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

HONDURAS

PROJECT PAPER

SHELTER SECTOR PROGRAM

AID/LAC/P-339

Project Number:522-0324

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AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE
 A = Add
 C = Change
 D = Delete
 Amendment Number _____
 DOCUMENT CODE
 3

2. PROJECT NUMBER
 522-0324
 522-HG-008

3. PROJECT TITLE (maximum 40 characters)
 Shelter Sector Program

4. BUREAU/OFFICE
 LAC
 05

7. ESTIMATED DATE OF OBLIGATION
 (Under "B" below, enter 1, 2, 3, or 4)
 A. Initial FY 87 B. Quarter C. Final FY 89

8. COSTS (\$000 OR EQUIVALENT \$) = L2.00

A. FUNDING SOURCE	FIRST FY 87			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	500	200	700	1200	400	1600
(Grant)	500	200	700	1200	400	1600
(Loan)						
Other						35000
U.S. 1. Housing Guaranty						
2						7500
Host Country						
Other Donors)						
TOTALS	500	200	700	1200	400	44100

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) SDA	720	860				700		1,600	
(2)									
(3)									
(4)									
TOTALS									

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

11. SECONDARY PURPOSE CODE

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

A. Code BU
 B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To improve the institutional capacity of the private sector and municipal governments to enhance the availability of housing and infrastructure services for low-income families.

14. SCHEDULED EVALUATIONS

Initial MM YY 09 88 Final MM YY 02 90

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify) _____

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

17. APPROVED BY

Signature: *[Handwritten Signature]*
 Title: _____
 Date Signed: MM DD YY 09 24 87

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
 MM DD YY 11 11 11

PROJECT AUTHORIZATION

Name of Country:	Honduras
Name of Project:	Shelter Sector Program
Number of Project:	522-0324

1. Pursuant to Section 106 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Shelter Sector Program for Honduras (the "Cooperating Country") involving planned obligations not to exceed One Million Six Hundred Thousand United States Dollars (\$1,600,000) in grant funds, to provide technical assistance in support of the Housing Guarantee (HG) program (522-HG-008), subject to the availability of funds in accordance with the A.I.D. OYB/allotment process to help in financing foreign currency costs for the project. The subject program will be implemented over a three and one-half year period ending March 31, 1990.

2. The purpose of the Project is to improve the institutional capacity of the private sector and municipal governments to enhance the availability of housing and infrastructure services for low-income families. The Project consists of technical assistance geared to facilitate implementation and development of a policy framework for the \$35 million HG guaranty program which will be reprogrammed in a new Implementation Agreement with the GOH. The provision of technical assistance will assist intermediaries, such as municipalities, to further develop their capability to provide effective assistance to loan recipients.

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

a. Source and Origin of Goods and Services (Grant)

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

Ocean shipping financed by A.I.D. under the Grant shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States and members of the Central American Common Market.

b. Conditions Precedent

First Disbursement. Prior to any disbursement of the Assistance, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Borrower/Grantee will, except as A.I.D. may otherwise agree in writing, furnish to A.I.D.:

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

b. a statement of the name(s) of the person(s) holding or acting in the office of the Borrower/Grantee specified in Section 9.2, and a specimen signature of each person specified in such statement.

Prior to any disbursement, after five months from the Project Agreement signing date, of the assistance or to issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Cooperating Country, except as the Parties may otherwise agree to in writing, shall furnish, in form and substance satisfactory to A.I.D., the following:

1. A Master Program Implementation Plan which shall indicate projects planned and a description of each project, including off-site infrastructure and its sources of financing for the housing and urban development projects of the program, marketing plans, contracting schedules and projected loan disbursement schedule; current financial plan, cost estimates and cash flow schedules for the program; Project Evaluation and Tracking System (PETS) charts to indicate the expected progress on the important project elements of the Program; conceptual designs, standards, procedures and criteria for construction; cost recovery policies and mechanisms to be used for the recovery of investment in the program; and evidence that beneficiaries will have adequate access to schools and other community facilities, and where required, plans for school construction and the necessary community facilities to be constructed in the project area.

2. A plan prepared by the GOH describing criteria for Project approval, (e.g., costs, infrastructure requirements, beneficiaries and finance terms), and repayment guaranty requirements.

Prior to any disbursements, after eighteen months from the Project Agreement signing date, of the assistance or to issuance by A.I.D. of documentation pursuant to which disbursement will be made, the cooperating country, except as the parties may otherwise agree to in writing, shall furnish, in form and substance satisfactory to A.I.D., evidence that targets relative to private sector and municipality participation, and levels of housing and infrastructure construction are being met.

c. Special Covenants

The Cooperating Country shall covenant that, except as A.I.D. may otherwise agree in writing, the GOH will enforce a policy of effective cost recovery for the program as a necessary condition to meeting the demand for low-cost housing and low-income community upgrading.



Carl H. Leonard
Acting Mission Director

9/24/86

Date

HONDURAS
PROJECT PAPER AMENDMENT
SHELTER SECTOR PROGRAM

Loan Number: 522-HG-008
Project Number: 522-0324

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I. SUMMARY AND RECOMMENDATIONS

A. Recommendations

USAID authorization of the modification of Projects 522-HG-005A and 522-HG-008 to create a consolidated \$35 million Housing Guaranty (HG) program for the Government of Honduras; and of a \$1.6 million development assistance grant. The new program will be designated Honduras Shelter Sector Program, 522-HG-008. Of the \$35 million HG authorizations, \$10 million are from the 522-HG-005A Project (original authorization 522-HG-007) and \$25 million from Project 522-HG-008 (Authorizations 522-HG-008A and 522-HG-008B for \$20 million and \$5 million, respectively).

B. Summary Project Description

The GOH has recently indicated its interest in negotiating a consolidated program utilizing the \$35 million in uncontracted HG resources, previously authorized by A.I.D. for Honduras. On April 3, 1986 the GOH president sent USAID/H a letter indicating interest in utilizing the HG resources. Based on the mission's reply, the GOH on June 10, 1986 requested a draft implementation agreement in anticipation of finalizing negotiations.

The program will be implemented over a three and one-half year period beginning October 1986; a PACD of March 31, 1990; and will consist of \$44.1 million, including capital assistance of \$35 million in Housing Guaranty (HG), a \$1.6 million development assistance grant, and the equivalent of \$7.5 million in GOH counterpart. The counterpart resources have already been programmed from ESF local currencies.

The program will combine the \$10 million and \$25 million in the uncontracted authorizations for projects 522-HG-005A and 522-HG-008, respectively. The amended Guaranty Authorization for Honduras 522-HG-005A (dated December 31, 1981), consolidated "...the unused portions of 522-HG-005 and 522-HG-006 with 522-HG-007 into a new project to be known as 522-HG-005A." Under this program, the uncontracted \$10 million of project 522-HG-005A, corresponding to old project 522-HG-007, will be consolidated with the \$25 million of the original project 522-HG-008 into a new \$35 million project to be designated 522-HG-008 "Honduras Shelter Sector Program". The GOH Ministry of Finance and Public Credit (MHCP) will be the borrower of the HG loan.

The consolidated program will provide increased access by low-income families to affordable shelter and infrastructure. The goal of the program is to improve the shelter conditions of low-income families in Honduras. This will be accomplished by improving the institutional capacity of the private sector and municipal governments to enhance the availability of housing and infrastructure services for low-income families.

The components of the program are: housing and urban development. The housing component will finance, primarily through the private sector, home improvements, urbanized lots, and minimal standard

house construction. The urban development component will finance through municipal governments such basic infrastructure works as potable water and sewerage systems, storm drainage systems, street lighting, street paving, and similar public works in low-income neighborhoods of urban settlements.

Of the total program capital investment resources, \$20 million will be used to finance the urban development component, which will be implemented by the municipal governments, primarily the metropolitan municipalities of Tegucigalpa and San Pedro Sula; and by other urban municipalities with populations of 10,000 or more inhabitants. The remaining funds will be channeled through a special fiduciary fund owned by the GOH and administered by the Central Bank of Honduras (BCH) for loans to private and public sector financial institutions for new site housing projects and home improvement loans. The public sector participation in the housing component will be limited initially to 20 percent of the \$22.5 million allocated for this latter component. Moreover, \$1.6 million in a development assistance grant will support the policy objectives as well as the technical assistance, training and commodity requirements for successful implementation of the program.

The objectives of the technical assistance package are twofold. At the project level, it will be designed principally to expedite project implementation and production. At the policy level, the package will be designed to set the general policy framework and goals to be achieved for improved sectoral performance. The activities to be financed in support of these objectives include assisting the GOH to develop successful financial policies and effective institutions to meet the shelter and urban development needs of low-income families; advising the GOH on the advantages and disadvantages of the financial policy and implementation options available to it; advise the GOH on establishment and support for national shelter and urban development financial and implementing entities; advise intermediate financial institutions on appropriate financial policies and operations for lending to low-income families; and assist infrastructure agencies and municipal governments to develop financial mechanisms appropriate to permit repayment of loans to finance basic services for the urban population of Honduras.

This assistance will lead to the development of the institutional and financial vehicles for carrying out infrastructure investments in primary and other municipalities; the support of policy, regulatory and operational changes in the GOH and the Central Bank of Honduras to increase domestic savings for shelter finance for low-income families; enhanced cost recovery and strengthening of the financial position of public and private sector institutions; expanded coverage by private sector financial institutions to include low-income families; and revisions to the municipal law to provide greater autonomy for municipal governments to raise revenues and finance basic infrastructure services.

The program is expected to benefit 31,550 low-income families in the metropolitan and other urban areas of Honduras, generating nearly 6,200 per year of employment. As a result of this program, the share of households living in "fully acceptable housing" -- i.e. constructed of permanent materials and having both potable water and sewerage service --

will increase by 37 percent in the metro areas and nearly 82 percent in other urban areas. Given that the largest shelter needs are concentrated in the upgradable units, estimated at nearly 50 percent of the current stock of the metro and urban areas, the program focus on infrastructure upgrading and home improvement loans yields a potent mechanism for creating fully acceptable units.

However, even with these impressive results, the magnitude of the shelter needs cannot be met by external financing alone. The GOH must address a much more difficult question: how to mobilize domestic finance in the future to replace or supplement these external funds. Since the program funds will have been spent by the end of 1989, Honduras has several years to design and implement policies that will yield the necessary financing. To facilitate that process, the program calls for the GOH to commit itself to develop and implement a shelter finance policy to promote greater mobilization of domestic resources for the sector. In addition to dealing with the direct program implementation issues, a major focus of the technical assistance package will be on the development and implementation of the financial and institutional mechanisms to promote greater mobilization of domestic savings for shelter finance.

II. PROJECT BACKGROUND AND DESCRIPTION

A. Background

1. Overview of the Problem

The 1985 population of Honduras was estimated to be 4.2 million -- about 0.7 million households. The number of housing units in 1985 was approximately 707,580 with 21 percent found in the metropolitan areas (Tegucigalpa and San Pedro Sula), 9 percent in other urban areas and 70 percent in rural areas. Although Honduras will continue to be predominantly rural in the next decade, there is a growing need to address the shelter and infrastructural needs of urban settlements created by the urbanization process itself. Moreover, given the expected levels of investment in rural shelter and infrastructure (see Table 6, below), the expected changes in housing quality indicate that the percent of families below the median income in rural areas living in acceptable conditions will increase from 5 percent in 1986 to nearly 11 percent in 1990 -- an 118 percent increase. This program should be viewed, then, as complementary to the rural shelter activities, and designed to address the specific needs resulting from the urbanization process.

Urbanization has become increasingly important in the development of Honduras. While the majority of the urban dwellers live in the two primary cities of Tegucigalpa with an estimated population in 1985 of 531,000, and San Pedro Sula, with an estimated population of 323,500; secondary cities are assuming an increasingly important role. The number of people living in urban areas tripled in the past thirty years and the proportion of the population living in urban areas rose from 10 percent in 1950 to 24 percent in 1960 to the current 30 percent. This increase occurred primarily due to the increase in the number of cities with a population of between 10,000 and 50,000. By 1980 the number of secondary cities with a population between 10,000 and 20,000 people increased by one-third, to a total of nine. The population of twenty-nine rural centers will increase to over 10,000 by 1990. In terms of number of households, the urban areas of Honduras are projected to grow at nearly 5 percent per year, a rate considerably higher than the projected national growth rate, and that of the rural areas (3 percent per annum). At the same time, the number of smaller settlements moving from rural to urban status will also be increasing rapidly, further contributing to the urbanization process. The number of households in urban settlements of 2,000 or more inhabitants is expected to increase from 29.5 percent in 1986 to slightly over 31 percent in 1990 and to over 35 percent by the year 2000.

Shelter structures are considered to be "adequate" if they are constructed of permanent materials, "upgradable" if built of semi-permanent materials, and "non-upgradable" if made of improvised materials. A unit is considered to have adequate infrastructure if it has both water and sewerage facilities in metropolitan and other urban

areas, with piped water (on or off the premises) and flush or water-sealed toilets being designated as minimally adequate. Under these criteria, only 46 percent of the units in the metro areas and 28 percent in the other urban areas are of fully acceptable quality. In the metro and urban areas, 48 percent and 47 percent, respectively, are upgradable; only 6 percent in the metro and 25 percent in the urban areas are non-upgradable.

In terms of numbers of units, this implies that in the metropolitan areas of Tegucigalpa and San Pedro Sula the current shelter deficit consists of 71,324 units requiring upgrading and 8,916 units requiring replacement. In other urban areas, these figures are 29,931 and 15,921 respectively. The investment requirements to reduce this structural and infrastructural deficit by 10 percent per annum and meet new demand are estimated at approximately \$287.5 million in 1986 alone. This investment figure could increase to \$335 million per year by 1990, even while meeting the 10 percent annual deficit reduction targets between 1986 and 1990. These figures reveal the challenging task Honduras faces in providing even minimally adequate housing for all in the years to come.

Meeting the targets of this program and to lay the foundation for Honduras to meet the larger challenge requires significant investment in human resource and institutional development to complement the capital investments of the program. Increased training and technical assistance efforts will have an essential role in generating the skills, capacity, and knowledge required to successfully achieve these development goals within the overall national constraints faced by Honduras.

A.I.D. recognized several years ago that additional emphasis needed to be placed on training and the use of technical assistance. Recent evaluations, including a 1985 study of the Housing Guaranty Program by Booz, Allen and Hamilton have concluded that while capital assistance has been successfully used in leveraging policy changes and in producing shelter solutions, there is still a significant gap in terms of institutionalizing those changes. Key areas that require attention are: private sector mobilization and support for low-cost shelter and urban development, cost recovery based on affordability and sound financial management, urban management and finance capacity, and reactivation of national housing finance systems.

2. Experience with related A.I.D. Projects

During the mid-seventies, the HG program oriented itself toward serving the shelter needs of lower income families in developing countries. The projects were designed to assist the participating institutions of developing countries to define and clarify national housing and urban development policies, and to strengthen their capacity to plan, finance, implement and service housing and urban development projects for the poor. Since 1978, \$70,500,000 have been authorized for Honduras under four separate projects of the Housing Guaranty Program for such purposes.

The four active projects in Honduras are: (1) Shelter for the Urban Poor (\$10,500,000), to develop within the National Housing Institute (INVA) the capability to produce and deliver annually approximately 2,000 minimum cost shelter units and 1,000 home improvement loans affordable by the urban poor in both primary and secondary urban centers; (2) Urban Upgrading (\$10,000,000), to improve the capacity of the municipal governments of Tegucigalpa (CMDC) and San Pedro Sula to implement cost recoverable programs to upgrade marginal, urban communities on a scale sufficient to reduce the housing and infrastructure deficits; (3) Private Sector Shelter (\$25,000,000), to establish a functional system for expanding private sector involvement in providing shelter affordable by the urban poor; and (4) Shelter for the Urban Poor II (\$25,000,000), to provide access to shelter to low-income families through increased involvement by the private sector, and to generate employment opportunities to help stimulate the economy. The first three projects are currently under implementation and have provided nearly 17,730 shelter solutions, including low-cost housing units for nearly 6,050 families, 114 home improvement loans not connected to new shelter, and basic infrastructure (water, sewerage, street paving) for approximately 11,567 families. Moreover, the projects have generated approximately 1,600,000 person days of direct on-site employment and improved land tenure for 6,000 families. All of the shelter and infrastructure solutions financed with HG in Honduras are affordable to families earning less than the median family income for their respective geographic area (see Table 1).

Prior to the mid-seventies, the Honduran policies toward shelter could be characterized as focusing on government built, conventionally finished and subsidized units, affordable only to and benefitting middle-income families. Both the private and public construction and financing programs excluded housing affordable to low-income families.

Since the mid-seventies, the objectives of the Housing Guaranty Program in Honduras have been to attempt to reverse these trends by supporting the development of rational housing policies to encourage the provision of housing suitable for low-income families. More recently the HG program has encouraged increased private sector participation in the financing, construction and marketing of low-cost housing, i.e. the development of the financial mechanisms to ensure a continued flow of resources to the low-cost shelter sector.

The HG program has played a role in the GOH adopting a rational national shelter policy emphasizing that: (1) government housing activities should focus on low-income households; (2) the minimum technical standards required should be utilized; (3) mechanisms need to be developed to capture sufficient domestic savings for shelter finance; and (4) there should be a clear definition of the roles among the shelter sector institutions as well as integration of housing into national and regional planning. The results of the national housing policy have been a much greater emphasis by the INVA in providing housing affordable to low-income families, steps to involve the private sector in low-cost shelter, and a commitment to progressive housing. The major

T A B L E 1
Summary Progress Report on HG Programs for
USAID/Honduras

Project Name	Project Number	Authorized (US Dollars)	Contracted (US Dollars)	Disbursements (US Dollars)	Disburse/Contract Percent	New Shelter Solutions	Home Improv. Loans	Infrast. Upgrading	Total Solutions	Average Cost
Shelter for the Urban Poor I	522-HG-005	10,500,000	10,500,000	8,762,268	78.69%	2,741	(1,376) ^{1/}		2,741	2,007
Urban Upgrading	522-HG-006	10,000,000	10,000,000	9,774,368	97.74%		114	11,567	11,681	837
Private Sector Shelter	522-HG-007	25,000,000	15,000,000	14,886,819	99.25%	3,308			3,308	4,500
Shelter for the Urban Poor II	522-HG-008	25,000,000								
Total		70,500,000	35,500	32,923,455	92.74%	6,049	114	11,567	17,730	1,857
Per Year Average (1981-1986)		15,666,667	7,888,889	7,316,323	92.74%	1,344	114	2,570	2,870	1,857

^{1/} Since these loans have been made as part of the package of benefits to the families participating in the new shelter component, these loans are non-add items in calculating beneficiary families.

municipalities have begun to institutionalize the capability to deliver basic infrastructure to low-income neighborhoods (water, sewerage disposal, street paving) on a scale far exceeding previous levels, and to develop the financial mechanisms (i.e. betterment tax systems) to ensure the sustainability of the upgrading activities. Both the national and municipal institutions have accepted the concept of replacing force account construction with contracting private sector firms. Moreover, INVA has begun to operate some projects under the turnkey concept whereby the private sector has responsibility for the design, site development, and construction financing of the project.

There has also been a greater emphasis on interest rate charges consistent with market rates of interest, a pre-condition for attracting private capital to the sector. Moreover, lending institutions have recognized that full cost recovery at real rates of return is essential for their own financial viability. The projects have also demonstrated the capacity of the private sector to produce low-cost units on a scale far superior to that of the public sector. A.I.D. has supported these policy changes and operational improvements with substantial and sustained technical assistance and training activities.

3. Rationale for A.I.D. Involvement

The overall rationale for this program is to support the strengthening of the institutional base for providing adequate shelter and infrastructure, thereby stimulating local economic and social development. The shelter component is designed to privatize the finance and construction activities concerning the low-income housing market. The urban development component is designed to strengthen the role of local government in financing and providing for essential infrastructure services.

Although the GOH has often stated that decentralization is a major goal of its national development policy, these policies have often ignored the important factors determining the growth of cities. The patterns of urban economic development usually take place in a fairly opportunistic, open-ended way. They are shaped by the general level of economic development, national policies, geographic constraints -- and by individual decisions of millions of businesses and households on where to locate and how to grow.

At the national policy level, tariffs that protect certain industries, terms of trade that discriminate against agriculture, and government structures that centralize decisions about regional and local development all create powerful incentives that influence the pattern of urban development. Usually, the unintended effect is to stimulate greater concentration in the largest cities.

At the local level, the quality of city management and access to public services are central in enabling a secondary center to take advantage of new opportunities for economic growth. Reliable services -- water, electricity, sewerage, and transportation -- reduce the cost of business operations and make a town more attractive as a site for new or expanded economic activity.

Perhaps as important, good local services, particularly education and housing, seem to be a major factor in enabling a town to attract and hold skilled workers and professionals, who often prefer to live and work in the metropolitan areas where such services are more likely to be available.

Changes in fiscal relationships between local authorities and the central government frequently are needed if secondary cities and regional centers are to acquire the means to develop local services and to take advantage of opportunities for local economic expansion. A highly centralized system of planning and financing municipal services, as currently exists in Honduras, tends to perpetuate the concentration of most infrastructure investments in the metropolitan centers. A move toward greater local autonomy and responsibility for planning infrastructure investments, and for generating the resources to finance them, gives cities far greater flexibility to respond to new opportunities for growth.

In the housing sector, the inability of the central government and other public sector agencies to provide sufficient financing and production of low-cost shelter has hindered the ability of the country to meet the growing shelter deficit. A greater reliance on the private sector, both formal and informal, is required if the shelter needs of low income Honduran families are to be met. Moreover, there is a concomitant need to expand the reach of private sector institutions to meet the growing needs in urban areas outside of the major metropolitan regions of Tegucigalpa and San Pedro Sula.

This program, by expanding the low-cost shelter and urban development activities to a wider range of urban settlements, will produce substantial direct benefits for strengthening locally based private sector development. The program will provide improved shelter and infrastructure for approximately 31,500 low-income families in the major and secondary urban areas of Honduras. The program can be expected to contribute to improving the balance of payments situation in that 80-90 percent of the value of construction is represented by local inputs. By concentrating on low-cost solutions, the program will contribute to higher levels of employment than would be gained from a similar investment in higher cost housing, due primarily to its lower import content and low skill requirements. This latter effect produces additional benefits for the urban poor, who comprise a substantial proportion of the urban working population. Together these two components will provide local governments with a greater capability to respond to local economic development needs and promote local private sector economic activity, particularly in the construction sector. The improved employment opportunities and housing stock should also contribute to making these urban centers more attractive to skilled labor that might otherwise migrate to the major metropolitan areas.

After several years of neglect by the GOH of the shelter sector, several important recent developments will have an impact on the housing sector and housing finance in Honduras. A general improvement in

the economy, due in large measure to external conditions (better export prices, lower petroleum prices and international interest rates), and prospects for the resumption of more normal GDP growth rates in the range of 4-6 percent per year should help to restore domestic savings rates to more historical levels, especially regarding the private sector. The transfer of the assets and liabilities of the National Housing Finance Institute (FINAVI) to the GOH fiduciary fund (Housing Fund, or FOVI) administered by the Central Bank of Honduras signals a GOH commitment to restore credibility in the national shelter finance system. Also, the GOH has recently issued a revised housing policy that focuses on the needs of low-income families, and has been followed up by the GOH authorization of a \$5 million bond issue for FOVI to discount mortgages originated by the savings and loan associations, the National Housing Institute (INVA), and other qualified financial institutions including cooperatives and PVOs. Moreover, the Honduran Congress has on its agenda the passage of a new municipal law to enhance the role of municipalities in local economic development. The president of Honduras has personally requested negotiations on the uncontracted HG authorizations to support the actions the GOH has taken to revitalize the sector.

The program will contribute immediately to improving the housing stock of Honduras' urban centers, reinforce the positive steps the GOH has taken to strengthen the sector and its impact on the economy, as well as lay the foundation for A.I.D. to contribute to the development and implementation of rational shelter finance and urban infrastructure policies to further improve sectoral performance. Moreover, the program will contribute to enhancing the private sector role in the production, marketing and financing of low-cost shelter; and strengthen democratic institutions, such as the municipal governments, cooperatives, labor unions, and other PVOs.

In the area of institutional development, the program will contribute towards promoting cost recovery and strengthening the financial position of public and private sector shelter finance institutions; expanding coverage by private sector financial institutions to include low-income families; and enhance the capability of primary and secondary city municipal governments to finance infrastructure improvements on a cost-recoverable basis. Moreover, the program will contribute to the enhancement and institutionalization of more rationalized roles for the public and private sectors in shelter finance and construction.

4. Relationship to A.I.D. Strategy

The Jackson Plan targets housing and infrastructure development as key areas of concern in Central America. The mission in Honduras has supported efforts to ameliorate these problems through programs addressing urban and rural housing construction, urban infrastructure upgrading, rural road improvement and disaster relief. Regarding housing, the mission has generally focused HG resources in the metropolitan areas and the other major cities. The mission has implemented very successful programs in major urban centers to provide

progressive housing solutions and improved water and sanitation services to low-income families using predominately HG resources; in the smaller urban and rural areas, the mission has successfully used development assistance resources through the Rural Housing Improvement Project. The most recent action plan continues to support this dual strategy, although with the caveat that this does not imply that HG resources will be excluded from small secondary and rural communities if viable construction and upgrading subprojects are possible. The mission is also studying an expanded development assistance and local currency financed rural housing program for FY'87 that will complement the HG strategy and address the severe shortage of quality housing in the rural areas.

5. Other Donors' Activities

The Inter-American Development Bank (IDB) is the major international lender working with SANAA to improve the water supply systems in Honduras. In Tegucigalpa, the IDB is working with SANAA to develop alternative plans for improving the water supply. Following a recent reorientation of IDB plans away from the originally proposed Guacerique II dam project, a large-scale expansion of raw supply in the intermediate term now seems likely through the Concepción de Río Grande dam. A request for bids was issued in July 1986, with feasibility and design work expected to conclude by March 1987. The financing for the design work is being provided by a \$620,000 technical assistance grant from the Trade and Development Program.

Previous SANAA policy had been to fully develop each watershed before moving on to another, but this policy has proven to be too expensive. The new GOH and the IDB decided in June 1986 to accelerate the Concepción de Río Grande project which had been planned for the mid-1990s, rather than go ahead with the previously planned \$240 million Guacerique II project. The Río Grande dam will produce about 75 percent of the gross supply which the Guacerique II project would have provided; but will be no more than 60 meters high, cost only approximately \$40 million, and still roughly double the available gross water supply for Tegucigalpa. The dam is expected to provide sufficient water supplies to Tegucigalpa through at least the mid 1990s. Discussions with the general manager of SANAA indicate that they anticipate rapid extension of household connections could occur simultaneously with dam construction in order to facilitate amortization of dam costs. The dam should be operational by 1990.

For the interim, the IDB and SANAA are developing a smaller-scale project called Emergency Plan Summer 87 as well as an intermediate plan with approximately \$70 million in financing. This plan incorporates a range of management and small-scale investments aimed at overcoming key bottlenecks in system operations and incorporating a range of new water sources such as linkups of new wells to the existing system, reconstruction and addition of water storage tanks, leak detection and correction, replacing outdated pipes, and new treatment plants. The GOH has already initiated work on some aspects of the program in anticipation of follow-on IDB support. The expected increases in supply over the

short term due to the Summer 87 program are estimated to be sufficient to partially eliminate the water deficit and to supply a modest increase in new connections during the 1986-88 period.

In addition to the Summer 87 program, a range of foreign consulting firms and donor agencies are undertaking a number of additional studies and projects. The French consulting firm BCEOM is carrying out a comprehensive study of SANAA for the World Bank in anticipation of World Bank projects planned for the Northern and Western regions of the country. Total financing for the study is \$1 million, with \$400,000 coming as a grant from the French government. BCEOM has already produced a detailed study of SANAA resources and administrative and management capacity. Their work is focusing on (1) developing a leak detection and correction program, (2) developing a top-to-bottom overhaul of SANAA's administrative structure, especially in financial, accounting, and operations and maintenance areas, and (3) conducting a feasibility study for new investments in the overall SANAA system in Tegucigalpa. With the vigorous new leadership at SANAA, pressure for reforming outdated administrative procedures now has a substantial constituency within SANAA itself.

The British government has lent 5 million Pounds to the GOH for a variety of projects including water infrastructure. They are financing some technical assistance for SANAA, pipes in the San Juancito area and Tatumbla for Tegucigalpa, a well drilling team, and provision of macro- and micro-meters.

The Italian government is making a \$3.2 million donation to undertake the first detailed hydrologic study of Tegucigalpa's aquifers and to plan a supply line from the Manatíal de la Montaña de Chile, 47 km from Tegucigalpa. The hydrologic study is in support of SANAA's focus on well drilling as an intermediate term solution for increased supply. Current policy holds that in the near-term -- until the Río Grande dam is built -- marginal neighborhoods and new housing projects will have to develop independent well systems which SANAA would then agree to operate and maintain. The Italian firm will drill test wells to determine the quality of aquifer supplies, accessibility, and capacity for increased well supply. This grant agreement is expected to be signed in August 1986 and initial work to begin in October.

The IDB has also participated in improving the water supply systems of secondary cities. The so-called Three City Project was recently completed, providing improved supplies to El Progreso, La Ceiba and Puerto Cortés. A follow-on program to enhance the supply in four additional cities is scheduled to begin implementation soon. The follow-on program will provide \$24 million over a two year period for water systems in Siguatepeque, Juticalpa, La Paz/Cane, and Tela. The GOH will contribute an additional \$6 million in counterpart funds.

Under both programs, the water supply will be sufficient to cover 100 percent of the population of the cities served. However, the distribution network will not provide full coverage to all households. Moreover, no funds are being provided for sewerage systems.

The impact of other donor activities will make it feasible for the Tegucigalpa upgrading program to provide improved water and sewerage services in low-income neighborhoods and for new low-cost housing projects, at least on a limited scale over the next two to three years. The most likely scenario calls for independent well systems as an interim solution in anticipation of later linking up with the SANAA main system once the other major planned investments have been made. In secondary cities, the IDB activities provide an excellent opportunity for follow-on funding for upgrading and new shelter activities under this program with minimal off-site infrastructure requirements.

B. Detailed Program Description

1. Goal

The long-term goal of the program is to improve the shelter conditions of low-income families in Honduras. Goal achievement will be measured by a significant increase in the number of low-income families provided with improved shelter conditions, and by the impact that this has on increasing the number of households living in at least minimally adequate units in the metropolitan, other urban, and rural areas of Honduras. Goal achievement will require the timely development of policy changes designed to improve domestic savings for housing, the implementation of A.I.D. rural shelter and other donor shelter programs, and the completion of currently active donor and GOH programs in the sector.

Across all income levels in these three sectors, the program, including direct program benefits and the impact of policy changes, will contribute 54 percent or 34,674 units to the total expected increase of 64,482 units meeting both structural and infrastructural standards between 1986 and 1990. In the absence of the program it is expected that only 29,808 units would reach acceptable standards. These impacts translate into a 37 percent increase in the share of households living in fully acceptable units between 1986 and 1990 in the metropolitan areas, approximately a 82 percent gain in other urban areas, and a 25 percent increase in rural areas.

The impact on low income families is even more dramatic. In the metro areas, by the end of 1990 nearly 53 percent of below median income families are expected to be living in adequate shelter conditions -- an 80 percent increase of 1986 levels. In other urban areas and rural areas, 30 percent and 11 percent, respectively, of below median income families will be living in adequate shelter, representing a 329 percent and 118 percent increase of the respective 1986 levels for each sector. These results are superior to what would be expected from the direct program beneficiary impacts due to the fact that additional investment levels can be expected from households in response to suitable financing or program opportunities attributable to the expected policy changes in the sector.

The impact on the metropolitan and other urban areas are in large measure due to the direct impact of the program, whereas the impact on the rural areas is due to the anticipated activities of other A.I.D. and other donor projects. The joint impact of the direct lending and policy changes resulting from the implementation of this program represent 50 percent, 62 percent and 8 percent of the expected changes in the number of units achieving adequate quality standards over the 1986 - 1990 period, for each of the metro, urban and rural areas, respectively.

The expected impact of the policy changes will result in over \$95 million in additional domestic savings being generated between 1987 and 1990, of which more than \$80 million is expected to be allocated towards credits for the housing sector. This translates into an annual increment of approximately \$28 million in new lending for the sector, and total investment covering nearly 87 percent of the investment needs in 1990 compared to 77 percent in 1986.

2. Purpose

The purpose of the program is to improve the institutional capacity of the private sector and municipal governments to enhance the availability of housing and infrastructure services for low-income families. This will include promotion of greater reliance on the private sector in the production, marketing, and financing of shelter solutions affordable to low-income families; and on municipal governments in the provision of basic urban infrastructure services on a full cost recovery basis. For both the housing and urban development components, progress toward achievement of the purpose will be measured by program efficiency in terms of minimizing expenditures per participant household, and achievement of full cost recovery by implementing institutions. For the urban development component, additional indicators of purpose achievement will be the development and institutionalization of a mechanism for carrying out upgrading activities in secondary and smaller urban places, and improvements in the efficiency of the existing municipal programs in Tegucigalpa and San Pedro Sula.

For the housing component, additional indicators would be an assessment that private sector entities are the primary providers of low-cost shelter, and involved in all aspects of the low-income housing market including production, marketing and finance. Furthermore, under this component, the GOH will have reestablished a functional system for private sector participation in low-cost housing finance, which was dismantled with the closing of FINAVI.

The achievement of the purposes will depend on the GOH developing and implementing appropriate finance and infrastructure policies that provide the financial and economic incentives to make private sector participation feasible.

3. Outputs

The program will consist of two components: shelter and urban development. The housing component will finance home improvements, urbanized lots, and minimal standard house construction (eg. basic core and wet core units). The urban development component will finance basic

infrastructure works, such as potable water and sewer systems, storm drainage systems, street lighting, street paving, and similar public works in low-income neighborhoods of urban settlements. The estimated number of loans to beneficiaries are presented in Table 2.

The program is expected to benefit 31,554 low-income families in the metropolitan and other urban areas (population of 2,000 or greater) of Honduras, generating nearly 6,200 person years of employment. The shelter benefits of the program will be targeted to families earning less than the median income for the respective geographic sector (metro, secondary cities, other urban areas). The urban development activities will benefit those families living in those marginal urban communities where the average income of the residents is below the median income for the geographic sector. Additional outputs include those families who are expected to receive improved land tenure security as a result of new unit purchase and the resolution of land tenure problems in existing neighborhoods. Since this latter benefit is redundant, it does not increase the total level of outputs.

It is estimated that the average loan to beneficiaries of the program will be approximately \$840; \$1,000 and \$5,400 for each of infrastructure upgrading, home improvement loans and new shelter, respectively. All loans are anticipated to be onlent at 14 percent interest. The terms of the loans vary by type of activity, with infrastructure on 12 year terms, home improvements on 5 year terms, and new shelter on 20 year terms. Since the cost of resources will determine the interest rate charges, provided that the rate at least meet the cost of the resources and exceed the domestic inflation rate, the actual rates to be charged cannot be fixed at this time. The rate of 14 percent, is however, the most probable benchmark based on current market conditions.

T A B L E 2
ESTIMATED NUMBER OF LOANS BY TYPE OF SOLUTION

	<u>FY'87</u>	<u>FY'88</u>	<u>FY'89</u>	<u>TOTAL</u>
Upgraded Infra <u>1/</u>	4,377	6,566	10,944	21,887
Home Improvements <u>2/</u>	1,350	2,015	3,375	6,750
New Shelter	<u>583</u>	<u>876</u>	<u>1,458</u>	<u>2,917</u>
Total	6,310	9,467	15,777	31,554

1/ Approximately 98% of upgrading beneficiaries are estimated to receive improvements in water and/or waste disposal.

2/ The home improvement loan program is not tied to specific new shelter projects; therefore, no double counting is implied by listing these loans separately.

The objectives of the technical assistance package are twofold. At the project level, it will be designed principally to expedite project implementation and production. At the policy level, the package will be designed to set the general policy framework and goals to be achieved for improved sectoral performance. The activities to be financed in support of these objectives include assisting the GOH to develop successful financial policies and effective institutions to meet the shelter and urban development needs of low-income families; advising the GOH on the advantages and disadvantages of the financial policy and implementation options available to it; advise the GOH on establishment and support for national shelter and urban development financial and implementing entities; advise intermediate financial institutions on appropriate financial policies and operations for lending to low-income families; and assist infrastructure agencies and municipal governments to develop financial mechanisms appropriate to permit repayment of loans to finance basic services for the urban population of Honduras.

The technical assistance package will lead to the development of the institutional and financial vehicles for carrying out infrastructure investments in primary and secondary cities; the support of policy, regulatory and operational changes in the GOH and the Central Bank of Honduras to increase domestic savings for shelter finance for low-income families; enhanced cost recovery and strengthening of the financial position of public and private sector institutions; expanded coverage by private sector financial institutions to include low-income families; and revisions to the municipal law to provide greater autonomy for municipal governments to raise revenues and finance basic infrastructure services.

4. Inputs

The program will consist of \$44.1 million, including capital assistance of \$35 million in Housing Guaranty (HG), a \$1.6 million development assistance grant, and the equivalent of \$7.5 million in GOH counterpart. The counterpart resources have already been programmed from ESF local currencies.

The program funding will combine the \$10 million and \$25 million in the uncontracted authorizations for projects 522-HG-005A and 522-HG-008, respectively. The amended Guaranty Authorization for Honduras 522-HG-005A (dated December 31, 1981), consolidated "...the unused portions of 522-HG-005 and 522-HG-006 with 522-HG-007 into a new project to be known as 522-HG-005A." Under this program, the uncontracted \$10 million of project 522-HG-005A, corresponding to old project 522-HG-007, will be consolidated with the \$25 million of the original project 522-HG-008 into a new \$35 million project to be designated 522-HG-008 "Honduras Shelter Sector Program". The GOH Ministry of Finance and Public Credit (MFCP) will be the borrower of the HG loan and will provide a counterpart of \$7.5 million.

Of the total program capital resources, \$20 million will be used to finance the urban development component, which will be implemented by the municipalities including Tegucigalpa, San Pedro Sula, and other municipalities. Although the program is open to all

municipalities, it is anticipated that \$5 million will be designated for each of Tegucigalpa and San Pedro Sula, with the remaining \$10 million to be assigned to other municipalities, primarily cities with populations greater than 10,000. The remaining funds will be channeled through a special fiduciary fund owned by the GOH and administered by the Central Bank of Honduras (BCH) for loans to private and public sector financial institutions (eg. savings and loan associations, commercial banks, cooperatives, credit unions, INVA, and PVOs) for new site housing projects and home improvement loans. The public sector participation in the housing component will be limited to 20 percent of the \$22.5 million allocated for this latter component.

While program inputs have been initially allocated based on demand, and as reflected in President Azcona's April 3, 1986 request to A.I.D., reallocations in the program will be approved based on performance and effective demand if required to avoid potential bottlenecks in the utilization of the resources. Similarly, funds may be invested in essential community facilities and up to ten percent of program funds may be used for critical off-site investments --connections to primary water and sewer lines, water tanks, pumps, wells, etc.-- if other donor and other A.I.D. investments fail to provide adequate resources to permit construction of the fully recoverable shelter investments which are the primary focus of this project. Moreover, although the focus of this program is on urban areas, lending to rural areas will not be excluded if eligible subprojects are presented for funding.

FINANCIAL PLAN (\$000)

	AID (HG)		GOH <u>1/</u>		TOTAL	
	Amount	%	Amount	%	Amount	%
Upgrading	16,470	82	3,530	18	20,000	100
Home Improvement	5,560	82	1,190	18	6,750	100
New Shelter	12,970	82	2,780	18	15,750	100
Technical Assist	<u>1,600</u>	<u>100</u>	-----	-----	<u>1,600</u>	<u>100</u>
Total	36,600	83	7,500	17	44,100	100

1/ Considering that the HG program does not require a GOH counterpart, the \$7.5 million in capital investment obviates the requirement to meet a separate 25 percent counterpart contribution relating to the obligation of the \$1.6 million development assistance grant.

DISTRIBUTION OF CAPITAL INVESTMENT FUNDS BY SECTOR (\$000)

	METRO	URBAN	TOTAL
Upgrading	10,000	10,000	20,000
Home Improvement	6,100	650	6,750
New Shelter	<u>14,150</u>	<u>1,600</u>	<u>15,750</u>
Total	30,250	12,250	42,500

Advances for interim financing will be provided only for the upgrading component of the program, and will be based on the cash flow requirement of sub-projects. The institutional arrangements for the new shelter and home improvement components obviate the need for advances for construction. The home improvements will be relatively small loans that should be within the lending capacity of the private financial institutions. The new shelter sub-component will rely on the existing institutional mechanisms for providing construction financing.

The resources borrowed by the GOH for shelter will be channeled through a special fiduciary fund (Housing Fund) administered by the Central Bank of Honduras. The fund will authorize loans to institutions on the basis of mortgage and home improvement loan packages presented to the fund. Developers will present projects to private and public financial institutions, who in turn will make requests for a funding reservation by the Housing Fund. The funding commitment will carry conditions related to the specifications of the project, and the deadline for presentation of loans. With this funding commitment, the developer will obtain the construction financing in the domestic market.

Upon the sale of the units, the financial institution will issue mortgage loans that will be presented to the Housing Fund. The fund will then conclude the loan agreement with the financial institution and disburse the funds equivalent to the value of the loans presented. In the case of home improvement loans, the disbursement will be made on the basis of loans issued once the financial institution certifies that the improvements have been made. It is expected that the loans to financial institutions will be for a 20 year term at approximately 10 percent interest rates for both home improvement and new shelter loans.

The technical assistance inputs will consist of three long-term resident advisors, short-term consultants, program related short-term training and commodities to support program implementation. The long-term advisors include a program coordinator, a financial and management advisor, and a technical advisor. The program coordinator will have responsibility for overall management of the program. The finance and management advisor will be involved in technical assistance to institutions on financial management and organizational development issues. The technical advisor will provide support to the program and the participating institutions in the area of engineering and environmental standards. Once the institutional mechanisms for implementing the secondary cities sub-component has been more fully

defined, the GOH will be expected to provide additional counterpart resources for this activity.

This long-term assistance will be supplemented by appropriate short- to medium-term assistance and training. Some of the areas to be targeted by this type of assistance are: technical and legal issues of cost recovery, development of cost accounting systems for implementing agencies, program impact evaluations, project development and management capabilities of the implementing institutions, technical project design for low-cost solutions of shelter and urban infrastructure solutions, social promotion of projects in low-income communities to facilitate community participation and improve cost recovery, improved efficiency of information systems in program management, and support for policy and regulatory reforms required to improve the performance of the shelter sector and urban development process in Honduras.

The commodities for the program will be limited to those required for successful accomplishment of the technical assistance and training objectives. The primary commodities to be purchased with grant funds include micro computers and computer software to improve project management and control, and a limited number of vehicles to support the supervision and management of the secondary cities program.

DISTRIBUTION OF GRANT FUNDS BY ACTIVITY (\$000)

	<u>PERSON MONTHS</u>	<u>COST</u>	<u>SUBTOTAL</u>
Long-Term Assistance			\$885
Program Coordinator	36	360	
Finance/Mgt Advisor	36	300	
Technical Advisor	36	225	
Short-Term Assistance			\$540
Shelter Component		\$200	
Shelter Finance Policies	5	(75)	
Cost-Recovery	5	(75)	
Shelter Finance Management	3	(50)	
Urban Development Component		\$340	
Municipal Administration	5	(75)	
Cadastre	4	(65)	
Promotion	5	(80)	
Betterment Tax	4	(60)	
Service Operation/Maintenance	4	(60)	
Program Evaluation/Audit	<u>12</u>	\$175	<u>\$175</u>
TOTAL	155		\$1,600

III. PROJECT ANALYSES

A. Social Soundness Analysis

The social analysis for this program is based on data compiled as a result of the recently completed Honduras Shelter Finance Study by the Urban Institute and on the experiences from prior A.I.D. financed shelter projects. The basic assumptions of the Urban Upgrading Program (522-HG-006) and the Shelter for the Urban Poor (522-HG-005) continue to remain valid. These projects have demonstrated the feasibility of providing progressive shelter solutions, providing the beneficiaries the minimal requirements for them to continue to improve their own shelters over time.

In a study on progressive housing completed in 1985, it was clearly demonstrated that poorer families are able to expand their basic shelter units at a quick pace for considerably less cost than would be possible by direct purchase of a completed unit. The provision of a wet core or serviced lot in combination with a home improvement loan has permitted the beneficiaries to build basic homes for approximately 36 percent less than the cost of a completed unit built by the formal sector. There also appears to be a greater mobilization of savings by beneficiaries under progressive housing schemes as evidenced by the substantial additional improvements that are not accountable by the initial loan value. These improvements, on average, doubled the square meter area of construction originally financed under formal government loan programs.

The Urban Upgrading Program implementation has demonstrated the validity of the concept of upgrading existing neighborhoods as opposed to attempting to attract residents to newly developed projects. This concept has gained substantial support among low-income residents and the municipal governments. In Tegucigalpa, for example, the residents of poor neighborhoods have accepted the concept of cost recoverable upgrading programs more quickly than municipal leaders ever anticipated. The time has already passed in Tegucigalpa when the city needs to promote actively the concept of upgrading. As a result of the initial phase of that project, the municipality has now received approximately \$13 million worth of project requests that unfortunately cannot be funded for lack of resources.

The target group of the current program is below median income families requiring new shelter units or home improvement loans, and families living in low income neighborhoods lacking basic shelter related infrastructure, particularly water and sewerage. The 1986 median family monthly incomes by geographic sector are as follows: Tegucigalpa, Lps. 938; San Pedro Sula, Lps. 698; secondary cities, Lps. 528; and other urban places, Lps. 329. The program will be carried out primarily in the metropolitan areas of Tegucigalpa and San Pedro Sula, and in secondary cities with populations greater than or equal to 10,000 inhabitants; smaller municipalities may also participate. For the following presentation, the "urban areas" are defined as settlements with a population of 2,000 or more, and excluding Tegucigalpa and San Pedro Sula which are collectively referred to as "metro areas".

The program is expected to benefit 31,554 low-income families in the metropolitan and other urban areas of Honduras, generating nearly 6,200 person years of employment. The estimated breakdown of benefits is given in Table 3, below. Moreover, based on estimates generated by the experience of the Urban Upgrading Program, approximately 8,700 families will receive title to their land through the urban development component.

T A B L E 3
ESTIMATED NUMBER OF DIRECT BENEFICIARIES

	<u>FY'87</u>	<u>FY'88</u>	<u>FY'89</u>	<u>TOTAL</u>
Upgraded Infra <u>1/</u>	4,377	6,566	10,944	21,887
Home Improvements <u>2/</u>	1,350	2,015	3,375	6,750
New Shelter	<u>583</u>	<u>876</u>	<u>1,458</u>	<u>2,917</u>
Total	6,310	9,467	15,777	31,554

1/ Approximately 98% of upgrading beneficiaries are estimated to receive improvements in water and/or waste disposal.

2/ The home improvement loan program is not tied to specific new shelter projects, therefore, no double counting is implied by listing these loans separately.

A recent analysis of needs of below median income families indicates that in the metro areas approximately 58 percent of households require an upgrade of either the unit or the infrastructure, and that 10 percent require a replacement unit (see Table 4). In urban areas, the figures are 46 percent and 41 percent, respectively (see Table 5).

Analyzing the impact of the program on meeting these needs and improving the living conditions of the target group, Table 6 shows the percentage of households in metro and urban areas living in structures built of permanent materials and possessing the minimum infrastructure standards as of the beginning of 1986. The table also reports the shift in these distributions between 1986 and the end of 1990. These results indicate both the direct and spread effects of the program, particularly those associated with mobilization of greater individual savings attributable to the policy changes that will be the focus of the technical assistance.

T A B L E 4
HOUSEHOLD TENURE AND QUALITY CLASSIFICATION
FOR METRO AREAS: 1986

Tenure	Acceptable	Upgradable	Non-upgradable	Total
Owner	6.09	10.88	1.40	18.37
Squatter <u>1/</u>	18.94	32.79	4.26	56.00
Renter	6.71	14.73	4.20	25.63
Totals	<u>31.74</u>	<u>58.40</u>	<u>9.86</u>	<u>100.00</u>

Acceptable = both unit and infrastructure meet standards.
Upgradable = either the unit, the infrastructure or both are upgradable.
Non-upgradable = unit not upgradable.

1/ Owners without clear title to land.

Source: Calculations based on data from Phillip Rourke et al., *Developing a Housing Finance Strategy for Honduras* (Washington, D.C.: Urban Institute, 1986), Annex B Table B.5.

T A B L E 5
HOUSEHOLD TENURE AND QUALITY CLASSIFICATION
FOR URBAN AREAS: 1986

Tenure	Acceptable	Upgradable	Non-upgradable	Total
Owner	6.21	18.88	15.56	39.65
Squatter <u>1/</u>	3.52	12.55	9.93	26.00
Renter	4.15	14.64	15.56	34.35
Totals	<u>12.88</u>	<u>46.07</u>	<u>41.05</u>	<u>100.00</u>

Acceptable = both unit and infrastructure meet standards.
Upgradable = either the unit or the infrastructure or both are upgradable.
Non-upgradable = unit not upgradable.

1/ Owners without clear title to land.

Source: Calculations based on data from Phillip Rourke et al., *Developing a Housing Finance Strategy for Honduras* (Washington, D.C.: Urban Institute, 1986), Annex B Table B.5.

Across all income levels in these three sectors, the program, including direct program benefits and the impact of policy changes, will contribute 54 percent or 34,674 units to the total expected increase of 64,482 units meeting both structural and infrastructural standards between 1986 and 1990. In the absence of the program it is expected that only 29,808 units would reach acceptable standards. These impacts translate into a 37 percent increase in the share of households living in fully acceptable units between 1986 and 1990 in the metropolitan areas, approximately a 82 percent gain in other urban areas, and a 25 percent increase in rural areas.

The impact on low income families is even more dramatic. In the metro areas, by the end of 1990 nearly 53 percent of below median income families are expected to be living in adequate shelter conditions -- an 80 percent increase of 1986 levels. In other urban areas and rural areas, 30 percent and 11 percent, respectively, of below median income families will be living in adequate shelter, representing a 329 percent and 118 percent increase of the respective 1986 levels for each sector. These results are superior to what would be expected from the direct program beneficiary impacts due to the fact that additional investment levels can be expected from households in response to suitable financing or program opportunities attributable to the expected policy changes in the sector.

The impact on the metropolitan and other urban areas are in large measure due to the direct impact of the program, whereas the impact on the rural areas is due to the activities of other A.I.D. and other donor projects. The joint impact of the direct lending and policy changes resulting from the implementation of this program represent 50 percent, 62 percent and 8 percent of the expected changes in the number of units achieving adequate quality standards over the 1986 - 1990 period, for each of the metro, urban and rural areas, respectively.

From the table one sees that in the metro areas the program is expected to contribute 60 percent of the expected increase in units meeting adequate standards for below median income families in the metro areas. In the urban and rural areas these figures are 68 percent and 5 percent, respectively. The low impact of the program on the rural areas is due to the program emphasis on urban areas given the already significant ongoing and planned activities for the rural sector.

T A B L E 6
HOUSEHOLDS OCCUPYING FULLY ACCEPTABLE DWELLINGS IN 1986 AND 1990

		TOTAL <u>1/</u> 1986	% MEETING <u>1/</u> STD 1985	BASE <u>2/</u> <u>3/</u> CHANGES	PROGRAM <u>3/</u> BENEFITS	POLICY <u>4/</u> CHANGES	TOTAL 1990	CHANGE 86-90	%CHANGE 86-90	PROGRAM & POLICY IMPACT % CONTRIBUTION	% OF HH MEETINGS STDS END 1990	% CHANGE 86-90
METRO <u>5/</u>	Low Income <u>6/</u>	21,774	29.31	10,418	10,610	5,022	47,824	26,050	119.64	60.01	52.74	79.96
	Upper Income	46,826	63.03	12,476	3,864	3,872	67,038	20,212	43.16	38.27	73.94	17.32
	Total	68,600	46.17	22,894	14,474	8,894	114,862	46,262	67.44	50.51	63.34	37.20
URBAN	Low Income	2,199	6.91	2,700	3,524	2,312	10,735	8,536	388.18	68.37	29.63	329.04
	Upper Income	14,901	46.80	4,214	2,623	2,847	24,585	9,684	64.99	56.48	67.85	44.98
	Total	17,100	26.85	6,914	6,147	5,159	35,320	18,220	106.55	62.05	48.74	81.51
RURAL	Low Income	12,043	4.86	16,903	391	460	29,797	17,754	147.42	4.79	10.59	117.77
	Upper Income	81,457	32.89	19,107	71	2,320	102,955	21,498	26.39	11.12	36.61	11.31
	Total	93,500	18.88	36,010	462	2,780	132,752	39,252	41.98	8.26	23.60	25.02
TOTAL	Low Income	36,016	10.18	13,118	14,134	7,334	70,602	34,536	96.03	62.07	17.30	69.94
	Upper Income	143,184	40.47	16,690	6,487	6,719	173,080	29,896	20.88	44.17	42.41	4.79
	Total	179,200	25.33	29,808	20,621	14,053	243,682	64,482	35.98	53.77	27.42	8.27

1/ Phillip Rourke et al., Developing a Housing Finance Strategy for Honduras (Washington, D.C.: The Urban Institute, 1986), p. 22

2/ Assumes no use of additional HG or local currencies, nor CHF funds beyond 1987. In metro and urban areas, the only programs assumed active are from the Lps. 10 million Housing Fund (FOVI) and the remaining Lps. 2.8 million of previously committed CHF funds. The rural component contains a more complex mix of programs, including a Lps. 1.5 million home improvement loan program through INVA; Lps. 57.4 million IDB and Special Projects water and sanitation programs; another Lps. 6.4 million of water and sanitation programs through INVA, SANAA-PRASAR and the Employment Generation Program, and a Lps. 3 million wet core/serviced sites program through INVA. Ibid, Annexes, p. C-11.

3/ Ibid, Annexes, p. D-10, TABLE D.3, base case and administration proposal.

4/ Ibid, p. 65

5/ Metro = Tegucigalpa and San Pedro Sula
Urban = Other settlements over 2,000 population
Rural = Residual population

6/ Low income refers to families earning less than the median family income

The ability to meet these targets without recourse to subsidies requires that the benefit packages be designed within the affordability limits of the intended beneficiary group. Table 7 shows the distribution of households by the type of solution to be offered by the program that they can initially afford.

T A B L E 7
AFFORDABILITY BY SOLUTION TYPE
(percentage of households)

	<u>Metro</u>	<u>Urban</u>	<u>Total</u>
No solution	-	34	10
Upgradable ^{1/}	--	--	--
Urbanized lot	49 ^{2/}	34	45
Basic unit	<u>51</u>	<u>32</u>	<u>45</u>
Totals	100	100	100

^{1/} Upgradable solutions include home improvement loans and/or infrastructure improvements.

^{2/} Families able to afford a higher cost solution are assumed to be able to afford less costly solutions. Thus, 49% are not able to afford a basic unit, but can afford either an upgrading loan or urbanized lot.

Source: Calculations based on data from Phillip Rourke et al., *Developing a Housing Finance Strategy for Honduras* (Washington, D.C.: Urban Institute, 1986), p. 16.

From the data one can see that overall, all but 10 percent of households can afford at least an upgraded unit. Moreover, fully 45 percent can afford an urbanized lot, and the remaining 45 percent can afford a basic unit. These affordability estimates confirm the appropriateness of the standards proposed for the program. Higher cost solutions would have produced a much larger estimate of the share of households unable to afford even an upgraded unit.

It is important to note the influence of tenure status on the rate at which a household will invest in its dwelling. Moreover, ownership plays a decisive role in allowing or blocking access to formal sector finance; a household can rarely obtain a formal sector loan without having secure property title. Referring again to Tables 4 and 5 demonstrates the importance of addressing the tenure issue. In the metro areas and urban areas, 56 percent and 26 percent, respectively, of the below median income families are classified as squatters -- i.e. without secure title. To ensure maximum access to benefits of the program by the target group, it will be necessary to improve the tenure situation. Since municipalities have the responsibility for regulating land tenure, technical assistance should be provided to improve the capacity of municipal governments to perform this important function.

It is important to emphasize that mere participation in a program does not guarantee that a household will occupy an acceptable unit. If a household living in a deficient dwelling receives improved infrastructure services, it must still bring its unit up to the minimum standard for the household to be "recorded" as occupying a fully satisfactory unit. Similarly, obtaining a loan for making improvements in the structure will shift a dwelling into the fully acceptable category only if the value of the improvements is great enough.

Thus, these results demonstrate the appropriateness of the program solutions to meeting the shelter needs of low income families in urban areas. Combining infrastructure upgrading with home improvement loans yields a potent mechanism for creating fully acceptable units. Moreover, the impact by income group demonstrates that the program design has a high probability of reaching the target group. By the end of the project, 53 percent of the families earning less than the median income in metro areas can be expected to be living in adequate shelter; in other urban areas, nearly 30 percent of the target group will enjoy similar benefits.

B. Technical Analysis

The design of the program is technically sound. The infrastructure and housing solutions for the program have been designed to maximize the improvement to housing quality within the affordability limits of below median income families. The basic cost structure for different solutions is based on the experience of the Urban Upgrading Program and is assumed to be similar for each of the metro and other urban areas (see Table 8). The data indicate that all solutions are affordable to families earning below the median income in the metro areas; in other urban areas, all solutions are affordable except the one bedroom. Furthermore, all the upgrading solutions, both infrastructure and home improvement loans, as well as sites and service solutions are affordable to families earning less than 50th percentile in both the metro and urban areas.

T A B L E 8
COSTS VS. AFFORDABILITY BY SOLUTION TYPE

<u>TYPE OF SOLUTION</u>	<u>COST</u> (in US dollars)	<u>MINIMUM INCOME RANGE</u> <u>OF AFFORDABILITY</u> (in percentiles)	
		<u>METRO</u>	<u>URBAN</u>
<u>Infrastructure</u>			
Potable water	310	0-10	0-10
Sewer system	870	0-10	10-20
Water and sewer	1,700	10-20	20-30
Other upgrade <u>1/</u>	1,460	10-20	20-30
<u>Shelter</u>			
1 bedroom unit	7,500	40-50	60-70
Basic core	4,800	20-30	40-50
Wet core	2,950	20-30	40-50
Serviced lot	2,050	10-20	20-30
Home improvement loan	1,000	10-20	20-30

1/ This category may include street paving, lighting, etc. The estimate presented here is based on the cost of street paving under the 522-HG-006 program.

Source: Income distribution calculations based on data from Phillip Rourke et al., *Developing a Housing Finance Strategy for Honduras* (Washington, D.C.: Urban Institute, 1986)

The most significant technical issue is the availability of sufficient water supplies to service the infrastructure requirements for both upgrading and new shelter projects. In the secondary cities, the IDB has recently completed the first phase of a program to improve the water coverage capacity of seven major cities. These improvements will make possible the expansion of the distribution networks under this program. This does not imply that only these cities will be served by the program. However, it does enhance the technical feasibility of carrying out a secondary cities upgrading and new construction program.

Given that approximately 70 percent of the program resources are expected to be used in the metro areas, and of that a majority share could be expected to go to Tegucigalpa, then the most important issue facing this program is the current overall deficit in water supply for the city of Tegucigalpa. Facing this deficit, any extension in water coverage in the next two years can only be justified either by producing its own expansion of supply (as with independent well systems) or through localized SANAA surpluses. The implementation of this program is fully consistent with this supply requirement.

Well systems pose the most accessible form of assuring supply to new projects in the short term. Preliminary estimates indicate that independent well systems cost between 20 percent and 43 percent of the

total project costs. This cost is comparable to the 30 percent off-site costs of typical water supply projects. A recent study conducted for the Pan American Health Organization (PAHO) on Nonconventional Water Supply for Marginal Barrios in Tegucigalpa suggested as its first recommendation increased use of independent well systems for extension of water services to the low-income neighborhoods. However, the major recommendation that such services be provided through public standpipes rather than by individual house connections is more appropriately managed directly by SANAA and therefore would receive priority consideration under the Regional Shelter and Urban Development Program now in development.

The current program will rely primarily on the development of independent water systems through wells where connection to the SANAA main system is not feasible. The impact of other donor activities, as described elsewhere, will make it feasible for the Tegucigalpa upgrading program to provide improved water and sewerage services in low-income neighborhoods and for new low-cost housing projects, at least on a limited scale over the next two to three years. The most likely scenario calls for independent well systems as an interim solution in anticipation of later linking up with the SANAA main system once the other major planned investments have been made. In secondary cities, the IDB activities provide an excellent opportunity for follow-on funding for upgrading and new shelter activities under this program with minimal off-site infrastructure requirements.

C. Financial Feasibility and Economic Analysis

1. Financial Feasibility and Plan

The borrower under the program will be the Ministry of Finance, who will mix the HG and local currency resources. The funds will be onlent to the sub-borrowers (municipalities and Central Bank Housing Fund) at a weighted interest rate that reflects the actual cost of the funds and under similar terms as those of the HG funds, i.e. 30 years with 10 years grace on interest repayment, although these terms and conditions could vary at the discretion of the GOH.

The sub-borrowers will in turn onlend the resources for mortgage loans, home improvement loans and infrastructure upgrading loans to benefit low-income families. The onlending terms to the participating institutions (INVA, savings and loan associations, housing cooperatives, commercial banks, PVOs, etc.) are anticipated to be 20 years with no grace period for private sector institutions and 30 years with a 10 year grace period on principal repayment for public sector entities; for both the interest rates will be at one-half of one percent above the cost of the resources to the Ministry of Finance.

The onlending terms and conditions to the beneficiaries are expected to vary by the type of loan: 20 year for mortgage loans, 5 years for home improvement loans, and 12 years for infrastructure upgrading loans. All loans to beneficiaries will be at real rates of interest and be structured to cover the cost of resources to the sub-borrowers.

The program will consist of a total of \$42.5 million in loan resources, \$35 million from the current uncontracted HG resources and \$7.5 million from ESF local currencies already agreed to by the GOH and USAID/Honduras for support to the shelter sector. Of the total program resources, \$20 million will be used to finance the urban development component, which will be implemented by the metropolitan municipalities of Tegucigalpa and San Pedro Sula; and by other urban municipalities. The remaining funds will be channeled through a special fiduciary fund (Housing Fund) owned by the GOH and administered by the Central Bank of Honduras (BCIH) for loans to private and public sector financial institutions for new site housing projects and home improvement loans. The public sector participation in the housing component will be limited initially to 20 percent of the \$22.5 million allocated for this latter component.

The financial analysis demonstrates that the program is financially viable for the GOH, the sub-borrowers, and the participating institutions. The analysis was carried out under the assumption that HG resources could be contracted at an effective interest rate of 11.54 percent, including all fees and commissions. The Ministry of Finance will blend the HG resources with the counterpart and onlend to the sub-borrowers at the weighted cost of funds (9.5 percent). This will represent an interest of 9.5 percent to municipalities and 10 percent to public and private financial intermediaries. The final onlending rate to the beneficiaries is assumed to be 14.00 percent, which is consistent with the cost of funds in domestic financial markets. Passbook savings accounts currently pay between 8.0 percent and 10.0 percent, and the interest rate for mortgage loans under similar terms through the savings and loan system is between 15.0 percent and 19.0 percent.

The Central Bank of Honduras has set a ceiling of 19.0 percent for housing loans, but the actual onlending interest rate will be determined by each participating financial institution to reflect their administrative costs and other required margins. The Housing Fund has indicated that they may set a maximum spread for the onlending of these funds. Their existing lending activities limit the spread to 4 percent, but taking in account that currently acceptable spreads for mortgage lending are estimated at 2 to 3 percent, the assumed final interest rate (14.0 percent) should leave the intermediate financial institutions with a sufficiently attractive margin.

The Ministry of Finance has indicated that they will accept the exchange risk for the HG resources, but will require that sub-borrowers pay for all direct and indirect costs associated with the projects. To minimize adverse impacts on the GOH in the HG transaction, it is expected that borrowings will be timed to coincide with the completion of eligible projects under the housing component and for limited advances under the urban development component. Under the housing component, construction financing will have to be provided by the financial institutions themselves or from commercial banks. For the urban development component, the Ministry of Finance will provide, with project funds, construction financing that will be based on the estimated financial requirements for approximately three to six months of construction.

On the basis of these assumptions, a thirty year cash flow projection of the project funds was prepared. The analysis, further described in Annex E, demonstrates that the Ministry of Finance will experience net operating losses and cash shortages during the first three years of project implementation, but that by the sixth year this situation will reverse. The internal rate of return for the Ministry of Finance is 7.13 percent. This rate of return reflects the net margins that they are obtaining by mixing \$7.5 million of local currency grant funds with \$35.0 million HG funds.

T A B L E 9
ANNUAL DISTRIBUTION OF FUNDS BY SOURCE
((\$000,000))

	FY'87	FY'88	FY'89	FY'90	Total
HG Resources	2.55	8.65	14.80	9.00	35.00
ESF Resources	1.13	2.63	3.75	0.00	7.50
Total	3.68	11.28	18.55	9.00	42.50

T A B L E 10
ANNUAL DISTRIBUTION OF FUNDS BY PROGRAM COMPONENT
((\$000,000))

	FY'87	FY'88	FY'89	FY'90	Total
Housing Program	0.67	4.28	8.55	9.00	22.50
Upgrading Program	3.00	7.00	10.00	0.00	20.00
Total	3.68	11.28	18.55	9.00	42.50

In the analysis of the Housing Fund (FOVI) and of the municipalities, the immediate reinvestment of end of year balances are not taken into account as they are simply carried forward to the next period. It can be assumed that the continuous reinvestment of cash surpluses (maintaining the excess cash in interest bearing accounts or an expanded portfolio), would result in even better financial results.

The base case scenario also demonstrates that even with a yearly construction cost inflation of 4.0 percent, it is reasonable to assume that with reflows, by the tenth year, fifty percent more beneficiaries could be reached than those reached during the initial round of project loans.

i) Housing Component

Funds for discounting housing mortgages will be disbursed by the Ministry of Finance to FOVI. FOVI will pass the funds to public and private sector financial institutions based on the

submission of listings of eligible loans dated not before September 1, 1986. The financial institutions will issue promissory notes to FOVI for the project funds received, which will be guaranteed by the assets of the institution.

According to the legislative decree (Decree 184-85 of 10/30/85) that established FOVI, its primary role is to funnel financial resources to private and public housing financial institutions so that they may increase and expand their activities. Included as part of those activities is the establishment and administration of second level financing arrangements and other financial mechanisms that favor the implementation of social housing programs. It is stated in the decree (Article 2f and 1) that the institutions that can benefit through the FOVI programs are not limited to legally recognized savings and loan associations but may include all financial institutions duly authorized by the Superintendent of Banks.

As a direct result of the positive spread, due to the Ministry of Finance loan at 9.5 percent; an onlending rate of 10.0 percent; and an accelerated repayment schedule vis-a-vis the private sector institutions, FOVI's minimum required return on its reflows to break even is 7.41 percent. This is below the 10.0 percent at which they will be onlending.

TABLE 11
LENDING TERMS

Institutions	Interest Rate	Terms
Min Finance to FOVI	9.5%	30 years with 10 years grace on the principal
FOVI to INVA	10.0%	30 years with 10 years grace on the principal.
FOVI to Private Sector Institutions	10.0%	20 years with no grace
INVA/Private Sector to Beneficiaries	14.0%	20 years for mortgages and 5 years for home improvement loans

In the case of the private sector intermediate financial institutions, the analysis indicates that they will need a minimum return on the reinvestment of 2.75 percent to break even, an apparent result of the accelerated recovery they have under the short-term home improvement loan sub-component, which represents approximately 30 percent of the portfolio. This low return will potentially allow them to absorb arrearage rates on the order of 23 percent and permit a two percentage point margin. With this arrearage rate the required return on their reflow investments is 11.75 percent; if they relend at 14.0 percent they will still have a 2.25 percent spread for administration costs.

In the case of the public sector intermediate financial institutions, the analysis indicates that they will need a minimum return on the reinvestment of 4.59 percent to break even. This low return will potentially allow them to absorb arrearage rates on the order of 28 percent and permit a two percentage point margin. With this arrearage rate the required return on their reflow investments is 11.65 percent; if they relend at 14.0 percent they will still have a 2.35 percent spread for administration costs.

These results are based on the previously mentioned assumption that short term construction financing is currently available. In discussions with FOVI personnel, it was indicated that short-term construction financing is not a constraint if the long-term take out financing could be made available. The housing component of the project is designed within these domestic financial parameters.

ii) Urban Development Component

Under the urban development component, funds will be directly disbursed by the Ministry of Finance (MOF) to participating municipalities. The MOF will pass these funds at 9.5 percent annual interest rate, repayable in 30 years with 10 years grace period on the principal. The beneficiaries in turn will receive loans repayable in ten years, at 14.0 percent. It is expected that half of the funds will go to the Municipalities of Tegucigalpa and San Pedro Sula, and the remaining to municipalities of secondary cities.

The estimated required return on their relending activities using reflows is 6.42 percent, which leaves a 7.58 percent margin. In general the program could sustain arrearages of as high as 22.0 percent before becoming a substantial drain on the finances of the participating municipalities.

2. Economic Analysis

In financial intermediation, the economic analysis rests on the determination of the economic internal rate of return of subprojects. Subproject resources should earn a rate of return at least equal to the opportunity cost of capital and if achieved, the project is economically viable. In this project such analysis should also include the marginal benefit associated with the use of local currency grant resources as they in essence, from the point of view of the borrower of the HG funds (Ministry of Finance), are substantially lowering the actual financial program costs. The actual economic return for this project would have to take in account the cost of alternative sources of financing, non-local currency funds or a shadow cost for the \$7.5 million local currency. Since, however, the government will pass the funds to the implementing institutions at essentially the cost of domestic capital resources (9.5 to 10 percent) from the point of view of program costs and benefits, such externality cancels out.

In this project the actual willingness to pay for the various types of solutions to be offered not only reflect the existence of an effective consumer demand, but by pricing the solutions so full cost recovery is achieved, it is demonstrated that private benefits (economic returns) equal or exceed project costs.

The proposed urban development component, for which effective demand has already been demonstrated under the 522-HG-006 project, reflects such a situation. Furthermore, by taking in account that under this program cost recovery is expected to be achieved at 14.0 percent interest rate, 3 percentage points below the one used in the 522-HG-006 projects, subproject benefits should exceed by far economic returns obtained under the previous project and could in fact increase demand.

Consumer demand at market prices for potable water and sewerage services, road and street paving, and public lighting demonstrates that at least the market rate of return test has been met. That is, private return is substantially higher than market rates of return for this type of investment. An example of this situation is the net effect of introducing potable water services to marginal communities. Family expenditures actually reduce as a result of obtaining a regular service of water, even if its through public taps. At present time families in the neighborhoods to be served pay about \$1.50 for 55 gallon barrels of water purchased from private trucks, but in the subprojects financed under the 522-HG-006 project, family expenditures for water have been reduced from \$22.50 to \$17.50, a reduction of \$5.00 monthly. The new payment includes the water services and the actual construction of the connection providing both a net financial benefit and the economic benefits related to improvements in sanitary conditions and increase in value of the family property.

D. Institutional Analysis

1. Shelter Component

The institutional design of the housing component takes into account the lessons learned from the FINAVI program. Under the that project, the major unplanned effect had been the negative impact on the financial position of FINAVI. In attempting to create a functional delivery system for low-cost shelter, the program was not structured to ensure the appropriate distribution of both costs and benefits among the public and private sectors. The problem was exacerbated by the vertical integration of the private sector supply, developer, and finance firms. These factors mitigated against the efficient operation of the private market forces during project implementation. The financial failure of FINAVI and its resultant loss of credibility led the GOH to close the institution in October of last year.

Under the current program, the private sector will be responsible for obtaining the construction financing from the private domestic market. The home improvements will be relatively small loans

that should be within the lending capacity of the private financial institutions. The new shelter sub-component will rely on the existing institutional mechanisms for providing construction financing. However, the GOH may decide to assist promoters who otherwise might have difficulty in qualifying for financing, such as FEHCOVIL coops, and PVOs.

The resources borrowed by the GOH for shelter will be channeled through a special fiduciary fund (Housing Fund) administered by the Central Bank of Honduras. The fund will authorize loans to institutions on the basis of mortgage and home improvement loan packages presented to the fund. Developers will present projects to private and public financial institutions, who in turn will make requests for a funding reservation by the Housing Fund. The funding commitment will carry conditions related to the specifications of the project, and the deadline for presentation of loans. With this funding commitment, the developer will obtain the construction financing in the domestic market.

Upon the sale of the units, the financial institution will issue mortgage loans that will be presented to the Housing Fund. The Fund will then conclude the loan agreement with the financial institution and disburse the funds equivalent to the value of the loans presented. In the case of home improvement loans, the disbursement will be made on the basis of loans issued once the financial institution certifies that the improvements have been made. It is expected that the loans will be for 20 year terms and 30 year terms to private and public financial institutions, respectively, at approximately 10 percent interest rates for both home improvement and new shelter loans.

i) FOVI

The Housing Fund (FOVI) is a fiduciary fund created by Decree No. 184-85-dated November 5, 1985. The fund is owned by the GOH through the Ministry of Finance and Public Credit and administered by the Central Bank of Honduras (BCH).

The functions of fiduciary fund are the same as the functions originally assigned to FINAVI, with the notable exception of the mortgage insurance function (FHA), which has been suspended. FOVI has now assumed administration of FINAVI's assets and liabilities. The GOH has capitalized the fund by capitalizing FINAVI's debt with the GOH, and authorizing FOVI to issue \$5 million in bonds as a means of reactivating the construction industry and providing liquidity to the savings and loan system.

Since its establishment in January 1986, FOVI has developed and initiated an action plan to comply with its mandate; organizing its assets and liabilities and preparing the necessary regulations to initiate operations with participating institutions and the savings and loan associations.

At the present time FOVI is composed of a director and two deputy directors: one for finance and technical matters, one for administrative matters. In addition, the fund has two legal advisors.

The financial division consists of two financial analysts, one accountant, and three bookkeepers; the technical division consists of one architect. Moreover, there are five support personnel assigned to the fund. While the finance area is adequately staffed, the technical division will require additional staff to be able to provide adequate review and analysis of projects presented for financing.

Since beginning operations, FOVI has concentrated its efforts on completing the construction and marketing of the houses built by FINAVI under the program 522-HG-007. Resolution of these matters has proven difficult due not only to the size of the inventory, but also to the complexity of the legal problems involved. At this moment, FOVI is negotiating the sale of the housing stock to INVA and to the Honduran public sector pension funds. It is expected that within the next couple of months, FOVI will have been able to sell this inventory and liquidate the outstanding advances originally provided by A.I.D. under the 522-HG-007 project. It is to FOVI's credit that it has been able to accomplish in a few months what FINAVI was not able to accomplish in several years.

FOVI has agreed that its proper role is to work only as a second tier mortgage lending institution. Furthermore, FOVI has adopted a policy that limits its operations to portfolio backed institutional loans, eliminating the credit risk that the GOH assumed under the FINAVI activities. It is expected that the gamut of private sector financial institutions, such as savings and loan associations, commercial banks, cooperatives, labor unions and PVOs, and the public housing finance institutions such as the National Housing Institute (INVA), official banks, etc. will participate in the program. These institutions will be equally eligible with the limitation that the private sector institutions will have access to at least 80 percent of the financing available and the public sector institutions will be limited to the remaining 20 percent of the funds.

There are, however, several issues remaining for FOVI to resolve prior to initiating activities under the program. First, FOVI has yet to issue a set of regulations and operational procedures. Second, a mechanism will be required to qualify non-banking financial institutions for participation in the program. Finally, although submitted to the Honduran Congress along with the law closing FINAVI, the law transferring the regulatory functions of the savings and loan associations to the Central Bank was not passed. At the present time the associations are unregulated. Completion of these actions will be included in the conditions precedent for onlending under this component.

In sum, at the present time FOVI is a financially sound institution; but will require substantial technical assistance to develop the standard operational procedures and program regulations. Furthermore, technical assistance and training will be needed to strengthen its managerial and technical capacity. Particular attention should be placed on training its financial, managerial and operational personnel given the complexity and varied relationship between the financial institutions and the different types of participating institutions.

2. Urban Development Component

This component will build on the successful experience of the ongoing Urban Upgrading Project (522-HG-006), and will expand coverage to secondary cities. The process by which the municipalities carry out the program is designed to ensure community support for the selected activity and to ensure that the beneficiaries are willing and able to pay for the capital investments.

The procedures used by the municipalities of Tegucigalpa and San Pedro Sula to implement the project ensure continued community participation by the beneficiaries. Initially, the social promoters of the municipality identify the potential communities, and through direct contacts, determine if there is a general interest in the program. The social promoters then schedule a date to give a presentation to the community on the program, its requirements, and to solicit the priorities of the community in terms of work they would like to see financed. An important part of this initial contact is the emphasis placed on the cost recovery mechanism and, in the case where the community is interested in the program, obtaining from the patronato (legally recognized community organization) the commitment to pay. After the initial commitment is made, the municipality conducts a survey of the families in the neighborhood to determine the population, number of families, family income, and the capacity to pay of the resident families as well as their willingness to repay the specific planned investment.

Once the neighborhood has been qualified on the basis of income, capacity to pay and willingness to pay, the engineering design work is begun, land tenure issues are resolved, and the environmental assessment is carried out. Finally, the project is checked for conformity with the Urban Development Master Plan and commitments for necessary off-site infrastructure are secured. Once the preliminary cost estimates are calculated, the community is consulted again to verify their continued support for the project. The experience has been that this process has worked extremely well in determining community support and the feasibility of the project from both the social and technical points of view.

Following this social promotion and eligibility process, a funding commitment is made for the project. The municipality's Implementation Unit then requests bids from a short list of pre-qualified

firms. The bids are opened and analyzed by an independent committee, which receives no compensation for the work. The committee judges the adequacy of the bids and awards the contract on the basis of technical reports prepared independently by the engineering office of the municipality and a private contractor. The legal department of the municipality then prepares the contracts.

Separate contracts are awarded for the construction and the supervision of the work. The engineering department of the Implementation Unit monitors the contracts and performs periodic inspections to assure control of the supervision. This latter function has been supported by technical assistance provided by a RHUDO/CA engineer.

Once the work has been completed and the final costs are known, the Cadastre Department provides the basic data (land areas, current property values, etc.) to the Betterment Tax Unit which then revalues the properties benefitting from the project in accordance with agreed upon formulas. The Betterment Tax Unit then distributes the final costs to the property owners in accordance with the benefits received as evidenced by the revaluation. The final cost per property owner is then sent to the water utility for billing in conjunction with the regular water bill. Once constructed, the entire network is turned over to SANAA for operations and maintenance.

i) The Municipalities

For the development of the urban upgrading program (522-HG-006), the municipalities of Tegucigalpa and San Pedro Sula created implementing units with a limited authority of the municipal bureaucracy. These units were organized as semi-autonomous entities in order to cover the full range of financial, managerial and operational functions in a timely manner.

In Tegucigalpa the Implementation Unit is organized in four major areas: finance and administration, technical, social promotion, and betterment tax and cost recovery. This type of organization has permitted the unit to cover the full range of necessary functions for effective project development and implementation.

San Pedro Sula has a unit integrated within the Division Municipal de Agua - DIMA (San Pedro Sula's water authority independent from SANAA). This unit is smaller than the one in Tegucigalpa and has had less problems because of a lower number of projects developed (6) and because its implementation and billing systems are integrated within DIMA, eliminating the complexity of interinstitutional relationships that the Tegucigalpa unit has had. Although to a lesser degree, San Pedro Sula has also been affected by high delinquency in the recovery of investments and by a lack of effective promotion of the projects. These problems have to be addressed to continue with the program through technical assistance.

Using the methodology outlined above, the project has developed 38 projects of potable water, waste disposal, storm drainage and paved roads in low-income communities, benefitting approximately 17,000 families. These projects have generated approximately 600,000 person-days of employment.

Several important lessons were learned from the experience with the Urban Upgrading Project. First, there is a need to provide significant amounts of training and technical assistance to develop an implementation unit capable of managing the program. The time lag required for this had been severely underestimated, taking nearly two and one-half years to fully develop. Once the capacity is established, however, the implementation of the project exceeded the planned outputs.

Another important area is the need to provide sufficient technical assistance, not only to the direct implementation units, but also to the other departments and institutions that affect the coordination and implementation of the program. In the case of the 522-HG-006 project, the inefficiencies in the Cadastre Departments and the poor coordination with national utility companies and other institutions adversely affected the rate of cost recovery. Moreover, the timely deliver of off-site infrastructure by the responsible implementing institutions is critical to institutionalization of cost recovery mechanisms. The experience has been that it is difficult to establish and sustain a pattern of community support and payment if the level of service provided is significantly below the expectations of the beneficiaries. The result of both these factors was the completion of the on-site infrastructure far ahead of the completion of the off-site works and ahead of the capacity of the other municipal departments to valorize the properties, distribute costs, and educate the beneficiaries on the need to repay the investments. This in turn affected the financial position of the municipality, which was forced to carry interim finance charges for a longer period than should have been necessary.

In large part, the municipalities' ability to complete the on-site construction on a scale far outpacing the other components was due to the municipalities' contracting out both the construction and supervision of the work. This mode of operation permitted the municipalities to complete a larger number of sub-projects in a relatively short period of time, thus enhancing the potential positive impact of the program at the neighborhood level.

Efforts to reduce delinquencies have already begun. The municipality of Tegucigalpa has initiated negotiations with SANAA to develop a joint effort to enforce water cut-offs. In San Pedro Sula, DIMA has already begun a similar program with notable success. DIMA, after a seven month delay in billing due to the installation of a new computer system, has begun to bring its billings up to date. Though local currency funded technical assistance, the Mission is assisting SANAA to develop and implement a computerized billing system for the project that has already had an impact in reducing the system's technical problems. However, implementation of the new billing system in itself led to delinquencies as SANAA suspended billing for six months during the

change over process and then billed for the entire period in a single billing. People were both unwilling and unable to pay the substantial amounts listed on the six month bill.

The planned program incorporates this experience and recognizes the need to achieve closer policy and implementation coordination between the municipality and SANAA. On-site work will only proceed if concurrent off-site work and water supply are assured, or where independent supply sources can be developed. Furthermore, the program will continue the ongoing negotiations with BANMA, the Municipality of Tegucigalpa and SANAA to reduce the likelihood of repeating bottlenecks in the repayment and collection mechanisms, in coordinating the financing and construction of complementary off-site infrastructure, and in the capacity of the Cadastre department. Relatively simple measures such as allowing payments at any banking institution (which is current practice for paying utility bills) rather than only at BANMA (where payments are made on A.I.D. sub-project loans) could decrease the significant time costs of loan repayment. More comprehensive measures which further link on-site and off-site financing, such as the financing from the Employment Generation Program, should further increase project impact. Improvements in the billing system, the social promotion and of general coordination among the participating institutions should have a significant impact on the recovery of investments made under the program.

The real challenge for this program will be the development of an institutional and financial mechanism for carrying out the program in secondary cities. Unfortunately, most secondary city municipalities in Honduras do not have the human resource base nor the legal authority to implement the program. Recently the Honduran Congress approached RHUDO/CA to request technical assistance for the reform of the municipal code. This effort is anticipated to lead to creation of the legal base for the secondary and smaller municipalities to implement an upgrading program. Moreover, a Mission funded study on infrastructure, currently underway, will focus on the requirements for the development of the secondary cities sub-component of the new program, including an assessment of the appropriate institutional framework to carry it out. Since an objective of the program is to strengthen the municipal capacity for the delivery of basic infrastructure services to low-income communities, the implementing mechanism will provide for active participation by the municipalities. However, it is anticipated that significant levels of technical assistance will be required to set up some type of national implementation unit and to provide technical assistance to the participating municipalities.

IV. PROJECT IMPLEMENTATION

A. Implementation Plan

1. Participating Entities

The institutional arrangements are specifically designed to promote rapid disbursements in order to be responsive to the shelter and infrastructure requirements and employment generation needs of Honduras. Moreover, they are designed so that the private sector assumes a substantial part of the risk in developing new shelter solutions, and participates substantially in the infrastructure upgrading activities.

The borrower will be the Ministry of Finance acting for the GOH. The ministry will guaranty repayment of the HG loan in dollars, and assume the foreign exchange risk. It will channel program resources as follows.

For the new shelter and home improvement component, the GOH will channel resources through a fiduciary fund administered by the Central Bank of Honduras at the cost of the program funds. The fiduciary fund will pass the funds to public and private sector institutions at one half of one percent (1/2 percent) over the cost of funds. The fiduciary fund shall function as a second tier institution making institutional loans to public and private sector institutions guarantied by their assets. Private commercial banks will provide construction financing for public and private sector participating institutions. Public and private institutions will onlend to eligible beneficiaries for a minimum 20 year term for new shelter. Home improvement loans will be onlent for approximately three to five year terms. The GOH will develop and implement whatever procedures or mechanisms may be necessary to ensure the affordability of the solutions to below median income families.

For the urban development component, the GOH will pass the resources to the implementing institutions at cost. Implementing institutions will onlend, on a cost recoverable basis, to beneficiaries for basic infrastructure improvements in qualifying communities. The municipalities of Tegucigalpa and San Pedro Sula will operate the program similar to how the Urban Upgrading Program was implemented. The GOH will be responsible for developing the mechanism for carrying out a secondary cities urban development program. To assist the GOH in this, A.I.D. is financing a study under the Shelter for the Urban Poor II grant (522-0206) that will provide in depth analysis of the infrastructure requirements and recommendations regarding feasible institutional mechanisms for assisting secondary cities.

2. Project Documentation

An Implementation Agreement to be signed by the Ministry of Finance will be negotiated shortly following the authorization of the project modifications. The Agreement will outline the expected program outputs and implementation arrangements. A Loan Agreement will be negotiated at the time when the GOH is required to borrow under the

program. This loan agreement is signed by the GOH and an U.S. investor, and will set forth the terms of the HG loan. The borrowing may take place at one time for the entire \$35 million, or in tranches in accordance with program implementation requirements. A Guaranty Agreement will be signed between A.I.D. and the U.S. investor to protect the investor against any loss from non-payment by the borrower. A Host Country Guaranty will be signed between A.I.D. and the GOH to similarly protect the U.S. government guaranty. It is anticipated that an initial borrowing can take place within three to six months after signing of the Implementation Agreement.

3. Disbursement and Expenditure Schedules

Loan disbursements will be authorized on the basis indicated below:

Housing projects: Mortgage sale or lease purchase contracts together with the purchaser's representation that the unit will become his regular place of residence.

Urban community upgrading projects: reimbursement upon submission of evidence, satisfactory to A.I.D. of completed infrastructure investments. Such evidence may include, but will not be limited to, certification by the responsible municipal engineer or the appropriate utility that the system is complete and operable. Disbursement for eligible expenditures may be made on the basis of advances upon submission of evidence, satisfactory to A.I.D., of a proposed or partially completed infrastructure system. Such evidence may include, but will not be limited to, the project eligibility accepted in advance by A.I.D., cash flows of the project costs and vouchers of incurred expenditures.

Home improvement loan: fully disbursed home improvement loans for satisfactorily completed home construction, extensions or improvements.

Community facilities: work in place in accordance with schedules acceptable to A.I.D.

Since disbursements for the housing component activities are on a reimbursement basis, the disbursement schedule differs from the expenditure schedule. While expenditures will be accrued over a three year period, the final disbursement will not take place until the beginning of year four. The disbursement schedule of HG funds corresponds to the projected contracting schedule.

T A B L E 12
PROJECTED EXPENDITURES OF CAPITAL RESOURCES
(\$000)

Source	Y E A R			Total
	FY'87	FY'88	FY'89	
HG	7,000	10,500	17,500	35,000
GOH	1,500	2,250	3,750	7,500
Total	8,500	12,750	21,250	42,500

T A B L E 13
PROJECTED DISBURSEMENTS OF CAPITAL RESOURCES
(\$000)

Source	Y E A R				Total
	FY'87	FY'88	FY'89	FY'90	
HG	2,550	8,650	14,800	9,000	35,000
GOH	1,125	2,625	3,750	0	7,500
Total	3,675	11,275	18,550	9,000	42,500

Technical assistance obligations and expenditures are expected to occur in accordance with the following tables.

T A B L E 14
PROJECTED EXPENDITURES OF GRANT FUNDS
(\$000)

Activity	Y E A R			Total
	FY'87	FY'88	FY'89	
Technical Assistance				
a) Long-Term	295	295	295	885
b) Short-Term	270	135	135	540
Evaluation/Audit	<u>58</u>	<u>58</u>	<u>59</u>	<u>175</u>
Total	623	488	489	1,600

T A B L E 15
PROJECTED OBLIGATIONS OF GRANT FUNDS
 (\$000)

<u>Activity</u>	Y E A R			Total
	FY' 87	FY' 88	FY' 89	
Technical Assistance				
a) Long-Term	300	585	---	885
b) Short-Term	300	240	---	540
Evaluation/Audit	<u>116</u>	<u>59</u>	<u>---</u>	<u>175</u>
Total	716	884	---	1,600

4. Program Activities' Schedule

The following chart details the schedule for the completion of major implementation actions during the life of the program.

<u>Activity</u>	<u>Est. Completion Date</u>
<u>FY' 86</u>	
Authorization of PP Amendment	August 1986
<u>FY' 87</u>	
Negotiation of Implementation Agreement	November 1986
Negotiation of ProAg for DA Grant (\$1.6 million)	December 1986
First obligation of DA grant (\$.716 million)	December 1986
Conditions Precedents met for Investor Selection	December 1986
Contracting of first phase of short-term assistance	January 1987
First Loan Agreement and Disbursement (\$2.55 million)	March 1987
Contracting of long-term advisors	March 1987
Contracting of second phase of short-term assistance	April 1987
Contracting of third phase of short-term assistance	July 1987
<u>FY' 88</u>	
Contracting of fourth phase of short-term assistance	October 1987
Second obligation of DA grant (\$.884 million)	December 1987
Second Loan Agreement and Disbursement (\$8.65 million)	December 1987
Contracting of fifth phase of short-term assistance	January 1988
First evaluation and audit	March 1988
Contract renewal for long-term advisors	March 1988
Contracting of sixth phase of short-term assistance	April 1988
Contracting of seventh phase of short-term assistance	July 1988
<u>FY' 89</u>	
Contracting of eighth phase of short-term assistance	October 1988
Third Loan Agreement and Disbursement (\$14.8 million)	December 1988
Contracting of ninth phase of short-term assistance	January 1989
Second evaluation and audit	March 1989

Contract renewal for long-term advisors	March 1989
Contracting of tenth phase of short-term assistance	April 1989
Contracting of eleventh phase of short-term assistance	July 1989

FY' 90

Contracting of twelfth phase of short-term assistance	October 1989
Fourth Loan Agreement and Disbursement (\$9.0 million)	December 1989
Final evaluation and audit	March 1989
PACD	March 31, 1989

5. Procurement of Technical Assistance and Commodities

The Project Agreement will state that all dollar funded technical assistance and commodities will be performed by A.I.D. or by A.I.D. contractors. Additional technical assistance that may be required to carry out the urban development component will and which may involve local currency expenditures may, at the discretion of A.I.D., be performed by the GOH with A.I.D. approvals.

During implementation of the program, a technical assistance procurement schedule will be developed on a quarterly basis. This schedule will include the requirements for both long-term and short-term technical assistance as well as commodity and training requirements. The program coordinator will have primary responsibility for developing this quarterly plan.

It is anticipated that the current long-term advisors funded under the Shelter for the Urban Poor (522-0206) will be extended under the new funding for this program. The functions performed under each of these grants is essentially the same, thereby obviating the need for conducting a new market search. In the event, however, that these contracts are not renewable or that the incumbent declines to continue in this capacity, the contracts will be competitively bid. The program coordinator and financial/management advisor will be bid both internationally and locally; it is anticipated that the technical advisor could be restricted to a local market search. All applicable A.I.D. policies and regulations will be following in the procurement of goods and services.

B. Monitoring, Evaluation and Audit

RHUDO/CA will have the primary responsibility for monitoring and evaluation of the program. RHUDO/CA will coordinate closely with the USAID/Honduras Mission to ensure that program implementation and performance remains consistent with the mission's overall strategy for the sector and Honduras. As part of the monitoring function, RHUDO/CA will verify the information submitted to A.I.D. in requests for disbursements prior to disbursement authorization. This verification check will be based on a random sample of loans contained in the disbursement request and will include: consistency checks with implementing institution's files, site visits and interviews with beneficiary families. These checks will provide information on the

adequacy of the control mechanisms developed by the borrower to ensure that program benefits are in compliance with the program objectives, the impact on the beneficiary families, and the socio-economic characteristics of beneficiaries.

Due to the innovative nature of the program, it is anticipated that three annual program evaluations will be required, as indicated in the program activities schedule. The evaluation will concentrate on the following areas: (1) the development and institutionalization of a secondary cities upgrading activity; (2) the success in involving the private sector in low-cost shelter; (3) the improvement in cost recovery policies and practices of public sector agencies; (4) the impact of the program on the housing quality of low-income families; and (5) progress by the GOH in developing and implementing a finance policy for the sector. Depending on the complexity of the tasks, these activities may be evaluated separately.

The Controller General of Honduras has the capability to perform audits of the program. However, the audits would not be made in a timely manner. Funds have been provided under the technical assistance grant to make annual audits of the program activities. The RIG/Tegucigalpa will also make periodic audits which should help assure that project funds and property are safeguarded and accounted for.

C. Covenants and Conditions Precedent

1. Conditions Precedent

Conditions Precedent to Signing a Loan Agreement

Before seeking and selecting the Investor for either the Housing or the Urban Upgrading component, the GOH will develop the Master Program Implementation Plan that contains the following information:

A. Detailed description of each project planned and in operation including (i) sources of financing for off-site infrastructure and estimated total project cost, (ii) financing for the housing and urban upgrading components, (iii) marketing plans, (iv) contracting schedules, and (v) project loan disbursement schedule;

B. Plan to ensure that Program Beneficiaries will have adequate access to schools and other essential community facilities and, where required, plans for school construction and the necessary community facilities;

C. Current financial plan, cost estimates and cash flow schedules for the Program, with specific reference to Eligible Expenditure categories, a system to control the flow of funds between the GOH and Housing Subborrowers and municipalities, and reflow and reinvestments of funds, a system to ensure that no loan servicing risks will be borne by the GOH and that the participating institutions will use the funds for purposes permitted by the Program;

D. Project evaluation and tracking system to indicate the expected progress on the important project elements of the Program;

E. Description of the established procedures of the GOH for site selection, beneficiary selection, contractor selection, cost recovery, and to ensure project affordability;

F. Conceptual designs, standards, procedures and criteria for construction;

G. Cost recovery policies and mechanisms to be used for the recovery of investment in the program; and

H. Detailed description of the policies, regulations, and standard operating procedures to be applied in the implementation of each of the program components.

Before seeking and selecting the Investor for the Housing component the GOH will provide:

A. Detailed description of the Housing Fiduciary's policies, regulations, standard operating procedures and accounting systems, including evidence that the Fiduciary has sufficient and appropriate personnel to fulfill its responsibility, the capacity to administer the Program, has established satisfactory eligibility standards for Housing Subborrower participation (including evidence of acceptable policies and operating procedures, financial soundness, and promulgated regulations, especially for financial institutions not regulated by the Central Bank), and evidence of sufficient approved project proposals from Housing Subborrowers to enable the Program to proceed at a level acceptable to A.I.D.

B. Evidence that a Shelter Finance Policy Action Plan has been established, jointly by the GOH and Central Bank, with specific dates for accomplishment of appropriate changes in legislation and/or regulations to increase the mobilization of savings mobilized by formal private sector financial institutions for investment in low-cost shelter.

Before seeking and selecting the Investor for the Urban Upgrading component the GOH will provide:

A. Evidence that the participating municipalities have the legal authority and procedures to recover the cost of the project investment from the Program Beneficiaries, and that the GOH has an assessment of the capacity of participating municipalities which demonstrates that they have the capability to implement upgrading projects, including ensuring that adequate managerial and accounting systems, standard operating procedures, and sufficient and appropriate personnel are in place to implement the Program, and that sufficient project proposals have been approved to enable the Program to proceed at a level acceptable to A.I.D.; and,

B. evidence that a Municipal Development Policy Action Plan has been established with specific dates for accomplishment of changes in legislation and/or regulations with respect to promoting fiscal and administrative autonomy for local governments, and to establishing a mechanism for providing sufficient technical and capital assistance to the municipalities to improve their fiscal and administrative management.

Conditions Precedent to First Disbursement.

Prior to the first disbursement, the GOH will provide an Updated Master Program Implementation Plan; a plan to assure that Loan repayment obligations will be met on a timely basis notwithstanding any delays in payment by the participating institutions; and a copy of the agreement between the GOH and each Housing Subborrower and each participating municipality that sets forth the procedures to be followed in requesting disbursements from the Investor, the flow of funds, reinvestment of the loan proceeds, and provides that the Housing Subborrower and participating municipality will comply with the terms and conditions that govern the use of A.I.D. - guaranteed loan proceeds;

For disbursement to a public housing financial institution, evidence that program 522-HG-005 has been completed and that progress has been made in reducing portfolio delinquency;

For the Housing component, evidence that the Housing Subborrowers have the capacity to manage a mortgage loan portfolio, including the review of beneficiary eligibility, capacity to inspect construction in progress and manage construction financing, and ability to manage delays in repayments or defaults in payment and a system to recover those losses, evidence that the outstanding advances from Project 522-HG-007 have been fully liquidated, and evidence of satisfactory progress in meeting the targets set forth in the shelter finance policy action plan.

For the Urban Upgrading component:

A. Evidence that the municipality has the following:

i) Institutional capacity and resources to undertake upgrading projects, including criteria for project approval and an efficient system to review project eligibility for funding, administer infrastructure development contracts, inspect work in progress, and ensure the satisfactory and timely completion of projects approved;

ii) Procedures to ensure coordination with other institutions, including evidence of coordination with appropriate utilities to ensure that services essential to meeting the Program's goals will be provided;

iii) Evidence that the infrastructure will be provided where there are no land tenure problems or where existing land tenure problems can be resolved before construction is concluded;

iv) Evidence that a process has been established to ensure community support for the infrastructure and that the project beneficiaries are willing and able to pay for the capital investments and are qualified to receive the benefits of the Program;

v) Evidence of soil stability and acceptable environmental conditions, including the absence of other projects that would jeopardize the Program; and,

B. Evidence of satisfactory progress by the GOH in meeting the targets set forth in the Municipal Development Policy Action Plan.

Conditions Precedent to Additional Disbursements.

Prior to additional disbursements under the Loan, the GOH will provide:

A. Updated Master Program Implementation Plan;

B. Certification that the participating institutions are current in their financial repayment obligations under this Program and under the various Housing Guaranty projects, or that a satisfactory arrangement has been made for repaying arrears, and that all steps to recover costs incurred under those projects have been taken;

C. For the Housing component, evidence of satisfactory progress in meeting the targets set forth in the Shelter Finance Policy Action Plan.

D. For the Urban Upgrading component, evidence of satisfactory progress in meeting the targets set forth in the Municipal Development Policy Action Plan.

Conditions Precedent to Final Disbursements.

Prior to the final disbursement, the GOH will provide:

A. Certification that the participating institutions are current in their financial repayment obligations under this Program and under the various Housing Guaranty projects, or that a satisfactory arrangement has been made for repaying arrears, and that all steps to recover costs incurred under those projects have been taken;

B. For the Housing component, evidence of satisfactory progress in meeting the targets set forth in the Shelter Finance Policy Action Plan, including evidence of satisfactory implementation of an approved shelter finance policy to promote greater privatization of the shelter finance market and to mobilize additional domestic capital resources to meet the current and future shelter and urban infrastructure needs of low income families.

C. For the Urban Upgrading component, evidence of satisfactory progress in meeting the targets set forth in the Municipal Development Policy Action Plan, including evidence of satisfactory implementation of an approved municipal development policy to promote greater decentralization of the provision of urban infrastructure services.

D. Certification that all outstanding advances under all bilateral Housing Guaranty Projects for Honduras have been liquidated;

2. Covenants

Cost Recovery. The GOH agrees to be committed to a policy of full recovery of Program costs from the Program beneficiaries. In order to meet this goal, the GOH will maintain in force in Tegucigalpa and in San Pedro Sula and extend to other participating municipalities the legal authority to impose and collect a betterment contribution (valorization) and/or other appropriate and effective cost recovery techniques. The cost recovery technique to be used at each proposed site of the infrastructure project will be approved by A.I.D. before any construction is begun.

Interest Rates. The GOH agrees that the interest rate charged to program beneficiaries for loans for home improvement and new shelter units will be based upon cost recovery principles and will be greater than the domestic inflation rate for the terms of the loans and the cost of Lempira resources. The interest rates and loan terms and conditions offered by the public sector participating institutions will not be substantially in conflict with or reflect unfair competition with the private sector.

Supportive Measures. The GOH will take measures to assure that, during the implementation of the Program, the displacement and relocation of families resulting from project construction will be kept to a minimum, that procedures to provide flexible payment terms to needy families will be continued, and that efforts will be made to keep valorization and other user fees consistent with the often conflicting goals of affordability and effective cost recovery.

Recurrent Costs. The GOH will undertake to provide funding and staff for the implementation of the Program and the continued management of the Program when it is completed. This is especially true with respect to acquiring competent staff that will establish and implement the sophisticated valorization techniques proposed to ensure cost recovery of the Program, as well as ensuring sufficient and capable staff that will perform the social outreach and coordination functions of the Program.

Coordination With Other Donors. The GOH will be required to inform A.I.D. of other donor activities in the shelter sector which are being planned or implemented during the disbursement period of this Program. At the request of A.I.D., the GOH will consult with A.I.D. and the various donors to assure the maximum degree of coordination and mutual support.

Community Facilities and Services. The GOH will provide essential community facilities and services to Program Beneficiaries. To obtain A.I.D. approval of projects, the GOH will provide evidence for the reservation of sufficient community land to accommodate school and recreational facilities provision of a minimum level of developed recreational areas in larger sites, and, in the urban upgrading component, the GOH will ensure that all the necessary off-site works to make the service operable will be executed in a timely manner.

Mobilization of Domestic Capital for Shelter. The GOH will continue to study the increased mobilization of domestic capital to provide long-term loans for shelter and to identify and develop appropriate policies to mobilize that capital without recourse to subsidies.

Inspection and Project Completion.

A. Housing. The GOH will assure that the relevant utility companies adjust their normal inspection procedures so that final inspections, and certificates of occupancy or the equivalent are made in a timely manner to facilitate the earliest sale and occupancy of housing units. A coordinating committee, chaired by the GOH, will be established to assure delivery and inspection of infrastructure for projects financed hereunder.

B. Urban Upgrading. The GOH will ensure that the completed projects have been delivered and properly received by the public institutions in charge of the system operation and maintenance and that the public deeds, when required, have been registered, and that the services are operable.

Foreign Exchange Requirements. The GOH will maintain an effective mechanism to assure the timely availability of foreign exchange for private and public entities to purchase imported construction materials to facilitate the construction of projects financed hereunder.

3. Negotiating Status

On April 3, 1986 the GOH president sent USAID/H a letter indicating interest in utilizing the HG resources. Based on the mission's reply, the GOH on June 10, 1986 requested a draft implementation agreement in anticipation of finalizing negotiations. It is expected that the negotiations on the Implementation Agreement could be concluded shortly after the authorization of the project changes.

ANNEX A

LOG FRAME



SECRETARIA DE HACIENDA Y CREDITO PUBLICO
REPUBLICA DE HONDURAS

Tegucigalpa, D. C., 10 de Junio de 1986

Nº. AT-143-86.

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INITIALS		

Señor
ANTHONY CAUTERUCCI
Director Misión A.I.D.
En Honduras
Su Oficina

Señor Director:

De conformidad al Oficio que el Excelentísimo Señor Presidente de la República de Honduras le envió al Director de la Misión de AID en Honduras, referente a fondos de vivienda el día 3 de Abril de 1986, y considerando la respuesta que al mismo hiciera Usted el día 21 de Mayo del corriente año, muy respetuosamente le informo que la Secretaría de Estado en los Despachos de Hacienda y Crédito Público, está en la disposición de revisar conjuntamente con Delegados de A.I.D. el Borrador del Convenio de Ejecución para la utilización de fondos en un programa de vivienda que consistiría en Setenta Millones de Lempiras provenientes de A.I.D. (US\$35.000.000).

Estamos, por lo tanto a la espera del antes mencionado Borrador del Convenio de Ejecución, así como de los Representantes de su Oficina para su revisión en conjunto.

Atentamente,

J. A. ESPAIN B. GIRON
MINISTRO

SAZB/jsv.

RECEIVED
SECRETARIA DE HACIENDA Y CREDITO PUBLICO
8171
26 JUN. 1986
REGIONAL HOUSING AND URBAN DEVELOPMENT OFFICE

OFFICIAL FILE COPY

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Life of Project: From FY 87 to FY 89
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: HONDURAS SHELTER SECTOR PROGRAM (522-HG-008)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>Improve the shelter conditions of low-income families.</p>	<p>Measures of Goal Achievement:</p> <ol style="list-style-type: none"> 1. By the end of 1990, an increase of 64,482 units meeting structural and infrastructure standards: <ol style="list-style-type: none"> a) 46,262, metro b) 18,220, urban (pop. > 2,000) c) 39,252, rural 2. By the end of 1990, the increase in the share of households living in fully acceptable units is: <ol style="list-style-type: none"> a) Total Households <ol style="list-style-type: none"> i. 57% in metro areas ii. 82% in other urban areas iii. 25% in rural areas b) Low Income Households <ol style="list-style-type: none"> i. 80% in metro areas ii. 529% in other urban areas iii. 117% in rural areas 3. Over \$95 million in additional domestic savings are generated between 1987 and 1990, of which more than \$80 million is expected to be allocated towards credits for the housing sector. 4. By the end of 1990, annual increments of \$28 million in new lending for the housing sector. 5. Total investment in the sector increases from 77% of needs in 1986 to about 87% in 1990. 	<ol style="list-style-type: none"> 1. Impact evaluation 2. GOH census of population and housing, if available 3. Central Banks Statistical Reports 	<p>Assumptions for achieving goal targets:</p> <ol style="list-style-type: none"> 1. Present demographic growth patterns remain stable for metro, urban and rural areas i.e., that there is no significant increase in the rate of household formation. 2. \$34.15 million in A.I.D. and other donor rural projects are funded and implemented on a timely basis; and full implementation of the \$5.0 million bond-issue program by the Housing Fund and remaining \$1.4 million in previously committed CHF funds in urban areas. 3. Households respond to the program and financing opportunities by mobilizing additional savings for investment to improve their shelter conditions 4. GOH and Central Bank adopt and implement policy, regulatory and operational changes required for increasing the domestic savings rate and mobilization of domestic capital for financing low-income shelter and infrastructure.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 87 to FY 89
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: HONDURAS SHELTER SECTOR PROGRAM (522-HG-008)

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <p>To improve the institutional capacity of the private sector and municipal governments to enhance the availability of housing and infrastructure services for low-income families.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ol style="list-style-type: none"> 1. Private sector housing production; marketing and finance entities are active participants in low-income shelter market 2. Public and private sector participating institutions (housing and urban develop.) have improved their efficiency and are fully recovering investment costs. 3. A functional system is in place for private sector participation in low-cost housing finance. 4. An institutional and financial mechanism is in place for carrying out cost recoverable upgrading activities in urban municipalities. 	<ol style="list-style-type: none"> 1. Program records 2. GCI policy, regulatory and operational documents. 3. Financial records of participating institutions. 4. Program evaluation 	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> 1. GCI and Central Bank adopt and implement policy, regulatory and operational, changes required for greater private sector participation in the low-income shelter market. 2. GCI commitment to adopt and implement policies and legislation to provide for a strengthening of the local government role in municipal development.

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

From FY 87 to FY 89
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: HONDURAS SHELTER SECTOR PROGRAM (522-HG-008)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																									
<p>Outputs:</p>	<p>Magnitude of Outputs:</p>		<p>Assumptions for achieving output(s)</p>																									
<p>1. Housing and infrastructure loans financed with \$42.5 million in capital resources.</p>	<p>1. 31,554 families receive financing for upgrading infrastructure, home improvements and/or new shelter. The distribution and timing of the outputs are:</p> <table border="1"> <thead> <tr> <th></th> <th>FY'87</th> <th>FY'88</th> <th>FY'89</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Infra.</td> <td>4,377</td> <td>6,566</td> <td>10,944</td> <td>21,887</td> </tr> <tr> <td>Home imp.</td> <td>1,350</td> <td>2,015</td> <td>3,375</td> <td>6,750</td> </tr> <tr> <td>New Shelter</td> <td>583</td> <td>876</td> <td>1,458</td> <td>2,917</td> </tr> <tr> <td>TOTAL</td> <td>6,310</td> <td>9,467</td> <td>15,777</td> <td>31,554</td> </tr> </tbody> </table>		FY'87	FY'88	FY'89	TOTAL	Infra.	4,377	6,566	10,944	21,887	Home imp.	1,350	2,015	3,375	6,750	New Shelter	583	876	1,458	2,917	TOTAL	6,310	9,467	15,777	31,554	<p>1. Project records</p>	<p>1. GCI commitment to develop the appropriate program policies, regulations and procedures to carry out the program activities</p>
	FY'87	FY'88	FY'89	TOTAL																								
Infra.	4,377	6,566	10,944	21,887																								
Home imp.	1,350	2,015	3,375	6,750																								
New Shelter	583	876	1,458	2,917																								
TOTAL	6,310	9,467	15,777	31,554																								
<p>2. Development of policy framework to be achieved for improved sectoral performance</p>	<p>2. Development of the policy, regulatory and operational changes to:</p> <p>2.1 Increase domestic savings for shelter finance for low-income families;</p> <p>2.2 enhance the cost recovery and strengthen the financial position of public and private sector shelter finance institutions;</p> <p>2.3 expand coverage by private sector financial institutions to include low-income families;</p> <p>2.4 enhance the capability of primary and secondary city municipal governments to finance infrastructure improvements on a cost-recoverable basis.</p>	<p>2. Consultant reports</p> <p>3. Program evaluation</p>	<p>2. Financial conditions and terms are such the private sector entities respond to the opportunities afforded by the program, especially that interest rate structure provide a sufficient spread for the home improvement loan program</p> <p>3. Low-income families avail themselves of the financing opportunities provided by the program.</p> <p>4. Municipal governments committed to participating in financing cost-recoverable infrastructure investments.</p>																									

9

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 87 to FY 90
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: HONDURAS SHELTER SECTOR PROGRAM (522-HG-008)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																				
Inputs:	Implementation Target (Type and Quantity)		Assumptions for providing inputs:																				
1. Financial Inputs (\$45 million)	1. Expenditure Schedule (\$ Million)	1. Project records	1. HG loan resources available from U.S. capital markets on a timely basis and at affordable interest rates.																				
a) Capital Assistance	INVESTMENT	2. Annual audits	2. The GOH borrows the full HG authorization of \$35 million:																				
i. \$35 million HG loan	CAPITAL		3. DA grant resources obligated on a timely basis																				
ii. \$7.5 million ESF local currency (GOH counterpart)	<table border="1"> <thead> <tr> <th></th> <th>FY'87</th> <th>FY'88</th> <th>FY'89</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>HG</td> <td>7.0</td> <td>10.5</td> <td>17.5</td> <td>35.0</td> </tr> <tr> <td>GOH</td> <td>1.5</td> <td>2.25</td> <td>3.75</td> <td>7.5</td> </tr> <tr> <td>Sub-total</td> <td>8.5</td> <td>12.75</td> <td>21.25</td> <td>42.5</td> </tr> </tbody> </table>		FY'87	FY'88	FY'89	TOTAL	HG	7.0	10.5	17.5	35.0	GOH	1.5	2.25	3.75	7.5	Sub-total	8.5	12.75	21.25	42.5		4. Appropriate qualified technical advisors can be recruited.
	FY'87	FY'88	FY'89	TOTAL																			
HG	7.0	10.5	17.5	35.0																			
GOH	1.5	2.25	3.75	7.5																			
Sub-total	8.5	12.75	21.25	42.5																			
b) Technical Assistance \$1.6 million DA grant	Tech. Assist.																						
	DA Grant																						
	TA																						
	L.T. 0.295 0.295 0.295 0.885																						
	S.T. 0.270 0.135 0.135 0.540																						
	Eval. 0.058 0.058 0.059 0.175																						
	Sub-total 0.623 0.488 0.489 1.600																						
	TOTAL 9.123 13.238 21.739 44.100																						
2. Technical Assistance Inputs	2. 155 person months of technical assistance provided:																						
a) long-term advisors	L.T. 108 person months																						
b) short-term advisors	S.T. 47 person months																						
c) evaluations/audits																							

50

ANNEX B
PROJECT AUTHORIZATION
DOCUMENTS

- B.1 Delegation of Authority Cable (State 244864)
- B.2 Amended Guaranty Authorization 522-HG-005A
- B.3 Guaranty Authorization 522-HG-008A
- B.4 Guaranty Authorization 522-HG-008E
- B.5 Letter of Request from GOH President
- B.6 Letter of Request from GOH Ministry of Finance
- B.7 Statutory Checklist

SM

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D.C. 20523

cc Bladen
Booke

Annex B.2

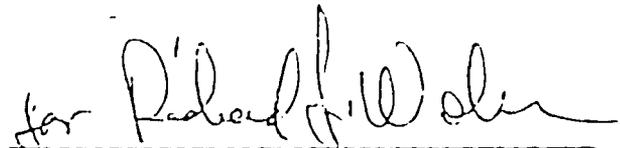
ASSISTANT
ADMINISTRATOR

AMENDED GUARANTY AUTHORIZATION

PROJECT: Honduras 522-HG-005A

(Amending parts of 522-HG-005 and 522-HG-006
and 522-HG-007 into a single Guaranty Authorization)

In order to facilitate a single guaranteed loan, the Guaranty Authorizations for projects 522-HG-005, 522-HG-006, and 522-HG-007 are hereby amended to consolidate the unused portions of 522-HG-005 and 522-HG-006 with 522-HG-007 into a new project to be known as 522-HG-005A. The loan may include a grace period of up to fifteen (15) years on the repayment of principal. Unless expressly or impliedly amended hereby in order to facilitate the foregoing, each of the Guaranty Authorizations shall otherwise remain in full force and effect.



Marshall Brown
Acting Assistant Administrator
Bureau for Latin America and Caribbean

DEC 21 1951

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D C 20523

ASSISTANT
ADMINISTRATOR

GUARANTY AUTHORIZATION

PROJECT NO. 522-HG-008A

PROVIDED FROM: Housing Guaranty Authority

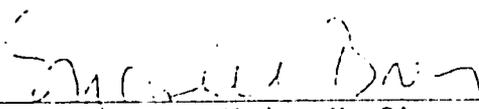
FOR: The Republic of Honduras

Pursuant to the authority vested in the Assistant Administrator, Bureau for Latin America and the Caribbean, Agency for International Development, by the Foreign Assistance Act of 1961, as amended (FAA), and the delegations of authority issued thereunder, I hereby authorize the issuance of guaranties pursuant to Section 222 of the FAA of not to exceed Twenty Million Dollars (\$20,000,000) in face amount, assuring against losses (of not to exceed one hundred percent (100%) of loan investment and interest) with respect to loans including any refinancing thereof by eligible U.S. investors (Investor) acceptable to A.I.D. made to finance housing projects in the Republic of Honduras.

These guaranties shall be subject to the following terms and conditions:

1. Term of Guaranty: The loans may extend for a period of up to thirty years (30) from the date of disbursement and may include a grace period of up to ten (10) years on repayment of principal and a grace period on payment of interest. The guaranties of the loans shall extend for a period beginning with the disbursements of the loans and shall continue until such time as the Investor has been paid in full pursuant to the terms of the loans.
2. Interest Rate: The rate of interest payable to the investor pursuant to the loans shall not exceed the allowable rate of interest prescribed pursuant to Section 223(f) of the FAA and shall be consistent with rates of interest generally available for similar types of loans made in the long-term U.S. capital markets.
3. The Republic of Honduras Guaranty: The Republic of Honduras shall provide for a full faith and credit guaranty to indemnify A.I.D. against all losses arising by virtue of A.I.D.'s guaranties to the Investor or from non-payment of the guaranty fee.

- 4. Fee: The fee of the United States shall be payable in dollars and shall be one-half percent (1/2%) per annum of the outstanding guaranteed amount of the loans plus a fixed amount equal to one percent (1%) of the amount of the loans authorized or any part thereof, to be paid as A.I.D. may determine upon disbursement of the loans.
- 5. Other Terms and Conditions: The guarantees shall be subject to such other terms and conditions as A.I.D. may deem necessary.



 Victor M. Rivera
 Assistant Administrator
 Bureau for Latin America and the Caribbean

 9/25/84

 Date

Clearances:

PRE/H:SPWalsh SPWalsh
 PVitale PVitale 9/25/84
 GC/H:MGKitay MGKitay
 FM/LMD:HShropshire HShropshire
 SPapas SPapas
 DAA/LAC:MDBrown _____
 GC/LAC:RMeighan RMeighan 9/27/84
 LAC/DR:ILEvy _____
 RJordan RJordan 9/27/84
 LAC/CAP/Paskin Paskin 9/27/84
 PPC/PDPR:HTowsley HTowsley
 GC/H:BDavis:gjjg 9/25/84 #1421P X23054

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
 AGENCY FOR INTERNATIONAL DEVELOPMENT
 WASHINGTON D C 20523

ASSISTANT
 ADMINISTRATOR

GUARANTY AUTHORIZATION

PROJECT NO. 522-HG-008B

PROVIDED FROM: Housing Guaranty Authority

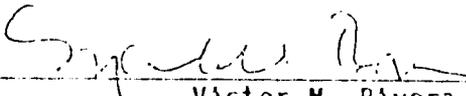
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These guaranties shall be subject to the following terms and conditions:

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2. Interest Rate: The rate of interest payable to the Investor pursuant to the loans shall not exceed the allowable rate of interest prescribed pursuant to Section 223(f) of the FAA and shall be consistent with rates of interest generally available for similar types of loans made in the long-term U.S. capital markets.
3. The Republic of Honduras Guaranty: The Republic of Honduras shall provide for a full faith and credit guaranty to indemnify A.I.D. against all losses arising by virtue of A.I.D.'s guaranties to the Investor or from non-payment of the guaranty fee.

4. Fee: The fee of the United States shall be payable in dollars and shall be one-half percent (1/2%) per annum of the outstanding guaranteed amount of the loans plus a fixed amount equal to one percent (1%) of the amount of the loans authorized or any part thereof, to be paid as A.I.D. may determine upon disbursement of the loans.
5. Other Terms and Conditions: The guaranties shall be subject to such other terms and conditions as A.I.D. may deem necessary.



Victor M. Rivera
Assistant Administrator
Bureau for Latin America and the Caribbean

October 10th, 1984
Date

Clearances:

PPC/PDPR: HTowsley
PRE/H: SPWalsh 9/24/84
PVitale 9/24/84
GC/H: MGKitay 9/24/84
FM/LMD: HShropshire 9/24/84
SPapas 9/24/84
GC/LAC: RMeighan 9/24/84
LAC/DR: ILevy 9/24/84
RJordan 9/24/84
LAC/CAP: Paskin 9/23/84
DAA/LAC: DBrown
GC/t.: RDaVis: gjg 9/25/84 #1421P X23054

Honduras, C. N.

Tegucigalpa, D.C., 3 de abril, 1986

OFFICIAL
FILE COPY

Señor
Director Agencia Internacional
para el Desarrollo (AID)
Anthony Cauteruchi
DESPACHO

REF.: Fondos de Vivienda

Estimado Señor Cauteruchi:

de los US \$. 35,000.000.00 actualmente disponibles en el Programa Garantías de Vivienda, más Lps. 15,000.000.00 también responsables para el Sector Vivienda, ruego fijar las siguientes prioridades.

Fondos a desembolsarse por intermedio del Banco Central de Honduras para:

- a) Sistema y Ahorro y Préstamo Lps.40,000.000.00
- b) Federación Hondureña de Cooperativas de Vivienda Ltd.(FEHCOVIL) " 5,000.000.00
- SUB-TOTAL Lps.45,000.000.00

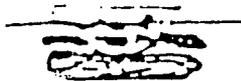
2) Fondos a desembolsarse por intermedio del Ministerio de Hacienda y Crédito Público para:

- a) Municipalidad de San Pedro Sula Lps.10,000.000.00
- b) Municipalidad de Tegucigalpa " 10,000.000.00
- c) Otras Municipalidades " 20,000.000.00
- SUB-TOTAL Lps.40,000.000.00

GRAN TOTAL Lps.85.000.000.00

Para los fondos a desembolsarse por intermedio del Banco Central de Honduras para el uso de la Federación Hondureña de Cooperativas de Vivienda Ltda.(FEHCOVIL), y el Sistema de Ahorro y Préstamo, se establecerá con el Banco Central de Honduras, la media de ingresos para el financiamiento por vivienda, para lo que se debe tomar en cuenta el nivel de ingresos de la ciudad de Tegucigalpa y San Pedro Sula.

7894



Presidencia de la República

Honduras, C. S.

Los fondos a usarse por las Municipalidades, se usarán exclusivamente para la construcción de infraestructura de agua potable, aguas negras y otros, en los barrios marginales de estos municipios.

Mucho agradeceremos la agilización de los desembolsos de estos recursos, los que vendrán a promover el empleo en nuestro país y el desarrollo económico, ya que el sector de la vivienda y de infraestructura, tiene una alta participación de insumos nacionales al igual que una alta generación de mano de obra.

Todos los proyectos serán canalizados por el sector privado mediante el sistema de licitación pública.

Con muestras de mi más alta y distinguida consideración, le saluda atentamente,

JOSE AZCONA HOYO
PRESIDENTE CONSTITUCIONAL
DE LA REPUBLICA



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LR
JC
file #

SECRETARIA DE HACIENDA Y CREDITO PUBLICO
REPUBLICA DE HONDURAS

Tegucigalpa, D. C. 10 de Junio de 1986

Nº.. AT-143-86.

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SECTION TAK.		NAN
ATTACHM.	YES NO	
INITIA'S		

Señor
ANTHONY CAUTERUCCI
Director Misión A.I.D.
En Honduras
Su Oficina

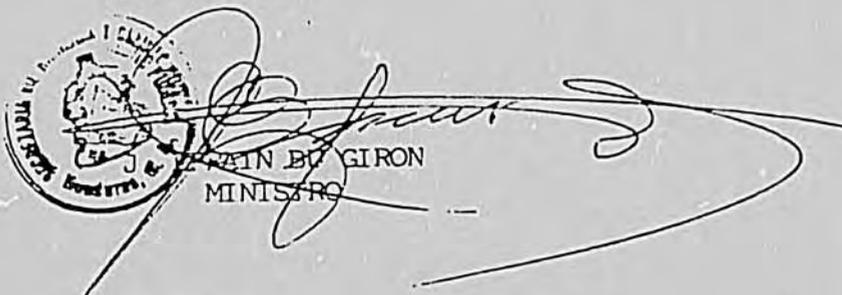
U. S. S. S.
MAY 12 1986

Señor Director:

De conformidad al Oficio que el Excelentísimo Señor Presidente de la República de Honduras le envió al Director de la Misión de AID en Honduras, referente a fondos de vivienda el día 3 de Abril de 1986, y considerando la respuesta que al mismo hiciera Usted el día 21 de Mayo del corriente año, muy respetuosamente le informo que la Secretaria de Estado en los Despachos de Hacienda y Crédito Público, está en la disposición de revisar conjuntamente con Delegados de A.I.D. el Borrador del Convenio de Ejecución para la utilización de fondos en un programa de vivienda que consistiría en Setenta Millones de Lempiras provenientes de A.I.D. (US\$35.000.000).

Estamos, por lo tanto a la espera del antes mencionado Borrador del Convenio de Ejecución, así como de los Representantes de su Oficina para su revisión en conjunto.

Atentamente,


JUAN B. GIRON
MINISTRO

RECEIVED
8/7/86

SAZB/jsv.

5C(1) - COUNTRY CHECKLIST

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

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FAA Sec. 481; FY 1984 Continuing Resolution. Has it been determined or certified to the Congress by the President that the government has failed to take adequate measures or steps to prevent narcotic and psychotropic drugs or other controlled substances (as listed in the schedules in section 202 of the Comprehensive Drug Abuse and Prevention control Act of 1971) which are cultivated, produced or processed illicitly, in whole or in part, in such country or transported through such country, from being sold illegally within the jurisdiction of such country, to Unites States government personnel or their dependents or from entering the United States unlawfully?
2. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government?

5C(1) - COUNTRY CHECKLIST

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

N/A

1. FAA SEC. 481; FY 1984 Continuing Resolution.
2. FAA Sec. 620 (c).
NO

- | | |
|--|---|
| 3. <u>FAA Sec. 620(e)(1)</u> . If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? | 3. <u>FAA Sec. 620(e)(1)</u> .
NO |
| 4. <u>FAA Sec. 532(c), 520(a) 620(f), 620D; FY 1982 Appropriation Act Secs. 512 and 513</u> . Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Vietnam, Syria, Libya, Iraq, or South Yemen? Will assistance be provide to Afghanistan or Mozambique without a waiver? | 4. <u>FAA Sec. 532(c), 520(a) 620(f), 620D; FY 1982 Appropriation Act Secs. 512 and 513</u> .
NO |
| 5. <u>ISDCA of 1981 Secs. 724, 727 and 730</u> . For specific restrictions on assistance to Nicaragua, see Sec. 724 of the ISDCA of 1981. For specific restrictions on assistance to El Salvador, see Secs. 727 and 730 of the ISDCA of 1981. | 5. <u>ISDCA of 1981 Secs. 724, 727 and 730</u> .
N/A |
| 6. <u>FAA Sec. 620 (j)</u> . Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property? | 6. <u>FAA Sec. 620 (j)</u> .
NO |

7. FAA Sec. 620(1). Has the country failed to enter into an agreement with OPIC?

8. FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters?

(b) If so, has any deduction required by the Fishermen's Protective Act been made?

9. FAA Sec. 620(q); FY 1982 Appropriation Act Sec. 517. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any A.I.D. loan to the country? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the appropriation bill appropriates funds?

10. FAA Sec 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the amount of foreign exchange or other resources which the country has spent on military equipment? (Reference may be to the annual "Taking into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

7. FAA Sec. 620(1).
NO

8. FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5.
NO

(b) N/A

9. FAA Sec. 620(q); FY 1982 Appropriation Act Sec. 517.
NO

10. FAA Sec 620(s).
Yes, taken into account by the Administrator at time of approval of Agency OYB.

11. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?
12. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the A.I.D. Administrator in determining the current A.I.D. Operational Year Budget? (Reference may be made to the Taking into Consideration memo.)
13. FAA Sec. 620A; FY 1982 Appropriation Act Sec. 520. Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed an act of international terrorism? Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed a war crime?
14. FAA Sec. 666. Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

11. FAA Sec. 620(t).
NO
12. FAA Sec. 620(u).
No arrearages
13. FAA Sec. 620A; FY 1982 Appropriation Act Sec. 520.
NO
14. FAA Sec. 666.
NO

15. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing, equipment, materials, or technology, without specified arrangements or safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device, after August 3, 1977? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)
15. FAA Sec. 669, 670.
NO
16. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Session of the General Assembly of the U.N. of Sept. 25 and 28, 1981, and failed to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the Taking into Consideration memo.)
16. ISDCA of 1981 Sec. 720.
NO
17. ISDCA of 1981 Sec. 721. See special requirements for assistance to Haiti.
17. ISDCA of 1981 Sec. 721.
N/A
18. FY 1984 Continuing Resolution. Has the recipient country been determined by the President to have engaged in a consistent pattern of opposition to the foreign policy of the United States?
18. FY 1984 Continuing Resolution.
NO

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

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

2. Economic Support Fund Country Criteria

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

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

c. ISDCA of 1981, Sec. 726(b). If ESF assistance is to be furnished to Chile, has the President certified that (1) the Govt. of Chile has made

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

a. FAA Sec. 116.
NO

2. Economic Support Fund Country Criteria

a. FAA Sec 502B.
NO

b. ISDCA of 1981, EC. 725(b).
N/A

c. ISDCA of 1981, Sec. 726(b).
N/A

TU

significant progress in human rights; (2) it is in the national interest of the U.S.; and (3) the Govt. of Chile is not aiding international terrorism and has taken steps to bring to justice those indicted in connection with the murder of Orlando Letelier?

5C(2) PROJECT CHECKLIST

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

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

A. GENERAL CRITERIA FOR PROJECT

CR Sec. 133. Notwithstanding any other provision of this joint resolution, none of the funds appropriate under section 101 (b) of this joint resolution may be available for any country during any 3-month period beginning on or after October 1, 1982, immediately following the certification of the President to the Congress that such country is not taking adequate steps to cooperate with the United States to prevent narcotic drugs and other controlled substances (as listed in the schedules in section 202 of the Comprehensive Drug Abuse and Prevention Control Act of 1971 (21 U.S.C. 812)) which are produced, processed, or transported in such country from entering the United States unlawfully."

A. GENERAL CRITERIA FOR PROJECT

70

1. FY 1982 Appropriate Act Sec. 523;
FAA Sec. 654A; Sec. 653(b).

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

2. FAA Sec. 611 (a) (1). Prior to obligation in excess of \$100,00, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimated of the cost to the U.S. of the assistance?

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

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

1. FY 1982 Appropriate Act Sec. 523;
FAA Sec. 654A; Sec. 653(b).

(a) Committees will be notified using congressional notification procedures for non-FC assistance.
(b) No

2. FAA Sec. 611 (a) (1).
(a) Yes
(b) Yes

3. FAA Sec. 611 (a) (2).
GSE has agreed to issue the required decrees on schedule.

4. FAA Sec. 611 (b); FY 1982 Appropriation Act Sec. 501.
N/A

- | | |
|--|--|
| 5. <u>FAA Sec. 611(e)</u> . If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project? | 5. <u>FAA Sec. 611(e)</u> .
N/A |
| 6. <u>FAA Sec. 209</u> . Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. | 6. <u>FAA Sec. 209</u> .
NO |
| 7. <u>FAA Sec. 601(a)</u> . Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. | 7. <u>FAA Sec. 601(a)</u> .
Project will encourage efforts in all of the noted areas. |
| 8. <u>FAA Sec. 601(b)</u> . Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise.) | 8. <u>FAA Sec. 601(b)</u> .
Private U.S. suppliers may sell goods to project. |

9. FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507.
Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?
12. FY 1982 Appropriation Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?
13. Faa 118(c) and (d). Does the project comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the project or program take into consideration the problem of the destruction of tropical forests?
9. FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507.
The GOh will provide 18 percent of total project cost. There are no U.S. owned local currencies.
10. FAA Sec. 612(d).
NO
11. FAA Sec. 601(e).
Yes
12. FY 1982 Appropriation Act Sec. 521.
NO
13. FAA 118(c) and (d).
Yes

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

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria.

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

14. FAA 121(d).
N/A

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria.

a. FAA Sec. 102(b), 111, 113, 281(a).
Project will have direct impact on all of these items with the exception of (e).

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

b. FAA Sec. 103, 103A, 104, 105, 106.
Yes

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

c. FAA Sec. 107.
Yes

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

d. FAA Sec. 110(a).
Yes

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

e. FAA Sec. 110(b).
N/A

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

f. FAA Sec. 122(b).
Yes

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

g. FAA Sec. 281(b).
The project will contribute to development of basic infrastructure delivery mechanism to meet the shelter and water/sanitation service needs of the urban poor.

2. Development Assistance Project Criteria (Loans Only)

- a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.
- b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?
- c. ISDCA of 1981, Sec. 724(c) and (d). If for Nicaragua, does the loan agreement require that the funds be used to the maximum

2. Development Assistance Project Criteria (Loans Only)

- a. FAA Sec. 122(b).
- b. FAA Sec. 620(d).
N/A
- c. ISDCA of 1981, Sec. 724(c) and (d).
N/A

extent possible for the private sector? Does the project provide for monitoring under FAA Sec. 624(g)?

3. Economic Support Fund Project Criteria

- a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Section 102?
- b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?
- c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives?
- d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

3. Economic Support Fund Project Criteria

- a. FAA Sec. 531(a).
Yes
- b. FAA Sec. 531(c).
No
- c. FAA Sec. 534.
No
- d. FAA Sec. 609.
N/A

5C(3) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. PROCUREMENT

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?
3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

A. PROCUREMENT

1. FAA Sec. 602.
Yes
2. FAA Sec. 604(a).
Yes
3. FAA Sec. 604(d).
N/A
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a).
N/A

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5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or more of these areas?
5. FAA Sec. 604(g).
NO
6. FAA Sec. 603. Is the shipping excluded from compliance with requirements in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent that such vessels are available at fair and reasonable rates?
6. FAA Sec. 603.
NO
7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?
7. FAA Sec. 621.
Yes
8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?
8. International Air Transport. Fair Competitive Practices Act, 1974.
Yes

9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement; does the contract contain a provision authorizing termination of such contract for the convenience of the United States?

B. Construction

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used?
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)?

C. Other Restrictions

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

9. FY 1982 Appropriation Act Sec. 504.
Yes

B. Construction

1. FAA Sec. 601(d).
N/A
2. FAA Sec. 611(c).
N/A
3. FAA Sec. 620(k).
N/A

C. Other Restrictions

1. FAA Sec. 122(b).
N/A
2. FAA Sec. 301(d).
N/A

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3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries?

3. FAA Sec. 620(h).
Yes

4. Will arrangements preclude use of financing:

4.

a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 525: (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilization as a means of family planning; (4) to lobby for abortion?

a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 525:
N/A

b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property?

b. FAA Sec. 620(g).
N/A

c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?

c. FAA Sec. 660.
N/A

d. FAA Sec. 662. For CIA activities?

d. FAA Sec. 662.
N/A

e. FAA Sec. 636(1). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside the U.S., unless a waiver is obtained?

e. FAA Sec. 636(1).
NO

f. FY 1982 Appropriation Act, Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel?

f. FY 1982 Appropriation Act, Sec. 503.
N/A

g. FY 1982 Appropriation Act, Sec. 505. To pay U.N. assessments arrearage or dues?

g. FY 1982 Appropriation Act, Sec. 505.
N/A

h. FY 1982 Appropriation Act, Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)?

h. FY 1982 Appropriation Act, Sec. 506.
N/A

i. FY 1982 Appropriation Act, Sec. 510. To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?

i. FY 1982 Appropriation Act, Sec. 510.
N/A

j. FY 1982 Appropriation Act, Sec. 511. Will assistance be provided for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?

j. FY 1982 Appropriation Act, Sec. 511.
NO

k. FY 1982 Appropriation Act, Sec. 515. To be used for publicity or propaganda purposes within U.S. not authorized by Congress?

k. FY 1982 Appropriation Act, Sec. 515.
NO

ANNEX C
SOCIAL ANNEXES

- C.1 Socio-Economic and Shelter Need Statistics
- C.2 Sample Eligibility Study for Urban Upgrading

SOCIO-ECONOMIC AND
SHELTER NEED STATISTICS

SOURCE: Rourke, P., et. al. 1986 Draft Report.
"Developing a Housing Finance Strategy for Honduras".
Annexes. Urban Institute. Washington, D.C.

ANNEX B

ESTIMATING 1986 HOUSEHOLD CLASSIFICATION MATRICES

To further our analysis of housing finance strategies, we have used the Housing Quality Simulation Model to analyze housing sector response to a variety of policy scenarios. As explained in Annex E, the Model begins with an initial classification of households by income, tenure and dwelling quality, and then simulates year-to-year shifts over a test period. This Annex outlines the procedures and assumptions underlying our estimates of such classifications for 1986; in Annex C we list the assumptions used to project changes over the 1986 to 1990 study period.

In preparing our initial household classifications, we were fortunate to obtain access to a national survey of households that includes information on income, tenure, dwelling type, dwelling value, and source of drinking water. However, this survey was conducted in 1978, and information on subsequent changes in income and housing conditions is limited. Therefore, we use the Model itself to simulate the 1978-1985 period, calibrating it to match as closely as possible evidence presented in the 1985 Needs Assessment and in other published sources. The resulting household distribution by income, tenure, and dwelling quality then serves as the basis for our 1986-1990 simulations.

Our first step was to classify survey households by income decile. Table B.1 presents mean annual incomes at the beginning of 1978 by decile for each of the three housing sectors.¹ Within each income decile, households can be assigned to one of four possible tenure categories:

TABLE B-1
HOUSEHOLD INCOMES AND OWNERSHIP RATES — 1978

<u>Decile</u>	<u>Metro</u>		<u>Urban</u>		<u>Rural</u>	
	<u>Avg Inc.</u>	<u>% Owners</u>	<u>Avg Inc.</u>	<u>% Owners</u>	<u>Avg Inc.</u>	<u>% Owners</u>
1 (low)	14,845	34.8%	12,561	52.4%	112,40	85.2%
2	7,689	38.3	4,668	51.6	1,923	86.1
3	9,696	46.6	5,983	46.9	2,382	84.3
4	11,715	50.1	7,316	58.8	2,711	89.9
5	14,013	53.1	8,841	57.6	3,089	88.0
6	16,574	53.1	10,804	57.2	3,560	88.0
7	19,986	59.6	13,021	59.2	4,295	85.2
8	25,222	64.3	15,899	69.1	5,395	90.8
9	35,016	65.4	20,789	68.7	6,940	83.3
10 (high)	72,798	83.7	40,489	80.3	12,006	76.8

- Secure owners -- possessing clear title to their properties;
- Squatters -- owners lacking title or secure tenure;
- Unit renters;
- Room renters.

The inclusion of room renters in the Model permits explicit consideration of over-crowding in the housing sector. Specifically, when more than one family occupies a dwelling unit, the second family can be classified as a room renter household -- lacking a dwelling unit of its own. Unfortunately, there is little concrete data on this kind of crowding in Honduras, and the 1985 Needs Assessment assumed that the problem was negligible.² Since our household survey does not indicate whether multiple families share a dwelling unit, we have adopted

the Needs Assessment's assumption that doubling-up is not a serious problem in Honduras. Similarly, although our 1985 classification includes a percentage of squatter households,

 1. All currency values are presented in 1985 lempiras; the official exchange rate of lempiras to dollars is two to one. Income figures are as reported by households; they include non-money income in the form of goods and services, but they have not been adjusted for systematic under reporting.

2. However, anecdotal data suggest that, in some metro and urban neighborhoods, doubling-up is common. One study reports an average of 1.06 families per household in "marginal" neighborhoods of Tegucigalpa. This would imply that about six percent of all families in such neighborhoods should be designated as room renters.

these are omitted from the 1978 estimates; all households are classified as either secure owners or unit renters. Table B.1 presents the 1978 owner-occupancy rate by income decile for each of the three housing sectors in Honduras.

Within each tenure category, households are distributed across six possible dwelling statuses, defined on the basis of structural adequacy and infrastructure acceptability. In Honduras, structures are defined as (1) permanent -- and therefore presumably adequate; (2) semi-permanent -- not fully adequate but upgradable; or (3) improvised -- inadequate and not upgradable. Infrastructure is defined simply as either acceptable or unacceptable, on the basis of drinking water and toilet facilities.

We inferred the structural quality for each dwelling unit on the basis of the type of unit, its imputed value, and its size. More specifically, we assumed that all apartment buildings and rooming houses are permanent structures, while units designated as rancho, improvisado, or intended for other than residential use are improvised and not upgradable. The remaining independent houses were classified as permanent if their imputed value was greater than L6,000 (L3,000 in rural areas), and as semi-permanent if their imputed value was between L2,500 and L6,000 (L1,250 to L3,000 rural). For rural areas, houses valued at less than L1,250 were classified as semi-permanent rather than improvised if they consisted of more than two rooms. These value

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cutoffs are based on reported costs of public direct construction projects in Honduras, and on anecdotal evidence obtained in our first field visit. Table B.2 presents the resulting shares of permanent, semi-permanent and improvised units for each sector in 1978. These are consistent with 1974 census data on building materials.

The next step in constructing the 1978 household classification matrix for each sector was to determine which households had adequate water services. For the metro and urban sectors, only households with access to piped water (either on or off their properties) and flush or water sealed toilets are designated as having adequate infrastructure. For the rural sector, wells and latrines were also designated as adequate. Our survey data includes information on source of drinking water, and Table B.3 reports the share of households in each structure category with adequate water service. Census figures for 1974 indicate that a much smaller share of households had adequate sewer service -- about 40 percent in metro and urban areas and about 10 percent in rural areas. Therefore, the share of households with adequate water service was deflated to yield estimates of the share of households with both adequate water service and adequate sewage disposal facilities. Occupants of expensive, high quality dwellings who had adequate water service were assumed to be more likely to have adequate sewage disposal service as well, while occupants of lower value dwellings were

TABLE B-2

STRUCTURE QUALITY - 1978
(percentages)

Decile	METRO			URBAN			RURAL		
	Perm	Semi	Impr	Perm	Semi	Impr	Perm	Semi	Impr
1 (low)	28.14	50.30	21.56	5.95	35.32	58.73	6.54	18.69	74.77
2	47.65	40.00	12.35	9.56	40.64	49.80	7.48	21.50	71.03
3	53.25	37.87	8.88	9.16	47.81	43.03	5.61	21.50	72.90
4	61.54	33.14	5.33	16.67	53.97	29.37	4.67	26.17	69.16
5	74.71	24.12	1.18	22.71	52.99	24.30	11.21	14.95	73.83
6	78.11	17.75	4.14	26.98	53.97	19.05	13.21	25.47	61.32
7	88.24	10.00	1.76	36.90	49.60	13.49	10.28	31.78	57.94
8	94.15	5.26	0.58	48.21	45.42	6.37	10.38	33.02	56.60
9	93.53	5.88	0.59	58.73	36.11	5.16	14.95	48.60	36.45
10 (High)	97.08	2.92	0.00	85.77	12.25	1.98	30.84	37.38	31.78
TOTAL:	71.64	22.72	5.64	32.07	42.81	25.13	11.52	27.91	60.58

TABLE B-3

ADEQUACY OF INFRASTRUCTURE SERVICES — 1978

Percent of Households with Acceptable Water Service:

	<u>Metro</u>	<u>Urban</u>	<u>Rural</u>
Permanent Structures	98.9%	91.3%	74.8%
Semi-Perm. Structures	91.2	83.3	72.5
Improvised Structures	85.2	71.3	59.7
Total	96.4	82.8	65.0

Percent of Households with Acceptable Water and Sewer Service:

	<u>Metro</u>	<u>Urban</u>	<u>Rural</u>
Permanent Structures	43.4%	64.0%	23.9%
Semi-Perm. Structures	41.9	42.7	17.2
Improvised Structures	18.9	15.8	3.8
Total	41.7	42.8	9.9

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assumed to be less likely to receive adequate sewage services, even if they received adequate water service. Table B.3 presents the final estimates of infrastructure adequacy rates by structure type for 1978.

Updating the 1978 Household Classification Matrix

Between 1978 and 1985, we simulate two sources of change to the classification of households by income, tenure and dwelling quality. First, we assume "natural" transitions -- even in the absence of public assistance, a small share of semi-permanent dwellings are presumably upgraded to fully acceptable quality each year. We were unable to obtain data on such improvements to the existing stock, although evidence of upgrading does exist. Therefore, we assume that in all the sectors, about five percent of all semi-permanent units are upgraded to permanent materials each year, and that about 1 percent of semi-permanent and permanent units with unacceptable infrastructure are upgraded to acceptable infrastructure without public involvement. In addition, we simulate the effects for HG-005, HG-006, and HG-007 programs in the metro and urban sectors, and of the Rural Housing Improvement Program and the Water and Sanitation program in the rural sector. These programs, in combination with the natural dwelling transitions and the influx of new households (distributed according to the existing dwelling distribution) produced the estimated dwelling and infrastructure distributions

presented in Table B.4.

Although we assumed that the ratio of owners to renters remained constant in each sector over the 1978 to 1985 study period, we were given estimates, based on surveys of marginal neighborhoods in Tegucigalpa and San Pedro Sula, that approximately 35 percent of households in the metro sector, and 15 percent in the urban sector lacked secure title to their homes, and that the majority of those households fall between the second and fourth income deciles. We therefore adjusted our estimated tenure distribution to include those squatter households, constructing a simple distribution roughly consistent with those criteria. Our final estimated household classification matrices are presented in Table B.5. The table shows, for example, that an estimated seven percent of all households in the first income decile of the metro sector are owners living in semi-permanent dwellings with passing infrastructure.

In addition to adjusting our classification matrix for estimated changes between 1978 and 1985, we also adjusted counts of total households per sector, and estimated mean incomes per decile. We assume that:

- in rural areas, the income distribution remained stable between 1978 and 1984, with all deciles experiencing a 4 percent real annual decline in income.
- in metro and urban areas, the income distribution shifted down over the 1978-1980 period, presumably due to an influx of lower income households and/or differential rates of real income decline.

TABLE B.4

ESTIMATED STRUCTURE AND INFRASTRUCTURE QUALITY: METRO - 1986

MEAN INC. DECILE	-- STRUCTURE QUALITY --			DECILE	- PERCENT ADEQUATE INFRASTRUCTURE -			
	PERM	SEMI	INFR		PERM	SEMI	INPP	ALL
1959 1 (Low)	43.91	34.53	21.56	1 (Low)	0.44	0.63	0.17	0.45
3637 2	59.99	27.65	12.36	2	0.48	0.68	0.20	0.50
5770 3	64.92	26.20	8.88	3	0.48	0.69	0.21	0.51
7513 4	71.75	22.92	5.33	4	0.48	0.69	0.24	0.51
8987 5	82.09	16.73	1.12	5	0.55	0.71	0.21	0.57
11447 6	85.45	12.40	4.15	6	0.54	0.76	0.15	0.55
13803 7	91.28	6.95	1.77	7	0.52	0.71	0.22	0.53
17421 8	95.76	3.65	0.59	8	0.59	0.71	0.15	0.59
26323 9	95.32	4.09	0.59	9	0.66	0.72	0.00	0.66
54102 10 (High)	97.94	2.06	0.00	10 (High)	0.96	0.80	0.00	0.95
Total:	78.64	15.72	5.64	Total:	0.57	0.71	0.16	0.58

TABLE B.4 (continued)

ESTIMATED STRUCTURE AND INFRASTRUCTURE QUALITY: URSAN - 1986

MEAN INC. DECILE	-- STRUCTURE QUALITY --			DECILE	- PERCENT ADEQUATE INFRASTRUCTURE -			
	PERM	SEMI	IMPR		PERM	SEMI	IMPR	ALL
1035 1 (Low)	17.74	23.53	58.74	1 (Low)	0.44	0.39	0.12	0.24
2208 2	23.03	27.16	49.81	2	0.41	0.42	0.15	0.28
3560 3	25.02	31.95	43.03	3	0.42	0.42	0.16	0.31
4721 4	34.47	36.16	29.37	4	0.49	0.45	0.16	0.38
5670 5	40.02	35.68	24.30	5	0.49	0.50	0.16	0.41
7462 6	44.54	36.41	19.05	6	0.48	0.52	0.22	0.45
8993 7	53.08	33.43	13.49	7	0.53	0.51	0.20	0.48
10981 8	62.74	30.88	6.38	8	0.58	0.60	0.22	0.56
15450 9	70.22	24.63	5.15	9	0.66	0.63	0.24	0.63
30091 10 (High)	89.66	8.37	1.97	10 (High)	0.93	0.65	0.00	0.89
Total:	42.05	28.82	25.13	Total:	0.54	0.51	0.16	0.46

TABLE B.4 (continued)

ESTIMATED STRUCTURE AND INFRASTRUCTURE QUALITY: RURAL - 1986

-- STRUCTURE QUALITY --				- PERCENT ADEQUATE INFRASTRUCTURE -				
DECILE	PERM	SEMI	IMPR	DECILE	PERM	SEMI	IMPR	ALL
1 (Low)	14.07	11.17	74.76	1 (Low)	0.92	0.54	0.45	0.49
2	15.27	13.09	71.64	2	0.64	0.37	0.45	0.49
3	14.36	12.74	72.90	3	0.84	0.38	0.45	0.49
4	14.65	12.16	69.19	4	0.87	0.31	0.42	0.47
5	17.04	9.14	72.85	5	0.79	0.32	0.42	0.47
6	20.78	14.90	61.32	6	0.83	0.32	0.44	0.51
7	20.42	18.65	57.94	7	0.61	0.35	0.45	0.51
8	22.91	19.46	56.61	8	0.81	0.34	0.44	0.51
9	35.57	27.99	36.45	9	0.82	0.32	0.48	0.56
10 (High)	46.73	21.50	31.77	10 (High)	0.76	0.41	0.00	0.60
Total:	22.94	12.48	60.58	Total:	0.83	0.34	0.39	0.51

TABLE B.5

HOUSEHOLD CLASSIFICATION MATRIX FOR METRO HONDURAS 1986

DECILE	TENURE	PERM-PASS	PERM-FAIL	SEMI-PASS	SEMI-FAIL	IMP-PASS	IMP-FAIL	ALL
1 (Low)	Owner	6.31	7.75	6.80	4.03	0.46	2.90	28.26
	Squatter	3.90	4.89	4.38	2.52	0.73	3.58	20.00
	Renter	9.27	11.79	10.74	6.05	2.47	11.42	51.74
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Owner	7.19	7.43	3.94	1.91	0.62	1.95	22.94
	Squatter	11.56	12.43	7.57	3.49	1.00	3.94	40.00
	Renter	10.15	11.22	7.42	3.32	0.88	4.07	37.07
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Owner	2.96	3.46	1.58	0.63	0.16	0.55	9.35
	Squatter	24.96	26.97	14.53	6.43	1.48	5.62	80.00
	Renter	3.28	3.79	2.05	0.97	0.21	0.86	10.65
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Owner	3.66	3.95	1.53	0.69	0.04	0.20	10.06
	Squatter	27.23	30.13	12.61	5.73	1.02	3.24	80.00
	Renter	3.16	3.52	1.63	0.75	0.22	0.61	9.94
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Owner	10.32	8.06	1.77	0.85	0.07	0.16	21.23
	Squatter	27.00	22.25	7.10	2.94	0.15	0.56	60.00
	Renter	7.69	6.78	2.97	1.11	0.03	0.21	18.77
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Owner	14.24	12.91	2.66	0.82	0.13	1.29	31.95
	Squatter	17.87	15.51	3.75	1.21	0.25	1.41	40.00
	Renter	12.56	10.46	2.96	1.00	0.25	0.62	28.05
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Owner	23.50	20.98	1.12	0.51	0.31	1.10	47.52
	Squatter	9.54	8.72	0.99	0.40	0.08	0.28	20.00
	Renter	14.66	13.88	2.92	1.18	0.00	0.00	32.47
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Owner	33.34	22.19	1.22	0.59	0.00	0.00	57.35
	Squatter	5.63	3.95	0.26	0.11	0.01	0.05	10.00
	Renter	17.29	13.36	1.10	0.37	0.00	0.45	32.65
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Owner	42.34	20.11	1.94	0.91	0.00	0.00	65.20
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	29.76	12.11	0.99	0.25	0.00	0.59	34.70
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 (High)	Owner	79.90	1.48	1.31	0.34	0.00	0.00	83.03
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	13.90	2.65	0.35	0.07	0.00	0.00	16.97
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		46.42	32.22	10.81	4.91	1.06	4.58	100.00

TABLE B.5 (continued)
HOUSEHOLD CLASSIFICATION MATRIX FOR URBAN HONDURAS 1986

DECILE	TENURE	PERM-PASS	PERM-FAIL	SEMI-PASS	SEMI-FAIL	IMP-PASS	IMP-FAIL	ALL
1 (Low)	Owner	3.80	4.28	4.54	6.66	3.52	24.34	47.14
	Squatter	0.79	0.99	0.91	1.44	0.72	5.15	10.00
	Renter	3.30	4.59	3.64	6.53	3.00	22.00	42.86
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Owner	4.30	6.12	5.52	6.04	3.03	16.42	41.43
	Squatter	1.97	2.74	2.29	3.14	1.45	8.51	20.00
	Renter	3.18	4.83	3.65	6.51	2.78	17.62	38.57
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Owner	3.13	4.19	4.01	5.88	1.60	9.39	28.21
	Squatter	4.24	5.77	5.37	7.41	2.78	14.43	40.00
	Renter	3.22	4.47	4.05	5.23	2.57	12.25	31.79
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Owner	5.09	7.32	5.46	7.12	1.53	8.71	35.23
	Squatter	6.78	7.01	6.46	8.00	1.86	9.89	40.00
	Renter	5.02	3.20	4.23	4.86	1.25	6.13	24.77
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Owner	9.74	11.19	7.48	9.57	1.32	7.92	46.22
	Squatter	3.93	4.08	3.57	3.57	0.75	4.11	20.00
	Renter	5.98	5.11	6.80	5.70	1.70	8.50	33.78
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Owner	10.51	10.93	10.48	10.21	2.03	7.25	51.42
	Squatter	2.14	2.32	1.90	1.74	0.42	1.49	10.00
	Renter	8.72	9.92	6.62	5.46	1.71	6.15	39.58
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Owner	15.29	15.07	10.77	9.85	1.57	5.57	59.12
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	11.61	10.10	6.30	6.52	1.09	5.26	40.88
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Owner	26.65	18.86	12.78	7.84	0.57	2.62	69.31
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	9.77	7.47	5.79	4.47	0.85	2.34	30.69
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Owner	31.89	18.16	10.12	6.10	0.57	1.91	68.66
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	14.37	5.80	5.40	3.00	0.68	2.09	31.34
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 (High)	Owner	67.69	3.69	4.32	2.17	0.57	1.60	79.84
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	15.76	2.53	1.13	0.75	0.00	0.00	20.16
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		27.98	18.07	14.36	14.46	3.97	21.15	100.00

TABLE B.5 (continued)

		HOUSEHOLD CLASSIFICATION MATRIX FOR RURAL HONDURAS 1986						
DECILE	TENURE	PERM-PASS	PERM-FAIL	SEMI-PASS	SEMI-FAIL	IMP-PASS	IMP-FAIL	ALL
1 (Low)	Owner	9.96	0.40	2.87	5.46	28.67	37.68	95.03
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	2.93	0.78	0.92	1.93	3.59	4.82	14.97
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Owner	10.32	1.85	3.88	6.40	27.50	36.06	85.98
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	3.02	0.70	0.95	1.67	3.36	4.11	14.02
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Owner	10.02	1.62	4.59	7.12	26.24	34.51	84.11
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	2.01	0.70	0.29	0.75	5.37	6.78	15.89
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Owner	10.74	0.60	4.52	10.50	26.24	36.51	88.91
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	2.07	1.24	0.46	0.88	2.95	3.51	11.09
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Owner	9.15	2.77	2.25	4.51	28.96	40.19	87.84
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	4.23	0.89	0.70	1.67	2.11	2.57	12.16
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Owner	17.95	3.53	4.68	9.69	23.13	29.70	88.68
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	1.69	0.61	0.11	0.43	3.90	4.58	11.32
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Owner	14.32	1.76	5.88	11.69	22.93	29.46	85.04
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	4.75	2.59	0.21	0.86	2.96	3.59	14.95
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Owner	16.95	3.27	6.37	12.09	23.25	29.59	91.52
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	2.42	1.27	0.31	0.71	1.60	2.11	6.46
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Owner	25.07	5.17	7.31	16.55	15.79	15.19	83.19
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	4.20	1.13	1.63	2.58	3.58	3.88	16.81
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 (High)	Owner	27.34	8.32	7.25	9.43	12.13	12.17	76.63
	Squatter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renter	8.38	2.69	1.60	3.22	3.62	3.79	23.37
	Room Renter	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		18.75	4.19	5.68	10.81	26.60	33.98	100.00

- the changing income distribution in metro and urban areas from 1978 to 1984 was reflected by more substantial declines in the mean incomes of lower deciles than in the mean incomes of higher deciles, with an average annual decline of 5 percent.

Our rates of growth in the number of households were matched to estimates used in the Housing Needs Assessment. Table B.6 shows our final estimates of the number of households and their distribution by income in 1978, at the end of 1985, and at the end of 1990. Derivation of the 1990 estimates is explained in Annex C.

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TABLE B-6

NUMBER OF HOUSEHOLDS BY SECTOR:
1978, 1985 and 1990

	<u>Metro</u>	<u>Urban</u>	<u>Rural</u>	<u>Total</u>
Households, 1978	106,100	46,300	409,600	562,000
Households, 1985	147,780	61,130	498,670	707,580
Annual Increase, 1986-90	6,713	2,268	12,763	21,744
Households, end 1990	181,343	72,470	562,486	816,299

Mean Incomes by Decile

	<u>78</u>	<u>Metro</u> <u>86</u>	<u>90</u>	<u>78</u>	<u>Urban</u> <u>86</u>	<u>90</u>	<u>78</u>	<u>Rural</u> <u>86</u>	<u>90</u>
1 (low)	L4,845	L1,980	L2,013	L2,561	L1,047	L1,108	L1,054	L770	L825
2	7,689	3,678	3,740	4,668	2,233	2,362	1,634	1,194	1,280
3	9,696	5,834	5,932	5,983	3,600	3,809	2,024	1,479	1,585
4	11,715	7,597	7,725	7,316	4,773	5,050	2,303	1,683	1,804
5	14,013	9,087	9,240	8,841	5,733	6,065	2,624	1,917	2,055
6	16,574	11,574	11,768	10,804	7,545	7,983	3,025	2,210	2,369
7	19,986	13,957	14,191	13,021	9,093	9,620	3,645	2,665	2,857
8	25,222	17,613	17,909	15,899	11,103	11,747	4,582	3,348	3,589
9	35,016	26,313	26,755	20,789	15,622	16,529	5,896	4,308	4,618
10 (high)	72,798	54,704	26,755	40,489	30,422	32,189	10,200	7,452	7,988

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SAMPLE ELIGIBILITY STUDY FROM THE UNIDAD EJECUTORA:
"LAS DELICIAS, LOS OLMOS Y MODESTO RODAS"



CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
TEGUCIGALPA, D. C., HONDURAS, C. A

ESTUDIOS DE ELEGIBILIDAD DE LAS COLONIAS:

LAS DELICIAS, LOS OLMOS Y MODESTO RODAS No. 1

I. DESCRIPCION DE LA COMUNIDAD

1. LOCALIZACION:

Estas colonias se encuentran localizadas al suroeste de la ciudad de Comayagüela, D.C.; en el Sector Catastral No.24, siendo sus colindancias las siguientes:

COLONIA LAS DELICIAS:

Al Norte: Colonia "Bajos de La Pradera"
Al Sur : Colonia "Flor del Campo"
Al Este: Colonia "Flor del Campo"
Al Oeste: Colonia "Los Olmos"

COLONIA LOS OLMOS :

Al Norte: Colonia "Bajos de la Pradera"
Al Sur : Colonia "Flor del Campo"
Al Este: Colonia "Las Delicias"
Al Oeste: Propiedad privada de Manuela de Andrade."

MODESTO RODAS No. 1

Al Norte: Residencial "Lomas de Tilcarque" 2da. etapa
Al Sur : Colonia Flor del Campo
Al Este: Colonia Flor del Campo y propiedad privada de Manuela de Andrade.
Al Oeste: Río Guacerique y Barrio El edén.

2. El área de estas colonias es aproximadamente de 4.46 hectáreas.
El número total de lotes es de 240, de los cuales están construídos 182 ; el resto de los mismos está baldío.

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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En el plano de ubicación anexo se dá la delimitación de cada colonia.

3. POBLACION

En la actualidad el número total de personas que habitan dichas colonias es aproximadamente de 1092 habitantes.

El número de familias es de 182, y el promedio de habitantes por lote es de 6 personas.

El crecimiento futuro previsto es 400 personas, tomando en cuenta que existe entre las colonias "Los Olmos" y "Modesto Rodas Alvarado No. 1" una área que todavía está sin desarrollar equivalente aproximadamente a 50 lotes.

El número total de lotes incluyendo los anteriores es de 290.

Actualmente no existen indicios de déficit habitacional.

La construcción de las viviendas es de ladrillo, piedra y madera, siendo ésta la más común entre ellas. Las condiciones de construcción son satisfactorias.

4. ACCESO

El tipo de transporte es de carácter público, se tiene acceso a estas colonias a través de tres vías; una que atravieza la Colonia La Pradera; otra que deriva a la calle Lepaterique, y una tercera que proviene de la calle a la presa "Los Laureles". Esta última solo se usa en la estación seca.

El transporte se hace por medio de varias rutas urbanas que cubren dicha zona, pero llegando únicamente hasta cierta parte de la colonia "Flor del Campo"; sin embargo la distancia a recorrer por el usuario es relativamente corta.



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La calle principal de estas colonias es la que bajando de la colonia "Flor del Campo", pasa enfrente de las colonias "Bajos de La Pradera" y Residencial "Tiloarque" 2da. etapa, hasta llegar al Río Guacerique.

Existen otras calles que son vehiculares en la Colonia "Modesto Rodas No. 1". Los restantes accesos lo hacen a través de callejones peatonales.

Estas calles y callejones están a nivel de sub-rasante.

La relación que tienen estas tres comunidades con otras comunidades, es prácticamente la que permita su común circunstancia de localización y se manifiesta en el intercambio de acciones de tipo comercial y social.

Estas colonias se conectan con la red vial, especialmente a través de la calle que atraviesa la colonia "La Pradera"

El estado de calles y callejones de cada una de estas colonias, puede considerarse como regular.

5. CARACTERISTICAS FISICAS

La topografía del terreno presenta una configuración bastante plana y observándose pendientes mínimas de 5% y máximas del 32%, siendo la pendiente promedio aproximadamente de 14%.

La textura del suelo manifiesta las características siguientes: areno-arcilloso y arcillo-arenoso; con afloración de toba volcánica. Su consistencia firme no admite la posibilidad de que se produzcan deslizamientos, hundimientos o derrumbes que pudieran afectar la estabilidad de las estructuras.

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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No existen obras futuras a construirse que puedan tener un efecto dañino sobre los lotes habitados y por habitar a largo plazo.

En este estudio se adjunta la nota de Metroplán en donde se aclaran los dos conceptos anteriores.

6. USO DE LA TIERRA

Esta zona está clasificada como zona R-4 por el Plan de Ordenamiento Metropolitano, (Reglamento de Zonificación General del Plan de Desarrollo Metropolitano del Distrito Central, aprobado en el año de 1975).

Los usos en estas áreas son los comerciales diarios y vecinales y el industrial no molesto.

La densidad neta permisible es de 800 habitantes por hectárea según la oficina de Metroplán. Dadas las características y condiciones físicas del terreno, y sus usos, se puede asegurar que el lugar es adecuado para asentamiento humano.

7. TENENCIA DE LA TIERRA Y ORGANIZACION SOCIAL

Las tierras de las colonias "Las Delicias" y "modesto Rodas No.1", son recuperaciones. La tenencia legal de la tierra está en poder del Concejo Metropolitano del Distrito Central.

Para obtener el título legal de la tierra los adjudicatarios actualmente se encuentran efectuando sus pagos mediante cuotas mensuales en virtud de contrato de arrendamiento con promesa de venta suscrita por éstos y el Presidente del Concejo Metropolitano del Distrito Central.

En la Colonia "Los Olmos" la tierra era propiedad de los herederos Andrade, quienes han vendido mediante Escritura Pública, restando

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restando algunos vecinos que tienen Contrato de Compra-Venta.

Las recuperaciones mencionadas al principio están basadas en el acuerdo No.166 y 167 del Concejo Metropolitano del Distrito Central.

El título que recibirá cada adjudicatario será una Escritura Pública autorizada por un notario y con algunas restricciones de dominio, es decir que no se podrá vender sin previa autorización del Concejo Metropolitano del Distrito Central.

Los plazos de pago son largos por lo que las obras a construirse estarán terminadas antes de cancelar el pago de sus terrenos:

Todas estas comunidades cuentan con un Patronato Pro-Mejoramiento Comunal reconocido por la Concejalía de Patronatos del Concejo Metropolitano del Distrito Central; cada uno de los cuales está gobernado por una junta directiva integrada por doce miembros.

II. ASPECTOS ECONOMICOS

El cálculo de la mediana de ingreso se hizo usando la siguiente fórmula:

$$Md = L_1 + \left[\frac{(N/2 - \sum f) 1}{f_c} \right] i$$

Los resultados obtenidos son los siguientes:

Colonia "Las Delicias"	Lps. 269.25
Colonia "Los Olmos"	275.50
Colonia "Modesto Rodas A. No.1"	216.13

El análisis de la muestra se hizo tabulando toda la información recogida en el campo para poder posteriormente estudiar e interpretar los datos.

El tamaño de las muestras se expresa porcentualmente en los cuadros que se detallan a continuación:

.../

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CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
TEGUCIGALPA, D. C., HONDURAS, C. A.

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Cuadro No.1 - Col. "Las Delicias"

POBLACION / HABITANTES		% DE POBLACION
DE	A	
50	100	55
101	200	
201	300	
301	400	
401	500	
501	600	
601	700	
701	800	
801	900	
901	1000	
más de 1000		

Cuadro No. 2 Col. " Los Olmos"

POBLACION/ HABITANTES		% DE POBLACION
DE	A	
50	100	70
101	200	
201	300	
301	400	
401	500	
501	600	
601	700	
701	800	
801	900	
901	1000	
más de 1000		

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CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
TEGUCIGALPA, D. C., HONDURAS, C. A.

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Cuadro No. 3

Col. Modesto Rodas Alvarado No.1

POBLACION/HABITANTES		% DE POBLACION
DE	A	
50	100	50
101	200	
201	300	
301	400	
401	500	
501	600	
601	700	
701	800	
801	900	
901	1000	
más de	1000	

La distribución de los ingresos se muestra en los cuadros de Estadística Económicas que se incorporan con el presente trabajo."

El ingreso mediano de estas colonias es de L.253.62 lo que representa el 29.84% del ingreso mediano de Tegucigalpa (L.850.00).

Los gastos que realizan los vecinos de estas comunidades en los servicios de infraestructura no pueden obtenerse exactamente, sobre todo en lo que se refiere a alcantarillado. Sin embargo mediante las consultas efectuadas se pudo determinar que el gasto mensual promedio por agua potable es de L.15.00

La medida que se usa es la tina con una capacidad aproximada de 6 galones.

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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El consumo estimado por persona es de 2 tinas (12 galones aproximadamente). El consumo aproximado por familia es de 12 tinas (72 galones).

El costo que pagan por unidad de agua es de L. 0.05

El costo estimado de agua por familia promedio por mes es de L.15.00

Las familias están dispuestas a pagar por la instalación de los servicios de agua potable y alcantarillado sanitario los siguientes valores promedio según lo que arroja el análisis de los datos de los cuadros de capacidad de pago.

COLONIA "LAS DELICIAS"	L. 36.67
COLONIA "LOS OLMOS"	L. 35.00
COLONIA "MODESTO RODAS A. No. 1"	L. 34.02

Los Cálculos de la Mediana y la Media Aritmética se presentan a continuación:

I N G R E S O S

COLONIA "LAS DELICIAS"

$$Md = \frac{201 + 200}{2} \left(\frac{27/2 - 8}{8} \right) 100 = 200.5 + 68.75$$

$$Md = \text{Lps. } 269.25$$

$$\bar{x} = \frac{8560}{27} = \text{Lps. } 317.04$$

COLONIA "LOS OLMOS"

$$Md = \frac{201 + 200}{2} \left(\frac{11/2 - 1}{6} \right) 100 = 200 + 75$$

$$Md = \text{Lps. } 275.50$$



CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
TEGUCIGALPA, D. C., HONDURAS, C. A

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$$\bar{x} = \frac{3559}{11} = \text{Lps. } 323.55$$

COLONIA "MODESTO RODAS No. 1"

$$Md = \frac{201 + 200}{2} \left(\frac{51/2 - 23}{16} \right) 100 = 200.5 + 15.63$$

$$Md = \text{Lps. } 216.13$$

$$\bar{x} = \frac{13,964}{51} = \text{Lps. } 273.80$$

CAPACIDAD DE PAGO

COLONIA "LAS DELICIAS"

$$Md = \frac{36 + 35}{2} \left(\frac{27/2 - 7}{19} \right) 5 = 35.5 + 1.71$$

$$Md = \text{Lps. } 37.21$$

$$\bar{x} = \frac{990}{27} = \text{Lps. } 36.67$$

COLONIA "LOS OLMOS"

$$Md = \frac{30 + 29}{2} \left(\frac{11/2 - 0}{11} \right) 6 = 29.5 + 3$$

$$Md = \text{Lps. } 32.5$$

$$\bar{x} = \frac{385}{11} = \text{Lps. } 35.00$$

COLONIA "MODESTO RODAS No. 1"

$$Md = \frac{30 + 29}{2} \left(\frac{51/2 - 4}{42} \right) 5 = 29.5 + 2.56$$

$$Md = \text{Lps. } 32.06$$

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
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$$\bar{x} = \frac{1735.00}{51} = \text{Lps. } 34.02$$

El orden de prioridad en que los vecinos desean que se atienda para los costos de estos servicios es el siguiente:

SISTEMA	PRIORIDAD
Agua Potable	1
Alcantarillado Sanitario	2

III. SERVICIOS EXISTENTES

Agua Potable

En la actualidad no existe el servicio de agua potable.- La misma es adquirida a través de sus vecinos que viven en "LA PRADERA", "BAJOS DE LA PRADERA" y "EL EDEN".

La totalidad de las familias hacen uso de este servicio.

Esta forma de suministro de agua no es adecuado dadas las condiciones en que se presta el mismo.

Este servicio se presta por cuatro horas aproximadamente.

La calidad del agua se puede considerar como aceptable.- El agua procede de la planta de cloración "EL PICACHO" y de la planta de tratamiento "LOS LAURELES".- Con respecto a la dotación del agua se dejaron previstas extracciones en la colonia "BAJOS DE LA PRADERA".- En Oficio que se anexa el SANAA se pronuncia en favor de dotar del agua potable a estas tres colonias.

Alcantarillado Sanitario

Dentro de la colonia no existe el servicio de alcantarillado sanitario. Para llevar a cabo sus necesidades fisiológicas, lo hacen a través de letrinas que construyen en el fondo de los lotes; sin embargo parte --

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CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
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de la población adulta, especialmente la infantil lo hace al aire libre, lo que trae como consecuencia el aumento de las enfermedades infecto-contagiosas, lo que aumenta los índices de morbilidad y mortalidad.

El desalojo de las aguas domésticas son arrojadas directamente a las calles.

Es importante señalar que las letrinas no son adecuadas desde el punto de vista higiénico, dadas las condiciones y limitantes en que son construídas.

Este sistema tiene que ser sustituido por otro más higiénico y funcional, ya que de persistir su uso, pueden desencadenarse epidemias que vienen en detrimento de la salud de las familias que habitan ese sector.

El SANAA está anuente en facilitar la evacuación de las aguas negras a través del sub-colector "RIO GUACERIQUE" (se anexa dictamen del SANAA).

No se han podido obtener datos de morbilidad y mortalidad.

IV. OBRAS A EJECUTARSE

Agua Potable

Se tiene proyectado instalar una red de distribución consistente en 2,737.00 metros lineales de tubería PVC SRD-26 de 4", 3" y 2" de diámetro.

La tubería de 4 pulgadas de diámetro se tiene prevista para construir una línea de distribución consistente en 190.00 metros lineales en caso de encontrarse dificultades con las presiones en los puntos de extracción de la Colonia "BAJOS DE LA PRADERA".

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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La principal fuente de agua la constituye el tanque "ESTIQUIRIN" que es alimentado desde el embalse "LOS LAURELES" y los depósitos de "EL PICACHO".

No se preveen problemas con la fuente de abastecimiento de agua en razón al servicio que se proporcionará.

Estas obras las opera y mantiene el SANAA

Alcantarillado Sanitario

Se tiene estimado instalar la cantidad de 2,547.00 metros lineales de tubería de concreto de 8 pulgadas de diámetro.

La red colectora (obra interna) tendrá una disposición que tendrá lugar aguas abajo del sub-colector "RIO GUACERIQUE"

Estas obras las opera y mantiene el SANAA.

V. COSTO TOTAL DEL PROYECTO

El análisis de la factibilidad financiera se presenta a continuación:

El costo de construcción del agua potable y alcantarillado sanitario se consideran alrededor de los siguientes valores.

AGUA POTABLE	Lps. 191,590.00
ALCANTARILLADO SANITARIO	<u>Lps. 279,210.00</u>
T O T A L	<u><u>Lps. 470,800.00</u></u>

El costo de construcción más otros costos (ver presupuesto total) arroja un valor actual estimado en Lps. 577,220.00.

El costo total financiado a pagar por la comunidad para un período ...



CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
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de 12 años y con una tasa de interés de 17% dá un valor de Lps. --
1,388,555.81.

De éste último valor se desglosan a continuación los siguientes va-
lores:

Anualidad/Comunidad	Lps. 115,712.98
Anualidad/Lote	Lps. 399.01
Mensualidad/Comunidad	Lps. 9,642.75
Mensualidad/Lote	Lps. 33.25

VI. INSTITUCIONES INVOLUCRADAS

Las instituciones involucradas en la ejecución del proyecto son:

- UNIDAD EJECUTORA DEL PROGRAMA DE MEJORAMIENTO DE BARRIOS MARGINADOS

Dependencia del Concejo Metropolitano del Distrito Central encarga-
da de dirigir, administrar, supervisar y hace que se ejecuten las -
obras proyectadas.

- SECCION DE DESARROLLO COMUNAL

Su función es promover en la comunidad los proyectos a realizarse,
haciendo conciencia en los beneficiarios del programa sobre la res-
ponsabilidad que origina dichos proyectos ; elaborar estudios socio-
económicos, estudios de elegibilidad y evaluar las necesidades de -
las comunidades.

- DEPARTAMENTO DE CONTRIBUCION POR MEJORAS

Dependencia del Concejo Metropolitano del Distrito Central, encar-
gada de recuperar los fondos con los cuales se construyen los pro-
yectos para ser invertidos en otros.

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
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- SERVICIO AUTONOMO NACIONAL DE ACUEDUCTOS Y ALCANTARILLADOS (SANA)

Esta institución participa en la realización de los proyectos, mediante la colaboración técnica al CMDC, tendiente a que los estudios de consultoría y ejecución de los mismos se lleven a cabo de acuerdo al Convenio No. 121-80 suscrito entre ambas instituciones.

En el presupuesto que se acompaña se describe el monto que deberá financiarse, el tiempo de ejecución y la capacidad de pago de los vecinos.

PROYECTO A.I.D. No. 522-HG-006

INSTITUCION: C.M.D.C.

TIEMPO DE EJECUCION = 5 Meses

PROYECTO: LAS DELICIAS, LOS OLMOS
Y MODESTO RODAS A. No. 1

I. PRESUPUESTO TOTAL

Costo de Construcción

Agua Potable Lps. 191,590.00

Sanitario Lps. 279,210.00

Pluvial _____

Otros Servicios
(Identificar) _____

Obras fuera del Sitio _____

SUB TOTAL COSTO DE CONSTRUCCION

Lps. 470,800.00

OTROS COSTOS

Diseños Lps. 35,109.29

Estudios e investiga-
ciones _____

Supervisión Lps. 19,500.00

Financieros Lps. 24,310.71

Indirectos (Identificar) Lps. 27,500.00

SUB TOTAL OTROS

Lps. 106,420.00

T O T A L

Lps. 577,220.00

II. DESGLOSE DEL COSTO UNITARIO

Por Lote

Costos de Construcción Lps. 1,623.45

Otros Costos Lps. 366.96

T O T A L

Lps. 1,990.41

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III. RECUPERACION DE LA INVERSION

<u>Base para Distribuir el Costo</u>	<u>Costo Unitario</u>	<u>Número Unidades</u>	<u>TOTAL</u>
(Lote) X	(Por Lote) X	(Lote) X	
COSTO FINAL DE CONSTRUCCION		290	<u>Lps. 577,220.00</u>
COSTO FINAL MAS FINANCIAMIENTO		290	<u>Lps. 1,388,555.81</u>

IV. ESTRUCTURA Y CONDICIONES DE FINANCIAMIENTO

Tasa	(17%)		
Plazo en Años	(12)		
<u>Capacidad de pago</u>	<u>No. Familias</u>	<u>Pago Total</u>	

Capacidad de Pago =

Md =

\bar{x} =

PROYECTO No. 522-HG-006

INSTITUCION: C.M.D.C.

PROYECTO: LAS DELICIAS, LOS OLMOS
Y MODESTO RODAS No. 1

1. A) Firma Constructora: _____

B) Ingeniero Residente: _____

2. A) Firma Supervisora: _____

B) Ingeniero Supervisor: _____

3. Fecha de inicio de la construcción: 15 de Marzo de 1985

4. Fecha proyectada para terminar la obra: 15 de Agosto de 1985

5. Valor de los contratos:

a) Construcción: Lps. 470,800.00

b) Supervisión: Lps. 19,500.00

AUTORIZADO: ING. MODESTO PORTILLO DE JESUS

FECHA: DICIEMBRE DE 1984.

12/84

C. M. D. C.

UNIDAD EJECUTORA

PROGRAMA MEJORAMIENTO DE BARRIOS MARGINADOS

ESTADÍSTICAS ECONÓMICAS

FECHA: 25/XI/83

TEGUCIGALPA D.C.

COLONIA: " NUEVAS DELICIAS "

Nº DE FAMILIA	CLASE	FRECUENCIA	%	TOTAL INGRESO (LPS.)	TOTAL GASTO ESTIMADO (LPS.)	SUPERAVIT ESTIMADO (LPS.)	SUPERAVIT INGRESO (%)	OBSERVACION
	1 - 100	-	-	-	-	-	-	
	101 - 200	8	29.63	1,450.00	910.00	540.00	37.24	
	201 - 300	8	29.63	2,250.00	1,190.00	1,060.00	47.11	
	301 - 400	4	14.82	1,390.00	980.00	410.00	29.50	
	401 - 500	6	22.22	2,830.00	1,660.00	1,170.00	41.37	
	501 - 600	-	-	-	-	-	-	
	601 - 700	1	3.70	640.00	200.00	440.00	68.75	
	701 - 800	-	-	-	-	-	-	
	TOTAL :	27	100.00	8,560.00	4,940.00	3,620.00	42.29	

MEDIANA DEL INGRESO: LPS. 269.25

MEDIA ARITMETICA DEL INGRESO: LPS. 317.04

OBSERVACIONES

"NUEVAS DELICIAS"

1. En el cuadro se tomó en cuenta únicamente el ingreso fijo de las familias. Se estima que un 70% de las familias con ingresos inferiores a L.400.00 realizan actividades extraordinarias de trabajo normal para complementar su ingreso. En consecuencia, el ingreso real de las familias es ligeramente superior al que aparece en el cuadro.
2. El gasto fijo (pago de agua, luz, transporte, vivienda ó lote) de las familias oscilan entre L.70.00 y L.100.00, los gastos en alimentación se estiman en L.200.00 y más.
3. Actualmente las familias asentadas en esta comunidad están pagando los lotes en que se ubican sus viviendas. Se deduce de lo anterior que tienen la capacidad económica adecuada para pagar los costos que conlleven la instalación de los servicios de agua potable y alcantarillado sanitario.
4. El superávit estimado es superior a la oferta de pago que las familias harán por los servicios que se les instalen; por tanto el proyecto de agua potable y alcantarillado sanitario es económicamente posible.

OBSERVACIONES

"LOS OLMOS"

1. En el cuadro resumen, se tomó en cuenta únicamente el ingreso fijo de las familias. Se estima que las familias con ingresos inferiores a L.400.00 realizan actividades extraordinarias de trabajo normal para complementar sus ingresos.
2. Los gastos fijos (pago por agua, luz, transporte, lote, etc.) de las familias oscilan entre L.70.00 y L.80.00, los gastos en alimentación se estiman en L.200.00 y más.
3. El superávit estimado es superior a la oferta de pagos que harán los vecinos, por los servicios de agua potable y alcantarillado sanitario que se les instalen. De esto se infiere que el proyecto de agua potable y alcantarillado sanitario es económicamente posible en esta comunidad.
4. Todas las familias ofrecen pagar L.35.00

C M D C

UNIDAD EJECUTORA

PROGRAMA MEJORAMIENTO DE BARRIOS MARGINADOS

ESTADISTICAS ECONOMICAS

FECHA: 8 / 12 / 83

COLONIA: MODESTO RODAS No. 1

TEGUCIGALPA D.C.

Nº DE FAMILIA	CLASE	FRECUENCIA	%	TOTAL INGRESO (LPS.)	TOTAL GASTO ESTIMADO (LPS.)	SUPERAVIT ESTIMADO (LPS.)	SUPERAVIT INGRESO (%)	OBSERVACION
	1 - 100	2	3.92	200.00	120.00	80.00	66.67	
	101 - 200	21	41.18	3,664.00	2,320.00	1,344.00	36.68	
	201 - 300	16	31.37	4,340.00	2,845.00	1,495.00	34.44	
	301 - 400	5	9.90	1,870.00	1,100.00	770.00	41.18	
	401 - 500	4	7.34	1,990.00	1,050.00	940.00	47.24	
	501 - 600	2	3.93	1,200.00	700.00	500.00	41.67	
	601 - 700	1	1.96	700.00	200.00	500.00	71.43	
	701 - 800	-	-	-	-	-	-	
	TOTAL :	51	100.00	13,964.00	8,335.00	5,629.00	40.31	

MEDIANA DEL INGRESO: LPS. 216.13MEDIA ARITMETICA DEL INGRESO: LPS. 273.80

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OBSERVACIONES

"MODESTO RODAS No. 1"

1. En el cuadro de resumen se incluye únicamente el ingreso fijo de las familias. Se estima que el 60% de las familias con ingresos inferiores a L.400.00 realizan actividades extraordinarias de trabajo normal para completar sus ingresos, por consiguiente el ingreso real es ligeramente superior al que aparece en el cuadro.
2. Los gastos fijos (pago por agua, luz, transporte, lote) de las familias oscilan entre L.80.00 y L.100.00, los gastos en alimentación se estiman en L.200.00 y más.
3. El superávit estimado es superior a la oferta de pago que las familias harán por los servicios que se les instalen. De esto se concluye que el Proyecto de agua potable y alcantarillado sanitario es económicamente factible en esta comunidad.

/Lms.

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III' RECUPERACION DE LA INVERSION

<u>Base para Distribuir el Costo</u>	<u>Costo</u>	<u>Numero</u>	<u>T O T A L</u>
(lote ó m2)	<u>Unitario</u>	<u>Unidades</u>	
X	(por lote ó m2)	(lotes ó m2)	
X	X	X	

IV. ESTRUCTURA Y CONDICIONES DE FINANCIAMIENTO

Tasa (17%)

Plazo en años (12)

<u>Capacidad de pago</u>	<u>Las Delicias</u>	<u>No. Familias</u>	<u>Pago Total</u>
1	-	5	-
6	-	11	-
12	-	15	-
16	0	20	60
21	-	25	25
26	-	30	60
31	-	35	35
36	-	40	760
41	-	45	-
46	-	50	56
51	-	55	-
66	-	71	
72	-	77	
78	-	83	
84	-	89	
90	-	95	
96	-	101	
102	-	113	
108	-	113	
114	-	y más	
T O T A L		27	990

Capacidad de pago = $Md=L.37.21$ $\bar{x} = L, 36.67$

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III. RECUPERACION DE LA INVERSION

<u>Base para Distribuir el costo.</u>	<u>Costo Unitario</u>	<u>Numero Unidades</u>	<u>T O T A L</u>
(lote 6 m2) x	(por lote 6 m2) x	(lotes 6 m2) x	

IV. ESTRUCTURA Y CONDICIONES DE FINANCIAMIENTO

Tasa (17%)
Plazo en años (12)

Capacidad de pago Los Olmos No. familias pago total

0 - 5		
6 - 11		
12 - 17		
18 - 23		
24 - 29		
30 - 35	11	385
36 - 41		
42 - 47		
48 - 53		
54 - 59		
60 - 65		
66 - 71		
72 - 77		
78 - 83		
84 - 89		
90 - 95		
96 - 101		
102 - 107		
108 - 113		
114 y más		
T O T A L	11	385

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III. RECUPERACION DE LA INVERSION

<u>Base para Distribuir el costo.</u> (lote ó m2)	<u>Costo Unitario</u> (por lote ó m2)	<u>Numero Unidades</u> (lotes ó m2)	<u>T O T A L</u>
--	--	--	------------------

IV. ESTRUCTURA Y CONDICIONES DE FINANCIAMIENTO

Tasa	(17%)		
Plazo en años	(12)		
<u>Capacidad de pago</u>	<u>Modesto Rodas</u>	<u>No. familias</u>	<u>pago total</u>
0 - 5		-	-
6 - 11		-	-
12 - 17		-	-
18 - 23		3	60.00
24 - 29		1	25.00
30 - 35		42	1,440.00
36 - 41		4	160.00
42 - 47		-	-
48 - 53		1	50.00
54 - 59		-	-
60 - 65			
66 - 71			
72 - 77			
78 - 83			
84 - 89			
90 - 95			
96 - 101			
102 - 107			
108 - 113			
114 y más			
T O T A L		51	1,735.00

MD= L. 32.06

\bar{x} = L. 34.02

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Tehuacan D.F. 27 de Agosto de 1984

Inq: Juan E Zelaya

Director de Planificación de C.M.D.F.

Qu Ojicinas

Ingeniero Zelaya

Muy Atentamente solicitamos a usted nuevamente, tomarnos en cuenta para que se lleven a cabo en nuestra colonia los proyectos de agua potable y alcantarillado sanitario

Anticipándole nuestros agradecimientos por su atención a la presente.

De usted atentamente.

~~P. La~~
Presidente



~~R. Moya~~
Secretaria

Hipólito Nolasco
Tesorero

Colonia Los Olmos

que yo yo no. 24 agosto 1964

Ingeniero, Juan E. Zelaya.
Director Planificación G.M.D.F.
su Despacho.

Señor Director

Nuevamente nos estamos dirigiendo a usted.
para solicitarle nos incorpore al programa
de mejoramiento de Barrios Marginados
en lo que se refiere a la instalación
de los sistemas de agua potable y
alcantarillado sanitario, ya que con
dichos servicios disfrutaremos de mejor
salud.

En espera de su atención a la presente,
nos suscribimos a usted con toda
consideración y estimación
atentamente

[Signature]
Presidente

[Signature]
Secretaria



[Signature]
TESORERO

[Signature]
FISCAL



PATRONATO PRO-MEJORAMIENTO DE LA
COLONIA «DR. MODESTO RODAS ALVARADO» H7
COMAYAGUELA, D. C.

COMAYAGUELA, D.C. 22 DE AGOSTO DE 1.984

SEÑOR INGENIERO:
JUAN ZELAYA
JEFE DIVISION PLANIFICACION DEL CMDC

Estimado Ingeniero:

En la condición de presidente de la Colonia Modesto Rodas Alvarado No. 1 de Comayagua, en atención a la solicitud que se le hiciera a la Unidad Eleccutora del CMDC anteriormente en el sentido de que se nos tome en cuenta esta solicitud nueva donde solicitamos los servicios básicos: Agua, alcantarillado y drenaje y en vista que ya contamos con la aprobación del SANAA de ante mano le agradecemos su colaboración con nuestra Colonia ,

En espera de una solución satisfactoria para nuestra solicitud, nos es grato suscribirnos de Ud.

Atentamente.

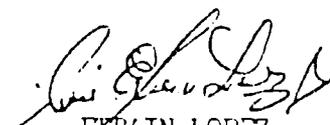


AGATÓN MONTOYA
PRESIDENTE.

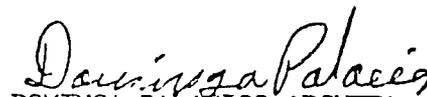
CARTA DE ACEPTACION Y COMPROMISO

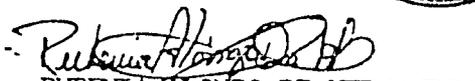
Nosotros los suscritos miembros de la Junta Directiva del Patronato de la Colonia " LAS DELICIAS " de esta ciudad, por medio de la presente debidamente autorizados por la asamblea general y en representación de nuestra comunidad, nos comprometemos a pagar al Concejo Metropolitano del Distrito Central los valores y costos que impliquen la construcción de los sistemas de agua potable y alcantarillado sanitario; asimismo aceptamos los pactos, condiciones y obligaciones que regirán la puesta en marcha y ejecución de los proyectos en referencia y que para tal efecto suscribiremos en forma individual los beneficiarios, los cuales nos comprometemos a cumplir en todas y cada una de sus cláusulas.

Tegucigalpa, D.C., 23 de agosto de 1984.


EFRAIN LOPEZ
PRESIDENTE

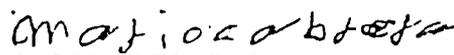



DOMINGA PALACIOS ARGUETA
VICE-PRESIDENTE


RUBENIA ALONZO DE HERNANDEZ
SECRETARIO


SANTOS ELVIR REYES
TESORERO


MARCOS VALLARRES SAUCEDA
FISCAL


MARIO ALEJANDRO CABRERA
VOCAL I

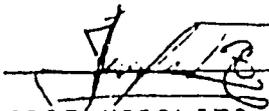

WILFREDO AVILES
VOCAL II


RUDENCINDO ANDRADE CASTEJON
VOCAL III

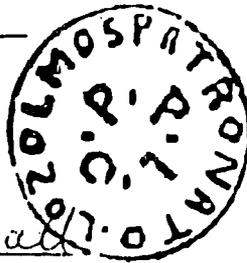
CARTA DE ACEPTACION Y COMPROMISO

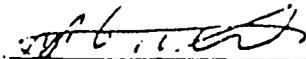
Nosotros los suscritos miembros de la Junta Directiva del Patronato de la Colonia " LOS OLMOS " de esta ciudad, por medio de la presente debidamente autorizados por la Asamblea General y en representación de nuestra comunidad, nos comprometemos a pagar al Concejo Metropolitano del Distrito Central los valores y costos que implique la construcción de los sistemas de agua potable y alcantarillado sanitario; asimismo aceptamos los pactos, condiciones y obligaciones que regirán la puesta en marcha y ejecución de los proyectos en referencia y que para tal efecto suscribiremos individualmente los beneficiarios, los cuales nos comprometemos a cumplir en todas y cada una de sus cláusulas.

Tegucigalpa, D.C., 23 de agosto de 1984.

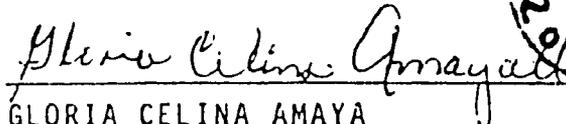


JOSE HIPOLITO NOLASCO S.
PRESIDENTE

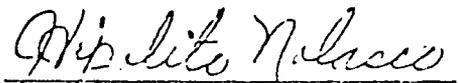




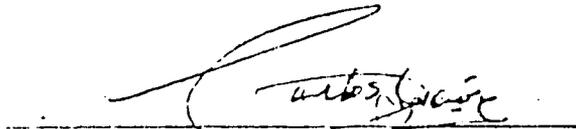
CELEA VALLADARES
VICE-PRESIDENTE



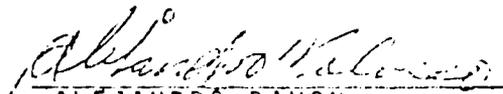
GLORIA CELINA AMAYA
SECRETARIA



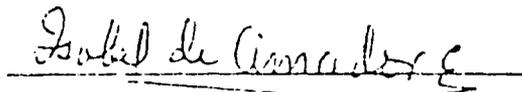
HIPOLITO NOLASCO CRUZ
TESORERO



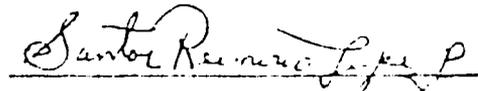
CARLOS GARCIA
FISCAL



ALEJANDRO PAVON
VOCAL 1º



ISABEL AMADOR
VOCAL 2º



SANTOS REYNERIO LOPEZ
VOCAL 3º

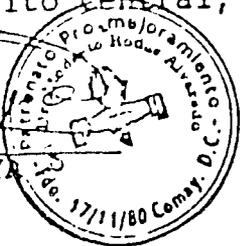
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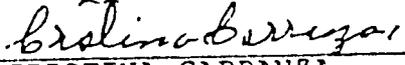
CARTA DE ACEPTACION Y COMPROMISO DE PAGO

Los suscritos miembros de la Junta Directiva del Patronato de la Colonia MODESTO RODAS ALVARADO, de ésta ciudad, por medio de la presente, debidamente autorizados por la Asamblea General, y en representación de nuestra comunidad, nos comprometemos a pagar al Concejo Metropolitano del Distrito Central, los valores y costos que implique la construcción de los sistemas de agua potable y alcantarillado sanitario; asimismo aceptamos los pactos, obligaciones y condiciones que regirán la puesta en marcha y ejecución de los proyectos que se detallarán en los contratos que para tal efecto suscribiremos en forma individual los beneficiarios, los cuales nos comprometemos a cumplir en todas y cada una de sus cláusulas.

Tegucigalpa, Distrito Central, 17 de Mayo de 1982.


JOSE AGATON MONTOYA
Presidente

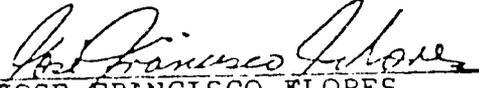


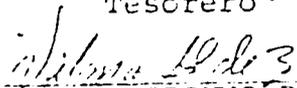

CRISTINA CARRANZA
Vice-Presidente

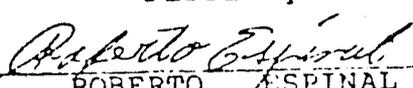

MAXIMINO ALVARADO MENDEZ
Secretario

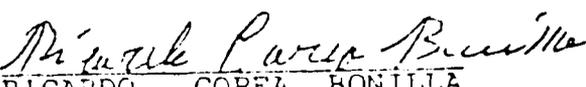

REYNALDO OSORIO FLORES
Pro-Secretario

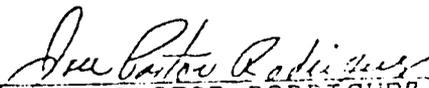

FEDERICO AGUILERA
Tesorero


JOSE FRANCISCO FLORES
Fiscal


VILMA ACEITUNO DE ZUNIGA
Vocal 1


ROBERTO ESPINAL
Vocal 2do.


RICARDO COREA BONILLA
Vocal 3


JOSE PASTOR RODRIGUEZ
Vocal 4

11117

127

SERVICIO AUTÓNOMO NACIONAL DE ACUEDUCTOS Y ALCANTARILLADOS
TEGUCIGALPA, HONDURAS, C. A.

TELEFONOS:

22-8552, 22-8554, 22-8555

APTDO. POSTAL N.º 37

Cable S.A.

OFICIO-DS-133-84
25 de julio de 1984

Ingeniero
Juan Zelaya
Jefe División Planificación CMDC
Presente

Estimado Ingeniero:

En atención a la consulta hecha por el coordinador programa de barrios Marginados del Sanaa, me permito informarle que El Comité evaluador de intenciones de Urbanizar, después de haber estudiado la información presentada para el mejoramiento de las colonias "Los Olmos", "Modesto Rodas N.º 1" y "Las Delicias", recomiendo lo siguiente:

1.- Que es factible suministrar el agua potable a las colonias referidas, las que conforman 236 lotes abajo detallados a través de la red de distribución de la colonia Henry Merriam (Bajos de la Pradera).

A. Las Delicias	74 Lotes
B. Modesto Rodas	140 Lotes
C. Los Olmos	22 Lotes

2.- Que es factible la evacuación de aguas negras a través del colector del río Guacerique.

3.- Que deberán presentar los Diseños de los sistemas en un período no mayor de 4 meses pasados los cuales Sanaa no se hace responsable de la validez del presente oficio.

4.- Que deberán acompañar este oficio a la documentación pertinente que presenten al Sanaa, además de la personería Jurídica, acuerdo de intervención, recuperación, escritura pública o documento que verifique la tendencia de la tierra de las colonias aludidas!



ING. LUIS A. SARAY
JEFE DE DISEÑO Y SUPERVISIÓN



ING. LINO MURILLO
DISTRITO

ING. JOAQUÍN R. LOZANO
GERENTE

cc: Gerencia
cc: Distrito Metropolitano
cc: Ing. Modesto Portillo (CMDC)
cc: Barrios Marginados (SANA A)
cc: Archivo (2)



CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
FEDUCICALPA, D. C. HONDURAS, C. A.

Oficio No. DM-CMDC-165-84
30 de agosto de 1984.

Ingeniero
JUAN E. ZELAYA
Director de Planificación
Su Despacho

Estimado Ingeniero Zelaya:

En referencia a su Oficio No. 477-84 de fecha 27 de agosto de 1984 en la cual solicita información sobre la estabilidad, textura y condiciones del suelo en las colonias LAS DELICIAS, LOS OLMOS, MODESTO RODAS No. 1 y MONTES DE SINAI, me permito informarle que en las colonias antes mencionadas no existe ningún problema de carácter geológico, ni obras futuras que puedan interferir, por lo tanto es posible su elegibilidad dentro del Programa de Mejoramiento de Barrios Marginados del Concejo Metropolitano del Distrito Central.

Atentamente,



ING. MILCAR MOSSI S.
Jefe Departamento de
PLAN.

cc: archivo



CONCEJO METROPOLITANO DEL DISTRITO CENTRAL
TEGUCIGALPA, D. C., HONDURAS, C. A.

- 13 -

FUENTES CONSULTADAS

1. LOCALIZACION : Catastro, DP/CMDC, Sección de Ingeniería DP/CMDC y Trabajo Social DP/CMDC, Trabajo Social/CMDC.
2. AREA: Catastro/CMDC, Sección de Ingeniería DP/CMDC
3. POBLACION: Encuesta, Promoción Social DP/CMDC
4. ACCESO: Por medio de inspección física
5. CARACTERISTICAS FISICAS: Metroplán CMDC, Sección de Ingeniería DP/CMDC.
6. USO DE LA TIERRA : Metroplán CMDC
7. TENENCIA DE LA TIERRA Y ORGANIZACION SOCIAL : Trabajo Social, DP/CMDC, Concejalía de Patronatos del CMDC, División Legal del CMDC, Secretaría del CMDC, Patronatos.
8. ASPECTOS ECONOMICOS: Encuesta, Promoción Social DP/CMDC
9. SERVICIOS EXISTENTES: Comunidad, SANAA
10. OBRAS A REALIZARSE: SANAA, Sección de Ingeniería DP/CMDC.

POR LA REVOLUCION DEL TRABAJO Y LA HONESTIDAD

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ANNEX D

TECHNICAL ANNEXES

- D.1 Extracts from BCEOM Report
- D.2 Executive Summary of PAIO Report
- D.3 SANAA Emergency Summer 1987 Plan and Intermediate Plan
- D.4 Unfunded Demand for Upgrading

EXTRACTS FROM BCEOM REPORT

- I. List of Neighborhoods by Zone
- II. Number of Houses, Population, Density, Pop. Increase 1974-85, and Housing Type by Zone
- III.a. Number of Metered and Non-metered Connections and Total Consumption by Housing Type
- b. Average Consumption per Person
- IV. Location of and Consumption at Public Standpipes
- V. a. Seasonal Variation in Consumption
- b. Growth in Connections and Consumption, 1971-1985

cuad 1

definición de las zonas

no	nombre de la zona	colonias y barrios	no	nombre de la zona	colonias y barrios
1	Centro de Tegucigalpa	Centro de Tegucigalpa, Bo la Rorja, la Hoya, Plazuela, los Dolores, Abajo, la Concordia, el Divido, la Merced, el Jazmin	30	Castano-Almendros	Col El Castano, Castano Sur, Argentina, Linda Vista Este y Oeste, Triangulo, los Almendros
2	Buena Vista	Bo. Buena Vista	31	Palmera-San Carlos	Col Palmera, San Carlos
3	Delicias	Bo. Las Delicias	32	San Rafael	Bo San Rafael
4	Lexna-Alhambra	Los la Fuente, la Pedrera, la Alhambra, Col. Walter, los la Leona, la Zaragoza	33	Minitas-Alameda	Col las Minitas, Palermo, Las Palomas, Ruben Dario y Selecta, Alameda
5	La Cabana	Bo. la Cabana (bajos)	34	Pagoda	Col la Pagoda
6	Guacanaste-Manchen I	Los. Casanata, Guacanaste, Manchen I (bajos)	35	Juana Lainez-Isla	Cerro Juana Lainez, Bo la Isla, Col Altamira Zona Hospitalaria
7	Morazan-Guadalupe	Los. Morazan, la Guadalupe	36	Prado-Miravantes	Col Prado, Quezada, Humaya, Perez, Miravante
8	Miramesi (bajos)	Bo Miramesi (lugurio)	37	Altos de Miravante	Col Altos de Miravante
9	Extensiones N	Bo Tierra Colorada, col Sagastua	38	Elvel	Col Elvel y zona comercial del Suyapa
10	Picachito-Mirador	Los El Picachito, Mirador del Picacho, Altos del Bosque	39	Loma Linda Norte	Col Loma Linda Norte
11	Bosque-Buenos Aires	Los Buenos Aires, el Bosque (n.i. Altos) y Punta Caliente	40	Gujjarro-Tepeyac	Col Lomas del Gujjarro, Lomas del Mayab, urbanizacion Lomas II, col Tepeyac
12	Eden-Erisas Picacho	Los El Eden, Col Erisas del Picacho, Col Nueva Viera	41	Payaqui	Col Payaqui
13	Altos Cabana	Bo la Cabana (parte alta)	42	Florescia	Col Florescia, Florescia Norte y Oeste
14	Viera	Col Viera	43	3 caminos	Col 3 caminos
15	Marichal	Col Marichal, las Jacarandas	44	San Miguel-28 Marzo	Col San Miguel, Iraguirre, la Esperanza, 13 de Julio, Sta. Anita, El Jazmin, 28 de Marzo, Erisas del Valle, caserío la Loma
16	San Pablo-Mercedes	Los Manchen I (altos), Sn Pablo, las Mercedes	45	La Sosa-Travesia	Col Estados Unidos, la Trinidad, Travesia, la Sosa, 30 de Noviembre, la Era, San Martin
17	Reparto-Colinas	Los. El Reparto, las Colinas, col Guillen, Roberto Suazo Cordova, Nueva Sta Rosa	46	El Sitio	Col El Sitio
18	Rincon	Bo El Rincon y alrededores	47	Universidad Norte	Col Univ. Norte o Lomas de la Salle
19	21 de Octubre-Joyas	Col 21 de Octubre, Girasoles, las Joyas	48	Universidad	UNU y Ciudad Universitaria
20	M.R. Alvarado 3	Col. Modesto Rodas Alvarado n 3	49	Residencial Hato	Residencial Hato
21	Fraternidad	Col la Fraternidad	50	Colinas-Hogar-Landa	Col Luis Landa, 3 caminos, las Colinas, el Hogar, Loma Linda Sur, Plaza Miraflores, zona Comercial Pco Atlantida
22	El Hatillo	Ald el Hatillo, residencial Pinares	51	Miraflores	Col Miraflores y Miraflores Sur
23	Lara	Col Lara	52	Centro Civico	Futuro Centro Civico Gubernamental
24	Caapana-Polivar	Col la Caapana, Col Polivar	53	San Angel	Col San Angel, INFOP
25	Reforma	Col Reforma	54	Kennedy-V.F. Ardon	Col J.F. Kennedy, V.F. Ardon, Vista Hermosa
26	Matacros	Col Matacros	55	Guaymas-R.Oriente	Resid. Guaymas y Pella Oriente
27	La Paz	Bo Av. La Paz, Sn Felipe (N)	56	Hato de Enmedio (IN-A)	Col El Hato de Enmedio
28	San Felipe-Proceres	Bo Sn Felipe (S), los Proceres, Sabanagrande	57	Suyapa-Nueva Suyapa	Ald Suyapa, col Nva Suyapa, Erisas de Suyapa, Felicovil Suyapa, la Cruz, Flor de Oriente
29	Pueblo Nuevo	Bo Pueblo Nuevo			

cuad 1 definicion de las zonas (continuacion)

no	nombre de la zona	colonias y barrios	no	nombre de la zona	colonias y barrios
58	Villanueva	Col Villanueva Este y Oeste	85	Burrera-flor-Torres	Col Burrera, Rivas, la Pradera y bajos, Flor del Campo, Henry Merriam, las Delicias, Modesto Rodas, la Rosa, las Torres
59	Los Pinos	Ald Los Pinos, El Tablon, Carr. de Oriente	86	Laureles	Planta los Laureles y aldeas Oeste
60	Palmas-Jacaleapa	Col las Palmas, Sta Isabel, Aldea Jacaleapa	87	Felicidad-Casitas	Col la Felicidad, ampliaciones S.E.
61	Brisas-Vacilon	Col las Brisas, Zarral Vacilon	88	Divanna	Col Divanna, Altos de la Divanna
62	Jardines Toncontin	Col Jardines de Toncontin, la Providencia, Trinidad, R.S Cordova	89	Villa Adela-Rodriguez	Bo Villa Adela, Topilotea, col Rodriguez, Bo el Calvario (parte S.)
63	Pedregal-Faldas	San Jose del Pedregal, Faldas del Pedregal	90	Centro de Comayagua	Bo Centro de Comayagua, Concepcion, el Obelisco, el Calvario (parte N.)
64	El Cortijo-D.A.Flores	Col el Coco, Zarral I, El Cortijo, Lomas del Cortijo, D.A.Flores, Montelmar	91	Bella Vista-Crucitas	Bo Bella Vista, Crucitas, Sipile, Guamilito
65	San Jose de la Vega	Col San Jose de la Vega, Altos de San Jose Zarral II	92	Lespira-Socorro-Belen	Pos Lespira, San Juan de Dios, Belen, el Socorro, col Centroamericana
66	Popular-S.Jose Pena	Col la Popular I y San Jose de la Pena	93	Country-Mayangle	Col Mayangle, el Country, altos del Country o Bendick, las Vegas y Hollywood
67	14 Marzo-Monterrey	Col la Pena Vieja, 14 de Marzo, Monterrey, Montes de Sinai, Mirador de San Isidro	94	Resid.Centro-America	Residencial Centro-America I y 2
68	Canada-Mositas	Ald la Canada, las Mositas	95	Fuente	Residencial la Fuente
69	Loarque-Rio Grande	Col Loarque, Nuevo Loarque, Jardines y Mirador de Loarque, Col Rio Grande	96	Centro-America Oeste	Urbanizacion C.A Oeste
70	Satelite	Col Satelite	97	Torocagua-Santa FE	Col Sta Fe, Torocagua, Granada, la Esperanza, Bo la Maya, el Pedregalito
71	Salida del Sur	Cas El Loarque, Altos de Loarque, Germania	98	Ayestas-Mercedes	Col Ayestas, Obrera, Bo las Mercedes, el Pastel (bajos), los Profesores, San Cristobal
72	Periodista-ingleses	Col El Periodista, los Angeles, el Potrero	99	Soto-Parvenir-Chile	Col Soto, El Parvenir, Bo el Chile
73	15 Septiembre-Godoy	Col 15 de Septiembre, Modelo, America, Godoy	100	Campo Cielo-14 febr.	Col Campo Cielo, 14 de Febrero, Flor no 2 el Pastel (altos), Bo San Martin
74	Los Robles	Col los Robles	101	3 Mayo-Independencia	Col 3 de Mayo (1-4), Zapote, Independencia
75	Ciudad Nueva	Col Ciudad Nueva	102	Zapote Norte	Col el Zapote Norte
76	Inestroza-San Luis	Col Inestroza, Jard. de Salazar, Sta Barbara San Luis de la Burrera	103	Laguna Villa Union	col la Laguna, Villa Union, cerro Olimpo
77	Aeropuerto	Aeropuerto, Fuerza Aerea	104	Quiroz-Policarpo Paz	Col Quiroz o Gracias a Dios, Sta Cecilia (Carrizal 2), Policarpo Paz, el Rosario
78	Tiloarque-Alamo	Col Lomas del Tiloarque 1 y 2, El Alamo Tiloarque, Instituto V.Caceres	105	ext. N-E.	
79	Granja-Maradiaga	Col la Granja, Maradiaga, club Panco C-A.	106	Brisas Norte-Centenos	Col Brisas del Norte (Carrizal 2), los Centenos, Lincoln, Lomas del Norte
80	Bolsa-San Jorge	Bo Guacerique, la Bolsa, zonas comerciales la Granja, Diaz, San Jorge	107	Carrizal-Santa Isabel	Col el Carrizal 1 y 2, Sta Isabel
81	Primavera	Col la Primavera	108	Cuesta-Lolo	Ald. la Cuesta, Cas el Lolo
82	N.Esperanza-progreso	Col la Nueva Esperanza, el Progreso	109	Pavas-Alemania	Col Pavas y Acates, Via Cristina, Via Franca Buenas Nuevas, San Juan, Erasilia
83	Venezuela	Col Venezuela	110	Cerro Grande 2	Urbanizacion Cerro Grande 2
84	San Francisco-Soledad	Col San Francisco y altos, 21 de Febrero, la Soledad, el Retiro, el Eden, Villa los Laureles, col Sta Eduvigis	111	Cerro Grande 4	Urbanizacion Cerro Grande 4

sect no	ubicacion	clase viv.	superf viv	no viv	pers/ viv	pob.85	dens h/ha	pob.74	inerea 74-85
1 1	Centro Tequicigalpa	C	69	1358	6.15	8252	121	10464	-2112
1 2	Buena Vista	S	14	195	5.00	975	70	565	310
1 3	Delicias	B	4	236	4.60	1086	271	767	319
1 4	Leona-Albarbra	M	26	787	5.00	3935	151	2929	1006
1 5	La Cabana	B	8	540	5.45	2943	368	2700	43
1 6	Guacanasle-Manchen I	B	25	1310	5.50	7265	289	6018	1187
1 7	Morazan-Guadalupe	B	24	2190	5.00	10950	456	9344	1606
2 8	Miranesi (bajos)	T	3	120	5.60	672	224	274	398
2 9	Extensiones N	T	ns	125	5.50	688	ns	608	
2 10	Picachito-Mirador	T	26	749	5.70	4269	164	3894	375
2 11	Focoso-Buenos Aires	B	30	1477	5.70	8419	281	7654	765
2 12	Ecen-Erisas del Picacho	T	12	418	5.75	2404	200	1558	846
2 13	Altos Cabana	T	8	240	5.45	1308	164	1070	238
2 14	Viera	S	5	65	5.75	374	75	352	22
2 15	Marichal	A	5	124	5.50	682	136	344	338
2 16	San Pablo-Mercedes	T	30	1980	5.50	10890	363	9069	1821
2 17	Reparto-Colinas	T	61	2450	5.80	14210	233	10585	3525
2 18	Rincon	T	6	159	5.20	827	138	689	139
2 19	21 de Octubre-Joyas	P	33	1050	6.00	6300	191	3781	2519
2 20	M.R. Alvarado 3	T	11	240	5.75	1380	125	1380	
2 21	Fraternidad	T	3	160	5.90	944	315	907	37
3 22	El Hatillo	S	ns	300	6.00	1800	ns	830	970
4 23	Lara	S	13	105	5.10	535	41	521	15
4 24	Carpana-Bolivar	M	14	260	5.75	1495	107	1037	458
4 25	Reforma	S	8	95	5.40	513	64	394	119
4 26	Matacros	S	7	105	5.40	567	81	554	13
4 27	La Fac	C	12	60	5.00	300	25	300	0
4 28	San Felipe-Proceres	C	9	330	5.60	1814	213	1443	471
4 29	Pueblo Nuevo	E	10	430	5.50	2365	237	2279	87
4 30	Castano-Alendros	A	16	250	5.90	1475	92	870	605
4 31	Palatra-San Carlos	S	57	540	5.20	2808	49	2208	600
4 32	San Rafael	A	3	127	5.40	686	229	681	5
4 33	Minitas-Alameda	S	44	630	5.40	3402	77	2617	785
4 34	Faoda	T	5	214	5.50	1177	235	1171	6
4 35	Juana Lainez-Isla	C	40	80	5.00	400	10	1109	-709
4 36	Prado-Miramonles	A	49	755	5.80	4379	109	3932	447
4 37	Altos de Mirasante	S	10	120	5.80	696	70	696	
4 38	Elvel	C	2	40	5.60	232	116	232	
4 39	Loza Linda Norte	S	15	55	5.50	303	20	303	
4 40	Guijarro-Tepeyac	S	77	440	6.20	2772	36	1151	1621
4 41	Payazul	A	5	65	6.00	390	78	390	
4 42	Florencia	S	15	175	5.90	1033	69	447	586
4 43	3 castinos	A	6	50	5.50	275	46	275	
5 44	San Miguel-28 de Marzo	T	94	2410	5.70	13737	146	5681	8056
5 45	La Sosa-Travesia	T	69	2178	5.70	12415	141	2787	9628
5 46	El Sillio	P	14	972	5.50	5346	382	5346	
6 47	Universidad Norte	P	6	200	5.50	1100	183	1100	
6 48	Universidad	E							
6 49	Residencial Hato	S	ns	20	6.00	120	ns	120	
6 50	Colinas-Mogan-Landa	M	49	1220	5.50	6710	138	1102	5608
6 51	Miraflores	M	43	1230	5.55	6827	159	4167	2660
6 52	Centro Civico	E							
6 53	San Angel	P	12	820	5.45	4633	386	4633	
6 54	Kennedy-Victor F.Ardon	P	77	3900	5.65	22035	286	18848	3187
6 55	Guaymas-Bella Oriente	P	9	456	5.65	2576	286	2576	
6 56	Hato de Enmedio (HHA)	P	42	3000	5.60	16800	400	16800	

sect no	ubicacion	clase	superf viv	no viv	pers/ viv	pob.85	dens h/ha	pob.74	inerea 74-85
7 57	Suyapa-Rhewa Suyapa	T	110	2934	5.75	16871	153	2370	14501
7 58	Villanueva	T	105	2560	5.75	14720	140		14720
7 59	Los Finos	T	ns	500	5.75	2875	ns		2875
7 60	Palmas-Jacaleapa	T	17	420	5.75	2415	142	8	2407
8 61	Brisas-Vacilon	T	11	507	6.00	3042	277	1211	1831
8 62	Jardines Toncontin	T	16	480	5.75	2760	173	2175	585
8 63	Fedregal-Faldas	P	15	1157	6.00	6942	463	5828	1114
8 64	El Cortijo-O.A.Flores	T	28	910	5.35	4859	174	1379	3480
8 65	San Jose de la Vega	P	13	720	5.75	4140	318	70	4070
8 66	focular-S.Jose Peña	P	12	785	5.50	4318	360	740	3578
8 67	14 Marzo-fena-Monterey	T	47	1750	5.50	9625	205	1439	8186
8 68	Canada-Mesilas	T	ns	300	5.75	1725	ns		1725
9 69	Loarque-Rio Grande	M	45	1010	5.50	5555	123	3413	2142
9 70	Satelite	M	23	505	5.50	2778	121	2482	296
9 71	Salida del Sur	T	ns	400	6.00	2400	ns		2400
9 72	Ferrodista-fogoles	S	16	140	5.2	728	46	365	363
9 73	15 Septiembre-Godoy	A	52	717	5.50	3944	76	2581	1363
9 74	Los Robles	M	20	850	5.50	4675	234		4675
9 75	Ciudad Nueva	S	7	50	6.00	300	43	86	214
9 76	Inestrosa-San Luis	M	12	210	6.00	1260	105	522	738
9 77	Aerocuerlo	E							
10 78	Tilcoaroya-Alaro	P	18	829	5.50	4560	253	495	4075
10 79	Branja-Manatija	A	16	241	5.50	1326	83	1337	99
10 80	Bolsa-San Jorge	C	7	310	5.50	1705	244	1692	13
10 81	Frinavera	A	12	150	6.00	900	75	492	408
11 82	N.Esperanza-Progreso	T	12	375	5.60	2100	175	492	1608
11 83	Venezuela	P	3	210	5.50	1155	385		1155
11 84	San Francisco-Soledad	T	86	2665	5.70	15191	177	7242	7949
11 85	Eurrera-Flor-Torres	T	98	4410	5.75	25358	259	3106	22252
11 86	Lauzeles								
11 87	Felicidad-Casitas	T	ns	300	5.75	1725	ns		1725
12 88	Divanna	T	10	524	5.90	3151	315	3148	3
12 89	Villa Adela-Rodriguez	B	33	1800	5.00	9000	273	8655	345
12 90	Centro de Corayaguela	C	96	2260	4.90	11074	115	12806	-1732
12 91	Bella Vista-Crucitas	T	40	2660	5.45	14497	362	13190	1307
12 92	Lepira-Socorro-Belen	B	53	3780	5.00	18900	357	18883	17
13 93	Country-Mayangle	M	23	690	5.40	3726	162	2907	819
13 94	Fesid-Centro-America	P	13	820	5.65	4633	356		4633
13 95	Fuente	M	4	140	5.50	770	193		770
13 96	Centro-America Oeste	P	16	1340	5.60	7504	469		7504
13 97	Torocagua-Santa FE	P	44	2386	5.40	12884	293	12379	505
14 98	Ayestas-Mercedes	T	55	3450	5.00	17250	314	15546	1604
14 99	Solo-Fuvenir-Chile	T	27	1476	5.00	7380	273	6965	415
14 100	Carpo Cielo-14 febrero	T	40	1556	6.00	9336	233	2563	6773
14 101	3 de Mayo-Independencia	T	50	2920	5.50	15510	310	4274	11236
14 102	Zapote Norte	P	4	320	5.50	1760	440		1760
14 103	Laguna-Villa Union	T	21	985	5.50	5368	252	930	3438
14 104	Quiroz-Folicarpo Paz	T	32	870	5.60	5046	158	257	2449
15 105	ext. N-E.								
15 106	Brisas Norte-Centenos	T	28	860	5.70	4860	163		4860
15 107	Carrizal-Santa Isabel	T	25	771	5.70	4375	176	647	3748
15 108	Questa-Loio	T	ns	500	5.75	2875	ns	200	2675
15 109	Pavas-Alemania	T	42	1460	5.50	8030	191	1200	6830
16 110	Cerro Grande 2	P	7	400	5.50	2200	314		2200
16 111	Cerro Grande 4	M	7	260	5.50	1430	204		1430
TOTAL			2707	95998	5.54	531472	196	273866	257606

185

cuad 1.14 abonados y consumo segun clase de vivienda - febrero 86

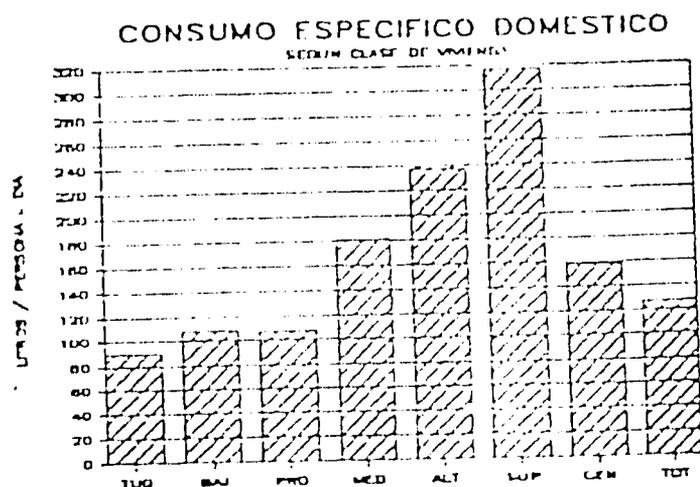
clase	tug	baj	pro	med	alt	sup	com	total
no abonados(mil)								
total	13.1	6.2	15.8	6.6	2.3	2.6	2.8	49.4
medidos	7.8	5.1	9.7	5.7	1.9	2.1	2.3	34.6
no medidos	5.3	1.1	6.2	0.9	0.4	0.5	0.4	14.8
cons medido(mil m3/ms)								
total(medidos)	176.2	137.0	190.3	175.0	82.6	119.2	81.3	961.6
por abo.medido(%)	22.6	26.8	19.6	30.9	43.7	56.2	35.0	26.7
cons total (estia.)	295.5	167.1	311.3	203.9	98.4	148.8	96.9	1321.9
en porcentaje/clase:								
no abonados	26%	13%	32%	13%	5%	5%	6%	100%
no abo. medidos	23%	15%	28%	16%	5%	6%	7%	100%
cons medido	18%	14%	20%	18%	9%	12%	8%	100%
cons total estia.	22%	13%	24%	15%	7%	11%	7%	100%

(%) el total es ponderado en base al no total de abon. por clase

cuad 1.15 normas de consumo domestico (conexion domiciliaria, febrero 86)

clase	tug	baj	pro	med	alt	sup	com	total(%)
consumo/abonado (m3/mes)	22.6	26.8	19.6	30.9	43.7	56.2	35.0	26.7
viviendas servid./abo. domes.	1.47	1.56	1.06	1.04	1.07	1.04	1.35	1.24
personas/vivienda	5.60	5.17	5.62	5.40	5.67	5.58	5.40	5.54
personas/abo. domestico	8.23	8.09	5.95	5.59	6.05	5.82	7.26	6.89
consumo/pers (m3/mes)	2.7	3.3	3.3	5.5	7.2	9.6	4.85	3.9
consumo/pers (lppd)	90.0	108.5	108.2	181.4	236.9	316.2	157.9	127.2

(%) ponderado en base al numero total de abonados por clase



cuadro 1.17 llaves publicas (1985)

no patronatos servidos	48
no patronatos registrados	40
no abonos	60
promedio abonos/patronato	1.5
promedio llaves/patronato	3.4
no total llaves(estim)	165
cons.llaves con medicion(m3/mes)	30248
no llaves con medicion	120
consumo promedio/llave(m3/mes)	252
consumo total llaves(estim,m3/mes)	41500

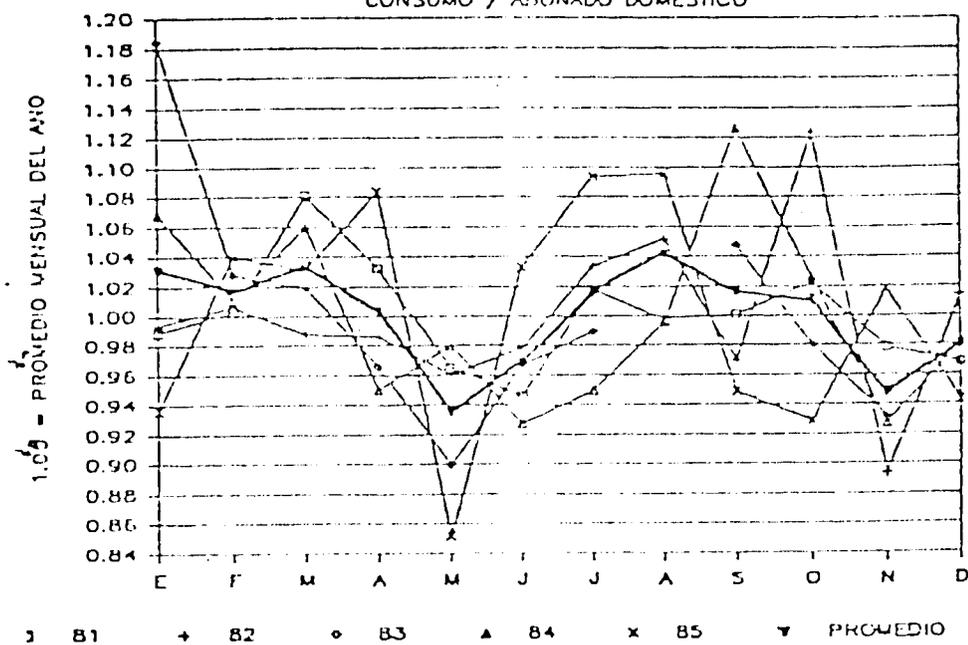
cuadro 2 llaves publicas (en 1985)

colonia	no de abonos (1)	no de llaves (2)	consumo tot (m3/mes) promedio 85
13 de Febrero	1	na	256
Barrio La Estrella	1	2	312
Krisas del Picacho	1	2	466
Nueva Viera	1	na	121
Colonia Guillen	2	na	1394
Col. R. Suarez (Reg.)	na	4	na
Colonia La Esperanza	1	na	251
14 de febrero(Reg)	2	8	311
el Tablon	1	na	127
Villanueva	na	2	na
Barrio Sagastume	1	na	1498
La Libertad	1	na	1326
14 de Febrero(Coa)	1	na	171
El Porvenir	1	2	1696
Barrio Bella Vista	1	na	191
Col. San Cristobal	1	na	818
El Obrero	2	na	1059
Col 8 de Febrero	2	na	3570
Col. Las Torres	4	4	3637
Col. la Rosa	na	6	na
El Rosario	1	na	2035
El Carrizal #2	1	na	1142
Col La Laguna	2	na	1229
Col. 20 de Septiembre	1	na	254
Casco Cielo	1	na	526
Jardines de Isacntin	1	na	312
Loas del Cortijo	1	na	623
Jardines de San Jose	1	na	na
Col. San Buenaventura	1	na	270
Montes de Sinai	2	na	870
Col. 14 de Marzo	1	na	2765
col Popular 1	3	na	1223
Col. 21 de febrero		4	
Col. R. Suarez C. (Coa)	1	na	734
Col. El Zocalo Basilon	1	1	150
Felix Canales Zalazar	2	2	277
Col. 13 de Julio	1	2	na
Col. 30 de nov	2	2	na
Col. la Era	na	1	na
Col. Estados Unidos	1	8	391
La Flor del Casco	1	6	427
Col. el Progreso	na	1	na
Col. Nueva Esperanza	1	3	298
Col. 3 de Mayo	1	na	na
Col. Independencia	na	8	na
Col. Jacota Centro	na	3	na
Col. Flor #1	9	na	na
Col. Flor #2	na	1	na

(1) fuente: registro comercial SNA

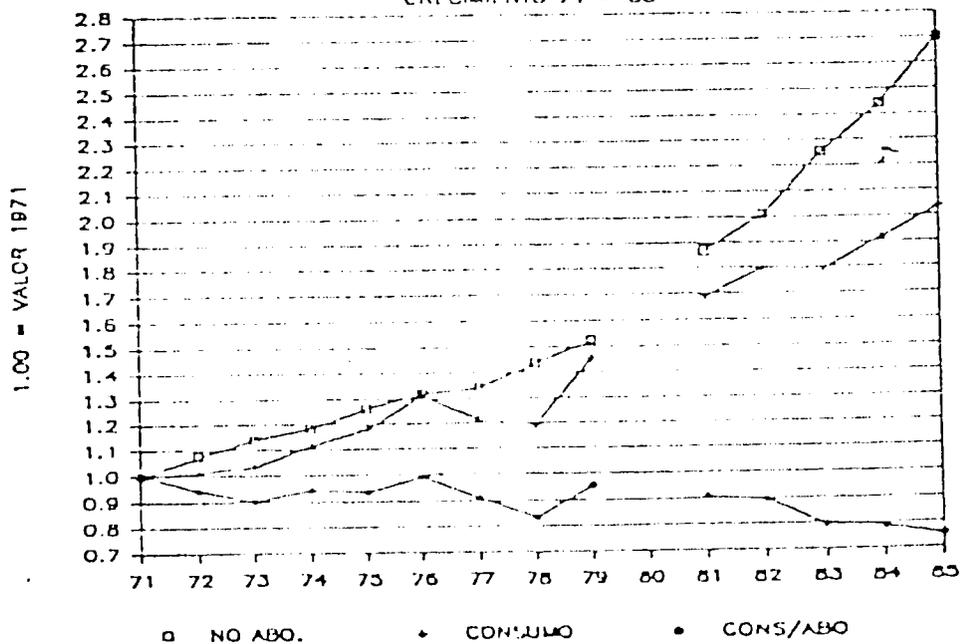
VARIACIONES ESTACIONALES

CONSUMO / ABONADO DOMESTICO



ABONADOS Y CONSUMO DOMESTICO

CRECIMIENTO 71 - 85



Executive Summary of PAHO Report by Donald Lauria on
Alternative Water Supply for Barrios Marginales in Tegucigalpa

Executive Summary

Introduction

1. Tegucigalpa, Honduras, has about 150 barrios marginales in which the present population is about 250,000. The population increase in these barrios is more than 20,000 per year. At least 20,000 persons in the barrios have no access to water facilities, and about 60,000 more have access only to public taps, with an average of 1 tap per 1,400 persons.
2. The Pan American Health Organization commissioned this study with three main objectives (a) determine water supply conditions in the barrios marginales, (b) develop and assess non conventional solutions for supplying water to these barrios, and (c) recommend a program for implementation.

Existing Conditions in Barrios Marginales

3. Many of the barrios marginales are at high inaccessible elevations difficult to serve with water. By year 2010, it is estimated that more than 100,000 persons will be living above elevation 1110 m. SANAA has decided that elevations above 1150 m must be served by independent water systems, not connected to the main network.
4. The total demand for water in Tegucigalpa was about 80,000 m³/d in 1980. Demand is growing about 6.9% per year. In 1983, total demand and supply during the rain season were in balance at 90,000 m³/d. However, available supply in the dry season was only 60,000 m³/d. By 1990, the maximum predicted deficit will be 100,000 m³/d. Water system leakage and losses (fugas) are uncertain but at least 34% and possibly more than 50%.
5. Since the early 1980's, CMDC with financial assistance from US AID has constructed 13 water and 23 sanitation projects in the barrios marginales that have served 30,000 persons with water and 63,000 with sanitation. The average per capita costs including indirect expenses are Lps 120 and Lps 230, respectively. Many of the people served under this program complain about inadequate water and infrequent service due to deficiencies in the main system.
6. During this study, field data were collected on the kinds of water facilities in the barrios marginales and the daily hours of water service. About 80% of the barrios were visited. The obtained data, which are somewhat approximate, suggest the following

<u>Type of Barrio</u>	<u>1986 Population</u>	<u>Hours of Service/Day</u>
No Water Facilities	23,300	0
Public Taps	58,000	3.8
House Connections	142,400	5.8
Connections & Taps	6,000	6.0
Connections & Nothing	19,200	5.2

7. Data were also collected on the amounts of water purchased by people living in the barrios. Fourteen families with a total of 96 members were interviewed. A summary of average conditions is as follows

<u>Type of Barrio</u>	<u>Families Interviewed</u>	<u>Persons/ Family</u>	<u>Consumption (lcd)</u>	<u>Family Expenditure (Lps/mo)</u>
No Facilities	4	8.5	13	60
Public Taps	4	5.5	10	13
House Connections	6	6.7	5	9

8. The average expenditure in barrios with no water facilities is Lps 60 per month per family. Water is purchased from private barrel vendors at a price of Lps 3.50/barrel, which is about 35 times the official SANAA price. Families in barrios with public taps purchase from the taps at an average price of about Lps 8/m³. Families in barrios with connections purchase from neighbors.

9. Seven private vendors, all of whom sell water for Lps 3.50 per barrel (Lps 17.5/m³), were interviewed to determine their income and expenses. Average daily sales per truck are about 9.4 m³ (Lps 165). Average expenses in Lps/m³ are as follows

<u>Water</u>	<u>Wages</u>	<u>Gas</u>	<u>Oil</u>	<u>Tires</u>	<u>Repairs</u>	<u>Total</u>
4.5	2.8	2.3	0.4	1.5	1.0	12.5

10. More than 30 vendors are operating in the barrios without water facilities. Of these, only 7 or 8 purchase water from SANAA. The families in barrios without facilities and in barrios with public taps are spending more than Lps 5 million per year on purchasing water.

Assessment of Proposed Solutions

11. Four major solutions have been proposed in the past for the water supply problems of Tegucigalpa (a) Guacerique,

(b) CMDC-AID, (c) Moncada report, and (d) reduction of fugas. It appears that none holds much promise for improving water supply service in the barrios marginales in the near future.

12. Guacerique will increase supply by 100,000 m³/d at a cost of US\$ 240 million. However, it probably will not be implemented much before 1995.
13. It is possible that the CMDC-AID program will be continued to construct additional water distribution facilities in the barrios. However, without augmenting the source of supply, these facilities may be of minor benefit in the short term.
14. Ing. Moncada has proposed a plan with 3 main steps to augment supply by 85,000 m³/d. Only the step that involves constructing new wells to increase flow by 30,000 m³/d has promise for making an immediate impact. The Plan Maestro office has already begun implementation of this step.
15. The French firm BECOM with financial support from the World Bank has started a study to reduce fugas in the system. However, it is feared that these losses may be due to numerous illegal connections which would be very difficult to find and correct.
16. None of the proposed solutions provides for serving barrios at elevations about 1150 m.

Non Conventional Alternatives

17. Under this study, 4 nonstructural alternatives are proposed for improving water supply to the barrios marginales. These are low in capital costs but require a relatively high level of organizational skill and input. The alternatives are (a) regulation of valves, (b) program of information and regulation, (c) adjustment of water prices, and (d) organization and regulation of vendors.
18. Re 17(a), it may be possible to regulate valves in the network to improve the distribution of water to the barrios. At present, a small group of workers regulate a few key valves daily. Under this proposal, it would be necessary to make a study of the system to determine which valves to operate and how. The number of workers would have to be increased.
19. Re 17(b), a program of water conservation is proposed that would limit or prohibit such things as lawn sprinkling and auto washing during the dry season. Also, the program would aim at informing the public about conservation through the media.

20. Re 17(c), the existing water prices are too low to encourage conservation; also, the increase in prices for higher blocks of water use is too small. Consideration should be given to lifeline rates which would provide basic quantities of water at low prices followed by much higher prices for larger quantities.
21. Re 17(d), the prices charged by vendors are extremely high, and the quality of water is poor, even dangerous. SANAA could regulate the private vendors to (a) improve service, (b) control water quality, and (c) lower prices.
22. This study also proposes 5 structural alternatives for improving water supply to the barrios. They are higher in capital costs but less demanding with respect to organization. They are (a) new independent pumped systems, (b) new independent tanker truck systems, (c) pumped supply to existing public tap systems, (d) tanker supply to public tap systems, and (e) barrel delivery systems.
23. Alternatives 22(a) and (b) pertain to barrios with no existing water facilities. It is proposed that water be distributed only by public taps that are not connected to the main Tegucigalpa system. Under (a), the proposal is to use new wells for supply, but if this proves impossible, then (b) proposes use of tanker trucks for supply.
24. Alternatives 22(c) and (d) pertain to barrios with existing public taps. It is proposed that these networks be disconnected from the main system and served by (c) wells or, if not possible, then by (d) tanker trucks.
25. Alternative 22(e) proposes the possibility of SANAA developing its own system of barrel vendors to replace or (more likely) augment and compete with the existing private vendors.

Description and Costs of Structural Alternatives

26. In order to estimate the facilities and costs of the 5 structural alternatives described in the previous section, a case study was selected consisting of 8 barrios marginales with a design population of 10,000. It was assumed that 50 public taps would be needed, each serving 200 persons with design average flow of 25 lpd and a peaking factor of 5. For the alternative of water supply from a deep well 22(a), the estimated total construction cost (Table 19) would be Lps 438,000; including indirect expenses of 25%, total per capita cost would be about Lps 60. By amortizing the capital and including operating cost, the cost per m³ of water delivered (Table 20) would be Lps 2.01.

27. For the next alternative, 22(b), which also proposes service through independent systems but with supply from tanker trucks (assuming wells are unavailable), the total construction cost (Table 22) would be Lps 598,000, which amounts to about Lps 80 per capita including indirect expenses. The sum of amortized capital plus operating cost results in Lps 5.00/m³, which makes this alternative more than twice as expensive as the previous one.
28. The next two structural alternatives, 22(c) and (d), pertain to barrios with existing public taps. It is proposed that they be disconnected from the main system and served by (a) wells or (b) tankers. Costs are similar to the previous two alternatives except for the networks (which are assumed to exist) and storage tanks (which are assumed to be temporary-and more expensive-rather than permanent). The capital cost for supply from wells would be Lps 55/capita, and the cost per m³ is Lps 1.93. For supply from tankers, the capital cost would be Lps 65/capita, and the cost per m³ is Lps 4.80.
29. For SANAA to supply the 8-barrio case study by barrel vendors, eight trucks operating 12 hours per day would be needed. The total capital cost (Table 27) would be Lps 634,000 which amounts to Lps 85/capita including indirect expenses. The cost per m³ (Table 28) would be Lps 8.33, making this the most expensive alternative.
30. A cost summary for the 5 alternatives is as follows

<u>Alternative</u>	<u>Total Capital Cost (Lps)</u>	<u>Capital Cost per Capita (Lps/cap)</u>	<u>Operating Cost (Lps/d)</u>	<u>Operating Cost (Lps/yr/cap)</u>	<u>Total Cost (Lps/m³)</u>
a. New Indep. Pumped	438,000	60	287	10	2.01
b. New Indep. Tanker	598,000	80	910	33	5.00
c. Pumped to Exist. Taps	396,000	55	287	10	1.93
d. Tanker to Exist. Taps	474,000	65	910	33	4.76
e. Barrel Delivery	634,000	85	869	32	8.33

Notes

1. Case study design population is 10,000 persons.
2. Alternatives a, b, c & d supply 250 m³/d (25 lcd).
3. Alternative (e) supplies 150 m³/d (15 lcd).
4. Total capital cost does not include indirect costs.
5. Capital cost per capita includes 25% indirect costs.
6. Operating cost does not include amortized capital cost.
7. Last column includes 25% indirect on amortized capital cost plus operating costs.

Facilities and Costs for Tegucigalpa

31. Using the estimates of the previous section as a basis, the costs of serving the two categories of barrios for which improvements are proposed are as follows

	<u>Wells</u>		<u>Tankers</u>	
	<u>Capital (Lps 1000)</u>	<u>Operating (Lps 1000/yr)</u>	<u>Capital (Lps 1000)</u>	<u>Operating (Lps 1000/yr)</u>
Barrios without Facilities	1,800	300	2,400	1,000
Barrios with Public Taps	4,800	750	5,600	2,500
Total	<u>6,600</u>	<u>1,050</u>	<u>8,000</u>	<u>3,500</u>

32. The above table indicates that the capital cost of serving the roughly 80,000 persons in (a) barrios without facilities and (b) barrios with public taps would be between Lps 6.6 and Lps 8.0 million, depending on whether supply is from wells or tanker trucks. If SANAA chose to serve these barrios by vendors (which is not recommended), the capital and operating costs would be Lps 8.9 million and Lps 3.4 million per year, respectively.

Recommendations

33. The primary recommendations of this report are to:

- (a) construct independent public tap systems for serving the barrios without facilities; first priority would be to use wells, and second would be to use tankers.
- (b) make all existing public tap systems independent by disconnecting them from the main network; the priorities for supply are as above.
- (c) conduct studies to precisely determine which barrios are in the two categories and how they are to be served, whether from wells or tankers.
- (d) retain consultants to be in residence for at least 3 years to assist SANAA with the operation and management of independent systems. The estimated cost would be at least Lps 1.5 million/year.
- (e) use the water which would be conserved by disconnecting the existing public tap systems to improve supply to those barrios that remain connected.
- (f) regulate private vendors to improve service, improve water quality and lower prices.

34. The secondary recommendations are in the report.

12/6

Old Draft of SANAA Plan Verano 87 and Intermediate Plan
(Final Version for IDB Financing Due by August 15, 1986)

SERVICIO AUTÓNOMO NACIONAL DE ACUEDUCTOS Y ALCANTARILLADOS

TEGUCIGALPA, HONDURAS, C. A.

APDO. POSTAL No. 437
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TELÉFONOS
22-8552, 22-8554, 22-8555

PLAN DE ACCIÓN VERANO 1987

SISTEMA DE ABASTECIMIENTO DE AGUA DE TEGUCIGALPA

1. Demanda y Oferta de Servicio de Agua

De conformidad con los estudios que se han realizado recientemente, la demanda de agua para 1987 será del orden de 120.000 m³ diarios. La capacidad de suministro que tiene la Ciudad en la época lluviosa es de 95.000 m³ de agua; en la época seca demanda 60.000 m³ de agua. Como puede apreciarse, la oferta de verano alcanza a cubrir el 50% de la demanda.

2. Proyectos en Ejecución y su Efecto en el Incremento de la Oferta:

Se tienen en ejecución los siguientes Proyectos:

1. Ampliación y Mejoramiento de la Planta de Lourque;
2. Incorporación del Río Tatumbá y sustitución de tuberías en el Acueducto Sabacuante;
3. Sustitución de tuberías en el Acueducto Jutiapa-Picacho;
4. Sustitución de tubería en el Acueducto San Juan-Las Cañas-Las Trojas y Lindero.
5. Sustitución parcial tubería Acueducto San Juancito-El Picacho.
6. Perforación de Pozos en el casco urbano de Tegucigalpa.

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Las obras anteriores producirán incrementos en la oferta como sigue:

2.1. Planta de Lourque:

La Planta actual tiene capacidad para 50 litros por segundo. La nueva Planta tendrá capacidad para 210 litros por segundo y estará lista para el verano de 1987. El Río en el mes de marzo produce unos 110 litros por segundo. El incremento neto será de 60 litros por segundo, equivale a unos 4500 m³ por día (85% de eficiencia).

2.2 Incorporación Río Tatumbla:

El Río Tatumbla durante los meses de verano tiene un gasto del orden de 25 litros por segundo, equivalente a 2160 m³ - diarios. Los trabajos podrán estar terminados para el verano de 1987.

2.3. Proyectos de Sustitución de Tuberías de Conducción:

Los Proyectos 3, 4 y 5, consistentes en reposición de tuberías, tienen un efecto mínimo en el incremento del suministro y su impacto principal consiste en mantener un suministro seguro de la oferta presente al sustituir tubería en mal estado que se daña con frecuencia, por nuevas tuberías de mejor calidad.

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2.4. Perforación de Pozos

El Proyecto (6) de Perforación de Pozos, el cual fue iniciado con recursos de transferencia del Gobierno Central en 1985 está por concluir y dejará once (11) pozos perforados, con una producción total estimada de 16.750 m³ por día; - para aprovechar estos pozos se requiere dotarles de equipos de bombeo, efectuar la instalación eléctrica y construir las obras de conducción. Se carece de recursos financieros para ejecutar estos trabajos.

De lo anterior se concluye que las obras en proceso podrán aportar para 1987 un aumento de 7,340 m³/día, desglosados como sigue:

LOARQUE	5.180
TATUMBLA	2.160
	<hr/>
	7,340 M ³

Lo anterior representa un 12% del déficit previsto, quedando por cubrir un déficit de 52,660 m³ diarios.

3. Estudios Efectuados en Trámite de Financiamiento

3.1. Campo de Pozos en Amambeca.

Este Proyecto nació como una obra de ejecución inmediata para suplir el déficit entre 1982 -1986 y se esperaba -

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aportaría 25.000 m³ diarios. La investigación geo-hidro^lógica determinó un rendimiento seguro de 15,000 m³ diarios (170 litros por segundo) y requiere la construcción de una líⁿnea de conducción de 25 kms. de tubería entre 14 y 16 pul^ggadas y un costo aproximado de 44 millones de lempiras.

No se cuenta con diseño del proyecto y de seis (6) pozos de producción requeridos, se cuenta con tres. Originalmente se esperaba que el BID financiara la construcción, pero en las últimas misiones de programación de este Banco, el proyecto no aparece en la lista de los que el Banco pretende financiar. Es importante destacar que el agua subterránea de Amaratéca será utilizada por las industrias e instalaciones que se están ubicando en este Valle.

3.2. Guacerique II

Este proyecto consiste en una represa de 88 millones de metros cúbicos a construir sobre el Río Guacerique, está diseñado a nivel de documentos de licitación, pero no de diseño final y permitirá incrementar el suministro en 100.000 m³ por día. En vista de que regula el mismo río donde se encuentra el sistema de Los Laureles, se espera que éste último sistema seguirá contribuyendo con 38.000 m³ por día. (Cabe señalar que Los Laureles, tiene

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una capacidad instalada de tratamiento y conducción de 60.000 m³ diarios).

El Proyecto Guacrique II tiene un costo estimado de - 375 millones de lempiras, desglosados como sigue:

Presa	120.0
Planta	13.0
Compra de terrenos a inundar	50.0
Red de Distribución	72.0
Línea de Conducción	10.0
Tanques y Estac. Elevadores	10.0
Imprevistos y Escalamiento (40%)	100.0
	<hr/>
	L. 375.0

Tentativamente se interesó al BID en financiar este Proyecto con un pari-passu de 80/20, lo que implicaría una contraparte nacional del orden de 75 millones de lempiras.

Un proyecto de esta magnitud cuyo financiamiento aún no ha sido obtenido, requiere un plazo de unos seis (6) años, - para su terminación, contados a partir de la fecha en que se inicia la gestión del crédito, o sea que se dispondría de

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esta agua hasta 1993, si se iniciaran las gestiones de inmediato.

El Banco Interamericano de Desarrollo (BID), financió parcialmente los estudios de este Proyecto y ha demostrado interés en financiar su construcción, sin embargo ha tenido reservas en cuanto al diseño y ha solicitado se efectúe una revisión antes de considerarlo elegible para análisis; SANAA ha obtenido una donación de \$ 650,000 del Gobierno de los Estados Unidos, que servirá para financiar parcialmente esta revisión. El costo de los estudios que se han realizado hasta la fecha es del orden de cuatro millones de dólares y el tiempo de contratación de consultores y de revisión del proyecto, alargará su tiempo de ejecución en un año como mínimo.

3.3. Proyecto Inmediato Identificado con BID

Una Misión del BID que visitó el País en el mes de abril del corriente año, identificó un proyecto denominado INTERMEDIO, con un costo estimado de 70 millones de dólares para efectuar trabajos consistentes en: sustitución y ampliación de redes de distribución; reparación y mejoramiento de tanques de almacenamiento, compra e instg

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22-8552, 22-8554, 22-8555

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ción de micromedidores, construcción de plantas potabilizadoras en fuentes que no tienen tratamiento; perforación y equipamiento de pozos dentro del área urbana; Estudio del Alcantarillado Sanitario de Tegucigalpa; Estudios Adicionales en el Sitio de Guacerique II.

La Solicitud de Préstamo debe ser presentada a mediados del mes de julio, para obtener el préstamo en el curso del presente año.

El Proyecto Intermedio mejorará la calidad del agua, reducirá las fugas y pérdidas en el sistema de distribución e incrementará en un monto no determinado el suministro de agua al desarrollar recursos subterráneos. Sin embargo, no se espera que estas aguas subterráneas lleguen a satisfacer el déficit, ya que los resultados de las investigaciones realizadas hasta la fecha, no indican la presencia de pozos de alta producción en la Ciudad, que permitan explotaciones del orden requerido para ser una solución por sí mismas.

4. Fortalecimiento Institucional

Aparte de las obras de mejoramiento inmediato, se requerirán actividades para controlar el desperdicio y que en esencia consistirán en incrementar el número de medidores instalados en las conexiones de los usuarios, el mejoramiento del control de lectura de medidores y la formulación de un plan racional para la opera-

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22-4331, 22-4334, 22-4335

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ción del sistema en el verano de 1987, conjuntamente con acciones de capacitación del personal y adquisición de materiales y equipo para el mantenimiento preventivo de las instalaciones.

5. Obras a Realizarse para el Verano 1987

Al analizar las secciones anteriores, se concluye que las obras - propuestas, dejarán un déficit de 52,660 m³ diarios y además que los proyectos que han sido estudiados, requerirían en el caso de - que se decidiera continuar con ellos, de tiempos más o menos - largos para su ejecución (un mínimo de 3 años para el Proyecto de Amarateca, que no cubre el déficit a un máximo de 7 años pa - ra Guacerique II, que si lo cubre).

La necesidad de incrementar el suministro de inmediato es evi - dente y para lograrlo se proponen tres (3) acciones concurrentes:

5.1. Aprovechamiento de Aguas Subterráneas:

En vista de que se cuenta con 11 (once) pozos perforados y no equipados, se propone llevar a cabo dicho equipamien - to, con lo que se logrará incrementar el suministro en - 16,750 m³ por día.

5.2 Optimizar El Sistema de Los Laureles

El Sistema de Los Laureles tiene una capacidad instalada de 60,000 m³ diarios, en la actualidad el aprovechamiento máximo que se hace es del orden de 36,000 m³ diarios, las razones de operar el sistema a una capacidad substancial - mente inferior a su capacidad de diseño, se deriva de dos

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razones básicas:

- a) Dado que es el único sistema que tiene almacenamiento de agua, se procura mantener siempre una reserva para el final del período seco del orden de dos millones de metros cúbicos, lo que permite aprovechar únicamente unos siete millones de m³ del almacenaje.
- b) La capacidad de los tanques de almacenamiento en el sistema de distribución es insuficiente y al tener los tanques llenos tiene que pararse la operación de la planta.

Como una medida para incrementar el almacenamiento, se construyó durante 1985 una estructura de control de cresta en el vertedero de demasías con una altura de 1.20 metros, esto aumenta el almacenaje en unos 700,000 m³, volumen que permitió mayor reserva en el verano del 86, pero que no es significativo.

Ade más de las consideraciones anteriores, es conveniente destacar que el Embalse tiene fugas que se pierden aguas abajo de la Presa y además que la operación de la planta genera un volumen de agua que se desperdicia por lavado de los filtros y limpieza de los sedimentadores.

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TELEFONOS

22-8852. 22-8954. 22-8854

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Con el fin de optimizar el funcionamiento de Los Laureles, se propone:

- a) Construir una estructura de control de cresta de unos 4 mts. de altura como mínimo, para almacenar unos 3 millones de m³ diarios.
- b) Captar y re-circular el agua del lavado de los filtros, conjuntamente con el agua que se pierde por fugas del Embalse.
- c) Aumentar el almacenaje de aguas tratadas en Planta y en el Sistema de Distribución.
- d) Aumentar la capacidad de los sistemas de bombeo.

Con las operaciones anteriores podrá aprovecharse el sistema de Los Laureles a su plena capacidad y se contaría con un aumento del suministro de 24,000 m³ diarios, que junto con los 16,000 a producir con los pozos, permitirían un incremento de 40,000 m³ diarios, dejando el déficit reducido substancialmente.

El costo estimado para efectuar los trabajos mencionados anteriormente, es de Lps. 9.437.50, tal como se desglosa en el cuadro adjunto.

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ESTIMADO DE COSTOS

1. ESTUDIO Y DISEÑO

- 1.1. Revisión Estabilidad Presa y Diseño Obra Control de Cresta
- 1.2. Diseño Líneas de Conducción y Tubería de patio tanques

	(\$)	30.000.00	T92
		70.000.00	DOM
		100.000.00	
		L.	100.000.00

2. CONSTRUCCION

2.1. Optimización Laureles

- 2.1.1. Aumento almacenaje en Embalse
- 2.1.2. Captación y Conducción Agua de Lavado y Fuga
- 2.1.3. Distribución Primaria Los Laureles
 - a) Tanque Estiquirín
 - b) Tanque Alto Los Filtros
 - c) Tanque Canal 11
 - d) Estación de Rebombeo Las Canteras

	GR	500.000.00	
	GE	900.000.00	
		1.000.000.00	
		1.000.000.00	
		750.000.00	
		300.000.00	

2.2. Aprovechamiento Aguas Subterráneas

- 2.2.1. Equipamiento Pozos
- 2.2.2. Línea de Bombeo
- 2.2.3. Instalación Eléctrica

	(\$)	500.000.00 - 150.00	
	GE	1.500.000.00	
	EMCE	500.000.00	
		6.950.000.00	
		L.	6.950.000.00

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ESTIMADO DE COSTOS

3.	FORTALECIMIENTO INSTITUCIONAL		
3.1.	Compra e Instalación de 20.000 medidores	(S) Lm	2.400.000.00
3.2.	Equipamiento para Operación y Mantenimiento	(S) Lm	1.400.000.00
			<hr/>
			3.800.000.00
4.	INGENIERIA Y ADMINISTRACION	SOMBA	500.000.00
5.	ESCALAMIENTO E IMPREVISTOS (+ - 25%)	SOMBA	2.650.000.00
			<hr/>
			L. 14.000.000.00
			<hr/> <hr/>

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UNFUNDED DEMAND FOR UPGRADING

Unfunded Subprojects Generated by the Urban Upgrading Program

The following pages list subprojects which the Tegucigalpa Upgrading Project Implementation Unit identifies for the Urban Upgrading Project but which were not pursued after funds had been fully allocated. This list is current as of April, 1986. These projects have gone through the Project Identification phase, but full-scale eligibility studies have not been undertaken. For each project, the Implementation Unit has estimated the total number of beneficiaries, preliminary costs of on-site works, employment generated, and types and costs of off-site infrastructure. These estimates are based on field visits to the petitioning barrios with preliminary social-economic surveys and engineering appraisals. Costs and employment are estimated using previous experience with similar projects. It bears repeating that these projects were requested by neighborhoods for inclusion in the Urban Upgrading Project which requires repayment at 17% interest. Preliminary significantly lower rates in the 10% range.

Total projects for water and sewerage systems come to \$10.8 million for on-site work, and \$3.3 million for off-site. In addition, the Implementation Unit has identified preliminary street paving subprojects for an additional \$6.8 million. There are a number of ways to prioritize these projects for implementation. Two key criteria are to minimize off-site costs and to ensure access to water supply or connection to an independent deep well.

Table 6 following lists unfunded electricity subprojects identified by ENEE, the National water utility, for possible incorporation in the program. The list represents the portion of requested projects for which ENEE has developed detailed profiles and costs. In this package, ENEE has identified \$1 million of projects in Tegucigalpa and \$3.3 million elsewhere in Honduras, for a total of \$4.3 million in projects for barrios marginales. Tables 5 and 6 serve to confirm the strong unmet demand for infrastructure.

Table 5

Pending Water and Sewerage Subprojects

UNIDAD EJECUTORA
DESCGLOSE DE LA INVERSIÓN PARA LOS PROYECTOS DE ABASTECIMIENTO DE AGUA
Y ALCANTARILLADO SANITARIO

NOMBRE DE LA COLONIA	UBICACION	ERA A RECURSAR	COSTO APROXIMADO	Nº FAMILIAS BENEFICIARIAS	GENERACION DE T. HOMBRES/DIA	OBRAS FUERA SI- TIO DESCRIPCION	C O S T O	OBSERVACIONES
COLONIA ALEMANIA	Oeste Tegucigalpa	A.P. A.S.	249,900.00	233	15619 H/D	Estación Elevadora Sub-Collector	300,000.00 80,000.00	
ALDEA DE SUYAPA	Este Tegucigalpa	A.P. A.S.	504,393.75	110	31425 H/D	Est. Elevadora Sub-Collector	300,000.00 200,000.00	Se mejorará el sistema de Nueva Suyapa
COL. BRISAS DEL PICACHO	Norte Tegucigalpa	A.P. A.S.	56,962.50	120	3560 H/D	Línea Distribución Sub-Collector	12,000.00 18,000.00	
COL. ESPERANZA	Oeste Tegucigalpa	A.P. A.S.	161,000.00	31	10063 H/D	Línea Distribución Sub-Collector	20,000.00 64,400.00	
COLONIA BUENAS NOVAS	Oeste Tegucigalpa	A.P. A.S.	98,306.25	20	6144 H/D	Línea Distribución Sub-Collector	12,000.00 50,000.00	
COLONIA BRISAS DEL NORTE	Oeste Tegucigalpa	A.P. A.S.	477,775.00	245	13254 H/D	Línea Distribución Sub-Collector	120,000.00 200,000.00	
COLONIA BRISAS DE SUYAPA	Este Tegucigalpa	A.P. A.S.	135,975.00	100	6498 H/D	Línea Distribución Sub-Collector	20,000.00 50,000.00	
COLONIA ALTOS DE DIVANNA	Oeste Tegucigalpa	A.S.	128,490.00	248	2871 H/D			No necesita obra fuera s
COLONIA CAMPO CIELO	Oeste Tegucigalpa	A.P. A.S.	348,430.00	250	9704 H/D	Est. Elevadora		La misma de colonia Villa Unión No necesita obra fuera s
CO. COOPERATIVA 30 NOVIEMBRE	Oeste Tegucigalpa	A.P. A.S.	80,500.00	25	3504 H/D			
COLONIA EL CENTEUS	Oeste Tegucigalpa	A.S.	735,200.00	150	15700 H/D	Línea Distribución	25,000.00	
COLONIA EL PORVENIR	Nor-Oeste Teg.	A.P. A.S.	462,000.00	311	13875 H/D	Línea Distribución Sub-Collector	75,000.00 120,000.00	
COLONIA ROSARIO No. 2	Oeste Tegucigalpa	A.P. A.S.	237,037.50	100	14815 H/D	Línea Distribución Sub-Collector	39,000.00 55,000.00	
COLONIA EL CAPRIZAL No. 2	Oeste Tegucigalpa	A.P. A.S.	475,250.00	200	21578 H/D	Línea Distribución Sub-Collector	70,000.00 100,000.00	
COLONIA EL RETIRO	Sur-Oeste Teg.	A.P. A.S.	213,150.00	190	15322 H/D	Línea Distribución Sub-Collector	13,287.00 54,602.00	
COL. CALLES DE SAN JOSÉ	Sur Tegucigalpa	A.P.	174,562.50	150	10910 H/D			No necesita obra fuera s
COLONIA GUILLÉN	Nor-Este Teg.	A.P. A.S.	646,970.00	450	12910 H/D	Línea Distribución Sub-Collector	94,076.00 100,000.00	No necesita obra fuera s
COLONIA GERMILITO	Oeste Tegucigalpa	A.P.	56,962.50	40	3560 H/D			

NOMBRE DE LA COLONIA	UBICACION	OBRA A EJECUTAR	COSTO APROXIMADO	NO. FAMILIAR BENEFICIA	QUANTIFICACION DE TUBERIAS/DIA	UNIDAD FUERA SITIO DESCRIPCION	C O S T O	OBSERVACIONES
VIA LAS PALMAS	Sur-Este Teguc.	A.S.	298,252.50	150	1864	H/D Sub-Collector	59,650.00	
VIA LA CAJADA	Sur-Este Teguc.	A.S. A.P.	329,550.00	132	2437	H/D Sub-Collector	100,000.00	
LA ESPERANZA (COMAYAGUELA)	Oeste Teguc.	A.P. A.S.	101,062.00	150	6316	H/D Línea Distribución	55,870.00	
VIA LOS CENTENOS	Oeste Teguc.	A.P. A.S.	135,975.00	100	6498	H/D		No necesita obra fuera sitio
VIA NUEVA SUYAPA	Este, Tegucigalpa	A.S.	1,409,325.00	1006	88083	H/D Sub-Collector	563,730.00	No necesita obra fuera sitio
VIA NUEVA ESPERANZA	Sur-Este, Teg.	A.P. A.S.	426,300.00	700	16652	H/D Línea Distribución	70,520.00	
SAN JUAN DE DIOS No.1	Sur-Oeste, Teg.	A.S.	85,355.00	56	5585	H/D Sub-Collector	125,000.00	
VIA SAN MARTIN	Oeste, Teg.	A.S.	252,099.00	218	18255	H/D		No necesita obra fuera sitio
VIA SANTA ISABEL	Oeste, Teg.	A.S.	84,525.00	50	5283	H/D Sub-Collector	25,000.00	No necesita obra fuera sitio
SAN JUAN DE DIOS No.2	Sur-Oeste, Teg.	A.P. A.S.	105,472.00	100	4709	H/D Línea Distribución	26,000.00	
VIA VENEZUELA	Sur-Oeste, Teg.	A.P.	261,894.00	100	4709	H/D Sub-Collector	25,000.00	
VIA 13 DE JULIO	Este, Teg.	A.P.	223,440.00	251	15368	H/D Línea Distribución	30,000.00	No necesita obra fuera sitio
VIA VILLA CRISTINA		A.P. A.S.	230,000.00	65	29094	H/D Línea Distribución	75,000.00	La misma Estación Elevadora que colonia Villa Unión
LAS PAVAS Y LOS AMATES		A.P. A.S.	500,000.00	271		Estación Elevadora		La misma que la de Col. Alameda oriente hacia Col. Alameda
VIA IZAGUIRE		A.P. A.S.	400,000.00	224		Línea Distribución	80,000.00	
ALTOS SAN FRANCISCO		A.P. A.S.	150,000.00	67		Sub-Collector	100,000.00	
VIA EL RINCON		A.P. A.S.	200,000.00	85		Línea Distribución	25,000.00	No necesita obra fuera sitio
VIA "21 DE FEBRERO"	Sur-Oeste, Teg.	A.P. A.S.	262,400.00	118	8747	H/D Sub-Collector	70,000.00	
VIA "INDEPENDENCIA" II ETAPA	Sur, Tegucigalpa	A.S.	250,500.00	250	8350	H/D Línea Distribución	15,744.00	
VIA LA PROVIDENCIA	Sur, Tegucigalpa	A.P. A.S.	210,000.00	115	7000	H/D Sub-Collector	65,000.00	No necesita obra fuera sitio
VIA TRINIDAD (COMAY.)	Sur, Tegucigalpa	A.P. A.S.	214,500.00	153	7150	H/D		No necesita obra fuera sitio
VIA TRINIDAD (TEGUC.)	Este, Tegucigalpa	A.S.	556,350.00	656	18545	H/D Sub-Collector	166,905.00	No necesita obra fuera sitio
VIA INDEPENDENCIA	Norte, Teg.	A.P. A.S.	613,190.00	795	20440	H/D Línea Distribución	42,925.00	
VIA LA AMORRA	Este, Teg.	A.S.	156,200.00	110	5207	H/D Sub-Collector	171,691.00	No necesita obra fuera sitio

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NOMBRE DE LA COLONIA	UBICACION	OBRA A EJECUTAR	COSTO APROXIMADO	RENTA BENEFICIA	GENERACION DE T. HOMERES/DIA	DEBES FUERA SITIO DESCRIPCION	C O S T O	OBSERVACIONES
COLONIA LAS PALMAS	Sur-Este Teguc.	A.S.	298,252.50	150	28641 H/D	Sub-Collector	59,650.00	
COLONIA LA CAJADA	Sur-Este Teguc.	A.S. A.P.	369,550.00	132	2457 H/D	Sub-Collector Línea Distribución	100,000.00 55,820.00	
COLONIA LA ESPERANZA (COMAYAGUELA)	Oeste Teguc.	A.P. A.S.	101,062.00	130	6316 H/D			No necesita obra fuera sitio
COLONIA LOS CENTENOS	Oeste Teguc.	A.P. A.S.	135,975.00	100	8498 H/D			No necesita obra fuera sitio
COLONIA NUEVA SUYAPA	Este, Tegucigalpa	A.S.	1,405,325.00	1006	88083 H/D	Sub-Collector	563,730.00	
COLONIA NUEVA ESPERANZA	Sur-Este, Teg.	A.P. A.S.	426,300.00	700	16652 H/D	Línea Distribución Sub-Collector	70,520.00 125,050.00	
COLONIA SAN DE DIOS No. 1	Sur-Oeste, Teg.	A.S.	85,355.00	38	5585 H/D			No necesita obra fuera sitio
COLONIA SAN MARTIN	Oeste, Teg.	A.S.	292,058.00	218	18256 H/D			No necesita obra fuera sitio
COLONIA SANTA ISABEL	Oeste, Teg.	A.S.	54,525.00	50	5265 H/D	Sub-Collector	25,000.00	
COLONIA SAN DE DIOS No. 2	Sur-Oeste, Teg.	A.P. A.S.	105,472.00	100	4703 H/D	Línea Distribución Sub-Collector	20,000.00 25,000.00	
COLONIA VENEZUELA	Sur-Oeste, Teg.	A.P.	261,894.00	251	15388 H/D			No necesita obra fuera sitio
COLONIA 13 DE JULIO	Este, Teg.	A.P.	223,440.00	65	29084 H/D	Línea Distribución	30,000.00	
COLONIA VILLA CRISTINA		A.P. A.S.	230,000.00	153		Línea Distribución	75,000.00	La misma Estación Elevadora que colonia Villa Unión
COLONIA LAS AGUAS Y LOS AMATES		A.P. A.S.	500,000.00	271		Estación Elevadora		La misma que la de Col. Villa Unión nía drené hacia Col. Villa Unión
COLONIA ESTADISTAS		A.P. A.S.	480,000.00	224		Línea Distribución Sub-Collector	80,000.00 100,000.00	
COLONIA ALTOS SAN FRANCISCO		A.P. A.S.	150,000.00	67				No necesita obra fuera sitio
COLONIA EL RINCON		A.P.	200,000.00	55		Línea Distribución Sub-Collector	25,000.00 70,000.00	
COLONIA "21 DE FEBRERO"	Sur-Oeste, Teg.	A.P. A.S.	252,400.00	118	6747 H/D	Línea Distribución Sub-Collector	15,744.00 65,060.00	
COLONIA "TRINIDAD" 11 ETAPA	Sur, Tegucigalpa	A.S.	250,500.00	250	8350 H/D			No necesita obra fuera sitio
COLONIA LA PROVINCIA	Sur, Tegucigalpa	A.P. A.S.	210,000.00	119	7000 H/D			No necesita obra fuera sitio
COLONIA LA TRINIDAD (TEGUC.)	Sur, Tegucigalpa	A.P. A.S.	214,500.00	153	7150 H/D			No necesita obra fuera sitio
COLONIA LA TRINIDAD (TEGUC.)	Este, Tegucigalpa	A.S.	556,350.00	556	18545 H/D	Sub-Collector	166,905.00	
COLONIA LA TRINIDAD	Norte, Teg.	A.P. A.S.	613,150.00	795	20440 H/D	Línea Distribución Sub-Collector	42,925.00 171,691.00	
COLONIA LA TRINIDAD	Este, Teg.	A.S.	156,200.00	110	5207 H/D			No necesita obra fuera sitio

NOMBRE DE LA COLONIA	UBICACION	OBRA A EJECUTAR	COSTO APROXIMADO	N.º DE COLONIA	AREA EN M ²	PERMANENCIA EN DIAS/DIA	OBRAS FUERA DE SITIO DESCRIPCION	C O S T O	OBSERVACIONES
COLONIA DE LA COLONIA	Este, Teg.	A.P. A.S.	321,920.00	303	16731	H/D	Línea Distribución Sub-Collector	19,315.00 77,261.00	
COLONIA MODESTO RODAS No.3	Este, Teg.	A.P. A.S.	247,756.00	203	8219	H/D	Línea Distribución Sub-Collector	16,500.00 69,000.00	
COLONIA ROBERTO S. CORDOVA #2	Nor-Este Teg.	A.P. A.S.	230,250.00	210	7575	H/D	Línea Distribución Sub-Collector	20,000.00 29,000.00	
COLONIA LAS TORRES	Sur Tegucigalpa	A.P. A.S.	921,516.00	307	20717	H/D	Tanque, L. Distribución Sub-Collector	200,000.00 150,000.00	
COLONIA LA ROSA	Sur, Tegucigalpa	A.P. A.S.	510,770.00	327	17026	H/D	Línea Distribución	125,000.00	
COLONIA FLOR DEL CAMPO	Sur, Tegucigalpa	A.P. A.S.	2,702,663.00	1710	60000	H/D	Tanque, L. Distribución	300,000.00	
COLONIA GRACIAS A DIOS	Norte, Teg.	A.P. A.S.	466,992.00	283	15565	H/D	Línea Distribución	56,040.00	
PERIO LA CASERA	Centro Teg.	A.S.	90,000.00	300	3000	H/D			No necesita obra fuera sitio
COLONIA LOS LAURELES	Sur-Oeste, Teg.	A.P. A.S.	473,450.00	309	15202	H/D	Línea de Distribución Sifón	77,035.00 65,000.00	
COLONIA SAN ISIDRO	Sur, Tegucigalpa	A.P. A.S.	363,290.00	301	12151	H/D	Línea de Distribución Sub-Collector	35,000.00 62,000.00	
COLONIA VILLANUEVA	Sur-Este, Teg.	A.P. A.S.	1,042,100.00	304	24737	H/D	Tanque y L. Distribución Sub-Collector	300,000.00 116,640.00	
COLONIA LA ERA	Este, Teg.	A.P. A.S.	670,200.00	302	17340	H/D	Tanque L. Distribución Sub-Collector	100,000.00 134,570.00	
COLONIA EL PICACHITO	Norte, Teg.	A.S.	112,740.00	200	3741	H/D	Sub-Collector	55,000.00	
COLONIA ROBERTO SUAZO CORDOVA #1	Sur, Tegucigalpa	A.P. A.S.	180,540.00	157	6018	H/D			No necesita obra fuera sitio
COLONIA VILLA UNION	Norte, Teg.	A.P. A.S.	759,050.00	101	25302	H/D	Estación Elevadora Línea Distribución	250,000.00	
COLONIA ESTADOS UNIDOS	Este, Tegucigalpa	A.P.	180,390.00	201	6013	H/D	Línea de Distribución	54,100.00	
T O T A L			21,606,297.50	15,601	605,274	H/D		6,459,011.00	

Y EMPEDRADO DE CALLES, TEGUCIGALPA Y COMAYAGUELA.

NOMBRE DEL PROYECTO	UBICACION	VOLUMEN OBRA	TIPO	COSTO APROXIMADO	GENERACION TRABAJO HOMBRES / DIA	FAMILIAS BENEFICIA- DAS.
Barrio El Manchén - Col. 21 de Octubre	El Manchén	14,600 M ²	Adoquín L.	1,502,600.00	32,198	390
Calles del Barrio Lempira	Comayagua	4,800 "	" "	320,600.00	6,870	50
Calles Barrio Santa Fé	Comayagua	6,075 "	" "	706,100.00	15,131	145
Calle San Pablo - El Reparto	Colonia Reparto	3,930 "	" "	190,900.00	4,091	55
Calle Sta. Cruz - Barrio Manchén	El Manchén	3,600 "	" "	223,800.00	4,796	35
Ruta Buses Popular, Montes de Sinaf - Peña	La Peña	17,400 "	" "	1,138,800.00	24,403	1,339
Calle Bulgaria	El Reparto	1,900 "	" "	95,000.00	2,036	27
Calle Principal, Zoroguara - Col. Sta. Fé	Comayagua	3,040 "	" "	152,000.00	3,257	35
Calle Principal Colonia Torcagua	Comayagua	3,025 "	" "	121,000.00	2,593	26
Ruta de Buses Col. Divarri	Comayagua	5,760 "	" "	288,000.00	6,171	70
Calles 8, 9, 10, 11 y 1 Callejón	La Cabaña, Teg.	9,500 "	" "	380,000.00	8,143	85
2 Calle Terminal Sur Este Calle Posterior Ex Cine Morazán.	Bo. Guadalupe	8,263 "	" "	431,200.00	9,240	94
Calle Principal Bo. La Vista - Perpetuo Socorro.	Comayagua	9,100 "	" "	496,160.00	10,622	122
Col. San Miguel - La Esperanza (ruta Alter na.	Col. La Esperanza	31,360 "	" "	2,335,350.00	50,043	1,322
Avenida España Barrio El Bosque	Tegucigalpa	2,580 "	" "	148,100.00	3,174	165
Barrio Los Profesores	Comayagua	15,620 "	" "	1,215,750.00	26,052	733
14 Avenida, Bo. Las Crucitas	Comayagua	7,560 "	" "	721,100.00	15,452	264
Barrio La Cabaña	Tegucigalpa	3,600 "	" "	420,000.00	9,000	52
Col. Las Palmas	Ceste Col. Kennedy, Tegucigalpa.	5,760 "	" "	525,000.00	11,250	180

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NO.	NOMBRE DEL PROYECTO	UBICACION	VOLUMEN DE OBRA	TIPO	COSTO APROXIMADO	GENERACION TRABAJO HOMBRES / DIA	FAMILIAS BENEFICIA- DAS.
20	Calles Barrio Bella Vista	Canayaguela	21,060 M ²	Molquín	L. 1,870,000.00	40,071	600 *
21	Calle Barrio Sipile	Canayaguela	2,700 "	"	" 252,000.00	5,400	85 *
T O T A L E S			181,233 M ²		L.13,533,460.00	290,093	5,874

* Cantidades estimadas

Tegucigalpa, D.C., 22 de enero de 1985.

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Table 6

MEMORANDO

PARA: Director de Planificación y Control de Proyectos
DE: Asistente de la Subgerencia de Operación
ASUNTO: Proyectos de Electrificación de Zonas de Bajo Nivel de Ingresos
FECHA: 25 de abril de 1986

A continuación encontrará la lista de proyectos de electrificación de zonas de bajo nivel de ingresos que han sido identificados por las tres Divisiones de la Empresa que operan sistemas de distribución alimentados por el Sistema de Generación Interconectado.-

I. DIVISION DEL CENTRO.

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
1. Caserío El Cantón, Valle de Angeles	16	13,410.00
2. Aldea La Cuesta, D.C.	18	19,242.00
3. Colonia Nueva Era, D.C.	16	6,258.00
4. Colonia La Esperanza, D.C.	16	6,674.00
5. Colonia Campo Cielo, Sector 1, D.C.	26	10,334.00
6. Aldea Ojojona	84	95,672.00
7. Barrio Victoria, Talanga	69	33,765.00
8. Aldeas La Laguna y Agua Blanca, Talanga	27	61,927.00
9. Colonia 28 de Marzo, D.C.	42	12,928.00
10. Colonia San Juan del Norte, D.C.	57	19,534.00
11. Colonia Plan de Las Acacias, D.C.	19	23,282.00
12. Aldea Suyapa, Sector 2, D.C.	18	12,545.00
13. Col. San Buenaventura, D.C.	229	59,144.00
14. Col. Lomas La Minita, D.C.	169	41,872.00
15. Col. Lomas del Norte, D.C.	307	71,564.00
16. Aldea La Bodega, Santa Ana	12	11,445.00
17. Aldea El Carrizal No.2, Sector 3, Distrito Central	32	12,309.00
18. Col. Brisas del Valle, D.C.	147	39,203.00
19. Colonia La Cuesta No. 2, D.C.	53	40,432.00
20. Colonia Villa Unión, D.C.	22	4,797.00

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 Hemo Direc. Plan.
 De: Asist. Subgerencia de Operación
 Asunto: Proy. Electríf.
 Fecha: 25 de abril de 1986

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
21. Aldea La Jutiapa, D.C.	79	78,553.00
22. Aldea Agua Blanca, Támara	14	9,144.00
23. Colonia Villanueva, D.C.	2,095	468,633.00
24. Colonia Palmas Oeste, D.C.	42	12,821.00
25. Col. 14 de febrero, D.C.	59	10,019.00
26. Aldea Villa Nueva, D.C.	23	25,205.00
27. Colonia Flor No. 1	120	33,800.00
28. Bo. Las Canteras, El Zamorano	48	38,874.00
29. Caserío La Ermita, Talanga	132	140,307.00
30. Colonia Flor del Campo, D.C.	86	35,673.00
31. Colonia San Francisco, D.C.	32	30,398.00
32. Colonia Zarzal Vecilón, D.C.	100	24,924.00
33. Colonia La Peña, D.C.	21	7,538.00
34. Aldea Carpintero, D.C.	89	120,215.00
35. Colonia Campo Cielo, D.C.	100	39,665.00
36. Aldea Carrizal No. 1, Sector 3, Distrito Central	72	35,671.00
37. Colonia Cirón, D.C.	123	52,986.00
38. Colonia Venezuela, E.C.	91	19,496.00
39. Aldea de Támara, D.C.	70	53,411.00
40. Colonia La Selva, D.C.	16	6,543.00
41. Aldea El Chimbo, D.C.	12	7,147.00
42. Aldea Chandala, Talanga	45	42,757.00
43. Colonia Brisas del Picacho, D.C.	31	4,581.00
44. Colonia Villa Cristina, D.C.	30	11,389.00
45. Bo. Pueblo Nuevo y Nuevo Progreso, Distrito Central	72	53,573.00
46. Aldea Los Pinos, D.C.	28	23,893.00
47. Colonia La Peña Vieja, D.C.	32	9,315.00
48. Aldea Yaguacire, D.C.	66	126,637.00
49. Cal. Vista Hermosa, D.C.	18	19,180.00
50. Col. La Rosa, Sector C, D.C.	101	27,380.00
51. Colonia La Cuesta No. 1, D.C.	17	11,756.00
52. Colonia Guillón, D.C.	139	36,010.00
53. Colonia Brisas del Valle, D.C.	147	32,850.00
54. Col. Carrizal No. 1, Sector 2, Distrito Central	18	11,277.00
55. Col. Carrizal No. 2, Los Centenos, Distrito Central	19	11,015.00

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 Memo Direc. Planif.
 De: Asist. Subgerencia de Operación
 Asunto: Proy. Electríf.
 Fecha: 25 de abril de 1966

<u>LOCALIZACION</u>	<u>No. Farilinas</u>	<u>COSTO Lps.</u>
56. Colonia La Libertad, D.C.	63	2,759.00
57. Colonia La Travesía, D.C.	100	40,771.00
58. Aldea La Cañada, Valle de Angeles	99	184,084.00
59. Colonia Lincoln, F.C.	214	38,114.00
60. Col. Suyapa, Sector Las Pilas, Distrito Central	18	11,035.00
61. Colonia Schmidt, D.C.	218	38,213.00
62. Bo. Virgen de Lourdes, Comayagua	15	8,268.00
63. Barrio La Zarcita, Comayagua	75	36,971.00
64. Yarumela, La Paz	40	20,754.00
65. Bo. San Sebastián, San Sebastián	24	10,033.00
66. Caserío Los Palillos, Comayagua	74	29,888.00
67. Caserío El Terrero, Comayagua	21	55,714.00
68. Caserío Lo de Reyna, Comayagua	20	30,496.00
69. Bo. San Juan Bosco, Choluteca	72	19,620.00
70. Bo. Venecia, Choluteca	31	12,744.00
71. Bo. San Pedro Sur, Choluteca	65	41,199.00
72. Bo. Santa Lucía, Choluteca	50	19,656.00
73. Bo. El Porvenir, Choluteca	148	47,242.00
74. Bo. Independiente, Choluteca	204	93,174.00
75. Los Prados, Namasique, Choluteca	62	69,387.00
76. Col. Nueva Suyapa, Choluteca	328	90,695.00
77. Aldea Tierras Morenas, Yusguare, Choluteca	30	25,963.00
78. Aldea Los Puentes, Marcovia, Choluteca	27	16,119.00
79. Aldea El Botadero Marcovia, Choluteca	45	55,754.00
80. Col. Buena Vista, Marcovia, Choluteca	126	149,665.00
81. Aldea Piedra de Agua, Marcovia, Choluteca	49	65,393.00
82. Caserío El Cerro, Marcovia, Choluteca	25	17,089.00
83. Aldea Santa Cruz, Marcovia, Choluteca	158	81,838.00
84. Aldea Los Llanitos, Marcovia, Choluteca	78	61,935.00

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Memo Dir. Planif. y Control Proyectos

De: Asist. Subgerencia de Operación

Asunto: Proy. Elect.

Fecha: 25 de abril de 1986

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
85. Bo. Alto Verde, San Lorenzo, Valle	36	19,322.00
86. Bo. La Ceibita, Nacnome, Valle	114	40,779.00
87. El Conchal, Alianza, Valle	33	21,187.00
88. Aldea Cal y Canto, Alianza, Valle	32	29,875.00
89. Aldea El Capulín, Alianza, Valle	23	42,990.00
90. Aldea Costa de los Amates, Nacsome Valle	29	30,985.00
91. Aldea El Cubulero, San Lorenzo, Valle	34	31,698.00
92. Bo. San Juan, Siguatepeque	40	27,089.00
93. Bo. Fátima, Siguatepeque	70	48,479.00
94. Col. San Juan de La Cruz Avelar, Siguatepeque	45	37,076.00
95. Aldea El Carrizal, Siguatepeque	98	102,690.00
96. Bo. San Antonio, Siguatepeque	53	35,946.00
TOTAL DIVISION CENTRO	<u>8,652</u>	<u>4,133,662.00</u>

II. DIVISION DEL NORTE.

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
1. Colonia Central, La Lima	133	112,500.00
2. Colonia Nueva Esperanza, S.P.S.	26	10,038.70
3. Colonia La Unión, Suyapa, Zacapa, Santa Bárbara	39	11,700.00
4. Col. La Libertad, Choloma, Cortés	100	86,000.00
5. Col. 24 de Abril, Cofradía, Cortés	84	48,000.00
6. Col. La Unión, Sta. Cruz de Yojoa	43	36,000.00
7. Col. San Luis, Bo. Cabañas, S.P.S.	116	57,500.00
8. Col. 6 de Mayo, La Lima	219	129,000.00
9. Col. San Juan Bosco, Cofradía, Cortés	114	55,000.00
10. Aldea Guacamaya, Gualala, Santa Bárbara	70	69,000.00
11. Aldea Gualjoco, Santa Bárbara	16	17,200.00
12. Col. Las Américas, Trinidad, Santa Bárbara	32	14,700.00

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 Memo: Para Dir. Planif.
 De: Asistente Subgerencia de Operación
 Asunto: Proyectos Elect.
 Fecha: 25 de abril de 1986

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
13. Aldea Ceibita, Santa Bárbara	60	45,500.00
14. Aldea Sta. Eduviges, Villanueva, Cortés	34	36,000.00
15. Colonia Las Colinas, Choloma, Cortés	72	156,000.00
16. Col. Gracias a Dios, S.P.S.	19	17,300.00
17. Aldea San Luis, Santa Cruz Yojoa	68	78,000.00
18. Aldea Las Marías, Sta. Cruz de Yojoa	82	75,000.00
19. Aldea El Tigre, Sta. Cruz Yojoa	107	58,000.00
20. Aldea Subirana del Olivar, Santa Cruz de Yojoa	66	140,000.00
21. Bo. Buenos Aires, Sta. Cruz Yojoa	24	18,000.00
22. Bo. La Gloria, Concepción, Santa Cruz de Yojoa	35	25,000.00
23. Aldea San Isidro, Santa Cruz de Yojoa	114	122,000.00
24. Bo. Suyapa, Río Lindo, Sn. Fco. de Yojoa	40	41,800.00
25. Aldea Tapiquillares, Sn. Fco. de Yojoa	39	41,800.00
26. Aldea El Balsón, Santa Cruz de Yojoa	208	170,000.00
27. El Venado-San Isidro-Villanueva*	-	350,000.00
28. Colonia El Migueral, S.P.S.	17	12,000.00
29. Aldea Casa Quemada, Cofradía, Cortés	136	62,000.00
30. Aldea Los Caminos, Sta. Cruz de Yojoa	92	68,000.00
31. Aldea San Juan Ceguaca, Santa Bárbara	85	62,500.00
32. Aldea Chotepe, Chamelecón, S.P.S.	236	146,000.00
33. Aldea El Zapotal del Norte, S.P.S.	17	31,200.00
34. Bo. San Antonio, Choloma, Cortés	15	11,500.00
35. Bo. San Jorge, Chamelecón, S.P.S.	14	10,000.00
36. Aldeas La Coroza y El Marañón	100	130,000.00

(*) Pendiente el No. de Familias del Proyecto El Venado-San Isidro-Villanueva.

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 Memo: Para Dir. Planif.
 De: Asist. Subgerencia de Operación
 Asunto: Proyectos Electríf.
 Fecha: 25 de abril de 1986

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
37. Col. Orellana, La Vega, Santa Bárbara	136	143,000.00
38. Col. 15 de Octubre, Calpules, S.P.S.	43	28,000.00
TOTAL DIVISION NORTE	2,851*	2,725,238;70

(*) Pendiente el No. de Familias del Proyecto El Venado-San Isidro, Villanueva.-

III. DIVISION LITORAL ATLANTICO.-

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
1. Col. Lempira, La Ceiba	20	11,320.00
2. Coop. La Lagarta, Sta. Ana, Atlántida	25	11,752.98
3. Col. Brisas de América San Juan Pueblo	72	14,490.00
4. Aldea Agalteca, Olanchito	70	50,200.00
5. Aldea Siempre Viva, Atlántida	82	86,380.00
6. Aldea Agua Caliente, La Masica	48	36,120.00
7. Aldea La Esperanza, Tela	36	68,940.00
8. Coop. Los Laureles, Tocoa, Colón	44	32,708.15
9. Col. Canela, La Ceiba	62	38,220.00
10. Bo. La Laguna, Tela	30	24,030.00
11. Aldea Límera, Balfate	32	27,700.00
12. Aldea Lis Lis, Jitiapa	62	29,850.00
13. Bo. Bueno, San Juan Pueblo	38	14,200.00
14. Aldea El Ocote, Olanchito	23	12,817.00
15. Aldea San Antonio, La Masica	99	52,047.00
16. Bo. Sn. Juan Viejo, San Juan Pueblo	57	34,850.00
17. Coop. Coloneña, Salamá, Colón	42	11,980.00

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 Memo Para: Dir. Planif.
 De: Asist. Subg. Operación
 Asunto: Proy. Elect.
 Fecha: 25 de abril de 1986

<u>LOCALIZACION</u>	<u>No. Familias</u>	<u>COSTO Lps.</u>
18. Sn. Fco. de Saco, Tela	64	67,980.00
19. Col. Las Torres, Olanchito	30	20,975.00
20. Coop. La Unión, Esparta	22	11,860.00
21. Aldea La Bomba, Jutiapa	99	63,830.00
22. Earranco Chele, Tocoa, Colón	79	85,280.00
23. Bo. Buenos Aires, Balfate	54	37,157.00
24. Aldea de Cáceres, La Unión, Atlántida	89	64,785.00
25. Aldea de Calpules, Olanchito	82	125,350.00
26. Aldea Nombre de Jesús, Olanchito	123	136,710.00
27. Aldea de Trojas, Olanchito	165	131,710.00
28. Campo Merones, Coyoles	96	72,720.00
29. Coop. Cholomeña, Tocoa	23	41,120.00
30. Aldea Ceiba Grande, Jutiapa	27	19,750.00
31. Aldea Los Crucitos, Jutiapa	38	21,400.00
32. Aldea San Dimas, Olanchito	56	64,590.00
33. Aldea Dantío, La Ceiba	45	31,270.00
34. Bo. El Pompón, Salamá, Colón	38	23,480.00
35. Bo. El Tamarindo, Tocoa	39	28,620.00
36. Bo. El Clarito, San Francisco	40	21,200.00
37. Coop. Flores del Paraíso, Tela	39	29,045.00
38. Coop. Icaque No. 1, Tela	20	20,630.00
39. Aldea Km. 13, Tela	43	22,160.00
40. Aldea Lomitas, Savá, Colón	72	61,310.00
41. Coop. Buena Vista, El Junco, Tela	29	24,960.00
TOTAL DIVISION LITORAL ATLANTICO	<u>2,254</u>	<u>1.785,207.13</u>
TOTAL DIVISION CENTRO	8,652	4.133,662.00
TOTAL DIVISION NORTE	2,851*	2.725,238.70
TOTAL DIVISION LITORAL ATLANTICO	<u>2,254</u>	<u>1.785,207.13</u>
TOTAL NACIONAL	<u>13,757</u>	<u>8.644,107.83</u>

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ANNEX E
FINANCIAL CASH FLOWS

ANNEX E

METHODOLOGY USED IN THE FINANCIAL ANALYSIS

The basic assumption in the analysis is that project funds will be administered by the institutions as separate accounts, and their respective financial viability, repayment of their debt, will be solely dependent on the recuperation of the loans made with the project funds.

The methodology used to determine the financial viability is based on the following. If an institution borrows funds with longer repayment periods and at different interest rates than the ones used in their own onlending operations, and if they onlend the funds only once (one lending cycle), the discount rate that sets the net present value of the resulting cash flow equal to zero (IRR), determines the minimum return they should seek in their continuous relending operations so they will be able to service their debt to the full term. If such discount rate (minimum return on their relending operations) is less than the actual interest rate used in their relending operations, the continuous relending of end of year cash balances at this higher interest rate will leave them with positive financial margins.

At the same time, if the cash flow analysis takes into account an arrearage factor for the recuperation of the loans, the discount rate that sets the net present value of the cash flow equal to zero, will determine the maximum arrearage that the institution can sustain without compromising their financial situation. For example, in the case of the municipal program (see Table No. 7) when one hundred percent of their portfolio is in long-term loans (15 years for this analysis), with a zero arrearage the institutions will have to seek a return of not less than 6.42 percent. If the arrearage goes to 22 percent, in order to service their debt they will have to seek a minimum return of 11.94%.

TABLE 1

ANNEX E

MINISTRY OF FINANCE
HOUSING FUND INCOME AND OUTLAYS PROJECTIONS - ***522-HB-008 Program***
TERMS OF THE FINANCING (Loans/Grants)

Item	Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MB Loans	11,542														
Repayment Period - MB Loans (years)	30														
ESF Grants	Grant														
Accounts in (thousand dollars) (\$'000)															
INCOME	2,550	8,650	14,800	9,000	0	0	0	0	0	0	0	0	0	0	0
US Investor Loan	1,125	2,025	3,750	0	0	0	0	0	0	0	0	0	0	0	0
ESF Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Balance of Previous Year	0	0	0	0	0	0	0	0	0	0	0	12	93	259	450
Interests Earned in the Escrow Account	0	0	0	0	0	0	0	0	0	0	0	55	190	393	430
Repayment Principal - FUVI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Municipalities	0	32	207	676	1,710	2,138	2,138	2,138	2,138	2,138	2,138	2,138	2,136	2,128	2,103
Repayment Interest - FUVI	0	143	618	1,425	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,895	1,877	1,839
- Municipalities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOME	3,675	11,450	19,435	11,091	3,610	4,038	4,038	4,038	4,038	4,038	4,038	4,105	4,314	4,656	4,823
OUTLAYS	675	4,275	8,550	9,000	0	0	0	0	0	0	0	0	0	0	0
Loans - FUVI	3,000	7,000	10,000	0	0	0	0	0	0	0	0	0	0	0	0
- Municipalities	0	0	0	0	0	0	0	0	0	0	0	37	168	404	583
Repayment to US Investor - Principal	0	294	1,292	2,999	4,036	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,033	4,014	3,967
- Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OUTLAYS	3,675	11,569	19,842	11,999	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,075	4,202	4,418	4,550
END OF PERIOD BALANCE	0	(120)	(407)	(698)	(428)	0	0	0	0	0	0	31	112	238	273
LOANS OUTSTANDING	2,550	11,200	26,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	34,963	34,794	34,390	33,807	33,157

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TABLE 2

HOUSING FUND (FOVI)
HOUSING FUND INCOME AND OUTLAYS PROJECTIONS - ***522-Housing Program***

TERMS OF THE FINANCING (Loans/grants)

Item	Recover. Factor	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10	year 11	year 12	year 13	year 14	year 15	year 16	year 17	year 18
Min. of Finance Loan		9.50%																	
Repayment Period (years)		30																	
FOVI Ratio: INVA = 1 Private Sector = 4		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
INCOME																			
Min. of Finance Loan		0.67	4.28	8.55	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Balance of Previous year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment Principal - INVA	100.00%	0.00	0.01	0.06	0.18	0.36	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.47	0.50	0.53	0.53	0.53	0.53
Private Sector	100.00%	0.00	0.03	0.26	0.87	1.69	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11
INVA Losses	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Sector Losses	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME		0.67	4.31	8.87	10.05	2.05	2.56	2.56	2.56	2.56	2.56	2.56	2.57	2.58	2.61	2.64	2.64	2.64	2.64
OUTLAYS																			
Loans - INVA		0.13	0.86	1.71	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Sector Institutions		0.54	3.42	6.84	7.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment to Min. Hacienda		0.00	0.00	0.27	0.88	1.71	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.15	2.23	2.39	2.55	2.55	2.55
TOTAL OUTLAYS		0.67	4.31	8.82	9.88	1.71	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.15	2.23	2.39	2.55	2.55	2.55
END OF PERIOD BALANCE		0.00	0.01	0.05	0.17	0.34	0.43	0.43	0.43	0.43	0.43	0.43	0.42	0.35	0.22	0.09	0.09	0.09	0.09

FOVI Ratio: INVA = 1 Private Sector = 4

Item

Item	Recover. Factor	year 19	year 20	year 21	year 22	year 23	year 24	year 25	year 26	year 27	year 28	year 29	year 30	year 31	year 32	year 33
INCOME																
Min. of Finance Loan		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Balance of Previous year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment Principal - INVA	100.00%	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.52
Private Sector	100.00%	2.11	2.11	2.11	2.08	1.85	1.25	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INVA Losses	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Sector Losses	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME		2.64	2.64	2.64	2.61	2.38	1.78	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OUTLAYS																
Loans - INVA		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private Sector Institutions		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment to Min. Hacienda		2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.51	2.23
TOTAL OUTLAYS		2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.51	2.23
END OF PERIOD BALANCE		0.09	0.09	0.09	0.06	(0.17)	(0.78)	(1.60)	(2.02)	(2.02)	(2.02)	(2.02)	(2.02)	(2.02)	(1.99)	(1.77)

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TABLE 3

INVA CASH FLOW RESULTS

1st Scenario:

Portfolio is 100% long-term
Discounted end of year cash balances

	0.0% (base)	Arrearage Rates		
		10%	20%	23%
Discounted at 0.0%	-3.70	-4.80	-5.90	-6.23
Discounted at 5.0%	0.13	-0.51	-1.14	-1.33
Discounted at 10.0%	0.77	0.37	-0.02	-0.14
Discounted at 20.0%	0.58	0.41	0.23	0.17
Interest rate for NPV of cash balances to be equal to zero.	4.59%	6.87%	10.56%	11.68%
Margin if relent at 14%	9.4%	7.13%	3.44%	2.32%

2nd Scenario:

Portfolio is 70% long term and 30% short term
Discounted end of year cash balances

	0.0% (base)	Arrearage Rates		
		10%	20%	28%
Discounted at 0.0%	-6.27	-7.00	-7.74	-8.33
Discounted at 5.0%	-0.81	-1.25	-1.71	-2.07
Discounted at 10.0%	0.57	0.28	-0.02	-0.26
Discounted at 20.0%	0.89	0.74	0.59	0.47
Interest rate for NPV of cash balance to be equal to zero.	7.07%	8.47%	10.13%	11.65%
Margin if relent at 14%	6.93%	5.53%	3.87%	2.35%

TABLE 4

ANNEX II

NATIONAL HOUSING INSTITUTE (NHI)
HOUSING FUND INCOME AND OUTLAYS PROJECTIONS - ***522-HG-008 Program***

TERMS OF THE FINANCING (Loans/Grants)

Item	Recuper. Factor	Year 1 10,001 30																	
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18
INCOME																			
FDVI Loan		0.13	0.86	1.71	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Balance of Previous Year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mortgage Repayment	100.002	0.00	0.01	0.09	0.30	0.59	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.72	0.64
Short Term Loans Repayment	100.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME		0.13	0.87	1.80	2.10	0.59	0.73	0.72	0.64										
OUTLAYS																			
Short Term Loans	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mortgage Loans	100.002	0.13	0.86	1.71	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment to FDVI		0.00	0.01	0.06	0.18	0.36	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.47	0.50	0.53	0.53	0.53	0.53
TOTAL OUTLAYS		0.13	0.86	1.77	1.98	0.36	0.45	0.47	0.50	0.53	0.53	0.53	0.53						
END OF PERIOD BALANCE		0.00	.00	0.04	0.12	0.23	0.28	0.27	0.24	0.20	0.20	0.19	0.11						

Item	Recuper. Factor	Year 19															
		Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	Year 31	Year 32	Year 33	
INCOME																	
FDVI Loan		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Balance of Previous Year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mortgage Repayment	100.002	0.43	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Short Term Loans Repayment	100.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL INCOME		0.43	0.15	0.00													
OUTLAYS																	
Short Term Loans	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mortgage Loans	100.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Repayment to FDVI		0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.46	
TOTAL OUTLAYS		0.53	0.52	0.46													
END OF PERIOD BALANCE		(0.10)	(0.38)	(0.53)	(0.52)	(0.46)											

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TABLE 5

PRIVATE SECTOR CASH FLOW RESULTS

1st Scenario:

Portfolio is 100% long-term
Discounted end of year cash balances

	0.0% (base)	Arrearage Rates		21%
		10%	20%	
Discounted at 0.0%	1.68	-2.72	-7.11	-7.55
Discounted at 5.0%	3.41	0.86	-1.68	-1.94
Discounted at 10.0%	3.05	1.47	-0.12	-0.27
Discounted at 20.0%	1.78	1.07	0.35	0.28
Interest rate for NPV of cash balances to be equal to zero.		2.94%	10.85%	12.13%
Margin if relent at 14%		11.06%	3.15%	1.87%

2nd Scenario:

Portfolio is 70% long term and short term
Discounted end of year cash balances

	0.0% (base)	Arrearage Rates		23%
		10%	20%	
Discounted at 0.0%	-3.65	-6.73	-9.80	-11.96
Discounted at 5.0%	1.47	-0.31	-2.10	-3.35
Discounted at 10.0%	2.53	1.42	-0.32	-0.46
Discounted at 20.0%	2.09	1.59	1.09	0.74
Interest rate for NPV of cash balance to be equal to zero.	2.75%	5.53%	8.89%	11.75%
Margin if relent at 14%	11.15%	8.47%	5.11%	2.25%

TABLE 6

FINANCIAL INSTITUTIONS
HOUSING FUND INCOME AND OUTLAYS PROJECTIONS - 1992 HOUSING PROGRAM

TERMS OF THE FINANCING: Loans 30 years

Item	Recovery Factor	Year																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
INCOME																			
FHVI Loan		0.54	3.42	6.84	7.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Balance of Previous Year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mortgage Repayment	100.00%	0.00	0.04	0.27	1.20	2.74	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.69
Short Term Loans Repayment	100.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME		0.54	3.46	7.11	8.40	2.74	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.69	2.56
OUTLAYS																			
Mortgage Loans	100.00%	0.54	3.42	6.84	7.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Short Term Loans	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment to FHVI	0.00%	0.00	0.03	0.26	0.37	1.69	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11
TOTAL OUTLAYS		0.54	3.45	7.10	8.07	1.69	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11
END OF PERIOD BALANCE		0.00	0.01	0.10	0.33	0.65	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.77
INCOME																			
FHVI Loan		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Balance of Previous Year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mortgage Repayment	100.00%	1.73	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Short Term Loans Repayment	100.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME		1.73	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OUTLAYS																			
Mortgage Loans	100.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Short Term Loans	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment to FHVI	0.00%	2.11	2.11	2.11	2.11	1.85	1.25	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OUTLAYS		2.11	2.11	2.11	2.11	1.85	1.25	0.42	0.00										
END OF PERIOD BALANCE		(0.39)	(1.53)	(2.11)	(2.06)	(1.85)	(1.25)	(0.42)	0.00										

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TABLE 7

MUNICIPAL PROGRAM - CASH FLOW RESULTS

Scenario:	Portfolio is long term Discounted end of year cash balances			
	0.0% (base)	Arrearage Rates		22%
		10%	20%	
Discounted at 0.0%	-24.66	-28.53	-32.41	-33.18
Discounted at 5.0%	-2.28	-4.79	-7.29	-7.79
Discounted at 10.0%	2.72	1.03	-0.66	-0.99
Discounted at 20.0%	3.00	2.15	1.30	1.13
Interest rate for NPV of cash balance to be equal to zero.	6.42%	8.42%	11.22%	11.94%
Margin if relent at 14%	7.58%	5.58%	2.78%	2.06%

