDA, there are good prospects for the increased coverage to be sustained and expanded.

#### **4. Internal Restructuring of ANDA**

A restructuring of ANDA consistent with the above policies is presented in a simplified schematic in Gráfico III-2. Once the policies are in place, the governing board of ANDA could direct that the implementing offices of ANDA be restructured.

#### **RECOMMENDATION ON ANDA STRENGTHENING # 12:**

**ANDA should be restructured in order to be able to better accomplish the revised policies of ANDA.**

In other words, the restructuring proposed here is to carry out the proposed policies; without them the restructuring is not called for. By the same token, different policies could imply a different restructuring.

#### **RECOMMENDATION ON ANDA STRENGTHENING # 13:**

**National level *Gerencias* should concentrate on national level activities. They should also provide support to the decentralized operating systems without interfering with decision-making and implementation that can be carried out at regional and system levels.**

Functions that are primarily national in nature include:

- Estudios de hidrogeología, y sobre esta base, el establecimiento de normas, para el uso del agua, tales como el control sobre el perforado de pozos y descarga de desechos industriales. [Hydro-geological studies, and on this basis, the establishment of standards for the use of water, such as regulation of well drilling and the discharge of industrial waste.]

- Compilación y análisis de datos e información sobre agua, agua potable, y alcantarillado. [Compilation and analysis of data and information on water, potable water, and sanitation systems.]
- Identificación y promoción de tecnologías de agua y alcantarillado aptas para El Salvador. [Identification and promotion of water and waste-water technologies that are appropriate for El Salvador.]
- Identificación y gestiones para obtener financiamiento para agua y alcantarillado tanto de fuentes nacionales como de las externas. [Identification and promotional efforts to obtain financing for water and sanitation from national and international sources.]
- Capacitación del personal de ANDA.

Under the supervision of the General Manager, national level Gerencias would carry out such functions and provide APOYO (help) to the operating systems (Gráfico II-2).

#### **RECOMMENDATION ON ANDA STRENGTHENING # 14:**

**Each big urban system should have its own Manager, who reports directly to the General Manager, and who supervises a range of supporting offices. System-level accounting should produce financial statements for each system.**

As shown in Gráfico III-2, each Big Urban Gerencia would be supported by operating divisions and departments. Especially at first, the make-up of the supporting offices would vary among systems. San Salvador might be fairly complete; Santa Ana might require more apoyo for some years from the national level Gerencias. It is crucial that each system from the outset establish its own accounting offices and generate system level financial statements.

While the 50,000 minimum population level for systems to be classified as "big urban" systems is a good starting point, the topic will require further study, and subsequent analysis of Salvadoran experience. It may turn out that some smaller cities also have the potential to cover all their costs from user fees.

#### **RECOMMENDATION ON ANDA STRENGTHENING # 15:**

**The Manager of each big urban system should be counseled frequently by**

**an Advisory Commission, made up of local residents and chaired by the mayor. ANDA would delegate as much decision-making power as possible to the Manager; the Manager in turn would work closely with the Advisory Commission.**

The relationships between the General Manager of ANDA, the Manager of a big urban system, the Advisory Commission, and the Municipality are illustrated for Sonsonate in Gráfico III-3. The President of the Commission would be the mayor; members would include two of the elected City Councilmen, representatives of the private sector, and other citizens.

The operational policy of the President and General Manager of ANDA would be to delegate as much decision-making power as possible to Managers of the Big Urban Systems. For example, the Manager could be given blanket power from ANDA to increase rates up to a stated percentage each year, with the concurrence of the majority of the Advisory Commission.

The Municipality plays a key role in this scheme. Through the mechanism of the Advisory Commission it becomes informed and gives its counsel on important policy matters, such as rates and investment plans. The municipality, as also indicated in Gráfico III-3, would use the Open Town Meetings and Popular Consultations to learn the views of the citizenry.

For example, suppose that the ANDA Manager of the Sonsonate system with the help of his technical staff develop alternative investment plans. The alternatives include different service levels and different phasing of better services, and accordingly, different rates and phasing of rates to generate the revenues needed to amortize the necessary borrowings and to cover other costs. These alternatives would be presented to the Advisory Commission and through the *alcaldía* to the citizenry. The prudent Manager would heed the preferences of the people. With their endorsement there would be public support for the chosen plan and understanding of the need for the vigorous collection of user fees.

#### **RECOMMENDATION ON ANDA STRENGTHENING # 16:**

**ANDA should delegate much more authority to the Regional Managers, who would supervise the small urban and rural systems. The three regional offices should in turn be further decentralized to the level of the *Departamento*.**

As much as possible, decision-making and implementation should be carried out at the regional level, or lower, for the small urban and

the rural systems. The three Regional Managers, as shown in Gráfico III-2, would receive help from the national *Gerencias*. Over time the planning, design, and construction capabilities of the regional offices should be greatly strengthened; and decentralized further to the *Departamento* level.

#### **RECOMMENDATION ON ANDA STRENGTHENING # 17:**

**Within the three regional *Gerencias*, accounting should be disaggregated to the *Departamento* level, in part to enable policy makers to know how much subsidy is required at this level for a given level of service.**

Accounting should also be decentralized to the *Departamento* level. User fees and certain costs, such as the salaries of pump operators and replacement parts, could also be tracked at the system level. It would be going too far, however, to disaggregate all accounting to the system level.

One of the features of the overall scheme set forth in this report is recognition of the need for subsidy and the recommendation that it be provided. Disaggregation of accounting to the *Departamento* level would enable policy makers to know the following for any given accounting period: costs; revenues; and sources and uses of funds. From these data the amount of subsidy being provided that *Departamento* would be known. With this solid accounting foundation, projections could be made of the costs and revenues associated with upgrading services to higher levels. In this fashion the subsidy needed to attain a stipulated level of service could be projected.

As one official of ANDA recently observed, the amount of subsidy could well vary from *Departamento* to *Departamento*, due to such variables as rainfall, topography, population size and density, and the existing water and waste-water infrastructure. Disaggregated accounting makes it possible for ANDA to ask its customers to pay user fees in accordance with local costs, thus reducing the subsidy required.

Solidly grounded financial data at the *Departamento* level gives national policy makers good data on which to base their decisions.

#### **RECOMMENDATION ON ANDA STRENGTHENING # 18:**

**ANDA at the regional level should develop systematic and formal linkages with the *alcaldías* and their associations.**

As the regional offices are strengthened, ANDA should consult with the municipalities and their supporting organizations to develop good

mechanisms for frequent coordination between ANDA and the municipalities at regional and Departmental levels.

ANDA is currently participating with other national utilities in *Departamento* level coordinating committees. As ANDA is decentralized further, ANDA's *Departamento* level coordination with other utilities and with associations of the *alcaldías* should be strengthened.

### **RECOMMENDATION ON ANDA STRENGTHENING # 19:**

**The Regional Offices of ANDA should manage ANDA's small urban and rural systems and direct, or least coordinate, other such systems supported by the national government and international donors and lenders. The implementation of the 320 Project (or its successor) should be merged into the Regional Offices.**

The strengthened Regional Offices should eventually be given responsibility for carrying out ANDA's responsibilities for the 320 Project and similar efforts supported by the National Government.

There is at present a confusing hodgepodge of potable water interventions in El Salvador. It is best sorted out at the regional and local levels. For example, for the *Departamento de La Unión*, the Eastern Regional Office knows what ANDA itself is doing and, over time, it should take on management responsibility for the 320 Project. It would also make sense for ANDA's Regional Offices to take on the *PLANSABAR* systems.

In short, the vertical 320 Project should be integrated into a new, strong, horizontal capability at the regional level. ANDA should build up that regional capability. Then when projects such as the 320 Project comes along, or an *alcaldía* requests help for its municipal system, ANDA will have the capability to meet the needs.

At present sponsoring organizations, such as USAID and BID, for expediency set up (vertical) organizations with their own capabilities, and, to some extent at least, bypass the responsible national organization. When those interventions end, the national organization is still weak and the vertical organization lacks future funding to serve the thousands of new beneficiaries created by the interventions.

### **RECOMMENDATION ON ANDA STRENGTHENING # 20:**

**ANDA should conduct an educational program with its customers so that**

**they understand the new policies. Increases in user fees should be phased in, as the services provided by ANDA improve.**

In the big urban systems as well as the small urban and rural systems, the implementation of the recommendations above may result in increases in rates charged to customers. Such increases should not be applied all at once, at the outset of ANDA's upgrading of a given water and waste-water system.

Instead ANDA should conduct an educational campaign, explaining to its customers that rates will over time be adjusted to reflect local costs. Prior to making large investments in any system, ANDA should through the proposed *Comisión Consultiva* or the *Alcaldía* inform its customers that as its services of potable water improve, user fees will increase.

#### **5. Pilot Cities Program**

Implementation of the above 18 recommendations is an ambitious, even daunting, challenge. While the recommendations are under study or even being implemented, ANDA could proceed to implement the basic policies in several selected cities.

### **RECOMMENDATION ON ANDA STRENGTHENING # 21:**

**ANDA should design and implement a Pilot Cities Program in selected cities in close coordination with the alcaldías to help those cities and to strengthen ANDA.**

The Program could cover four to six cities. About half should be larger cities with the potential to recover all costs from user fees. The other cities should be ones where all costs, except the initial capital costs, should be recoverable from user fees. Metropolitan San Salvador should be excluded because it is such a big and special case.

The second group allows some of the smaller cities in the ex-conflict zone to be included. Thus the Program could also be responsive to the current national priority to assist the formerly conflictive areas.

The Program should be based on explicit and mutual obligations by ANDA, the municipalities, and the citizens. In return for its commitments to upgrade the infrastructure in the selected cities, the citizens through their municipal government would accept the principle that they would have to pay for their improved water and sanitation

services through higher user fees. The municipalities and the citizens would have an opportunity to participate in the decision-making on size of investments, service levels, rates to be charged, and phasing.

The Pilot Cities Program would give ANDA, the municipalities, and the country in general the opportunity to test some of the new policies and practices recommended in this report. In particular it will be useful to see, whether the water and sanitation systems of selected cities can indeed become self-supporting. If they can, then external subsidies to them can be eliminated and the funds redirected the small urban and rural systems, including the 320 Project systems.

Finally, the Pilot Cities Program offers ANDA an opportunity to become stronger as an institution in the process of testing policies that it may eventually wish to implement across the board.

## ANEXO 1

### ALCANCE DE TRABAJO

#### I. ANTECEDENTES

La Unidad Administrativa ANDA-AID fue creada especialmente para la administración del Proyecto 0320, la cual esta regionalizada y tiene sus oficinas en San Salvador, Santa Ana y San Miguel. Dicha Unidad Administrativa esta trabajando promoviendo proyectos de abastecimiento de agua potable en zonas rurales en coordinación con MSPAS. Esta es una actividad nueva para ANDA. La mayoría del personal de esta Unidad Administrativa fue empleada fuera de ANDA y no tendrá status permanente dentro de ANDA después de la finalización del Proyecto. El suministro de agua en zonas rurales, bajo el Proyecto 0320, no tiene como objetivos la generación de ingresos y representa una inversión para ANDA. Ya que una gran parte de los recursos de este proyecto están destinados al desarrollo institucional, un plan de implementación para la continuidad de la institución es esencial para proteger la inversión de la Unidad Administrativa ANDA-AID.

#### II. TAREAS ESPECIFICAS

El consulto a corto plazo deberá examinar en su totalidad la organización de ANDA y la Unidad Administrativa ANDA-AID, y desarrollar un plan de implementación para asegurar el funcionamiento continuo del suministro de agua en las zonas beneficiadas por el Proyecto 0320, después de la finalización del mismo. El plan deberá incluir provisiones para mantener en forma continua la capacidad de la Unidad Administrativa ANDA-AID para el suministro de agua potable, una metodología para el financiamiento y contemplar la integración del personal y equipo que ya posee la Unidad Administrativa ANDA-AID. El plan deberá también señalar el nivel apropiado de autoridad entre ANDA y MSPAS y la capacidad de las oficinas regionales. El plan para la regionalización y para la integración de la Unidad Administrativa ANDA-AID dentro de ANDA deberá desarrollarse en coordinación con ANDA y basarse en conceptos ejecutables.

ANNEX 2

EXCERPTS FROM THE MUNICIPAL CODE  
OF EL SALVADOR

[free translation for the purposes of this study]

TITLE III, OF MUNICIPAL RESPONSIBILITIES  
CHAPTER ONE

Article 4.- Municipalities are concerned with

1. The preparation, approval, and execution of urban and rural development plans for the locality;...
5. The promotion and development of health programs, such as environmental sanitation, and the prevention and battle against diseases;...
10. The increase and protection of renewable and non-renewable resources;...
25. The planning, execution, and maintenance of all types of public works necessary for the municipality

Article 5.- The municipal responsibilities, defined in the previous article, do not affect powers conferred on other public administration entities.

Article 6.- The Administration of the State only can carry out works or deliver services of a local character or improve them, when the concerned municipality does not construct the works or deliver the services, or does so in a deficient manner. In all cases the State should act with the consent of the municipal authorities and in conformity and coordination with its plans and programs.

Article 7.- Municipal public services may be delivered by:

1. The municipality directly;
2. Organizations, enterprises or foundations of a municipal character through delegation or contract;
3. Franchise granted through public bidding.

...

Article 11.- Municipalities may associate with each other to improve, defend, and extend their interests or to establish among them cooperative agreements with the objective of collaborating in the carrying out of works or the delivery of services that might be of common interest to two or more municipalities.

Article 12.- All the institutions of the State and autonomous entities are obligated to collaborate with the Municipality in the management of materials and services in their purview.

...

Article 14.- The municipalities alone or in union with others may agree upon the creation of decentralized entities with or without autonomy for the achievement of specified municipal objectives.

...

Article 17.- Municipalities, individually or collectively, may agree upon the creation of foundations, associations and enterprises of municipal services, or of the use or industrialization of natural resources. They may establish centers for the interchange of ideas, information, and experiences and in for whatever other objective of local or inter-municipal interest.

Article 18.- Municipalities may negotiate and agree to constitute corporations for the delivery of public services, local or inter-municipal, or for whatever other lawful objective.

...

#### TITLE IX, OF THE PARTICIPATION OF THE COMMUNITY CHAPTER I, OF THE OPEN TOWN MEETINGS

Article 115.- Municipal councils should conduct open town meetings at least every three months in order to provide public information on municipal management, to consider topics which citizens may have requested and those which the council itself considers appropriate.

All community members can attend and participate in the discussion of matters of concern, and may also suggest or ask questions concerning issues included in the agenda....

Article 116.- When the municipal council considers it appropriate or wishes to know the wishes of the citizenry concerning a specific project or policy to be implemented, the council may call a meeting of concerned citizens in order that through a Popular Consultation they may express their opinion.

The council may no act contrary to majority opinion expressed in a Popular Consultation....

...

TITLE XI, OF EXPROPRIATION, CHAPTER ONE

Article 138.- When a municipal council requires the acquisition of real property or part of the same for the attainment of a work intended for a service of public use or of local social interest, the council may decide to acquire it in a voluntary manner, or through eminent domain in conformity with the provisions of this title only if it could not be acquired in a voluntary manner.

...

**PROGRAMA DE INVERSIÓN PLANIFICADO Y APROBADO EN EL SECTOR  
AGUA POTABLE Y SANEAMIENTO (1992-2000)**

ESTUDIO, PROYECTO U OTRA ACTIVIDAD	AGENCIA EJECUTORIA	AGENCIA FINANCIERA
1- Programa de Agua Potable y alcantarillado Sanitario del Area Metropolitana de San Salvador.	ANDA	BID/813-SF-ES GOES
2- Acueductos Rurales III Etapa.	PLANSABAR	BID/772-SF-ES GOES
3- Abastecimiento de Agua Zona Norte Etapa I	ANDA	BCIE/FCIE-176-0
4- Programa de Agua y Saneamiento Rural De Bajo Costo.	MSPAS	UNICEF
5- Programa de Agua Potable y Alcantarillado para Santa Ana, San Miguel y Sonsonate. Depuración de Aguas Residuales en 12 Ciudades Menores. Ampliación Planta de Agua Potable de San Salvador.	ANDA	BID
6- Acueductos Rurales IV Etapa.	PLANSABAR	BID
7- Agua Potable Rural, Saneamiento y Salud. Proyecto ProMejoramiento Servicios Públicos No. 519-0320.	ANDA/MSPAS	USAID-0320 USAID-LC
8- Proyecto de Abastecimiento de Agua Potable para la Zona Central.	ANDA	KFW
9- Complemento y Equipamiento de Pozos y Adquisición de Medidores.	ANDA	NO IDENTIFICADA
10- Proyecto de Rehabilitación de Equipo y Tubería.	ANDA	NO IDENTIFICADA
11- Proyecto de Abastecimiento de Agua Corinto-San Martín	ANDA	NO IDENTIFICADA
12- Reconstrucción de la Infraestructura Básica, Agua Potable y Alcantarillados. Fase I	SNR MUNICIPALIDADES	USAID-LC
13- Reconstrucción de la Infraestructura Básica, Agua Potable y Alcantarillados. Fase II	SNR MUNICIPALIDADES	NO IDENTIFICADA
14- Rehabilitación de Sistemas de Agua Potable en Zonas Conflictivas.	ANDA	NO IDENTIFICADA

CUADRO II-1

10/1

ESTUDIO, PROYECTO U OTRA ACTIVIDAD	AGENCIA EJECUTORIA	AGENCIA FINANCIERA
15- Estudio para Revisar las Leyes de Agua y Descarga de Desechos Industriales y Diseño de Mecanismos para su aplicación.	ANDA	NO IDENTIFICADA
16- Estudio para Consolidar las Funciones de Coordinación, Regulación y de Formulación de Políticas del ANDA y Mejorar su Eficiencia Operacional.	ANDA	NO IDENTIFICADA
17- Estudio Para Mejorar la Administración de los Recursos de Agua Subterránea.	ANDA	NO IDENTIFICADA

CONT. CUADRO II-1

ANDA : Asociación Nacional de Acueductos y Alcantarillados.  
 PLANSABAR : Planeamiento de Nacional de Salud Basico Rural.  
 MSPAS : Ministerio de Salud Pública y Asistencia Social.  
 SNR : Secretaría Nacional de Reconstrucción.  
 BID : Banco Interamericano de Desarrollo.  
 FCIE : Fondo Centroamericano de Integración Economica.  
 BCIE : Banco Centroamericano de Integración Economica.  
 UNICEF : Fondo de Naciones Unidas para la Infancia.  
 KFW : Corporacion de Prestamos para la Reconstrucción.

FUENTE : Agencia Internacional para el Desarrollo de los Estados Unidos.

08

## SISTEMAS DE AGUA POTABLE CONSTRUIDOS POR PLANSABAR

			SISTEMAS DE FUNCIONAMIENTO		TIPO DE SERVICIO		POBLACIÓN ATENDIDA
PROGRAMA	REGIÓN	No. PYTOS.	GRAVEDAD	BOMBEO ELEC.	DOMICILIO	PUBLICO	(No. HABITANTES EN BASE A No. DE SERVICIOS)
	(1)	(2)			(3)	(4)	(5)
(III)	Central	5	4	1	582	-	3, 492 habitantes
BID	Occidental	10	9	1	3, 599	3	21, 738 "
772	ParaCentral	6	4	2	971	-	5, 826 "
SF-ES	Oriental	2	2	-	351	-	2, 106 "
(II)	Central	10	3	7	1, 814	4	11, 076 "
BID	Occidental	16	12	4	7, 461	2	44, 862 "
504	ParaCentral	8	1	7	1, 472	-	8, 832 "
SF-ES	Oriental	10	7	3	364	-	2, 184 "
(I)	Central	14	8	8	2, 462	30	16, 212 "
BID	Occidental	24	14	14	3, 544	3	21, 408 "
324	ParaCentral	14	9	8	2, 207	76	16, 890 "
SF-ES	Oriental	10	6	6	920	7	5, 856 "
(R)	Central	28	22	6	1, 740	-	10, 440 "
PROGRAMA	Occidental	13	10	3	1, 388	-	8, 328 "
REGULAR	ParaCentral	12	5	7	1, 674	15	10, 764 "
	Oriental	37	35	2	1, 723	30	11, 778 "
<b>TOTAL</b>		<b>219</b>	<b>150</b>	<b>69</b>	<b>32, 272</b>	<b>170</b>	<b>281, 792</b>

CUADRO II-2

NOTAS: Programa BID 772 SF-ES, sin finalizar, totalidad 98 proyectos. Información obtenida de 23 proyectos

- (1) Región Central: La Libertad, San Salvador, Chalatenango.  
Región Occidental: Santa Ana, Ahuachapan, Sonsonate.  
Región Paracentral: San Vicente, La Paz, Cabañas, Cuscatlán.  
Región Oriental: La Unión, San Miguel, Usulután, Morazán.
- (2) Regular : 113 comunidades, Dato : 76 solamente  
(II) : 134 comunidades, Dato : 121 solamente                      Comprende 196 proyectos.  
(I) : 102 comunidades, Dato : 95 solamente
- (3) Conexión Domiciliar : Diseñado para dotar con 100 lts/hab/día. Se asume 6 hab. por conexión
- (4) Público : Servicio por medio de cantarera, norma de dotación: 30 lts/hab/día se asume 48 hab. por cantarera
- (5) Población atendida : Se dispone información solo de acueductos en los cuales hay control, a causa del conflicto nos se tiene información.

CONT. CUADRO II-2

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**MUNICIPIOS EN EL SALVADOR  
CON Y SIN SISTEMAS DE ACUEDUCTOS Y ALCANTARILLADOS  
DICIEMBRE 1990**

	CON SISTEMA			SIN SISTEMA	TOTAL
	ATENDIDO POR ANDA	ATENDIDO POR MUNICIPALIDADES	TOTAL		
De Acueducto: Numero de Municipios Porcentajes	177 68%	72 27%	249 95%	13 5%	262 100%
De Alcantarillado: Numero de Municipios Porcentajes	82 31%	0 0%	82 31%	180 69%	262 100%

CUADRO II-3

FUENTE: Administración Nacional de Acueductos y Alcantarillados.  
San Salvador, El Salvador, C. A.  
Boletín Estadístico No. 12, 1990. Cuadros 14 y 15.

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**MUNICIPIOS POR DEPARTAMENTO EN EL SALVADOR CON Y SIN SISTEMAS DE ACUEDUCTOS DICIEMBRE 1990**

DEPARTAMENTO	CON SISTEMA			SIN SISTEMA	TOTAL
	ATENDIDO POR ANDA	ATENDIDO POR MUNICIPALIDADES	TOTAL		
AHUACHAPAN	11	1	12	0	12
SANTA ANA	12	1	13	0	13
SONSONATE	12	3	15	1	16
CHALATENANGO	15	18	33	0	33
LA LIBERTAD	14	7	21	1	22
SAN SALVADOR	17	2	19	0	19
CUSCATLAN	12	1	13	3	16
LA PAZ	19	2	21	1	22
CABAÑAS	6	3	9	0	9
SAN VICENTE	12	0	12	1	13
USULUTAN	19	1	20	3	23
SAN MIGUEL	13	7	20	0	20
MORAZAN	6	18	24	2	26
LA UNION	9	8	17	1	18
<b>TOTALES</b>	<b>177</b>	<b>72</b>	<b>249</b>	<b>13</b>	<b>262</b>

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CUADRO II-4

FUENTE; Boletín Estadístico, No.12, 1990, Cuadro 14.

## OBJETIVOS DEL PROGRAMA DE MEJORAMIENTO DE SERVICIOS PUBLICOS

BOMBAS MANUALES A CONSTRUIR		900	
No. de Cantones	60		
No. de Caserios	300		
Pob. Beneficiaria (1)	112,500		
Adultos Beneficiarios (2)	45,000		
Familias Beneficiarias	22,000		
LETRINAS A CONSTRUIR			
Familias sin letrinas (3)	15,750		
Demanda para letrinas (4)		11,812	
SISTEMAS A MEJORAR			
No. de "Comunidades"	92	46	
Pob. Beneficiaria	154,000		
Adultos Beneficiarios	61,600		
Familias Beneficiarias	30,800		
LETRINAS A CONSTRUIR			
Familias sin Letrinas (5)	6,160		
Demanda para Letrinas (6)		4,620	
BOMBAS MANUALES A CONSTRUIR			900
TOTAL DE SISTEMAS A MEJORAR			46
TOTAL DE LETRINAS A CONSTRUIR			16,433
POBLACION TOTAL A BENEFICIARSE			266,500

CUADRO II-5

SUPUESTOS:

1. 25 FAMILIAS/BOMBA x 5 PERSONAS POR FAMILIA
2. 2 ADULTOS POR FAMILIA
3. 70% DE LAS FAMILIAS NECESITAN LETRINAS
4. 75% DE LAS FAMILIAS QUE NECESITAN LETRINAS ESTARAN DISPUESTAS A RECIBIR UNA
5. 20% DE LAS FAMILIAS NECESITAN LETRINAS
6. 75% DE LAS FAMILIAS QUE NECESITAN LETRINAS ESTARAN DISPUESTAS A RECIBIR UNA

FUENTE: LOUIS BERGER INTERNATIONAL, INC.

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**PUBLIC SERVICES IMPROVEMENT PROJECT, COMPONENT III  
PLANNED VS. ACTUAL MAJOR OUTPUTS AND END OF PROJECT STATUS  
AS OF MARCH 1992**

MAJOR OUTPUTS	PLANNED	BEGUN	COMPLETED
Small water systems designed	46	5	3
Small water systems improved or repaired	46	0	0
Wells drilled and handpumps installed	900	0	0
Latrines installed	16,000	1,029	0
	PLANNED	ACTUAL	
Water committees formed for each water system Installed and in each caserio where a handpump is installed	346	254	
Regional offices of ANDA established, equipped, and staffed with manager, support personnel, technicians, and water promoters	3	3	
ANDA management unit expanded and fully staffed, and management systems installed	1	1	
Health and sanitation education provided to residents of the 300 caserios where handpumps will be installed and of the 92 communities where water systems will be improved	300 92	142 0	
	PLANNED	ACTUAL	
<b>END OF PROJECT STATUS</b>			
600,000 people served by new or repaired and functioning water systems and sanitary facilities, raising access from 12.5% to 30%	266,500	0	
90% of families in target communities know and practice correct use of water	90	15	
90% of schools in the target area have adequate and clean latrines	90	20	
Health and sanitation promoters have active contacts with users of 95% of rural potable water and sanitation points (or identified) under this project	95	100	

CUADRO II-6

SOURCE:           LOUIS BERGER INTERNATIONAL, INC.

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## VARIABLES DE ANDA A NIVEL REGIONAL EN 1990

REGIONES										
VARIABLE	ORIENTE	%	OCCIDENTE	%	ZONA CENTRAL	%	AMSS	%	TOTAL	%
SERVICIOS DE Acueducto <sup>1/</sup>	31,999	10	52,485	17	50,511	16	177,839	57	312,834	100
Alcantarillado	20,142	8	35,568	15	28,096	11	160,978	66	244,784	100
NUEVOS SERVICIOS Acueducto <sup>1/</sup>	1,259	9	1,602	12	2,908	21	7,971	58	13,740	100
Alcantarillado	731	7	894	8	1,627	16	7,227	69	10,479	100
MEDIDORES INSTALADOS	471	0.7	2,396	4	2,184	3	60,866	92.3	65,917	100
PRODUCCIÓN AGUA (Miles M <sup>3</sup> )	22,802	13	27,168	15	27,278	15	104,296	57	181,544	100
CONSUMO AGUA (Miles M <sup>3</sup> )	12,367	9	21,700	16	19,205	14	81,206	61	134,478	100
VALOR FACTURADO (Miles ¢)	10,619	7	20,869	14	16,481	11	100,976	68	148,945	100
PERSONAL (No. de empleados)	270	7.9	307	8.9	408	11.9	2,445	71.3	3.430	100

CUADRO II-7

FUENTE: TOMADO DE LA MEMORIA DE LABORES ANDA, 1990. P.48

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## MUNICIPIOS ATENDIDOS POR ANDA CON SERVICIO DE AGUA POR POBLACIÓN URBANA

DEPARTAMENTO	NUMERO DE MUNICIPIOS ATENDIDOS POR ANDA CON SISTEMAS DE AGUA			PEQUEÑOS MUNICIPIOS
	POBLACIÓN URBANA CON MENOS DE 2,000 HABITANTES	POBLACIÓN URBANA CON MAS DE 2,000 HABITANTES	TOTAL	
AHUACHAPAN	6	5	11	55%
SANTA ANA	4	8	12	33%
SONSONATE	2	10	12	17%
CHALATENANGO	12	3	15	80%
SAN SALVADOR	0	17	17	0%
LA LIBERTAD	2	12	14	14%
CUSCATLAN	7	5	12	58%
LA PAZ	8	11	19	42%
CABAÑAS	3	3	6	50%
SAN VICENTE	7	5	12	58%
USULUTAN	5	14	19	26%
SAN MIGUEL	4	9	13	31%
MORAZAN	4	2	6	57%
LA UNIÓN	5	4	9	56%
TOTAL	69	108	177	39%

CUADRO II-8

FUENTE: BOLETÍN ESTADÍSTICO No. 12 DE ANDA, AÑO 1990, CUADROS 29 Y 42.

**ADMINISTRACION NACIONAL DE ACUEDUCTOS Y ALCANTARILLADOS**  
**No. DE EMPLEADOS A FEBRERO DE 1992.**

AREAS	TOTALES
DIRECCION SUPERIOR Y ASESORIA	186
GERENCIA DE OPERACIONES	1,418
GERENCIA DE PROYECTOS Y OBRAS	194
GERENCIA ADMINISTRATIVA FINANCIERA	446
GERENCIA DE COMERCIALIZACION	390
GERENCIA DE RECURSOS HUMANOS	112
GERENCIA REGION OCCIDENTAL	360
GERENCIA REGION ORIENTAL	312
<b>TOTALES</b>	<b>3,418</b>

CUADRO II-9

FUENTE: ANDA, GERENCIA DE RECURSOS HUMANOS

**ADMINISTRACION NACIONAL DE ACUEDUCTOS Y ALCANTARILLADOS  
EMPLEADOS EN LAS AGENCIAS A FEBRERO DE 1992**

<b>AGENCIAS AREAS CENTRAL</b>	<b>OFICINA</b>	<b>CAMPO</b>	<b>TOTAL</b>
Agencias Comercial Santa Tecla	9	1 Fontanero Avisador	10
Agencia Comercial Quezaltepeque	4	3 Fontanero Avisador	7
Agencia Comercial Guazapa	4	1 Fontanero	5
Agencia Comercial Chalatenango	2	--*	2
Agencia Comercial Cojutepeque	6	1 Fontanero	7
Agencia Comercial Ilobasco	4	3 Fontaneros	7
Agencia Comercial Zacatecoluca	6	1 Fontanero	7
SUB-TOTAL	35		45
<b>AGENCIA REGION OCCIDENTAL</b>			
Agencia Comercial Santa Ana	15	1 Inspector	10
Agencia Comercial Sonsonate	13	1 Fontanero	14
Agencia Comercial Ahuachapan	6	1 Fontanero	7
SUB-TOTAL	34		37
<b>AGENCIA REGION ORIENTAL</b>			
Agencia Comercial Usulután	8	2 Fontaneros y Ayudante	10
Agencia Comercial Santiago de María	5		5
Agencia Comercial La Unión	5	1 Fontanero	6
Agencia Comercial San Miguel	15	1 Fontanero	16
SUB-TOTAL	33	4	37
<b>TOTAL</b>	102		119

CUADRO II-10

FUENTE: Anda, Gerencia de Relaciones Humanas.

**GASTOS EN 1990  
PARA LA ADMINISTRACION DE ACUEDUCTOS Y ALCANTARILLADOS  
DE EL SALVADOR**

PROGRAMAS DE ANDA	GASTOS REALES EN MILLONES DE COLONES %		
=====			
<b>GASTOS REALES</b>			
<b>A. PROGRAMA DE FUNCIONAMIENTO</b>			
Administración Central	6.6		
Operación Financiera y Administrativa	24.3		
Operación de Sistemas.	72.9		
SUB-TOTAL		103.9	68%
<b>B. PROGRAMAS DE INVERSION</b>			
Trabajos por Orden y Cuenta Ajena	11.9		
Estudios de Prienversines y Mejoras de Sistemas de Acueductos y Alcantarillado.	5.6		
SUB-TOTAL		27.1	18%
<b>C. DEUDA PUBLICA Y PAGO DE INTERESES</b>			
Amortización de la Deuda Publica y Pago de Intereses.	21.0		
SUB-TOTAL		21.0	14%
<b>TOTAL</b>		<b>152.0</b>	<b>100%</b>
=====			

NOTA: De los montos en cuadro, una parte fue destinguida para erogaciones, lo demas para reservas constituidas. Del total de 152.0 millones de colones, 119.0 fue para erogaciones y 32.9 para reservas constituidas.

FUENTE: Boletín Estadístico, No. 12, 1990, ANDA, Cuadros 76 y 78.

CUADRO II-11

RESUMEN DEL BALANCE GENERAL DE ANDA  
AL 31 DE DICIEMBRE DE 1988, 1989, Y 1990

CUENTA	1988	1989	1990
	en millones de colones		
ACTIVO	730	738	818
PASIVO Y CAPITAL	730	738	818
PASIVO	419	428	473
CAPITAL	311	311	345

Fuente: Memoria de Labores, ANDA, 1990, pp. 50-54

CUADRO II-12

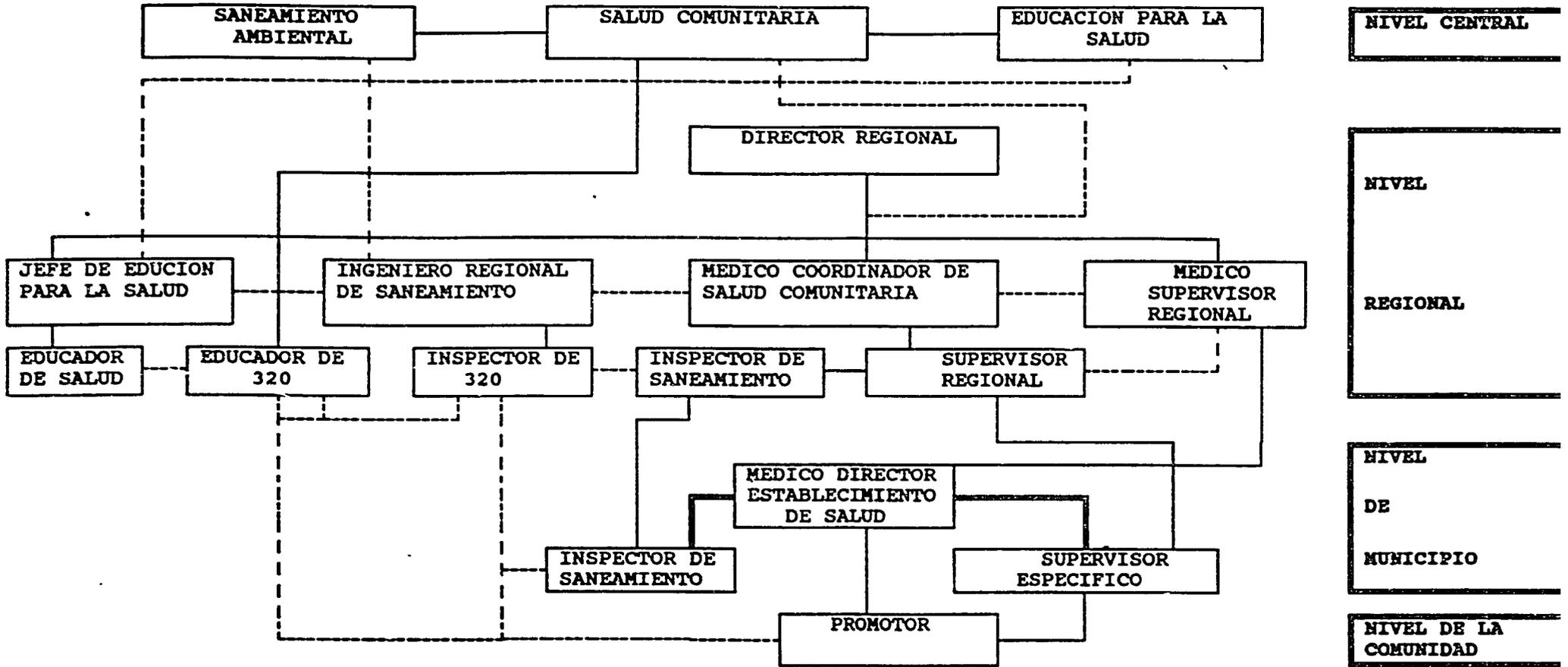
Cuadro III-1

REPRESENTACION ACTUAL EN LA JUNTA DE GOBIERNO DE ANDA  
Y UNA REPRESENTACION ILUSTRATIVA

INSTITUCION	REPRESENTACION ACTUAL EN LA JUNTA DE GOBIERNO	REPRESENTACION ILUSTRATIVA
ANDA	Presidente	Presidente
MINISTERIO DE OBRAS PUBLICAS	Representante	Representante
MINISTERIO DEL INTERIOR	Representante	Representante
MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL	Representante	Representante
CAMARA SALVADORENA DE LA INDUSTRIA DE LA CONSTRUCCION	Representante	Representante
ASOCIACION NACIONAL DE LA EMPRESA PRIVADA		Representante de la Zona Metropolitana de San Salvador y Representante de Otra Parte del Pais
ALCALDIAS EN LA ZONA METROPOLITANA DE SAN SALVADOR		Alcalde
OTRAS ALCALDIAS		2 Alcaldes
TOTAL	5	10

# ORGANIGRAMA DE LAS OFICINAS RELACIONADAS CON EL PROYECTO 0320 DEL MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL

CUADRO II-1

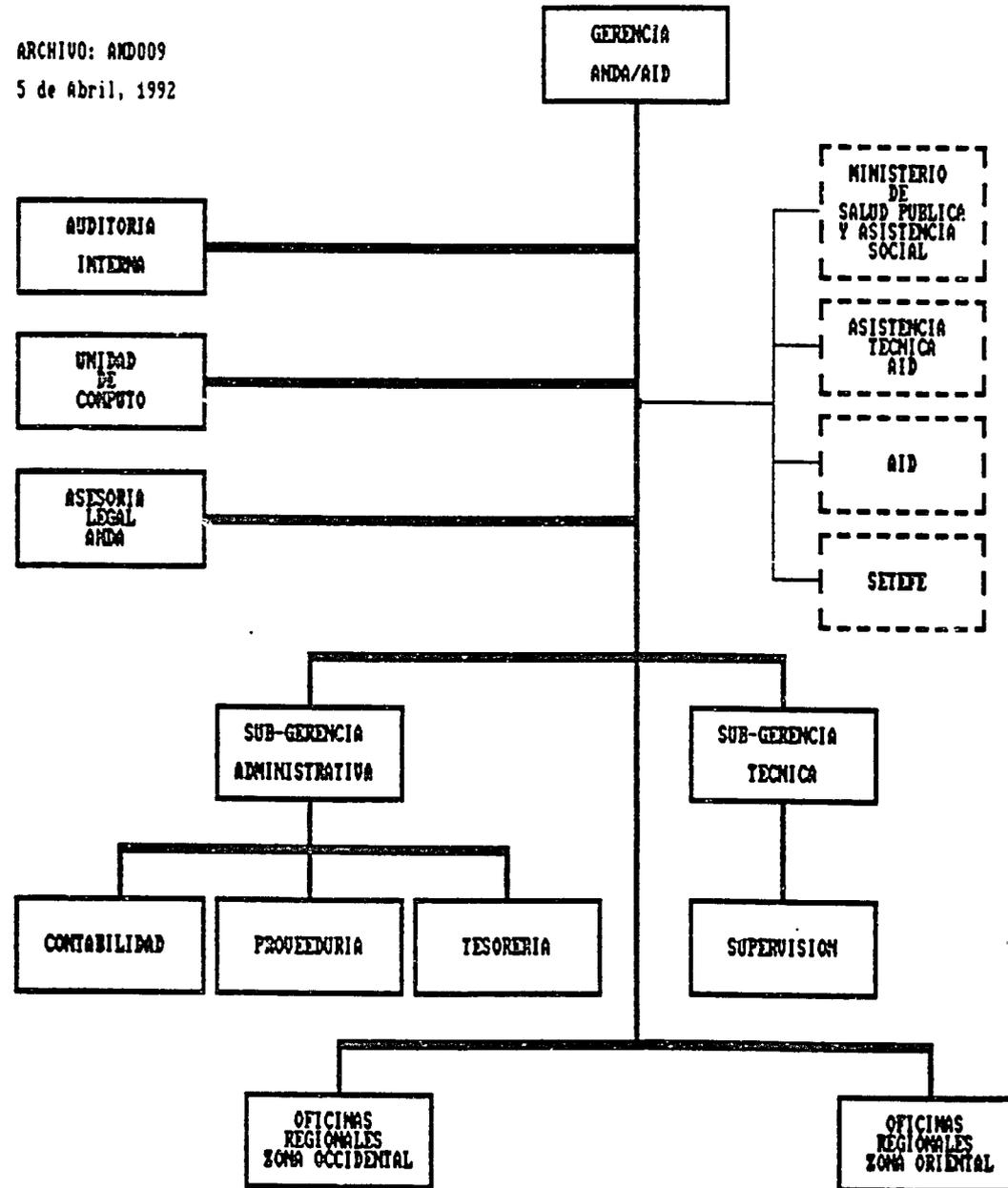


COORDINACION  
SUPERVISION TECNICA  
SUPERVISION ADMINISTRATIVA

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GRAFICO II-2  
 ORGANIGRAMA DE LA GERENCIA ANDA/AID DE ANDA

ARCHIVO: AND009  
 5 de Abril, 1992

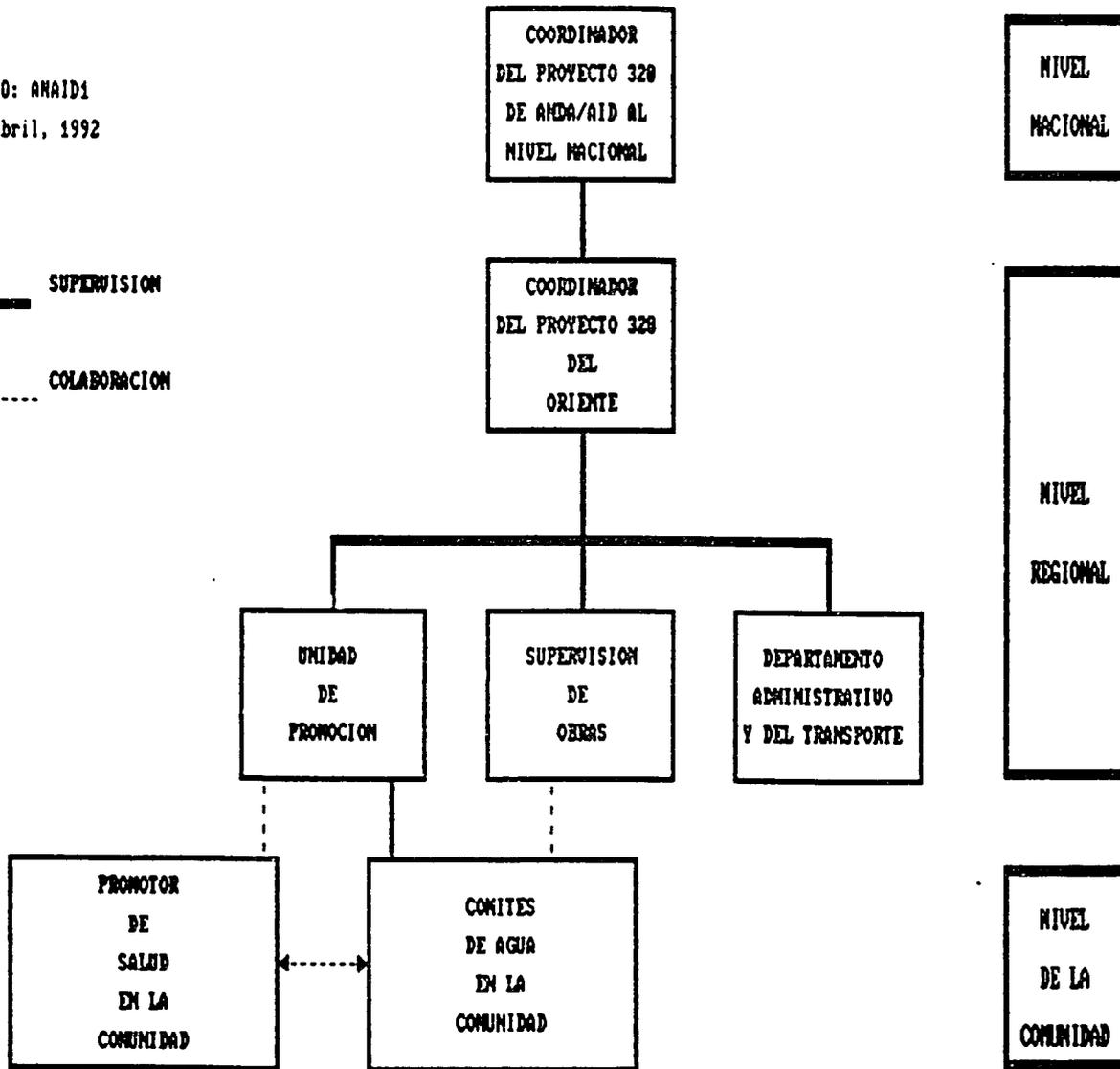


95

GRAFICO II-3  
 PROYECTO 320, ORGANIZACION DE ANDA/AID EN LA ZONA ORIENTAL

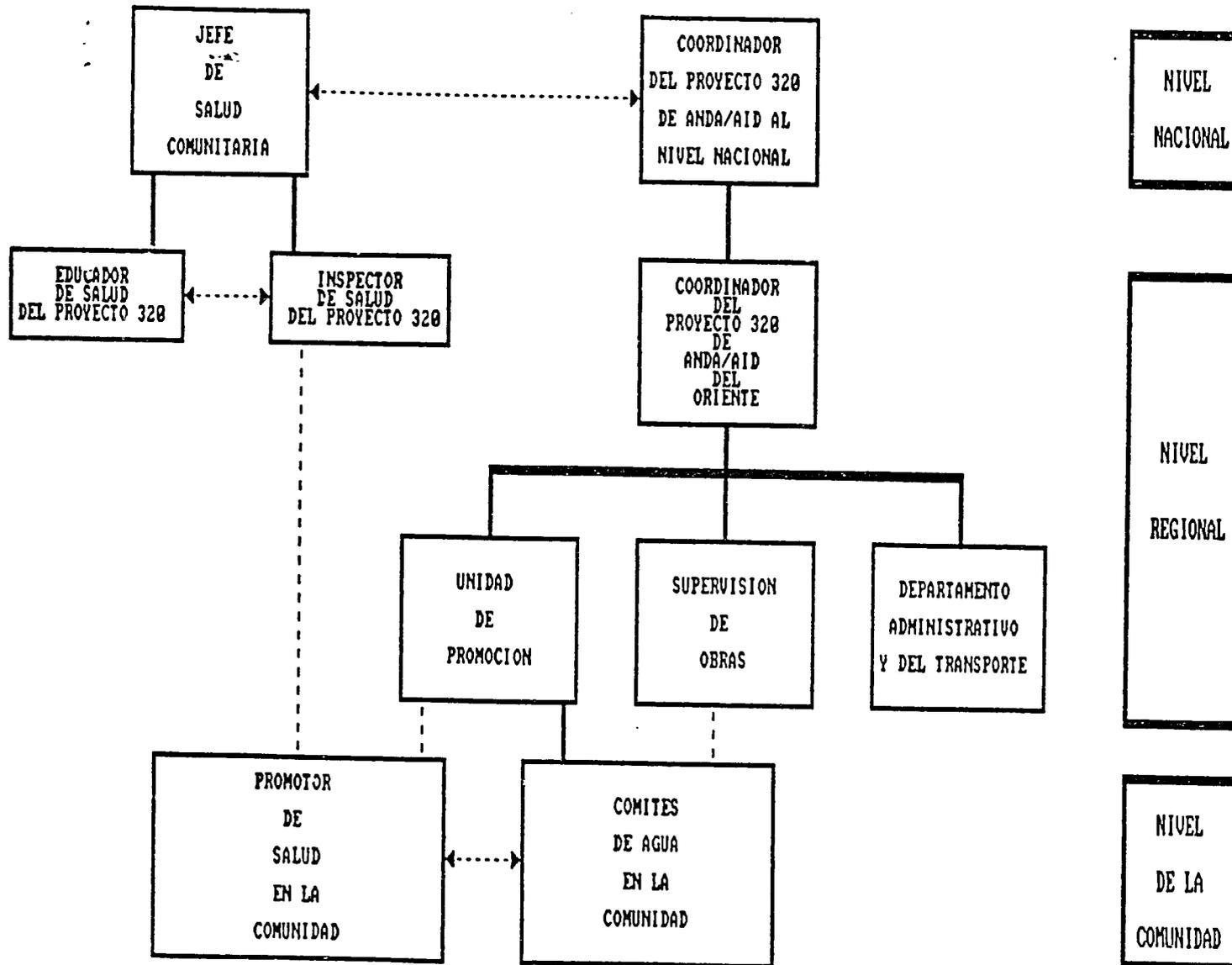
ARCHIVO: ANAID1  
 6 de Abril, 1992

 SUPERVISION  
 COLABORACION



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GRAFICO 1.1  
 PROYECTO 320, ORGANIZACION DE ANDA/AID Y DEL  
 MINISTERIO DE SALUD Y ASISTENCIA SOCIAL EN LA ZONA ORIENTAL



ARCHIVO: ANAID2  
 5 de Abril, 1992

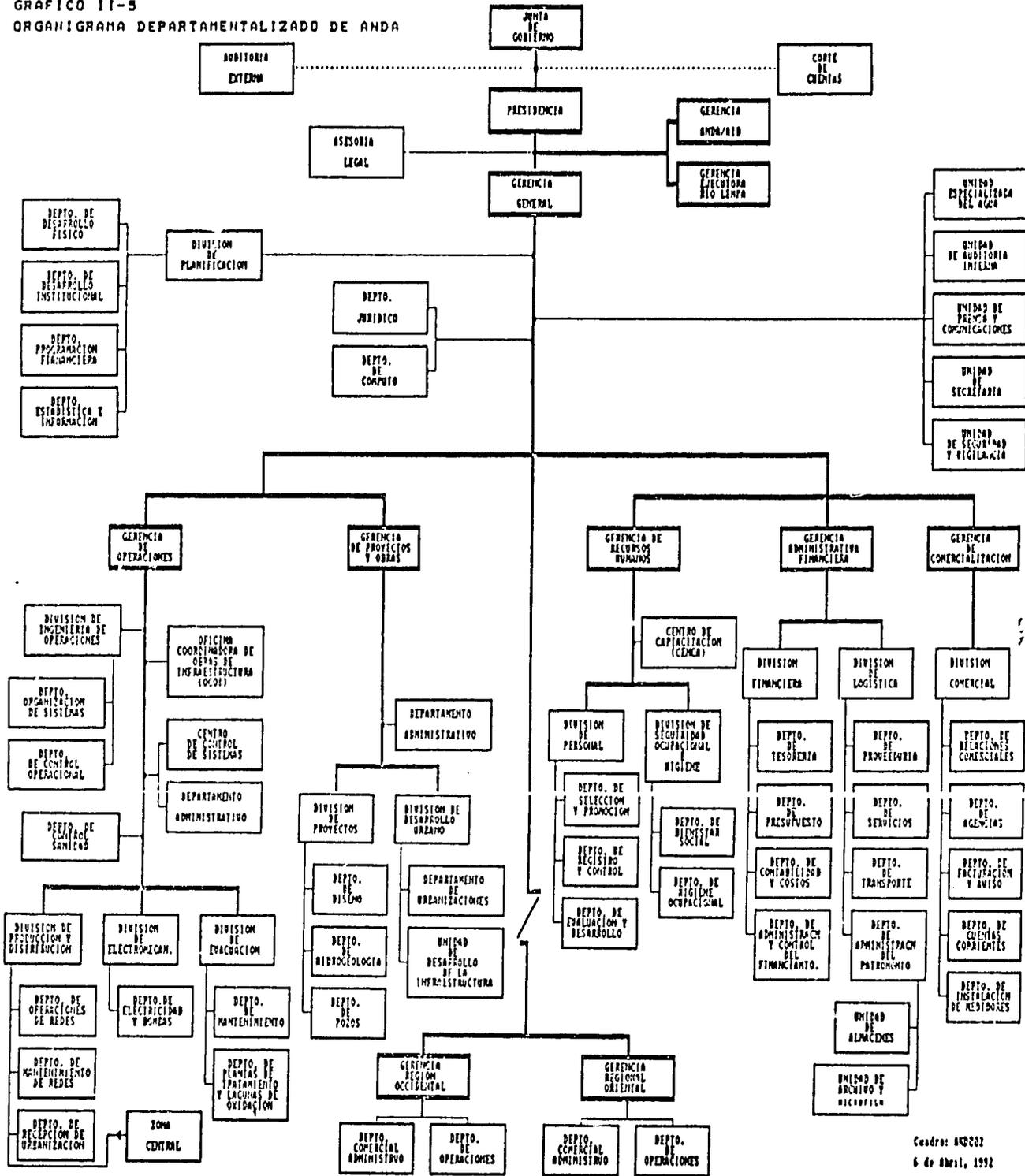
SUPERVISION

COLABORACION

47

8h

GRAFICO 11-5  
ORGANIGRAMA DEPARTAMENTALIZADO DE ANDA



Cuadro: ANCO32  
6 de Abril, 1992

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GRAFICO 11-6  
ORGANIGRAMA REGIONALIZADO DE AIDA

Cuadro: AN/025  
6 de Abril, 1990

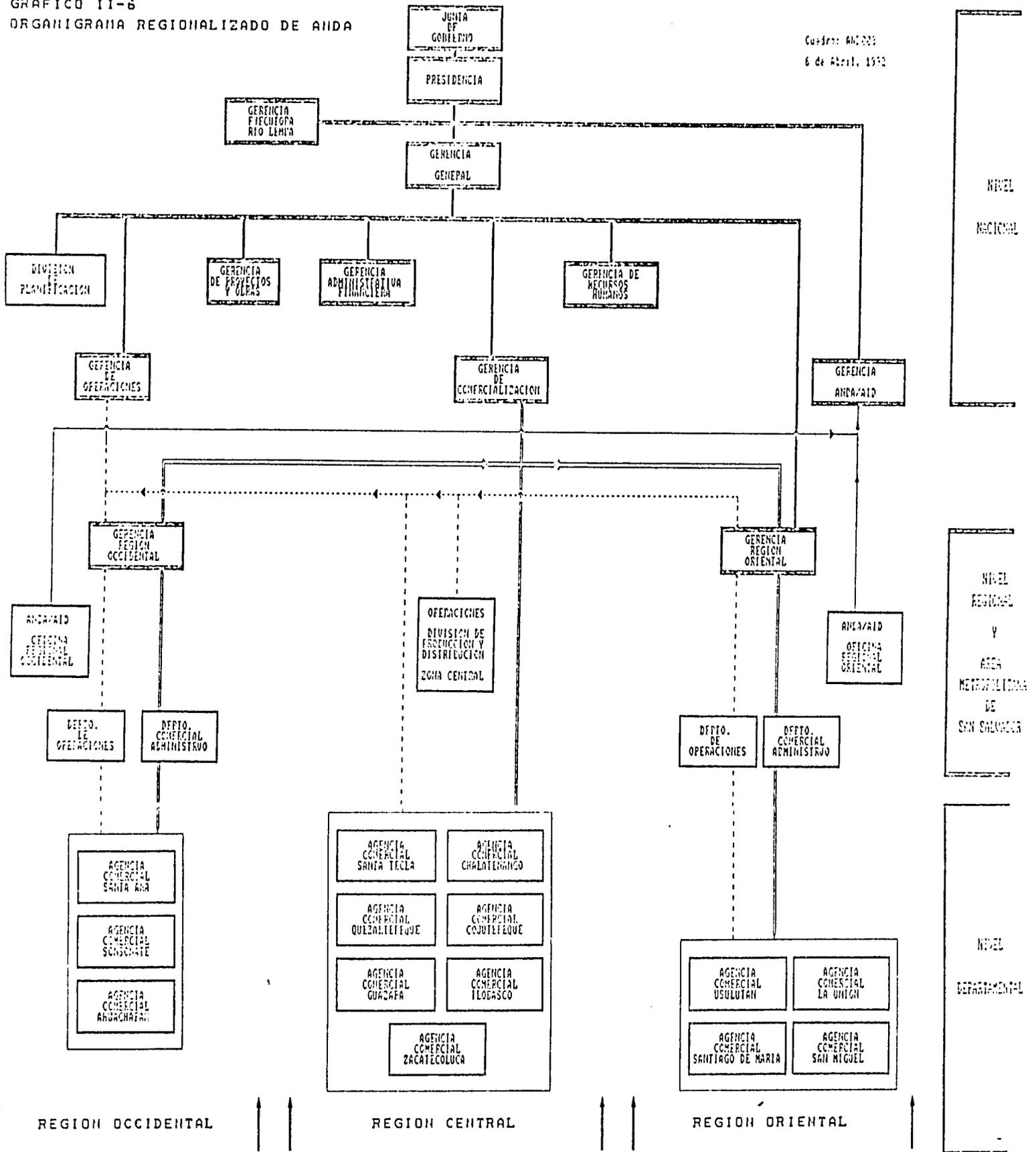
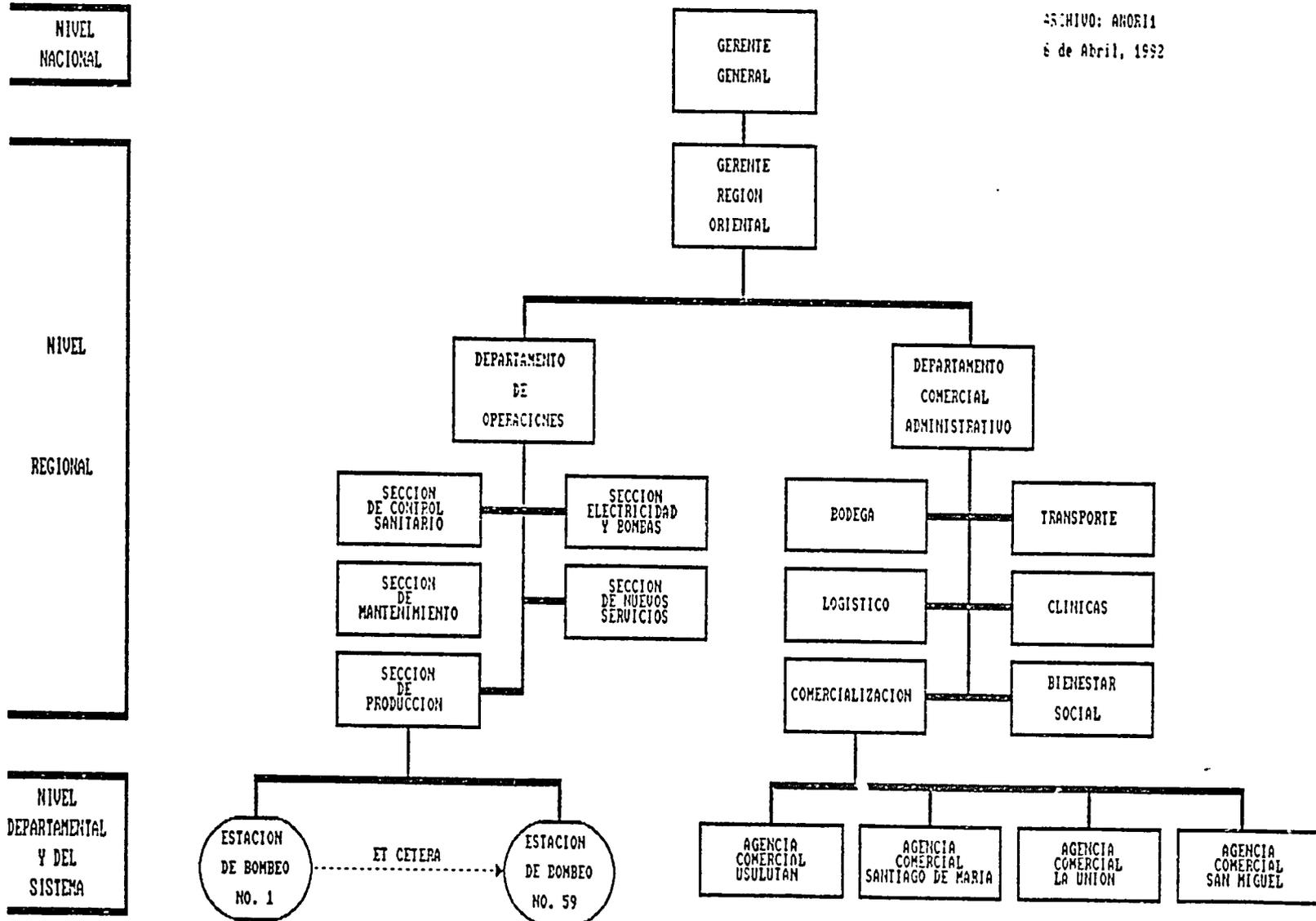


GRAFICO II-7  
 ORGANIGRAMA DE ANDA, REGION ORIENTAL

ARCHIVO: ANOR11  
 6 de Abril, 1992



100

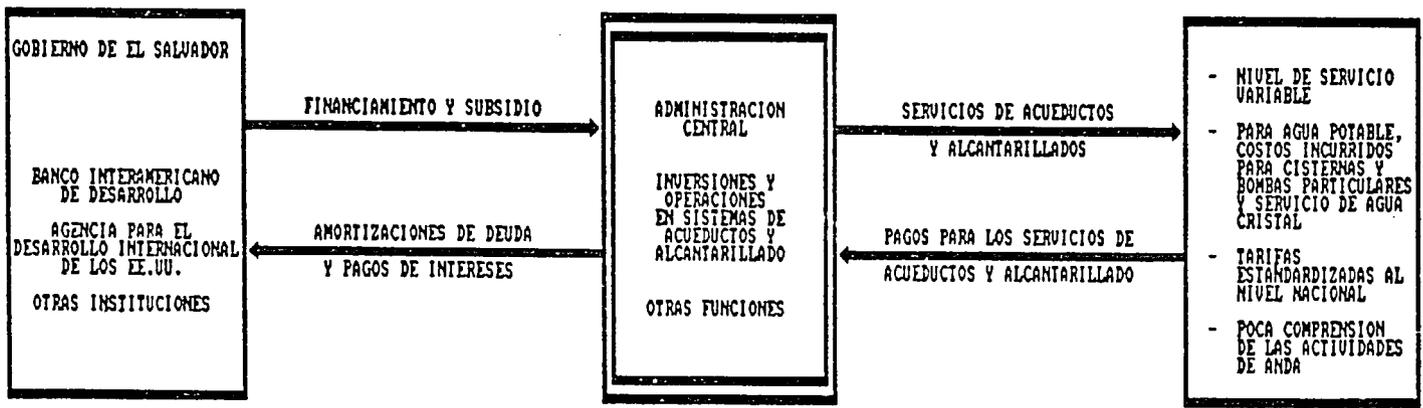
GRAFICO II-8  
 UN ESQUEMA SIMPLIFICADO DE LAS RELACIONES DE ANDA  
 EN 1992 CON SUS USUARIOS Y CON  
 FUENTES DE FINANCIAMIENTO NACIONALES E INTERNACIONALES

Archivo: AND007  
 6 de Abril, 1992

FUENTES DE  
 FINANCIAMIENTO  
 NACIONALES E  
 INTERNACIONALES

A N D A

U S U A R I O S



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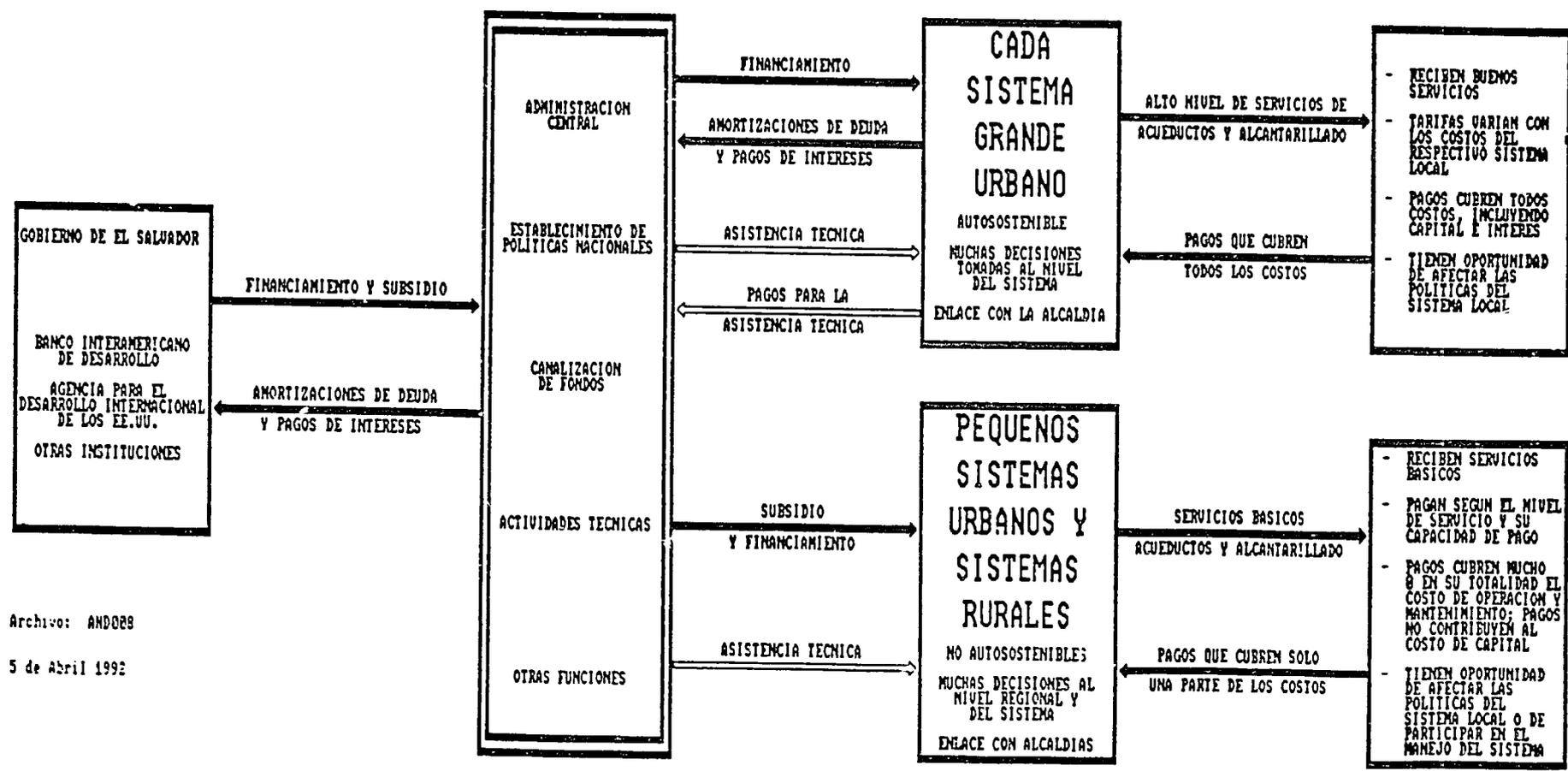
GRAFICO III-1  
 UN ESQUEMA HIPOTETICO Y SIMPLIFICADO DE LAS FUTURAS RELACIONES ENTRE ANDA AL NIVEL NACIONAL, SUS SISTEMAS OPERATIVOS DE ACUEDUCTOS Y ALCANTARILLADO, LOS USUARIOS, Y LAS FUENTES DE FINANCIAMIENTO NACIONALES E INTERNACIONALES

FUENTES DE FINANCIAMIENTO NACIONALES -E- INTERNACIONALES

ANDA AL NIVEL NACIONAL

SISTEMAS OPERATIVOS DE ACUEDUCTOS Y ALCANTARILLADO

USUARIOS



Archivo: AND088  
 5 de Abril 1992

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GRAFICO III-2  
 ORGANIGRAMA HIPOTETICO DE ANDA  
 BASADO EN UNA POSIBLE REORGANIZACION  
 A SISTEMAS QUE SIRVIRIAN  
 POBLACIONES URBANAS GRANDES A UN LADO,  
 Y LOS QUE SIRVIRIAN  
 LAS POBLACIONES PEQUENAS Y ZONAS RURALES,  
 AL OTRO LADO

Cuadros AND225  
 5 de Abril 1992

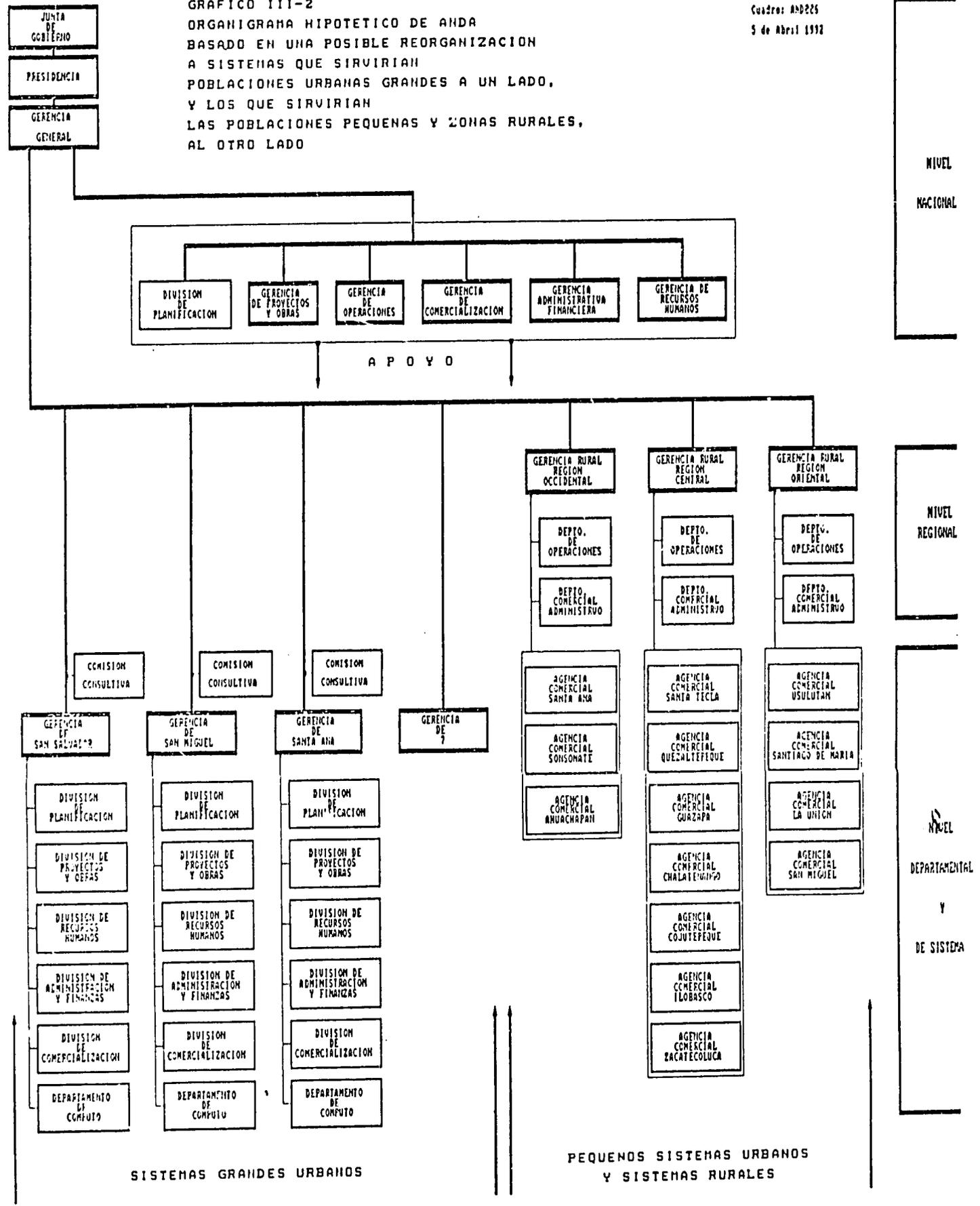
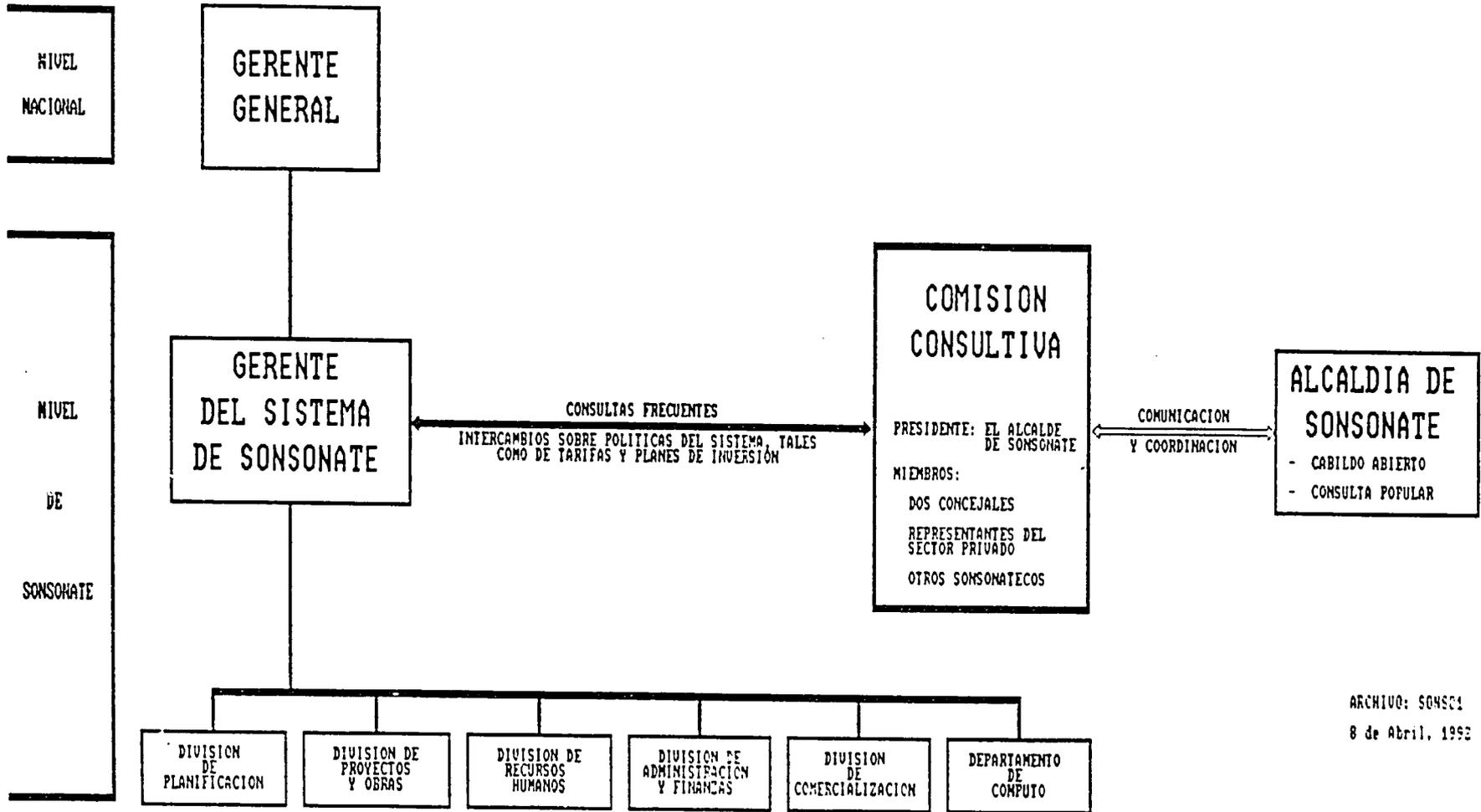


GRAFICO III-3

ESQUEMA SIMPLIFICADO Y HIPOTETICO DE LA POSIBLE RELACION ENTRE ANDA AL NIVEL NACIONAL, EL SISTEMA DE ANDA DE AGUA Y ALCANTARILLADO EN SONSONATE, UNA POSIBLE COMISION CONSULTIVA, Y LA ALCALDIA DE SONSONATE



ARCHIVO: SONSC1  
8 de Abril, 1992

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