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NICARAGUA

FY 75-79

MANAGUA URBAN RECONSTRUCTION SECTOR

PUBLIC SAFETY ADMINISTRATION PROJECTS (700 PURPOSE CODES)

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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

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CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

NICARAGUA - URBAN SECTOR LOAN (MANAGUA RECONSTRUCTION)

AID-DLC/P-2049
(Also see Supplementary Volume)

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A.I.D.
Reference Center
Room 1656 NS

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

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AID-DLC/P-2049

June 14, 1974

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Nicaragua - Urban Sector Loan (Managua Reconstruction)

Attached for your review are recommendations for authorization of a loan to the Government of Nicaragua ("Borrower") in an amount not to exceed thirty million United States dollars (\$30,000,000) to assist in financing the United States dollar and local currency costs of a Urban Reconstruction Sector Program for the city of Managua.

This loan is scheduled for consideration by the Development Loan Staff Committee on Wednesday, June 19, 1974. Also please note your concurrence or objection is due by close of business Monday, June 24, 1974. If you are a voting member a poll sheet has been enclosed for your response.

Development Loan Committee
Office of Development
Program Review

Attachments:

Summary and Recommendations
Project Analysis
ANNEXES A - G
(Also see Supplementary Volume)

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June 14, 1974

NICARAGUA -- URBAN RECONSTRUCTION SECTOR LOAN

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NICARAGUA -- URBAN RECONSTRUCTION SECTOR LOAN

SECTION I - SUMMARY AND RECOMMENDATIONS

1. Borrower and Implementing Entities

The Borrower will be the Government of Nicaragua acting through the Coordination and Implementation Unit of the Ministry of Finance and the GON's Vice - Ministry of Urban Planning. Individual Program Activities will be implemented by various GON Ministries and Autonomous Agencies, under the supervision of the MOF's Coordination and Implementation Unit as A.I.D. Loan 524-L-028 (Program Loan) is being implemented. The GON's Vice Ministry of Urban Planning (Urbanismo) will establish priorities for the Program, will assist in structuring and developing individual Program Activities, will approve each activity prior to financing, and will provide a capital budget and overall urban planning services for the Program. A special inter-agency coordinating mechanism between Urbanismo and the MOF's Coordination and Implementation Unit will be established for the implementation of this Program.

2. Amount and Terms of the Loan

Up to \$30.0 million repayable within forty years including a ten year grace period with an interest rate of 2% per annum during the grace period and 3% per annum thereafter. It is expected that the majority of costs of the Program will be local currency costs.*

3. Purposes

To assist the people of Nicaragua continue their recovery from the disastrous earthquake of 1972 and rebuild a more efficient, modern and safer new Managua by assisting the GON in financing the first stage (Immediate Action Program) for the reconstruction of Managua.

* The Nicaraguan unit of currency is the Cordoba (C) and the rate of exchange is C7 = US\$ 1.0.

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GON and AID loan resources will be provided for an Immediate Action Reconstruction Fund that will provide financing for a series of high priority public sector activities that will facilitate the reconstruction of Managua in a planned deconcentrated pattern (spreading out the city over a wider geographic area so as to promote the rebuilding of a more modern and efficient new Managua and better protect the city from the disruptive effects of future earthquakes) and the provision of resources for a small Enterprises Reconstruction Fund that will provide credits for the reconstruction and for expansion in a deconcentrated pattern of Managua's smaller commercial and industrial enterprises. In addition, the Program will further strengthen the GON's reconstruction planning and implementation capabilities, thus facilitating the most effective utilization of the large quantities of Nicaraguan and international resources required for the long-range reconstruction effort.

4. Background

The effects of the earthquake that struck Managua, Nicaragua, in the early hours of December 23, 1972, are now well known and are further summarized below in Section II. Some 13 square kilometers comprising the very heart of Managua were completely destroyed and another 14 square kilometers were severely damaged. Some 10,000 persons perished in the earthquake and subsequent fires, perhaps 20,000 more were injured, and a quarter of a million people were forced to flee Managua. While far from the most intense in recent world history, the earthquake had a uniquely destructive effect by taking out Managua's highly concentrated urban core where the city's major commercial, financial, governmental and residential areas were located. Not only has this vastly multiplied the cost of the quake, but has substantially upset and disrupted almost every element of Managua's urban life.

The GON, shortly after the earthquake regrouped itself under the umbrella of a National Emergency Committee and quickly moved to undertake immediate emergency actions and has initiated various types of recovery activities since early CY-1973. These efforts were further assisted by a worldwide surge of sympathy and aid including emergency assistance from A.I.D., IDB, IBRD/IDA and other multi-lateral and bilateral sources. Throughout the emergency period (covering roughly CY-1973) the GON moved rapidly and effectively to relieve the most disruptive aspects of the earthquake and began reestablishing and reconstructing some of the basic elements of Managua's urban life. By mid-1974, through the joint efforts of Nicaragua's public and private sectors the outlines of a new deconcentrated Managua were already taking shape with new roads by-passing the old downtown area, new dispersed public facilities, and several new deconcentrated commercial centers.

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In addition, shortly after the earthquake, the GON also turned its attention to the longer-range urban planning required for reconstructing Managua. By early 1974 the GON's urban planning consultants, along with the Nicaraguan public and private sectors, had established a consensus on the framework for the future design of Managua and recommendations for the first stage (Immediate Action Program) of the reconstruction. In accordance with these plans, the Immediate Action Program would be based on a series of critical guidelines drawn from a consensus of the urban analysis and planning already completed by the GON and its consultants. In summary, this Program would continue to promote in 1974-76 the deconcentrated urban development initiated during the emergency period through the further construction of key roads and infrastructure in Managua's periphery, the continued rebuilding of public facilities in deconcentrated patterns, and the provision of credits to the private sector, particularly smaller enterprises, for expansion or rebuilding in specified areas.

Acting as the CON's coordinator for reconstruction assistance, the Ministry of Finance informally requested in early CY-1974 A.I.D. consideration for additional capital assistance for reconstruction efforts for the period covering 1974-76 and for financial support for the GON's Immediate Action Reconstruction Program. The request proposed continued A.I.D. support for a broad range of reconstruction type activities similar to those being financed by the Emergency Program Loan, which by early CY-1974 was already fully committed for specific reconstruction activities. Based on this request the USAID worked closely with an MOF/VMUP task force in further developing the GON's Immediate Action Program and in formulating possible A.I.D. capital assistance for this Program. This work has led to a formal GON application for an A.I.D. Urban Reconstruction Sector Loan that would not only support GON reconstruction policies, but would also assist in financing a portion of the investment costs of the GON's Immediate Action Program that cannot be covered by their own resources.

The Urban Sector Loan will continue A.I.D. reconstruction assistance initiated just following the earthquake, with emergency commodity assistance, the Temporary Shelters Project, and the Emergency Program Loan, and later expanded with a Low Cost Housing Loan and a Grant Project for Program Management and Project Implementation. The Urban Reconstruction Sector Loan would round out A.I.D.'s immediate assistance for Managua's reconstruction and will provide important support for the immediate initiation of the GON's first stage reconstruction

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effort, as well as assist the GON meet the tremendous new investment burden created by the earthquake and reconstruction.

5. Financial Plan

The A.I.D. Urban Reconstruction Sector Loan will assist the GON in initiating and financing a part of its first stage reconstruction effort through the provision of resources for its Immediate Action Reconstruction Fund and for its Small Enterprise Reconstruction Fund. A.I.D. loan resources from these funds will be provided to support the deconcentrated urban development of Managua through the provision of financing for the reconstruction or expansion of public facilities and infrastructure, the reestablishment of the small enterprises sector of the Managuan economy, and assistance for program implementation. The GON will provide a counterpart contribution of approximately \$40.0 million that will be utilized for the Immediate Action Reconstruction Fund, the Small Enterprises Reconstruction Fund, the Land Purchase Fund and for related administrative and implementation expenditures. A.I.D. loan funds will be committed in CY 1975 and CY 1976 and should be fully disbursed by the end of CY 1977. GON funds will be provided over the four year disbursement (1975-78) of the Immediate Action Program.

6. Description of the Loan

The loan will provide resources for the GON's Immediate Action Reconstruction Fund and Small Enterprises Reconstruction Fund and support the GON's policy of deconcentrating the urban development of Managua. A.I.D. loan resources will be provided for the achievement of the following specific objectives:

a. Completion of approximately 30 public sector reconstruction activities that will restore or expand in a deconcentrated pattern vital services, infrastructure, and public facilities, that were either destroyed or disrupted by the Managua earthquake. It is expected that the following activities will be completed:

- i. The construction and/or upgrading of selected sections of the new Managua's main road network.
- ii. Construction of selected infrastructure improvements for Managua's industrial areas.
- iii. Construction of selected infrastructure improvements and expansion for Managua's new eastern and western commercial zones.

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- iv. Construction of selected infrastructure improvements and expansion (street paving, water and sewage lines, street lights, telephone service, public facilities, etc.) for selected low income residential communities.
 - v. Construction of a number of high priority public facilities, including public markets, bus terminals, community bus stations, health and employment centers, fire stations, post offices, community centers, libraries and government office buildings.
- b. Establishment of a Small Enterprises Reconstruction Credit Fund in the Central Bank's Fondo Especial de Desarrollo (FED) for promoting the reconstruction or expansion of small enterprises in a deconcentrated urban pattern and for breaking critical reconstruction bottlenecks.
 - c. Establishment of a program for ensuring that the reconstruction promotes the interests of the hard hit lowest income groups and in sum achieves the policy goal of making the new Managua a better place for low income families than was the old Managua.
 - d. Upgrading and strengthening of key GON entities by providing assistance for activity design and program implementation, and specialized assistance for urban and national reconstruction planning.
 - e. Completion of specialized studies required to either implement or plan reconstruction related activities.
 - f. Completion of an international design competition for Managua's destroyed urban core and other heavily damaged areas.

While it is recognized that specific allocations of funds among components and between local and dollar expenditures may vary during program implementation, it is now expected that GON and AID funds provided for the Immediate Action Reconstruction Program will be allocated approximately as indicated in the illustrative budget that follows:

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(In Millions of U.S. Dollars)

PROGRAM COMPONENT	A.I.D. LOAN FUNDS		COUNTERPART CONTRIBUTIONS
	DOLLARS	LOCAL CURRENCY	(LOCAL CURRENCY EQUIVALENT)
1. Construction of Transportation Improvements	\$ 2.0	\$ 6.0	\$ 5.0
2. Expansion and Upgrading of Infrastructure	2.0	5.0	5.0
3. Reconstruction of Public Facilities	3.0	4.0	5.0
4. Development of Open and Green Areas	-	-	5.0
5. Land Purchase Fund	-	-	15.0
6. Small Enterprises Reconstruction Fund	-	3.2	3.2
7. Program Implementation Assistance	3.0	1.8	1.8
TOTALS	\$10.0	\$20.0	\$40.0

7. Reasons for Selecting the Sector Loan Technique

The GON's Immediate Action Program involves the financing of a broad range of activities in support of various reconstruction policies. Because of the nature of this Program, the sector lending technique is considered to be preferable to either project loans or program loans. Unlike a project loan which covers only a limited area, generally is expended over three or four years, is mainly concerned with the end-use of loan funds, and is relatively rigid in its application once negotiated, the sector loan permits assistance to essential elements in the entire area of concern (i.e. reconstruction), especially improved policies, planning and management, and is under constant attention, through review and negotiation, allowing refinement of the assistance and strategy as sector problems arise. Also, a sector loan has many of the aspects of a program loan, such as its effect on helping to meet balance of payments problems and spurring on more adequate fiscal performance; however, in the main, it addresses directly the crucial sector issues and seeks improved efficiency and utilization in the use of applicable resources. Thus, A.I.D. sector

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assistance, particularly if it is made available promptly, can make a unique contribution to the acceleration of the GON's first stage Immediate Action Program of the reconstruction by providing capital resources to meet the highest priority requirements. In addition to the speed with which A.I.D. can act and the flexibility of the funds we can make available, A.I.D. has the special advantage of having a full-time Mission on the spot able to adjust the sector program to the lessons of experience in what inevitably will be a dynamic environment, one in which the ability to seize opportunities as they present themselves can pay major dividends.

8. Alternative Sources of Financing

The Mission understands that the IBRD, IDB and EXIMBANK have been advised of this proposed Loan and have indicated no interest in providing this financing. A future IDB Reconstruction Loan is now being considered and will further assist the GON's Immediate Action Program with project type lending and will complement the A.I.D. Urban Reconstruction Sector Loan. The World Bank emergency reconstruction loan is currently being implemented and the IBRD is not now considering new capital or technical assistance for the reconstruction of Managua.

Due to the need for long-term concessional financing needed for the Immediate Action Reconstruction Program, and the requirements for local currency financing, no other U.S. or free world financing is available.

9. Loan Administration

A. Procurement: It is expected that approximately 30% of AID loan funds may be used for dollar procurement with remaining loan funds provided for local currency costs (Nicaraguan and CACM expenditures). However, it is recognized that some variation between local and dollar expenditures from this formula may be necessary during program implementation.

B. Disbursements: Local currency utilized under the Loan shall be Nicaraguan Cordobas obtained by A.I.D. with U.S. dollars. (See Section VIII of this CAP for a description of the procedures to be used for generation of local currency to be utilized under the Loan).

10. Views of the Country Team

This Loan plus the A.I.D. Low Cost Housing Program, and the A.I.D. Grant Project for Program Management and Project Implementation, will be the principal

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United States instruments for continuing assistance to the Nicaragua Government in recovering from the disastrous earthquake of December, 1972. Each of these instruments is a key element in the United States assistance program in Nicaragua and will assist the GON with its highest priority and most immediate requirements for continuing the reconstruction effort. The Country Team therefore recommends authorization of the A.I.D. Urban Reconstruction Sector Loan at the earliest possible moment.

11. Statutory Criteria

All Statutory Criteria as set forth in Annex "B" of this paper have been met.

12. Issues

A guide to the issues raised in the IRR - DAEC meeting (see STATE 091701) is provided as Annex "E".

13. Recommendations

Authorization of a Loan to the Government of Nicaragua in an amount not to exceed \$30.0 million, subject to the following terms and conditions:

A. Terms

Amortization	:	40 years from the date of first disbursement.
Grace Period	:	10 years on repayment of principal.
Interest	:	Two percent (2%) per annum during the grace period and three percent (3%) thereafter.
Repayment	:	U. S. Dollars.

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B. Conditions Precedent to Initial Disbursement

Prior to the issuance of any commitment documents or disbursements under the Loan, Borrower shall furnish in form and substance satisfactory to A.I.D.:

- a) Evidence that an Inter-Agency Committee has been established between the Vice Ministry of Urban Planning and the Ministry of Finance's Office of Coordination and Implementation, to coordinate activities in the Immediate Action Reconstruction Program.
- b) Evidence that sufficient and qualified staff is or will be available for the implementation of the Loan.

C. Conditions Precedent to Disbursement for Other than Program Implementation Assistance.

Prior to the issuance of any commitment documents or disbursements under the Loan for other than Program Implementation Assistance, Borrower shall furnish, in form and substance satisfactory to A.I.D.:

- a) A finalized copy of the Borrower's 1974-76 Immediate Action Reconstruction Program, which should include but not be limited to the policies, guidelines, objectives and components of said program; a capital budget for the program, and a time-phased implementation plan for carrying out all major planning and reconstruction activities included in the Immediate Action Reconstruction Program.
- b) Evidence that the Borrower will establish a Land Purchase Fund for the Immediate Action Reconstruction Program and that policies, procedures and staffing are being established for administering the Fund which should provide for public disclosure of all land transactions made by the Fund.
- c) Evidence that the Borrower will establish an Immediate Action Reconstruction Fund and will provide this Fund in a timely manner all counterpart funds in accordance with the Time-Phased Implementation Plan.

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D. Conditions Precedent to Disbursement for Funds for the Small Enterprises Reconstruction Fund

Prior to the issuance of any commitment documents or disbursements under the loan for the Small Enterprises Reconstruction Fund, Borrower shall furnish, in form and substance satisfactory to AID:

a. Evidence that the Central Bank's Special Development Fund (FED) will establish a Small Enterprises Reconstruction Fund to administer this component of the program and that said fund will be a permanent part of the FED for promoting the development and expansion of small enterprises.

E. Other Terms and Conditions

The Loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

14. Project Committee

John A. Sanbrailo	Capital Development Officer
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Mission Director
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June 14, 1974

SECTION II - BACKGROUND

1. General Effects of the Earthquake

The general effects of the earthquake that struck Managua, Nicaragua, on December 23, 1972, have drastically altered GON priorities to meet the requirements for reconstructing the destroyed capital city of Managua. For at least the next several years, the major concern of Nicaraguans will be the reconstruction of their capital city. A mere listing of physical destruction and economic dislocations caused by the earthquake gives one some idea of the immensity of the task of reconstruction that lies ahead in Nicaragua.

The Managua earthquake killed some 10,000 people and injured 20,000 more. Of a total urban area of 33 square kilometers, 13 were completely destroyed and 14 more were heavily damaged. It is estimated that a quarter of a million people (half the population) lost their homes in the earthquake and subsequent fires. Many others left the city because of lack of essential services and fear of epidemics.

The earthquake destroyed or rendered unusable almost all Government Offices, the principal financial center, the entire commercial and residential section of downtown Managua, and about 2,500 shops engaged in small scale manufacturing and retail trade. Some 50,000 housing units were destroyed or severely damaged. The city's main hospitals were left in ruins, along with seven hundred and forty primary and secondary classrooms. Approximately 400,000 square meters of commercial buildings and warehouses were lost, another 340,000 square meters of public and private offices were destroyed, and the city's infrastructure system suffered serious damage.

Housing, particularly for low and middle income citizens was the hardest hit because it was concentrated in the city center. Small factories, workshops and service activities were also heavily concentrated in the downtown area, and an estimated 95 per cent were destroyed.

The earthquake was followed by six days of fire which progressively swept through the still standing buildings in the city core. During this period the city was evacuated and the population dropped from a prequake 410,000 to a low of

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about 150,000. Some vital records were fortunately salvaged; the headquarters of the commercial and state banks were among the initial survivors, and some of their records and cash deposits were rescued virtually intact, preserving the financial system of the country. Government offices were not so lucky, and many critical archives and tax records were lost.

The earthquake hit the last shopping day before Christmas and the commercial sector suffered extensive losses in buildings, equipment, inventories, accounts receivable and other costs. Over 60 percent of the commerce of Nicaragua was concentrated in Managua and provided employment for 20,000 persons. The overwhelming majority of this activity was located in the city center. In the chaos of the quake and its immediate aftermath an estimated 90 percent of this capacity was paralyzed. In total 50,000 workers found themselves unemployed as a direct result of the earthquake.

A more detailed GON evaluation of the destruction caused by the Managua earthquake of December 23, 1972, was prepared by the INCAE Advisory Center and is included as Annex 1 to this CAP.

While the earthquake was far from the most intense in recent world history in terms of Richter magnitudes, it had a uniquely destructive effect by completely destroying a capital city's highly concentrated urban core of roughly 600 downtown blocks where Managua's major commercial, financial, governmental and residential areas were located. Not only has this vastly multiplied the cost of the quake but has substantially upset and disrupted almost every element of Managua's urban life.

2. Economic Effects of the Earthquake

The value of the physical assets destroyed by the earthquake has been estimated at \$300 to \$330 million by the IBRD, \$430 million by the IMF, and \$860 million by the GON. Besides some \$175 million worth of housing destruction, the city's infrastructure suffered serious damage with repair and replacement costs estimated at over \$80 million. Major costs include the replacement or repair of hospitals, schools, communications, electric power, water supply, sewage lines, and other facilities. Other losses to the Government of Nicaragua in destroyed buildings and equipment are estimated to be \$17.5 million. (For further information see 1973 DAP and Annex 1.)

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The commercial services and manufacturing sectors suffered losses estimated at approximately \$111 million in buildings, equipment, inventories, plus an additional \$40 million in accounts receivable and other costs. Most of these losses are attributable to the commercial sector. Industry, located on the outskirts of Managua, escaped extensive damage, estimated at ten to fifteen percent and this damage was generally quickly repaired. The construction industry was largely spared. Agriculture and agricultural products, which account for 70 percent of the nation's exports, were unaffected by the earthquake.

Costs for replacing the assets destroyed by the earthquake could rise to one billion dollars or more because of the extra expenses of building to antiseismic specifications, increased labor and material costs and current plans to rebuilt in a lower density deconcentrated pattern, thus requiring the spreading-out of infrastructure over an area substantially larger than old Managua. Dr. John Dyckman, who headed the IBRD team that estimated earthquake losses at \$300 to \$330 million, has confirmed this estimated replacement and reconstruction cost. In addition, Dr. George Nez, originally contracted by the USAID, and now working with the VMUP Planning Unit has developed a more detailed framework and analysis for estimating total reconstruction and growth costs for the 1985 Managua population that also totals just over US\$1.0 billion. (The Nez analysis is included as Annex 2 to this CAP).

Thus, the magnitude of the damage and estimates of replacement and growth costs relative to the size of the Nicaraguan economy (the range of the estimates approach the Country's total GDP for 1972) gives some idea of the immense reconstruction effort that lies ahead. For these reasons, as pointed out in the current DAP, "The Managua Earthquake of December, 1972, has made recovery from this disaster the number one priority objective of both public and private investment, and the major thrust for external aid for the present". (Chapter X, Nicaraguan Development Assistance Program, Page X-52).

3. Relief and Reconstruction Efforts Since the Earthquake

During the emergency period immediately following the earthquake, efforts concentrated on meeting the emergency shelter, food and health needs of the injured and displaced population. The GON quickly organized a National Emergency Committee (NEC), headed by former Nicaraguan President General Anastasio Somoza Debayle, to direct overall emergency activities. Under the direction of the NEC, Government

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enterprises responsible for providing public utilities and sanitation worked feverishly to restore adequate services. The Ministries and agencies of the Government, and the private sector, dug what they could of their records, equipment and inventories out of the debris and relocated to whatever new accommodations could be found, usually private homes scattered through the relatively unscathed middle and upper class residential areas of suburban Managua.

Initial emergency efforts concentrated on meeting the needs of the injured and refugee population. Major voluntary agencies and donations by smaller organizations and private citizens assisted the Government of Nicaragua to meet the initial problems posed by the disaster. A.I.D. played an important role in relief operations, providing approximately \$10.0 million in grant funds for food, emergency shelters, field hospitals and other emergency supplies.

In addition, shortly after the earthquake a major public works effort was initiated to get Managuans back to work, to begin the job of cleaning-up the destroyed capital city, to reestablish public services, to repair and rebuild public facilities, to provide temporary shelters, and to begin a program of constructing new roads and streets by-passing the destroyed urban core of old Managua. The A.I.D. Program Loan, the A.I.D. Grant for Temporary Shelters, the A.I.D. Education Sector Loan aided these efforts. These projects were further complemented by assistance provided by a \$16.7 million IDB Loan and a \$20.0 million IDA Loan. These activities were initiated in CY-1973, will continue during CY-1974, and will gradually meld into the first stage of reconstruction now planned for 1974-76.

While the public sector has been actively engaged in implementing recovery and reconstruction activities during the past seventeen months, Nicaragua's vigorous private sector has also not been idle during this period. Many of the businessmen previously located in the center of Managua, using insurance payments, commercial loans and their own resources and initiative, began very quickly to reconstruct their businesses relocating them in undamaged suburban areas and along major traffic arteries on the periphery of the old city. By late CY-1973, major new commercial areas were developing along Managua's Inner By-Pass Road, adjacent to the North and South Highways, and along the Masaya Road. By May, 1973, a number of large commercial centers with over 600 retail stores and some offices covering 38,000 square meters were either completed or nearing completion, the construction of several smaller commercial centers had been initiated, and several more office and

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shopping complexes were on the drawing boards. With the demolition and clean-up of the old downtown area still underway, and development there effectively halted, the areas characterized as the periphery of old Managua are now active with public and private sector reconstruction activities.

As indicated above, immediately after the earthquake certain rapid building decisions were required that could not await the urban planning and analysis that was to follow. While the quick analysis underlying each of these individual projects was later generally confirmed by the planners, taken together, these decisions began to form the broad outlines for a reconstruction design and strategy that the planners later recommended and that the Mission now proposes to continue to support. In summary, the planners and the builders, each working independently, arrived at the same basic conclusions -- Managua should be rebuilt as a deconcentrated city.

The earliest of these decisions involved the location of the \$3.0 million A.I.D. supported Temporary Shelters Project in the southeastern area of Managua, along the Sabana Grande Road and North Highway (see map included as Annex F). It was here just one month after the earthquake that the basis for new low income communities were established to replace some of the high-density housing destroyed in Managua's old concentrated urban core. Later it was confirmed that these Temporary Shelters, and their conversion into permanent low cost housing, would not only replace housing destroyed by the earthquake but could form a new community of roughly 50,000 people that would act as a magnet to assist in pulling Managua's future urban growth out into the southeastern areas of the city in low density deconcentrated patterns as recommended by many of the planners. While the locational analysis for the Las Americas Colonies is discussed at length in the Low Cost Housing CAP (524-L-029), now pending authorization in AID/W, it must be said that the early building and locational decisions for the Las Americas Colonies have proven to be critical and very positive decisions for promoting the future deconcentrated urban development of Managua as now recommended by the planners.

The second decision by the GON, taken shortly after the earthquake in the context of the A.I.D. Program Loan, involved the immediate construction or completion of several key roads by-passing the destroyed urban core of Managua and designed initially to break-up traffic congestion caused by the loss of the major traffic arteries leading through the destroyed and closed-off downtown area. While many of these projects were partially undertaken to provide immediate employment

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for workers displaced from their jobs by the earthquake, each of these new roads has added to the spreading-out of Managua and to the further development of the periphery and suburban areas of the old city. With the A.I.D. Program Loan, the paving of the Inner By-Pass Road connecting the North and South Highways, and by-passing the entire downtown area, was completed and quickly developed into one of the "Main-Streets" of new Managua. With its own funds the GON initiated other road projects (35th Avenue, 27th Avenue, Pista Suburbana, First Stage Old Masaya Road, Sabana Grande Road, and the widening of the New Masaya Road) all of which have further contributed to spreading out Managua in a deconcentrated pattern as recommended by the planners and creating new areas for low-density commercial, industrial, and residential development.

Another important decision made shortly after the earthquake, also in the context of the A.I.D. Program Loan, involved the reestablishment of one of Managua's most critical public facilities -- the public hospital system. With the destruction of Managua's entire hospital system by the earthquake, an immediate question arose on how the public hospital system (formerly concentrated in the 900 bed El Retiro General Hospital) would be rebuilt. While the decision to break apart the old General Hospital and reestablish it in three separate and deconcentrated hospital units closer to where the population of Managua is living was made without the guidance of future reconstruction plans, the rebuilding of the hospitals have now set a pattern that the planners have recommended and that the GON hopes to follow in the rebuilding of other vital public facilities. In accordance with these plans, future public facilities will be dispersed over a wider geographical area so as to better and more efficiently service the future population of Managua, and better protect these facilities from future earthquakes. Thus, the A.I.D. financed hospital system, due for completion in 1974, will not only provide new hospital facilities for Managua but will also show the way for a new pattern of deconcentrating the rebuilding of other vital public facilities.

Lastly, the Nicaraguan private sector has also been very active since the earthquake and has initiated the rebuilding, and in some places already completed, extensive investments in new commercial centers for Managua. The pattern of development for these commercial areas has generally followed the lead of the public sector in deconcentrating activities and moving new investments out away from the destroyed urban core of Managua closer to where the future population is expected to live. Now, seventeen months after the earthquake, a new decon-

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centrated commercial pattern is developing that the planners consider to be desirable and recommend its continued promotion and further development in a planned and structured manner.

Shortly after the earthquake, under the sponsorship of the Managua Chamber of Commerce a site in the southeastern suburban area of Managua, formerly used as a fair-grounds and exposition center, was converted into a commercial complex with 195 shops and offices to replace some of the facilities destroyed by the quake. Also, concurrent with this development, two local private groups initiated construction of two commercial complexes that when completed will contain 120 shops, forty offices, apartments and entertainment facilities. Taken together, these large commercial centers in relatively the same southeastern suburban area, plus extensive new road and housing construction in the area, the nearby construction of the A.I.D. financed Eastern Hospital, and proposed future construction of other public facilities has converted this entire area into what some planners are now calling Managua's new eastern commercial zone.

Likewise, in the western section of Managua's former suburban area, along the Inner By-Pass Road, planners also see the beginnings of the outlines for a new western commercial zone. Led again by the private sector, two groups have all but completed work on two commercial centers almost at the junction of the By-Pass Road and the South Highway. Adjacent to these commercial centers are the A.I.D. financed Veléz Paiz and Western Hospitals, and a GON office complex and other public facilities have been planned for the area, all of which is converting this area into what planners are calling the western commercial zone of new Managua.

Complementing these above commercial developments, it must also be noted that Managua's former industrial strip -- paralleling the edge of Lake Managua and leading from the outskirts of the old downtown area to the Las Mercedes International Airport, and relatively unharmed by the quake, has been interspersed with commercial activities displaced from the destroyed downtown area and has quickly been converted into one of Managua's newest commercial areas. While this commercial/industrial strip is now somewhat overly congested, due to the lack of adjacent infrastructure, the development of this lineal pattern of commercial/industrial development has been recommended by several of the planners in suggesting an overall deconcentration of Managua's reconstruction.

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Thus, by May, 1974, Managua had shifted from the emergency period characterized by immediate relief and recovery activities into actual reconstruction and development. With the urban core of old Managua and other damaged areas closed off to reconstruction by the demolition and clean-up program, public and private sector activities since the earthquake have been directing Managua's urban development into the periphery and former suburban areas in lower density deconcentrated patterns. It is exactly this type of growth that the planners have recommended for Managua's reconstruction and it is this pattern of deconcentrated urban growth that will continue to be promoted by the Urban Sector Reconstruction Loan described in this CAP.

4. Need for External Assistance

While it is difficult now to quantify Nicaragua's long-term need for external assistance for reconstruction, which is projected to last well into the 1980's, the magnitude of the disaster caused by the earthquake relative to the size of the Nicaragua economy will mean that substantial reconstruction assistance from international sources will be necessary if both reconstruction and long-range development of Nicaragua are to proceed together. To a considerable extent, Nicaragua was able to rely on internal resources during the emergency period and the early reconstruction (1974) since the earthquake occurred during an economic upswing which has been reinforced by favorable world prices for Nicaragua's exports (for additional details see Economic Analysis attached as Annex 3). However, should world prices for Nicaragua's commodities not maintain their currently high levels, even more external reconstruction assistance would be required than now expected.

While almost all of the emergency assistance provided to the GON has already been committed for specific relief and immediate recovery activities, no new external assistance has as yet been committed for the first stage (1974-76) of the Managua reconstruction except for a \$15.0 million A.I.D. Low Cost Housing Loan that is now pending authorization in AID/W. Thus, for the first stage of the reconstruction (1974-76), where the GON is furthest advanced in its planning, the GON estimates that external financing of \$90.0 to \$100.0 million may be necessary to carry out its Immediate Action Program for 1974-76. Beyond this period, the Vice Ministry of Urban Planning has estimates indicating that projects will exist for foreign financing for possibly over \$300 million before the end of the 1970's.

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SECTION III - RECONSTRUCTION PLANNING

1. Background

While as noted above neither the public nor private sectors have waited for formal urban planning to take place before initiating reconstruction activities, the GON shortly after the earthquake also turned its attention to the urban planning necessary for the long-range reconstruction of Managua. To date this planning is still on-going and may not be fully completed and formally operational for another 24 months. However, while a more refined master plan for Managua's reconstruction is being prepared, there is already a consensus among the urban planners and the public and private sectors as to the pattern of Managua's development sufficient to permit the formulation by the GON of an Immediate Action Program for the first stage of Managua's reconstruction. This Immediate Action Program, as described below, supports the course of reconstruction activities already underway, however, in a more planned and controlled manner than was possible in the period immediately after the earthquake. The Urban Sector Reconstruction Program being requested herein for authorization will continue to support these developments as the A.I.D. Temporary Shelter Project and Program Loan (A.I.D. Loan 524-L-028) contributed to initiating them. The development of this planning consensus will briefly be described below, followed in Section IV by a description and analysis of the GON's Immediate Action Program for the first stage of the Managua reconstruction.

Shortly after the earthquake, the GON turned its attention to the long-range planning for reconstructing Managua. Initially, public debate centered around whether the capital of Nicaragua should be relocated to a different site because of the geophysical dangers present at Managua and the certainty of recurring earthquakes. The question of relocating Managua was resolved by a decision that Managua would be rebuilt at its present site, but spread-out over a wider geographical area. This decision was based on studies made by the USGS and other scientific groups which showed that no safer place is available in any suitable location in Nicaragua. This, plus the tremendous economic costs and potential social and political disruptions from moving the capital, left no alternative except to rebuild a deconcentrated city near the old urban core of Managua. This decision was later confirmed by the Mexican Planning Group and other planners working in Managua.

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However, as with any city subject to recurring natural disasters, the GON and the Planners stressed that the city should be rebuilt taking into consideration the existing and very serious geophysical dangers.

It is this critical decision to rebuild to very high antiseismic standards and in a deconcentrated pattern, so as to better protect Managua from future earthquakes, that forms part of the basic guidelines for carrying forward the reconstruction of Managua. In this respect, particularly regarding high antiseismic standards, the Managua decision parallels those of Los Angeles, San Francisco and Mexico City.

2. The Mexican Plan

In the areas of formal planning for the longer range job of reconstruction and redevelopment in Managua, the Mexican Government (GOM) provided the first major assistance. The GOM contracted with a Mexican urban planning firm that had been engaged prior to the earthquake in preparing a plan for the long-range development of Managua's public infrastructure. During a nine-month period following the earthquake, the Mexican consultants prepared a conceptual plan for the new city. Actually, their work was in two phases, the first of which was the presentation of an idealized central area plan emphasizing large expanses of open space, wide boulevards and low density of construction with antiseismic high-rise buildings all constructed with close attention to the location of fault lines running through the area. For a number of reasons -- both economic and political -- this first concrete proposal for reconstruction was not fully accepted by the Nicaraguans. The second plan of the Mexican team's work was completed and formally presented to the GON in September, 1973, in the form of a conceptual plan for rebuilding and restructuring the growth of Managua in a deconcentrated cellular pattern to the southeast of the former central city area. Growth will take the form of community clusters each having its own schools, stores, industry and community and recreational facilities to serve a population of some 30,000 - 40,000 inhabitants. Larger commercial and industrial zones would be developed at strategic locations among the cluster communities with major traffic arteries and public transportation structured to facilitate movement between the various zones and community clusters.

Specifically the basic points of the Mexican Plan all of which have been integrated into Nicaraguan reconstruction planning are as follows:

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- a. Managua should be rebuilt in the same general area of the old city under strict building regulations to insure antiseismic construction.
- b. The reconstruction should take place in such a manner as to spread the urban area of Managua out over a wider area, in a deconcentrated pattern, thus taking into consideration the geographic and very serious geophysical conditions determined in recent studies. The Mexican Plan notes that because of the geographic considerations and the location of industry, it is recommended that much of the future growth should be directed toward the southeast salient of the old city.
- c. The old city center which was 90% destroyed should be rebuilt as a non-residential area of civic buildings, parks (over the fault lines), museums, government offices and commercial activities. The plan concludes that the old urban core of Managua (90% of which was destroyed) was inefficient, congested, and created serious transportation problems, implying that Managua now has a one time opportunity to be rebuilt on a rational coordinated basis.
- d. Residential areas in complete "neighborhood units" (urban cells) containing schools, health centers, parks, playgrounds, and small commercial areas should be developed in relation to major industrial and commercial employment centers, with particular emphasis -- especially for low income housing, toward the east and southeast of the old center.
- e. Managua should be developed as a multi-center city with several different service and employment centers rather than just one center as existed before the quake.

For more details on the Mexican Plan, see Annex 4 that contains a translation of the most important parts of the Plan. In addition, see Annex 5 that contains a detailed USAID analysis of the Mexican Plan prepared by the Mission's Urban Development Advisor, Dr. George Nez, and the Mission's Housing and Urban Development Officer. Also, another excellent analysis of the Mexican Plan is contained in the latest report on the Managua reconstruction prepared by Dr. John Dyckman, Professor of Urban Planning at the University of Southern California and one of GON's urban planning advisors, attached as Annex 6.

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While the Mexican Plan contains little in the way of detailed operational planning, it does provide a valuable and sufficient framework within which an Immediate Action Program for the first stage of the reconstruction can go forward now and the concurrent development of longer-range urban master planning can take place. The GON has accepted the Mexican Plan and is using it as a guide and frame of reference for the implementation of specific projects by the various Government of Nicaragua ministries and autonomous agencies. Also, the GON is currently developing from the Mexican Plan and from other complementary planning efforts an Immediate Action Program and set of Guidelines for the first stage of the reconstruction. In addition, with the Mexican Plan as a base, the GON's Vice Ministry of Urban Planning is now gearing up to do the longer-range planning work required for the reconstruction, with technical assistance that it has requested from the international agencies. However, this latter urban and longer-range operational planning may not be completed for another 24 months. In any case, it is the Interim Immediate Action Program that has the highest priority and the greater significance at this time.

3. Other Planning Efforts

A. The International Advisory Panel: While the work of the Mexican team was in progress, other reconstruction and related events and studies were going forward. In March and April, 1973, a meeting of international experts was convened in Managua under the sponsorship of the IDB, OAS and World Bank (IBRD). The meeting produced a report that identified and discussed Managua's seismic fault corridors and foundation soils noting that the highest degree of seismic hazard lay in the old city center and that safer terrain could be found on the city's periphery. The report recommended deconcentration of the city's population, industry and commerce and the development of both existing and new communities on the outskirts of old Managua. (The Report prepared by the International Advisory Panel on Reconstruction and Redevelopment of the Managua Region is attached as Annex 7.

B. The USGS Seismological and Building Code Work: In addition, during the first semester of CY-1973 technicians from the United States Geologic Survey (USGS) were asked to advise on the location of a rebuilt capital. While they identified some remote areas as possibilities, the USGS could not point to any alternate location in Nicaragua that would be economically feasible for the location of a new

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capital. Meanwhile the National Geographic Institute aided by IAGS, refined the geologic map of Managua, further identifying major and secondary faults. (Excerpts from their major report are reproduced as Annex 8 .) In addition, this work is being continued through the Earthquake Hazard Reduction Center Project being assisted by an A.I.D. Grant for equipment and training (see PROP 524-11-755-104, the Project Agreement for which was signed in November, 1973). In addition, the U.S. Department of Commerce's National Bureau of Standards assisted Nicaraguan authorities in evaluating the conditions of public buildings to determine causes of building failures for guidance towards improvement of practices for design and construction. Excerpts from this report are attached as Annex 9 and their recommendations have been integrated into the new Nicaraguan Building Code.

C. The INCAE Advisory Center: On March 30, 1973, the GON signed a contract (financed by the A.I.D. Program Loan) with the Central American Institute for Business Administration (INCAE), a graduate school located near Managua with close ties to Harvard University. Under the terms of the contract, INCAE established an Advisory Center to assist the GON in formulating a general strategy for reconstruction and development, in determining the levels of external assistance it would require and in delineating programs and projects relevant to reconstruction and development. Under this contract, INCAE has produced a number of useful proposals and documents, the most important of which is "An Agenda for Reconstruction and Development -- Targets and Objectives 1974 - 78". This document suggests the principal objectives which the GON should strive for during the coming five years and makes recommendations for their achievement. These recommendations (attached as Annex 10 to this CAP) have been accepted by the GON and are being reflected in the Immediate Action Program now being developed for the first stage of Managua's Reconstruction. This is further discussed in Section IV below (See Part 7 of Section IV). In addition, INCAE has been further contracted with, using GON funds, to manage the in-service training program of the Vice Ministry for Urban Planning.

D. International Urban Planning Consultants: During the second semester of 1973, additional experts from the United States reviewed the Managua situation from the standpoint of a future design for Managua's reconstruction and proposed recommendations for activities that should be undertaken within the immediate future and for the longer-range reconstruction planning. Notable among these were Director of the Department of Urban Planning Lawrence Mann, and Professor von Moltke

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from Harvard University; Dr. John Dyckman, Professor of Urban Planning at the University of Southern California; Dr. George Nez, U.S. Department of Commerce Urban Development Specialist contracted by the USAID; and Dr. Adolf Ciberowski, Director of the UNDP's Center for Housing, Construction and Urban Planning. While the focus of attention for each of these planners was slightly different, a review of their papers show a broad general consensus on the future design of Managua and basic agreement on requirements for future GON actions. (Mann and von Moltke, working through the INCAE Advisory Center, were particularly interested in developing the rationale and a model for the deconcentrated urban development of Managua and requirements for short and long-range GON planning, Dyckman was contracted by the IBRD and the GON, to review and critic the Mexican Plan, Nez was contracted by the USAID to provide the urban development input for the Low Cost Housing Loan and backstop the Mission in the area of urban planning, and the UN's Ciberowski was concerned with short and long-range technical assistance requirements for planning the reconstruction of Managua). In summary, each of these planners stressed the need immediately to strengthen and upgrade the GON's capacity to do long-range reconstruction planning, each recognized the need for an operational master plan to guide long-range reconstruction and especially the rebuilding of Managua's destroyed urban core, but each of the planners also stressed that immediate action programs for replacing vital public facilities destroyed or disrupted by the earthquake and expanding the basic infrastructure network should and could be immediately implemented while the longer-range master-planning was being done by the Nicaraguans and foreign technical experts. Each of the planners placed particular importance on the geophysical dangers at Managua*, and stressed the need to promote urban development design and building standards that would protect the city from severe damage from future earthquakes. In differing degrees, each of these planners, along with the Mexican Consulting Team, supported

* Nicaragua lies in the "Pacific Ring of Fire" where volcanic and earthquake activity are frequent and highly correlated. Geologists expect frequent recurrence of earthquakes and volcanic activity in the Pacific Region of Nicaragua and continual earthquakes at Managua itself. (See also R.O. Brown Jr., Peter L. Ward, and G. Plaffer Geological and Seismological Aspects of the Managua, Nicaragua Earthquakes of December 23, 1972/U.S. Geological Survey Professional Paper No. 838, Washington GPO, 1973, excerpts included as Annex 5.

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the development of Managua in a lower-density deconcentrated pattern. The planners, again in differing degrees, also feared a possible reconcentration of Managua in the old downtown sector, unless immediate action programs were undertaken to promote deconcentrated development and begin solving the serious housing problems of low and middle income Managuans. Finally, while each of the planners found deficiencies in the Mexican Plan, as being not operational per se, each recognized that the Mexican Plan had provided the Nicaraguans with the needed basic framework for the more detailed operational planning that has had to be and is now being done by the Nicaraguans themselves.

For additional details on the reports and recommendations prepared by each of the GON's international urban planning consultants, please see Annex 11 that contains the main report prepared by Doctors Mann and von Moltke, Annex 6 includes the latest report prepared by Dr. Dyckman on the Managua Reconstruction, Annexes 2 and 5 include the principal papers prepared by Dr. George Nez, and Annex 12 contains a summary of Dr. Ciberowski's observations and recommendations on the Managua reconstruction.

4. Nicaraguan Planning for the Reconstruction

As noted above, in CY-1973 much of the formal urban planning and analysis for Managua's reconstruction was performed for the GON by foreign consultants (i.e. the Mexican Consulting Group, the USGS and other prominent urban planning advisors) and much of this planning was done outside of Nicaragua. While this pattern of events is not unusual, and in fact closely parallels similar disaster situations in other parts of the world, it is possible to appreciate why the Nicaraguans first looked outward for their initial reconstruction planning services. Not only was the GON totally disrupted by the earthquake and overwhelmed by necessary emergency actions (followed by extensive relief and recovery activities), but only a very small and inexperienced urban planning unit existed in the GON prior to the quake and virtually no trained urban planners were in the country. Thus, the GON was faced with an unprecedented reconstruction planning job with no urban planning expertise. In addition, the Nicaraguan public needed time to recover from the initial shock of the earthquake and begin debating publicly the future of their capital city. This public debate on the reconstruction has been wisely encouraged by the GON, has been ongoing for the past seventeen months, and has been important in forming the public and private sector consensus that now exists on the future design of the new Managua.

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As mentioned earlier, initial public debate, as would be expected after the death and destruction caused by the quake, centered around whether the capital of Nicaragua should be moved to another area because of the certainty of recurring earthquakes at the present site of Managua. This issue was extensively debated in the Nicaraguan press and within the public and private sectors during the months just following the quake. However, after the initial psychological impact of the quake had passed, it soon became clear that a majority recognized that Nicaragua could not afford the economic, social and political disruptions that would be caused by moving the capital, and debate on this point soon faded into a more substantive issue concerning the design of new Managua. However, it was during this period that the Nicaraguan public themselves in fact, decided that their capital city should be rebuilt in the same general area of present Managua, a decision later confirmed by the planners.

By May, 1973, after several previews of the initial Mexican Plan and some preliminary comments on the reconstruction by the International Panel, as described earlier, public debate shifted away from the question of moving Managua to another site, to a more substantive issue involving how best to design the new city to withstand its hostile geophysical environment. Here attention focused on how other major cities of the world, also subject to recurring natural disaster, developed intelligent urban planning to protect themselves from these natural catastrophes. Thus, by May, 1973, debates were being held on the adequacy of the Nicaraguan Building Code, and possible future designs of a lower density deconcentrated city. For several months various groups argued the merits of a new lineal city extending from Managua to Granada, as proposed by two prominent Nicaraguan architects. In addition, other models were discussed such as a plan for developing a decentralized metropolitan region between Managua and its satellite cities and focusing major attention on developing several of these satellite cities into major new poles of Nicaraguan development that could more effectively compete with Managua in attracting population, industry and other economic activities. However, it became clear by the end of 1973 that unless Nicaragua was prepared to undertake a large planning and infrastructure program in the satellite cities, plus reconstruct Managua, this latter proposal was not feasible in the short run.

In addition, during the second semester of 1973, in various forums the concept of developing Managua itself into a larger city, but spread-out over a wider geographical area and at lower densities, was extensively debated and generally accepted by the Nicaraguan public as the future model for rebuilding Managua.

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Thus by the time the Mexican Plan was presented to the GON in September, 1973, extensive Nicaraguan public debates on the future location and design of Managua had been ongoing for many months and a basic public consensus existed that permitted the concepts contained in the Mexican Plan, and in the other planning efforts, to be readily accepted by the GON and the Nicaraguan private sector. In addition, as described in the above Background Section, even during this period, the Nicaraguan public and private sectors were already beginning to allocate their funds to projects that were to begin promoting the actual development of a new city that would be spread out over a wider geographical area than old Managua, much in accordance with the recommendations that were later to be forthcoming from the planners. These actual reconstruction activities were representative of the Nicaraguan consensus then taking form in 1973 (and now continuing) on the future design of the city and were quite influential in preparing the ground work for public acceptance of the Mexican Plan and the recommendations from the other international planners.

Thus, while it appears that little Nicaraguan reconstruction planning had been done in 1973, in fact a very important and necessary informal planning process was being undertaken which aimed at obtaining the maximum general public involvement and debate on the broad concepts that are now destined to guide the reconstruction of Managua in future years. Thus, these debates complemented, supported and interacted with the consensus that was to flow from the planning efforts of the international consultants and from the actual reconstruction activities then being implemented in 1973.

In addition, once the GON began to pull itself together after the quake, and began interchanging ideas with the international planning consultants on future reconstruction requirements, it soon became clear that the GON's pre-quake urban planning unit (Urbanismo), then established as a department in the Ministry of Public Works, would have to be substantially restructured, expanded and upgraded to meet the unprecedented urban planning requirements created by the earthquake as well as properly administer the GON's new building code. Once some administrative order was returned to Managua, in this area of creating a new urban planning unit for the reconstruction, the GON moved quickly and created in September, 1973, concurrent with the presentation of the Mexican Plan, a new Vice Ministry of Urban Planning (VMUP) within the Ministry of the National District of Managua. This Unit would carry out urban planning duties for the reconstruction and administer

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the new Nicaraguan building code. The VMUP was provided with the best Nicaraguan personnel available, an expanded budget, and highest level support from the GON.

As would be expected with any new organization, the VMUP initially concentrated on getting itself organized and expanding its local staff, and improving facilities, all of which has proven to be a difficult and time-consuming job given the situation in Managua (office facilities are inadequate and often impossible to find, trained personnel are scarce, communications are still time-consuming and difficult, etc.). However, by late CY-1973, the VMUP had been organized, a well qualified Vice Minister was in charge, and the VMUP immediately focused on the number one public and private sector priority of improving the overall administration of the GON's building code. While this latter work has absorbed a great deal of the time and energy of the VMUP since September, 1973, attention has also been directed to the longer range job of planning the reconstruction of Managua.

Shortly after the Mexican Plan was presented to the GON, the VMUP immediately organized a task force of Nicaraguan government agencies that subjected the Plan to intense formal review. Under the direction of the VMUP, each GON Ministry and Autonomous Agency examined the Plan for guidance in its particular area of concern and made suggestions for some revisions and recommendations for further detailed studies. While some agencies found the Plan too general for immediate operational planning, most examined it from their operational standpoint and found it useful as a guide for magnitude and geographic direction.

In October, 1973, with assistance from most GON Agencies and advisors from the OAS and A.I.D., the VMUP prepared a detailed document entitled "Evaluacion del Plan Regulador de Managua Presentado por el Grupo de Tecnicos de la Secretaria de Obras Pùblicas de México" that summarized each agencies' comments on the Mexican Plan and requirements for future implementation of the plan. Based on this GON evaluation of the Mexican Plan, the President of the National Emergency Committee, announced in late November, 1973, at the Earthquake Engineering Research Conference held in San Francisco, California, that the GON had officially adopted the basic concepts contained in the Mexican Plan and that it would serve as the principal guide for implementing the reconstruction of Managua. (See Annex 13 that contains copy of this announcement). During the past six months, these statements that the Mexican Plan would form the basic framework for the GON's reconstruction program were made in various public

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meetings of the National Emergency Committee and have been accepted by both the Nicaraguan public and private sectors.

Thus, by the end of CY-1973 the Nicaraguans had extensively debated the future location and design of their new capital, had recovered from the most immediate shocks and disruptions of the earthquake, a series of public and private sector reconstruction activities had been initiated that were already giving shape to a new deconcentrated city, the Mexican Group and other international consultants had provided the GON with the basic planning framework and recommendations for carrying forward the reconstruction, a broad Nicaraguan public and private sector consensus had formed around many of these recommendations. In addition on the future reconstruction, the GON had organized and staffed a new Vice Ministry of Urban Planning that would guide the overall reconstruction of Managua, and several of the international agencies (OAS, UN, AID) were finalizing with the GON plans for providing the VMUP with critical foreign technical experts to assist in carrying out the planning effort that would be required for the longer-range reconstruction. However, while the VMUP was gearing itself up with foreign technical experts for the more detailed and longer range reconstruction planning, work was already beginning in early CY-1974 on an Immediate Action Program, as recommended by all the international consultants, for the first stage of the reconstruction. The details on this Immediate Action Program follow below in Section IV.

5. Summary -- The Reconstruction Consensus

Thus, as of mid-1974 a great deal of urban analysis, planning and actual physical reconstruction have already been undertaken for the reconstruction of Managua. As noted above and in the Background Section, by the end of CY-1973 a formal and informal planning framework had been established and a broad general consensus had developed among the Nicaraguan public and private sectors and the GON's urban planning consultants, on the future design of Managua and the general patterns of the reconstruction. Furthermore, for at least the past year, both the public and private sectors have been implementing these broad concepts and have been pushing the city out in a deconcentrated pattern as recommended by the planners. The Urban Sector Reconstruction Loan proposed for authorization in this CAP would continue to support the GON's planned deconcentration policy by promoting the continuation of these developments based on the overall general planning consensus already formulated.

In summary, the basic reconstruction consensus can be outlined in a number of critical principles for guiding the reconstruction, and mechanisms for carrying out the reconstruction, that appear in different forms throughout the works prepared by the professional planners and in the actions and statements of the Nicaraguan public and private sectors. These critical principles and mechanisms are listed below:

A. Basic Principles for the Reconstruction:

- i. Managua should be rebuilt in the same general area of the old city under strict building regulations to insure antiseismic construction.
- ii. The reconstruction and development of Managua should take place in such a manner as to spread the urban area of Managua out over a wider area, in a deconcentrated and lower density pattern, thus creating an urban design for the new city that can better and more safely withstand the disruptive effects of future earthquakes. (The Mexican Plan notes that because of the geographic considerations and the location of industry, it is recommended that much of the future growth of Managua should be directed toward the southeastern salient of the old city. More recent work by the VMUP has also identified as high priority for the deconcentration of the city some growth into the southwestern areas of the old city in addition to major concentration into the southeast. Thus, in accordance with GON plans and actions already underway by the public and private sectors, development of the Managua urban area will take the form of growth in three major concentric rings (see map included as Annex F) extending out from the old urban core of Managua to just beyond the Outer Beltway Road (Pista Rural de Circunvalacion), with major emphasis directed into the southeastern area.
- iii. Managua should be designed to handle population growth to 650,000 by 1980, and 850,000 by 1985; and spread out over an area of approximately 80 square kilometers.
- iv. In accordance with the recommended deconcentrated urban growth, Managua should be developed as a multi-centered city with several different service and employment centers rather than containing just one major center (the old downtown) as existed before the quake. The goal here is to create a more modern and efficient city by bringing employment and services closer to where the population of Managua is now living, and will live in the future, thus reducing

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overall travel time and costs between home, work, shopping and other services. (The Nicaraguan public and private sectors, and the VMUP and its consultants, have identified four major service and employment centers for the new city -- the further linear development of the North Highway commercial/industrial strip, the continued development of the Eastern Commercial Zone in the southeastern salient, the development of the Western Commercial Zone at the junction of the Inner By-Pass Road and the South Highway, and the eventual redevelopment of the old downtown area as a fourth employment and service center).

v. Residential areas in complete neighborhood units (urban cells) containing schools, health centers, parks, and small commercial areas should be developed in relation to major industrial and commercial employment centers.

vi. Early and significant attention throughout the reconstruction should be directed to the problems of the low income population, since they represent those most severely effected by the quake and those that could if not provided alternatives most easily relocate in and around the destroyed and damaged areas, thus reconcentrating the city at the pre-quake higher densities. Thus, major emphasis in the early reconstruction should be placed on improving and expanding low cost housing, particularly in the southeastern areas of the city.

vii. The destroyed city center should be rebuilt as a non-residential area of civic buildings, parks and open areas over fault lines, museums, government offices and some commercial activities. Land use and circulation systems should be developed simultaneously and should also take into consideration the very dangerous seismic conditions in the downtown area. Detailed urban planning and a system of land acquisition should first be developed, before reconstruction begins in the destroyed center of Managua.

viii. To adequately complete the detailed planning for Managua's destroyed urban core and heavily damaged areas, and prevent a hasty and uncontrolled return to these areas, major rebuilding activities during the first stage of the reconstruction should be directed into the periphery and former suburban areas. In this regard, the type of reconstruction activities initiated since the earthquake should be continued for the next several years.

ix. The active participation of the private sector should be encouraged throughout the reconstruction.

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x. The reconstruction of Managua should be undertaken within a national development framework so as to permit the implementation of programs for both Nicaraguan development and Managua reconstruction.

B. Basic Mechanisms for the Reconstruction:

i. The GON's long-range urban and reconstruction planning capabilities should be immediately strengthened.

ii. Consideration should be given to developing more detailed redevelopment plans for the old downtown and heavily damaged areas through the use of public competitions.

iii. Special mechanisms should be developed to prevent uncontrolled and unplanned developments in the destroyed downtown area and in the heavily damaged areas of Managua.

iv. While the longer-range planning for the reconstruction is being completed, an Immediate Action Program for the first stage of the reconstruction should be developed and implemented. The Immediate Action Program should be based on the urban planning and analysis already completed and direct major attention at developing and expanding vital public facilities destroyed by the quake, and expanding and improving the existing infrastructure network.

v. Positive incentives such as the creation of special "poles of attraction", other infrastructure magnets, and special policies should be developed to facilitate the overall deconcentration of Managua throughout the reconstruction.

vi. A special Government of Nicaragua Land Purchase Fund should be established and funded to facilitate the implementation of the Immediate Action Program.

vii. During the earliest stages of the reconstruction, so as to promote the overall deconcentration of Managua, major attention should be directed at continuing improvements in the peripheral road system.

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- viii. The rebuilding of vital public facilities destroyed or disrupted by the earthquake should be continued during the earliest stages of the reconstruction.
- ix. A central planning authority should have prior approval rights for all public and private sector building activities in Managua.
- x. The Immediate Action Program should be implemented through existing GON planning, coordination and implementation agencies.
- xi. A possible new Managua Redevelopment Corporation or Authority, including possible mechanisms for land acquisition and land transfers for the downtown section and other heavily damaged areas, should be studied and developed for implementation during a second stage of the reconstruction.
- xii. Special credit and training programs should be designed and implemented in the earliest stages of the reconstruction for attacking critical bottlenecks for the reconstruction, assisting the development of small enterprises and aiding low income families to make satisfactory living adjustments, in accordance with the overall deconcentration of Managua.
- xiii. Special attention should be directed at increasing the capacity of the Nicaraguan construction and building supply industries, and developing mechanisms for encouraging the importation of additional capacity and supplies.
- xiv. As part of the Immediate Action Program a more detailed transportation plan should be developed for Managua in accordance with the controlled growth pattern of the city.

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SECTION IV - MANAGUA RECONSTRUCTION PROGRAM

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1. Background

In early CY-1974 the President of the National Emergency Committee requested the Ministry of Finance, as coordinator for reconstruction assistance, and the Vice-Ministry of Urban Planning to begin developing an Immediate Action Program for the first stage of the reconstruction of Managua (1974-76), as recommended by the Mexican Planners and the other consultants that have advised the GON on reconstruction planning. Based on the urban analyses and planning previously undertaken, as described in Section III above, the VMUP and the MOF, with assistance from the USAID and OAS, initiated the development of an Immediate Action Program containing policy guidelines and a description of individual construction and other activities that the GON would expect to undertake within this Program over the next several years while the longer-range and more detailed urban master planning is underway.

While the final version of the GON's Immediate Action Program is now being completed there is already basic agreement among the GON, the President of the National Emergency Committee, the USAID and the professional urban planners on the objectives, concepts, principles and strategy to be contained in the Program and to be implemented as the first planned stage of the reconstruction. This basic agreement is summarized in the GON's Letter of Application attached as Annex D and the Mission does not expect that what follows below will vary in substantial form from the final version of the GON's Immediate Action Reconstruction Program. However, in any case, this final GON document will be presented to the USAID as a condition precedent to disbursement for other than Program Implementation Support Funds and will form the basic policy guide for the first stage of the reconstruction effort.

2. Reconstruction Strategy

In summary, the dominant GON policy and theme of the Immediate Action Program will be the deconcentration of urban development, the rebuilding at lower densities and under strict seismic controls, and the location of public and private sector facilities and services close to where the population is living so as to create a more modern and efficient city and better protect these facilities and services from the disruptive effects of future earthquakes. In accordance with these plans, Managua will be rebuilt over an area of approximately 80 square kilometers, planned for a population of 650,000 by the end of the 1970's, and 850,000 by 1985. This city would extend outward from the old urban core in three concentric

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circles or rings to just beyond the Outer Beltway Road (see map included as Annex F). Since the areas included in Zone I (the old downtown area and urban core of Managua) and Zone II were those areas destroyed and most extensively damaged by the earthquake, and require the most detailed reconstruction planning (as well as the extensive purchase of land for the widening of streets and the creation of open areas) reconstruction in these areas, to the extent possible, will be deferred until the more detailed and longer-range urban planning is completed. The center of reconstruction for the immediate future will therefore be Zone III and Zone IV, with possibly some very limited activities in Zone II, and will be based on an Immediate Action Program and basic urban development guidelines that are now being finalized for the first stage of the reconstruction by an MOF/VMUP work group. Technical personnel, funded by AID's Grant Project for Program Management and Project Implementation are assisting in this effort as well as technical personnel from the OAS.

Thus, the Immediate Action Program will continue the outward and deconcentrating thrusts that have characterized public and private sector developments since the earthquake by concentrating major GON rebuilding and infrastructure expansion principally in Zones III and IV. A major aim will be to expand the basic infrastructure network in Zones II and IV so as to begin replacing some of the infrastructure that will be unuseable for urban rebuilding in Zones I and II. Program emphasis will be concentrated on expanding or upgrading existing commercial, industrial and residential areas in the periphery and former suburban areas that can be quickly developed into "high leverage" magnets for attracting and pulling outward in a deconcentrated pattern additional private sector investment. In addition, the expansion and deconcentration of available infrastructure will assist in preventing an overly rapid return to the destroyed and heavily damaged areas of Managua that could lead, according to the planners, to the reconstitution of a highly concentrated and densely populated new Managua, as happened after the 1931 earthquake. Such a development would again leave Managua dangerously exposed to the risks of future geophysical occurrences and could lead to the re-establishment of the inefficient urban system of old Managua. The Immediate Action Program, therefore, will aim at developing new roads and streets in Zones III and IV, the extension and upgrading of other infrastructure such as water and sewer lines, electrical and telephone facilities, street lights, housing and public services, and, as with the rebuilding of Managua's hospital system, will use the location for the rebuilding of other public facilities as an instrument for promoting

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the GON's deconcentration policy. Investments, to the extent possible, will be grouped in clusters to maximize overall impact and further develop the framework for a multi-centered new city. This positive approach to promoting the overall deconcentration of Managua is recommended by the planners, particularly Dr. John Dyckman who says:

"Such positive actions are greatly to be preferred to reliance on negative controls. The task of policing strict land use controls is difficult at best, and would be a heavy drain on scarce administrative resources at a time when these are solely needed for development tasks. There is some doubt in my mind that such controls could be effectively enforced for long in the absence of strong positive locational factors which 'induce' development at the desired places. In my judgment, the best way to insure that certain alignments are not built-upon is to attract the development to other sites, not to struggle to maintain their insulation from development in a situation in which development pressures are intense. At the least, the planners must siphon off some of that pressure.

"It is therefore important to move quickly to create new 'poles' of attraction, particularly toward the southeast . . . " *

Thus, the first stage of the GON's reconstruction effort (the Immediate Action Program 1974-76) will aim to create magnets and "poles of attraction" in the periphery and former suburban areas. Through the investments undertaken during this Program, plus previous investments, it is expected, that over the next several years Managua's urban development can be "tilted" into a permanently deconcentrated pattern so that future urban growth will center around, and radiate out from, several different service and employment centers. This in effect will plan and structure the previously spontaneous reconstruction activities that have been initiated since the earthquake, as described earlier. The Immediate Action Program will then meld into a second re-

* For additional details see Dyckman Paper attached as Annex 6

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construction period, roughly covering the years 1977-80, that will be guided by more detailed urban and reconstruction planning. It is expected that this second stage reconstruction effort will continue to promote these earlier deconcentrating efforts as well as begin moving inward towards the more complex reconstruction required in Zones I and II. Thus, by the end of the 1970's the GON expects that the basic infrastructure framework to carry the deconcentration of Managua as far as the Outer Beltway Road will be completed. The GON would then, in the 1980's begin extending the deconcentration strategy out beyond the immediate Managua urban area, on a planned regional basis, and into Managua's greater metropolitan area that includes the five satellite cities of Tipitapa, Masaya, Granada, Diriamba and Jinotepe. Deconcentration would then be converted into an overall decentralization effort to develop a larger lower density metropolitan region among Managua and its five satellite cities.

3. Reconstruction Planning Strategy

Due to the immediate need for reconstruction of urgently needed public facilities and infrastructure in the period immediately after the earthquake, much of the development thus far undertaken has not had the benefit of the coordination that results from the urban planning process. Although formal planning was lacking during this period, project activity was intuitively directed toward the periphery of the city. The end result was that both public and private investments followed a pattern of deconcentration, which was within the spirit of the Mexican Plan and the advice of the Urban Planners in general, although it lacked the Urban Planners specific input. Such an ad hoc development process can result in scattered, uncoordinated investments, forming patterns of public uses and services, committing a city to certain investments without benefit of a guiding program that delineates cost, timing and sites. It is likely that since the public functions of transportation, utilities, government buildings, etc. were severely crippled, the reconstruction and replacement of public functions, including low and middle income housing will practically control the future land use pattern, critically affecting private sector investment decisions. The possible danger is that functional project planning, without the benefit of urban planning will improvise new and incomplete patterns, which may make heavy demands upon public infrastructure investments. This situation could result in uneconomical investments that disregard adequate time-frames, specific needs, or the public in general.

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In response to the recent reconstruction related surge of development, the Vice Ministry of Urban Planning is starting upon a new and significant course of action, which is consistent with the recommendations of the Urban Planning experts and the international lending agencies. The program will include establishment of a long term comprehensive planning process, which will result in the formulation of a flexible master plan, responsive to the long term reconstruction needs of the city, while at the same time, establishing a process which will identify and clearly delineate specific projects ready for financing. Such identification of projects will take the form of location, size, cost, timing, etc. Periodically, in the planning process, say once every calendar year, the Vice Ministry of Urban Planning will come forth with a package of projects, feasible of financing, after receiving proposals from the various operating agencies. The product of this exercise will actually be a Capital Budget Program, which will enable the GON to time the implementation of projects in accordance with the national capability to finance and absorb such projects.

In the development of the specific projects, this planning process will serve to implement the key principles and policies recommended for the reconstruction effort:

- i.. Future growth directed away from the old city, with provision for sound traffic circulation, adequate transportation and improved and expanded low and middle income housing;
- ii. Planned new core areas of public facilities and commercial development;
- iii. The old center changing into a new complex of national governmental, commercial, institutional and cultural functions, with parks over fault lines and low proportional building coverage;
- iv. Enforced antiseismic building construction;
- v. Reconstruction implemented within a national development framework;
- vi. The private sector actively participating in the planning and implementation process; and

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- vii. An Immediate Action Program to influence public and private investment toward deconcentration and new integrated community areas.

The first stage in this new initiative will be the completion of the "Immediate Action Reconstruction Program", for the most urgent elements of the planned deconcentration effort, followed by the preparation and completion of a more detailed final master plan, approximately two years later.

Creating an effective urban planning capability in the Vice Ministry of Urban Planning may be a long, slow process. To date, this process is in the early stages of being implemented, with grant assistance being provided jointly by the UN, OAS, and A.I.D. Because the Vice Ministry of Urban Planning is not yet operating at full capacity, it may be necessary, for the present, to rely heavily upon the existing mechanism of the GON that was used to implement activities under the Program Loan (basically, the Ministry of Finance and individual Executing Agencies). Mission strategy, however, will be to move away from the Program Loan planning process towards one based on an urban planning framework. A.I.D.'s objective will be to provide the GON with the capital resources and the technical assistance to fulfill its reconstruction mandate for at least the next three (3) years. In so doing, it will be guided by the principles and policies outlined hereafter.

4. Description and Analysis of Principles and Policy Framework for the Reconstruction Program

Based on the urban planning and analysis already completed, the Government of Nicaragua has established a broad policy framework for the reconstruction thus enabling it to move forward now with an Immediate Action Program as recommended by the GON's urban planning consultants. This Program is being completed, is summarized in the GON's Letter of Application and will be presented to the USAID as a Condition Precedent to Disbursement of A.I.D. Loan funds. In summary, the Program will seek to provide inducements to promote a logical sequence of public and private investment in the peripheral areas of Managua. At the same time, it will provide incentives to slow down reconcentration in that portion of the city that was most severely damaged by the earthquake. A deconcentrated pattern of activities within the Managua region will be encouraged, by placing emphasis upon the promotion of new investments, public and private, and guiding the location of the same. Essentially this will involve reinforcing and intelligently structuring natural trends

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in the city's development, and to the extent possible, preventing uncontrolled, hasty and unplanned investments that could give rise to extra costs in transportation and infrastructure. These increments in development will therefore be controlled by long-term policies, the keys to implementation of which will be the creation of sound urban planning and investment incentives and/or restrictions. The following outlines the principles and policies that will serve as the guiding structure for the GON's Immediate Action Program, and later reconstruction stages. In accordance with the urban planning process described above in Part 3, these guidelines will continue to be refined and expanded in greater detail throughout the reconstruction so as to insure that the rebuilding takes place in an orderly, structured, logical and practical manner; consistent with the highest aspirations of the reconstruction effort in achieving, physical, economic and social well being for all of the residents of Managua.

a. Direction of Growth and General Composition of the City: Because of geographic considerations and the present location of industry, future deconcentrated growth will be directed toward the south and east of the old city. The industrial composition of the city will be maintained and workers housing and transportation will be closely related thereto. The population expected by 1980 will be about 650,000 requiring comprehensive urban planning of approximately 80 square kilometers (twice the old city of 1972), with close cooperation of public and private planning, including investments in housing, business and industry.

Preliminary studies of population growth in Managua indicate the following:

- i. Recovery by about 1976 of all of the pre-earthquake population.
- ii. Need by 1976 for some 35% more urban land.
- iii. By 1980, an increase of 50% above 1972, say 650,000 (basic historic population growth rate of 7% plus additional attraction to construction labor and a very high component of young labor expected to arise from the population bulge below 15 years of age -- 48%).
- iv. By 1980 an increase in the urban land area of almost 100% over the 1972 area. (Assumed population density declines from 11,000 to 13,000 persons Km², to 8,000 to 10,000 due to deconcentration effort).

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b. Planned Deconcentration of Public and Private Investment: Major efforts will be made to deconcentrate public and private investments while studying the best use for the center of the city. Such a deconcentration pattern will be carefully planned and subsequently implemented by incentives and/or restrictive measures.

Among the major objectives of this program will be to finance the establishment of employment and service nuclei, outside of the old center of Managua, to serve as the working and service core areas of new communities. These multi-purpose centers may include industrial, commercial or institutional uses. Many such facilities are needed, and many businesses are seeking sites served by such ancillary uses as bus stations, business offices, schools, clinics, markets, etc. The main purpose of these centers will be to promote the orderly deconcentrated reconstruction of the city of Managua.

The anticipated growth in population will be directed into three new major communities of 100,000 - 200,000 each, containing a loose multi-purpose cluster of public facilities, plus businesses and small industries. To establish these service and employment core areas will require a policy of advance acquisition of land and advance planning.

Special emphasis will be given to sites and services for new projects of low-income housing to be located near the present and proposed industrial and commercial centers. This would mean establishing new communities as well as upgrading existing "barrios" with essential infrastructure, schools, parks, playgrounds, small commercial centers, etc. The objective will be to provide the full range of community facilities comparable to those going into the Los Americas Project.

From the policy standpoint, priority will go to the displaced low-income population who cannot pay market prices for land and housing. Their proportion of the population is so large that unless housing and services are provided to offset their socio-economic needs, the reconstruction effort will not reach down to the crux of the problem. Increasing numbers of squatters must be anticipated and Programs will be established to improve their shelter, essential services and facilities.

Attention will be paid as well to middle-income families, whose housing supply was also drastically affected. The HIG program will be specifically aimed at

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satisfying the needs of this group, again directing investment in housing projects towards the outskirts of the city and in close proximity to the new multi-purpose centers.

A circulation and transportation system must be provided that will:

- i. Bypass the center of the city,
- ii. Connect the satellite centers with each other, and
- iii. Serve the community core areas of shopping, industry and public functions.

Time and cost in getting to and from work will be minimized, and the city need not suffer the traffic congestion that characterizes the single-centered metropolis.

To implement this concept it is necessary for the new service cores of communities to go into development more quickly than the restoration of the old center, or before scattered sites everywhere along improved roads indiscriminately capture community facilities and commercial investment. It will be advisable for the GON to adopt a policy of advance acquisition of land for adequate service centers plus infrastructure to establish these areas as attractive centers of investment for public facilities, commerce and industry. The land acquisition "bank" would include parcels in seismic fault zones, needed highway routes and interchange areas, water and sewer rights of way, drainage courses, park and recreation areas, public building sites, and all other community and institutional sites. Further, the land bank would include land for industrial parks, space for commercial and local light industry in the service cores, all of which may eventually be sold or leased to private enterprise, with preference to relocated businesses and industries.

The major keys to such a deconcentration effort are:

- i. The land use plan,
- ii. Clustering of public facilities and commercial and light industries,
- iii. Inter agency coordination.

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- iv. Favoring projects which have the greatest leverage for deconcentration, and also the highest on-site employment potential.

c. Composition of the Old City Center: The GON intends that the old city will be built as a non residential area of civic buildings, parks over fault lines, museums, governments activities and some low density commercial activities. Every effort will be made to rebuild the old center of Managua as an entirely different, safer, more open monumental area, requiring the pooling of small pieces of property and elimination of minor streets. New favorable relocation policies, a system of payment using bonds, higher proportion of open space, off street parking, parks and plazas, pedestrian malls and well designed antiseismic buildings will be studied during the Immediate Action Program.

The new national institutional center will complement the deconcentrated metropolitan entity, but will not compete with the new community service cores. The procedure will involve a land use restructuring and relocation effort comparable to a major urban renewal program in the United States. Special consideration will be given to relocating the interests of present property owners either in the new national center or in the new community centers, according to their operational needs.

This may be done by public acquisition of most of the 7,000 parcels by negotiation, and those that cannot be so acquired, by expropriation. Property owners would be paid by some form of bond or negotiable certificate, representing perhaps 60% of the pre-earthquake value of the land, assuming that all property owners will share in the building loss or have been compensated through insurance from this loss caused by the earthquake. These certificates or bonds could be redeemed at a special discount for purchase or lease of land in one of the service cores on the periphery or relocation in the new center. Since such bonds would guarantee a modest return in interest, some displaced property owners might choose to hold the instrument to maturity. Redesign of the downtown area, most likely by a public competition, could take place once the government has acquired the central land, or simultaneously. When a preferred design has been worked out, the government will initiate a massive program of reconstruction of infrastructure; and then sale or lease of various new designated large parcels of land in accordance with a newly established plan and new appraised values, including infrastructure cost. The most practical way of implementing this overall procedure would be by the establishment of a Reconstruction Corporation with the necessary authorization for land acquisition,

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and disposition, and authority to issue relocation bonds. So constituted, the Corporation could also function in the new community cores, in similar fashion, implementing the deconcentration objective described above.

It would appear desirable for the Government to enact measures which would prevent any haphazard development of the center until the Corporation was functioning. Such measures could limit the land uses in the area to those absolutely essential for the health and welfare, e.g. public uses, parks, interim transportation terminals, building materials yards, etc. Such uses could be limited to a specific period. Land use patterns and circulation will be designed in consideration of seismic zones. These restrictions are especially important in the planning interim, to avoid generating more population or need for additional services, and avoid a cycle resulting in uncontrolled reconstruction. Restriction of illegally established uses would have to be rigorously enforced, simultaneously.

d. Strict Control to Insure Anti-Seismic Construction: There will be continuous review and revision, where necessary, of the Building Codes to insure that building plans comply, to the maximum extent feasible, with anti-seismic construction standards. This will require cooperation of all builders, architects, engineers and owners of damaged property, with close attention paid to seismic and foundation conditions, avoidance of the worst fault areas, provision of optimum open space between buildings (for fire safety), off street parking, tree planting, open air, light and space. The seismic corridors including public and private lands should be used as green space.

Continuous efforts will be made to strengthen the capacity of the enforcing agency, the Vice Ministry of Urban Planning, to assure that both private and public construction complies with the construction codes. Moreover, efforts will be made to assist the private sector to better understand its responsibilities to comply with the codes. This will be accomplished by an educational program which will be designed to assist both the public and private sectors. On the job training as well as actual plan review, where necessary by U.S. and third country technicians is anticipated as part of this program.

e. Further Development of National Reconstruction Planning Framework: The reconstruction program for Managua must be carefully staged in relation to availabilities of both national and international resources, manpower, construction industry capacity, inflationary pressures and other national development needs. Consideration must also be given to the effect of reconstruction upon the development of other cities in Nicaragua and overall levels of reconstruction.

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In order to deal with these requirements the GON plans to continue its efforts, initiated in 1973, with the INCAE Advisory Center, to expand further its national reconstruction planning framework. This work would be continued during the Immediate Action Program and will aim at developing a more effective national planning capability.

f. Active Participation of the Private Sector: As agreed by all observers of the Managua reconstruction scene, the active participation of the Nicaraguan private sector in the planning and implementation of the reconstruction is essential. The GON is aware of this need and plans to undertake the following actions: (1) a program of continuous dialogue between the public and private sectors, (2) participation of the private sector in the formulation and implementation of urban development plans through public competition, seminars, exchange of ideas, etc., and (3) revitalizing the Private Sector Advisory Panel.

g. Preparation of Final Immediate Action Program: Based on the urban planning and analysis already completed for the reconstruction, an Immediate Action Reconstruction Program should be undertaken while the longer-range master planning is being developed over the next two years. Within this Program critical pieces of public infrastructure and essential buildings such as markets, health centers, schools, and government offices destroyed or disrupted by the earthquake would be rebuilt or expanded in accordance with the above guidelines and principles. This Program would bridge the gap between the emergency period following the earthquake and the reconstruction periods that will be based on more detailed urban development planning.

5. Description of GON's Immediate Action Program

The GON's Immediate Action Program for the first planned stage of the reconstruction would be based on the principles and policy framework mentioned in the above sections. The basic policy to be promoted by the Immediate Action Program, and supported by the proposed A.I.D. urban sector reconstruction loan, would be the Government's already announced policy of deconcentrating urban growth and development so as to rebuild a more modern, efficient and seismically safer Managua. The Immediate Action Program, however, would encompass more than the A.I.D. Loan. It would be the guide for other lending agencies and for the GON's own direct investments. The A.I.D. loan would fit into the Program, fill an important financial gap, and would be eligible to finance activities in

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various components of the Program.

The GON's Immediate Action Program will have the following major specific objectives:

- i. Expansion of the number and quality of housing units in Managua, particularly low cost housing for the lowest income citizens.
- ii. Continue and expand the current program to upgrade the VMUP's urban planning capabilities and undertake high priority studies for longer-range reconstruction.
- iii. Undertake a public design competition for Managua's destroyed urban core and other heavily damaged areas.
- iv. Develop further analysis for the establishment of a Land Bank for carrying out future stages of the reconstruction.
- v. Continue the program initiated in the emergency period of rebuilding and expanding vital public facilities (schools, markets, bus terminals, government office facilities, health centers, etc.) destroyed or disrupted by the earthquake.
- vi. Continue the program initiated during the emergency period of expanding and strengthening greater Managua's peripheral and suburban road system.
- vii. Utilization of the above activities to promote the continued rebuilding of a deconcentrated city that can more efficiently service the population of Managua and more safely withstand the disruptive effects of future earthquakes.
- viii. Initiate an immediate program for developing open and green areas over some of the most dangerous seismic and fault areas that have now been identified.
- ix. Facilitate additional credit to the many small enterprises destroyed by the earthquake and design special credit, training and other programs and policies for dealing with critical bottlenecks for the

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reconstruction such as construction capacity, building supplies, transportation, etc.

- x. Continue to refine and develop a national reconstruction planning framework that would indicate the optimal allocation of investment resources between national development and Managua reconstruction.

The A.I.D. Urban Sector Reconstruction Loan would be available for supporting activities in all of the above areas of the Immediate Action Program, except for housing construction which is covered by a separate A.I.D. Low Cost Housing Loan now pending authorization. An illustrative list of activities that would be eligible for financing within the Immediate Action Program has been developed with the Ministry of Finance, the Vice Ministry of Urban Planning and other Government agencies is attached as Annex G. This list is currently being expanded by the VMUP as part of the continuous capital budget process which is described in Section VI. It is this same activity identification/budgeting process which will be the basis for the CIAP presentation later this year.

The GON's Immediate Action Program will provide for the financing of approximately \$170 million of reconstruction related activities. Funds will be used for carrying out the objectives listed above, will be planned and committed in 1975 and 1976, with overall disbursements in the period 1975-78. Between \$75.0 and \$80.0 million of the Program will be financed by GON resources with approximately \$93.0 million financed from international lending sources. Since the Immediate Action Program is still being refined and finalized slight variations in magnitudes may develop in the future.* (A more detailed economic analysis of the GON's Immediate Action Program follows below in Part 7.)

6. Technical Analysis of Immediate Action Program

This part of the CAP will review the technical completeness of the principles and policy of the GON's reconstruction program, the extent of GON commitment to the adoption of these principles and implementation of these policies, and will review additional technical development required for these principles and policy. Part Seven will then follow with an economic analysis of the GON's Immediate Action Program.

a. Planned Reconstruction of Managua with Growth Directed Toward South and East of the Old City: The principle regarding general composition of the city, and direction of its growth to the south and east has been the subject of a general consensus, as previously indicated. The only further pledge necessary to assure that the principle will be maintained is a guaranty that the GON will continue to assure that the principle is in accordance with current needs. This, in effect, requires continued study and revision of the urban planning guidelines, including land use, traffic

* For example, the USAID was pleased to learn, that after the presentation of the GON's Letter of Application, additional foreign resources were added to the total Immediate Action Program. This increased the Program from an originally planned \$150 million to \$170 million.

circulation, etc., to the point where an adequate, flexible, Master Plan is completed. The GON has already initiated this process and has made a commitment that it will go forward with this activity, in support of the Reconstruction effort.

b. Planned Deconcentration of Public and Private Investment and Composition of the Center: The GON is clearly making a commitment to this principle by limiting the investment from this loan to the area between the By-Pass and the future Outer Beltway Road. This investment as previously described, will be made in the form of infrastructure and public facilities within specific new "Poles of Attraction" on the periphery of the city. It is anticipated that this investment will attract private investment, and that the entire process will be carried out in a planned coordinated manner.

Given the possibility of a totally uncontrolled return to the center, the GON will undertake measures, to insure that efforts will actually be made to deter such haphazard development of the center. For example, during this interim period, the GON will give assurances that various technical studies will be undertaken, a design competition sponsored, and such other measures as necessary to defer activity in this area until, it is clear that future development of the city has been "tilted" toward the periphery.

c. Strict Control to Insure Anti-Seismic Construction: The technical capability to enforce the code provisions is being strengthened with the help of the A.I.D. technical assistance program, and the Vice Ministry of Urban Planning has, in the opinion of USAID, shown good faith in enforcing the anti-seismic provisions of the Building Code. It is expected that this will continue.

d. Consistency of Reconstruction Plan with National Economic Development: Independent studies by staff of the USAID and the important institutions in Nicaragua, concerned with this problem, such as INCAE, the Central Bank, National Planning Office, indicate that the program proposed is compatible with National Planning objectives. It is expected that the Vice Ministry of Urban Planning will continue to regularly confer with the National Planning Office to guarantee that the reconstruction effort will continue to be compatible with national objectives and limitations.

e. Participation by the Private Sector: It is expected that the GON will take steps to reactivate the Private Sector Advisory Panel and make special efforts to maintain a dialogue with the Private Sector throughout the life of the Immediate

Action Program through this Panel.

f. The Immediate Action Reconstruction Program: This Program will implement the most important components of the urgently needed reconstruction Program concentrating on the deconcentration of public and private investment guided by a Master Planning Process and a Capital Budgeting System. It will also insure compliance of the further development of a reconstruction planning framework and a dialogue with the private sector. At the same time, it will guarantee compliance with the antiseismic provisions of the Building Codes. A program will also be included for activities to be undertaken in the old center, while the planned deconcentration program is under way. The Immediate Action Program will be outlined in detail by a Time-Phased Implementation Plan.

While the final version of the GON's Immediate Action Program is now being refined and completed, it is expected that the final document will contain the following elements and will be presented to the USAID as a condition precedent to disbursement for Urban Sector Reconstruction Loan:

- i. A description of the GON's overall Immediate Action Program. (Since material contained in the CAP is drawn from the GON's Letter of Application and negotiations with the President of the National Emergency Committee, the MOF and VMUP, it is not expected that the final version of the Immediate Action Program will substantially vary from the material contained in this CAP).
- ii. The policies, guidelines and objectives that will be utilized for implementing the Immediate Action Program (these policies, guidelines and objectives will be drawn from the existing urban analysis and planning and are described in the above paragraphs).
- iii. Additional descriptive and analytic material on the geographic areas of concentration for the Immediate Action Program, and potential activities that can be undertaken within each area within the timeframe of the Program. (The broad geographic areas of concentration for the Program are now known, as described in other sections of the CAP, and an illustrative list of activities is attached as Annex G).

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- iv. A description of the reconstruction planning and special studies that will be undertaken by the VMUP as part of the Immediate Action Program. (An illustrative list of these studies is attached as Annex 14).
- v. A description of the public competition to be undertaken for the destroyed center of Managua and heavily damaged areas during the Immediate Action Program.
- vi. A capital budget for activities to be implemented in the Immediate Action Program indicating the phasing of individual Program activities and sources of financing for the capital budget.
- vii. A time-phased implementation plan for carrying out planning, construction and other major activities included in the Immediate Action Program.
- viii. Measures being undertaken to ensure compliance with the anti-seismic provisions of the building code.
- ix. Measures being taken to develop further a national reconstruction planning framework to guide future reconstruction and national development planning.
- x. Measures being taken to obtain the participation of the private sector in reconstruction planning and implementation.
- xi. Measures being undertaken, or to be taken to assure that the GON will recuperate its investment in infrastructure in the areas of concentration for the Program, through the utilization of the already existing tax system or by tax reform.

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7. Economic Analysis of Immediate Action Program

a. Introduction

In this section, we shall develop the budgetary and balance of payments gap analysis designed to answer the following questions: to what extent is the CON dependent on foreign loans to provide the resources to finance its public investment expenditures? How much of its investment requirements can the CON be expected to finance from its own resources? How large is the reconstruction component in the overall public investment program? Our analysis will cover the main budgetary accounts of the Central Government and of the consolidated public sector, as well as a balance of payments analysis with projections through 1976. We shall also review Nicaragua's self-help efforts in the fiscal field and its future intentions in this area, and explore the extent to which current CON planning and policy conform to the objectives formulated by INCAE in its Agenda for Reconstruction and Development.

At the time of this writing, a major planning effort is under way in the CON. A Coordinating Committee consisting of representatives from the National Planning Office, the Ministry of Finance, the Vice Ministry of Urban Planning, the Central Bank and the Ministry of Economy, are in the process of developing a public sector investment program for 1975-79, but a number of key decisions are still to be made and only fragmentary information is available at this time. A detailed operational program exists for 1974 only. For 1975 and beyond, our information is based on the following documentation:

(1) A reconstruction Plan prepared by the Vice Ministry of Urban Planning currently consisting of \$84.0 million in projects to be implemented in the Managua area. This list will eventually grow to some \$150 million - \$200 million worth of projects. The Immediate Action Program currently in preparation, as well as the projects to be executed under the current loan, were drawn from this list.

(2) Preliminary projections of revenues and expenditures of the consolidated public sector prepared by the Office of Planning

for 1975-79. These projections are now being refined by the Coordinating Committee.

(3) Tentative information regarding the lending plans of the international financial organizations to finance reconstruction. This information has been used to prepare the summary of the major sources of funds for the Immediate Action Program presented in Table 1.

(4) The INCAE Agenda for Reconstruction and Development, a statement of major objectives and policies guidelines in the area of public investment, reconstruction priorities, export diversification, tax policy, etc., to guide planners in formulating a development and reconstruction plan for 1975-79.

b. Immediate Action Program

The information on the Immediate Action Program presented here was developed by the GON working in close collaboration with the Mission. The list of illustrative activities to be undertaken under the proposed Program (listed in Annex G) was prepared by the Vice Ministry of Urban Planning and the Ministry of Finance in coordination with the USAID. The program to finance the Immediate Action Program presented in Table 1 was discussed extensively with General Somoza, the Chief of the Planning Office, the Vice Minister of Urban Planning, the Minister of Finance, and the President of the Central Bank. They all indicated that they anticipated no difficulty with respect to either financing or implementation.

In the projected financing of the Immediate Action Program (Table 1), the GON counterpart for the AID Urban Sector Reconstruction Loan was set at \$40 million, inclusive of outlays required for the purchase of land in the new Managua area for infrastructure, right-of-ways, and sites for public facilities. The GON would thus be financing 61.5% of the total cost of the project. A counterpart contribution of \$40 million draws a considerable amount of counterpart into this program which could be used as the basis for obtaining additional foreign financing from the international agencies. The Mission, therefore, urges that the GON be permitted to apply some portion of this \$40 million contribution as counterpart for some other international agency reconstruction loan in case a shortage of GON counterpart funds should become a bottleneck in securing additional funds for reconstruction from the international agencies over 1975-79.

We propose that loan conditions be made flexible enough to permit some reallocation of the GON counterpart in the event the need for such reallocation should arise during the implementation of the Immediate Action Plan.

Table 1

Projected Financing of Immediate Action
Public Investment Program for Managua's
Reconstruction Over 1975 - 1978
(In Millions of US Dollars)

<u>Project</u>	<u>Foreign Financing</u>	<u>GON Counter- part</u>	<u>Total</u>
1. Low Cost Housing (AID)	\$ 15.0	\$ 10.0	\$ 25.0
2. Urban Sector Reconstruc- tion (AID)	30.0	Investment 25.0 Land Pur- chase 15.0 \$ 40.0	70.0
3. CABEI	8.5	1.0	9.5
4. Other Donors	34.0	6.0	40.0
5. Borrowing from Private Banks	5.0		5.0
6. Other GON Activities	---	20.0	20.0
Total	\$ 92.5	\$ 77.0	\$169.5*
<u>Disbursements to take place over four years</u>			
7. Disbursement per year in US\$	\$ 23.1	\$ 19.3	\$ 42.4
8. In Cordobas	C\$161.7	C\$135.1	C\$296.8

* AID's contribution to the GON's Immediate Action Reconstruction Program will be provided through the Low Cost Housing Loan (\$15.0 million) and the Urban Reconstruction Sector Loan (\$30.0 million) and represents approximately 27 per cent of the total Program of \$169.5 million. An additional 28 per cent of the Program will be financed by other donors and foreign sources with the GON providing approximately 45 per cent of the total Immediate Action Program. In addition, IDB and IDA Emergency Reconstruction Loans authorized in 1973 for \$16.7 million and \$20.0 million respectively will be disbursing during the early part of the Immediate Action Program and will provide additional reconstruction resources to complement this Program. If these latter resources were added to the Program budget shown above, the overall foreign donor contribution would be increased and the AID contribution would be reduced to approximately 24 per cent of the overall Program.

The counterpart requirement of \$77 million for the whole Immediate Action Program has been conservatively estimated and could well be larger. We have assumed that "other donors" would ask for no more than \$6.0 million in counterpart for their \$34.0 million in loans. Moreover, a major loan by the IDB could alone account for the \$34.0 million in foreign financing programmed on line J, while a major loan by the IBRD or the IDA could significantly raise the total amount of counterpart above the projected level.

To ensure that the program does not place undue strain on Nicaragua's implementing capabilities, on the balance-of-payments and the price level, we have spread disbursements over a four-year period.^{1/} On an annual basis, the total outlay required would be C\$297 million, of which C\$168 million would come from foreign financing and C\$135 million from CON counterpart. This latter amount represents about 42 percent of the surplus in the current budget of the Central Government. Thus, if spread over a four year period, the CON Immediate Action is believed to be within the capabilities of the CON.

c. Budget Analysis

Central Government

The budgetary analysis of the Central Government's accounts is summarized in Table 2 and 3. The capital budget of the Central Government could not be projected beyond 1974 as the information is not available at the Office of Planning, and projections of capital expenditures on the basis of historical trend are meaningless in the case of a country hit by an earthquake.

This table, as well as the analysis of the consolidated public sector budget (Table 4), has been prepared to show the gap that has to be filled by foreign borrowing. Line F shows total loans to be obtained through borrowing to finance the Central Government's capital expenditures, while line G shows how the government proposes to meet the gap. Note the following:

- (1) The rapid increase in the Government's current revenues in 1973 and 1974 due to the emergency export and payroll withholding tax, and to the government's ability to continue collection of its customary taxes.

^{1/} However, it is expected that AID loan funds will be committed to specific projects in calendar years 1975 and 1976, and disbursed by the end of CY 1977.

Table 2

Nicaragua: Projection of Expenditures, Revenues and Surplus or Deficit in the Current Account of the Central Government, 1973 - 1975 (Millions of Cordobas)

	1971	1972	1973	1974	Projected	
					1975	1976
A. <u>Current Revenues</u> ^{1/}	644.1	644.1	929.4	1155.3	1180.0	1277
B. <u>Current Expenditures</u>	508.8	518.7	622.5	830.5	854.6	919
<u>Consumption Expenditures</u>	383.8	383.3	456.0	567.8	608.8	661
Salaries	278.7	279.2	329.7	380.6	415.8	449
Purchase Goods & Services	105.1	104.1	126.3	187.2	193.0	212
Interest on Public Debt	18.3	37.7	64.2	86.5	97.4	100
Current Transfers	106.7	97.7	102.3	176.2	148.4	158
C. <u>A-B Balance in Current Budget</u>	135.3	125.4	306.9	324.8	325.4	358
D. <u>Capital Expenditures</u>	317.3	387.4	527.5	879.9		
<u>Real Investment</u> ^{2/}	136.8	115.2	121.7	325.1		
Machinery & Equipment	5.5	10.1	33.8	32.1		
Construction Public Works & Other ^{2/}	131.3	105.1	87.9	293.0		
<u>Financial Investment</u> Plus						
Indirect Investment ^{2/}	141.9	225.4	329.8	471.4		
Amortization on Public Debt	38.6	46.8	76.0	83.4		
E. <u>Total Expenditures (B+D)</u>	826.1	906.1	1150.0	1710.4		
F. <u>Total Loans & Resources to be Obtained by Government to Finance Investment Plan (G-D)</u>	182.0(-)	262.0(-)	220.6(-)	555.1(-)		
G. <u>Total Sources of Funds</u>	170.3	263.6	437.6	622.7		
Debt to INSS	57.3	21.3	17.0	30.3		
Internal Borrowing		12.3	165.0 ^{1/}			
Borrowing from Abroad	113.0	230.0	255.6	413.2		
Other (External Borrowing Carried Over from Previous Year)				179.2		
H. <u>Surplus (+) Deficit (-) (G-F)</u>	11.7(-)	1.6(+)	217.0(+)	67.6(+)		

See footnotes on following page.

Footnotes and Source Table 2

1/ Includes earmarked taxes and special receipts for 1975-76. We assumed that the Government would maintain the export tax or replace it by a tax reform yielding the same revenues. For a detailed explanation of the basis for the Central Government revenue projections, see Table 2 of Joel's report (Annex 3).

2/ Real investment refers to investment undertaken directly by the Central Government; financial and indirect investment refers to loans to the private sector and to funds transferred by the Central Government to public enterprises or autonomous institutions to help them carry out their investment programs.

3/ "Other" refers to services connected with the investment program, such as the cost of feasibility studies.

4/ Includes C\$130 million in credits from the Central Bank to the Central Government to finance a number of reconstruction projects.

Source: For 1971-73, actual data; for 1974, approved budget for all items except the projection of import duties collections. The latter are running far ahead of the amount anticipated, and were raised to conform to the import projection in the balance of payments (Table 4); for 1975-76, current revenue projections are by the Ministry of Finance, except that we did assume maintenance of the export tax, an assumption not made in the Ministry of Finance projection; and we increased the projections of import duty collections. The current expenditure projections for 1975-76 are by the National Planning Office.

- (2) The rapid rise in current expenditures due to reconstruction and to the increase in salaries related to the rise in the cost-of-living.
- (3) The sharp increase in capital expenditures--from C\$387 million in 1972 to a planned C\$880 million in 1974^{1/}, attributable largely to reconstruction.
- (4) Increased dependence on foreign borrowing. Borrowing from abroad was only C\$113 million in 1971, increased to C\$230 million in 1972 and may reach C\$413 million in 1974. Foreign borrowing is at least as significant as the surplus in the current budget in financing the Central Government's capital budget.

The extent of the Central Government's reliance on internal sources of funds is illustrated in Table 3. The surplus in the current budget (line 1) constituted a very high proportion of the Central Government's capital budget in 1973 (58%), but this was due to unusual circumstances^{2/}. For the two-year period 1973-74, the surplus in the current budget constitutes about 45% of the Central Government's total capital budget. If internal borrowing is added, the proportion rises to 60%. Note, however, that the period 1973-74 is characterized by considerable price inflation, so that there is some doubt with regard to the wisdom of relying on internal borrowing to finance a substantial fraction of the capital budget.

Budget for the Consolidated Public Sector

The Coordinating Committee is presently engaged in projecting the capital budget for the consolidated public sector over 1975-79. The Committee's task has not been completed, so that the projection for 1975-76 shown here must be regarded as a first attempt. The final figures may differ significantly from those presented in Table 4. Analysis of this preliminary budget leads us to the following conclusions:

- (1) The investment budget for the years 1974-75 is too large in relation to available resources. Even after allowing for the AID reconstruction package, loans made by other international agencies and the \$40 million loan package just negotiated by the Government with private banks, we still end up with an unfinanced deficit of some C\$159 million in 1974 and C\$354 million in 1975. Either the invest-

^{1/} Some cutback of the 1974 budget will be necessary and is currently being considered.

^{2/} The year was characterized by an excellent fiscal performance while capital expenditures were lagging. They were deferred to 1974.

Table 3

Central Government: Surplus on Current Budget and Internal
Financing as Percentage of Capital Expenditures

(Millions of Cordobas)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>Budget 1974</u>	<u>1973- 1974 Con- bined</u>
1. Balance on Current Budget	135.3	125.4	306.9	324.8	632
2. Internal Borrowing	<u>57.3</u>	<u>33.6</u>	<u>182.0</u>	<u>30.3</u>	<u>212</u>
3. Total Internal Financing (1+2)	192.6	159.0	488.9	355.1	844
4. Capital Expenditures	317.3	387.4	527.5	879.9	1407
5. Balance on Current Budget as Percentage of Capital Expenditures (1 + 4)	42.6%	32.4%	58.2%	36.9%	45%
6. Total Internal Financing as Percentage of Capital Expenditures (3 + 4)	60.7%	41.0%	92.7%	40.4%	60%

Source: Table 2

Table 4

Consolidated Public Sector Accounts

(In Millions of 1974 Cordobas)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Current Revenues ^{1/}	1563.7	1896.5	2052.9	2261.9
2. Current Expenditures ^{1/}	1258.8	1559.4	1660.7	1802.8
3. Surplus in Current Budget (1-2)	304.9	337.1	392.2	459.1
4. Total Capital Expenditures	<u>1548.9</u>	<u>1495.4</u>	<u>1707.5</u>	<u>1671.3</u>
Real Investment ^{2/}	426.1	856.7	900.0	900.0
<u>Net Financial Investment</u> ^{3/}	479.6	334.3	365.6	264.0
Debt Amortization ^{4/}	606.0	304.4	441.9	507.3
Other	37.2			
5. Financing of Capital Expenditures from Sources Other Than Borrowing	<u>422.3</u>	<u>540.9</u>	<u>575.0</u>	<u>588.1</u>
Surplus in Current Budget ^{5/}	304.9	337.1	392.2	459.1
Sale of Assets ^{6/}	2.0	10.6	37.3	5.6
Other Income ^{6/}	115.4	193.2	145.5	128.4
6. Total Borrowing Required (lines 4-5)	<u>1126.6</u>	<u>954.5</u>	<u>1132.5</u>	<u>1083.2</u>
a. Internal Financing Planned ^{6/}	304.9	117.5	258.5	317.5
b. External Financing Required: (Residual line 6-6a)	<u>821.7</u>	<u>837.0</u>	<u>874.0</u>	<u>765.7</u>
7. Projection of Foreign Loan Availabilities	<u>1011.3</u>	<u>497.6</u>	<u>519.6</u>	<u>609.4</u>
a. Drawdowns of Loans Already Negotiated-	1011.3	456.3	330.6	249.0

(Continued on next page)

Table 4 Continued
Page 2

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
b. AID Reconstruction package ^{8/}	(70.7)	<u>41.3</u>	<u>77.0</u>	<u>98.0</u>
Program Loan	(70.7)	34.3		
Low-Cost Housing	-----	7.0	28.0	42.0
Managua Reconstruction	-----	-----	49.0	56.0
c. Other New Loan Disbursements from AID and International Agencies ^{9/}	-----	-----	42.0	183.4
d. Drawdown of Loans From private Banks	-----	-----	70.0	70.0
8. Additional Loans Required to Carry- Out Program (6b-7)	-189.6	149.8 ^{10/-}	354.4	165.3

1/ Revenues and Expenditures: for the Central Government, we used projections shown in Table 2. The Central Government Revenue projections are based on the assumption that the government will maintain the export tax or adopt a tax package yielding the equivalent. For other units of Government, data supplied by Planning Office.

2/ Real Investment: For 73-74, the source is the Planning Office's Plan Operativo for 1974. For 1975-76, very preliminary estimates by Planning Office.

3/ Total financial investment less the recuperation of funds (mainly loans by the financial institutions). For 1973-74, Plan Operativo for 1974. For 1975-76, very preliminary estimate by Planning Office.

4/ Data from Planning Office.

5/ From line 3.

6/ For 1973, Plan Operativo for 1974. For 1974-76, data supplied by Office of Planning.

7/ Source: For 1973, Plan Operativo for 1974. For 1974-76 IBRD preliminary projections of drawdowns of the external public debt as of December 31, 1973, supplied by Central Bank.

Table 4 Continued
Page 3

8/ Disbursement pattern projected by AID/Nicaragua Mission.

9/ Projected as follows: (in millions of dollars)

	<u>1975</u>	<u>1976</u>
AID Rural Development	---	5.0
AID Rural Health	---	2.0
IDB	4.0	12.2
IBRD	---	4.0
CABEI	<u>2.0</u>	<u>3.0</u>
Total	6.0	26.2
In millions of Cordobas	42.0	183.4

10/ Obtained as follows: C\$837 million (line 6b) less C\$497.6 million (line 7) less the C\$189.6 million surplus (line 8) carried over from 1973.

Note: In addition to the AID Urban Reconstruction Sector Loan, an IDB Emergency Recovery Loan for \$16.7 million and an IDA Emergency Reconstruction Loan for \$20.0 million will be disbursing during CY-1974 and CY-1975. In addition, possible new IDB lending for the reconstruction effort (particularly the Outer Beltway Road and a new Sewage Project) should be initiated in CY-1975. Resources from these international loans should provide the CON with additional reconstruction funds for its Immediate Action Reconstruction Program in addition to the AID Urban Reconstruction Loan and other foreign sources.

ment plan must be cut back or additional loans must be sought.

(2) The importance of foreign loans in financing the capital budget is clearly evident. Comparing line 3 with line 7, we find that projected foreign loan availabilities substantially exceed the surplus of the current budget. The external financing that would be required to execute the capital budget currently contemplated (line 6b) is much larger still.

(3) In Table 5, we have related the amount of internal financing that the GON can be expected to generate to a reduced public sector capital budget. In that table, we have cut back the capital budget by the unfinanced portion, i.e. we have reduced the total capital budget by the uncovered deficit shown in line 8 of Table 4. Internal resources for 74-76 were calculated as the sum of the surplus in the current budget and the amount which the Central Bank estimates can be borrowed from the Central Bank without serious inflationary (and balance of payments) consequences. This amount is estimated at C\$140 million annually. A comparison of total internal resources so calculated with a reduced public sector capital budget is shown on line 5. We find that total internal resources (budget surplus plus domestic loans) constitute between 35% and 42% of this reduced investment budget over 1972-76. This analysis suggests that it might be unwise to program domestic resources to exceed 40% of the total public investment budget.

How large is the reconstruction budget within the overall capital expenditure program of the GON? Our estimate is that it is 40% to 50%, though there are no reliable data. We note that the capital expenditures of the Central Government increased from C\$387 million in 1972 to a projected C\$880 million^{1/} in 1974, an increase of 127%. Looking at the consolidated public sector capital budget, we find that it increased by 81% (from C\$825 million in 1972 to a projected C\$1495 million in 1974). Most of this increase is presumably related to reconstruction. In addition, we find that at least half of all foreign loans being negotiated during 1973-74 are for reconstruction.

d. Balance of Payments Analysis

Nicaragua's dependence on foreign economic assistance is also clearly evident from an examination of the balance of payments. The

1/ Some cutback is expected.

Table 5

Relation of Surplus in Current Budget
and Internal Borrowing to a Reduced
Capital Budget for Consolidated
Public Sector

(In Millions of Cordobas)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Surplus in Current Budget	212.9	304.9	337.1	392.2	459.1
2. Permissible Internal Borrowing ^{1/}	<u>138.1</u>	<u>304.9</u>	<u>140.0</u>	<u>140.0</u>	<u>140.0</u>
3. Total Internal Resources	351.0	609.8	477.1	532.2	599.1
4. Capital Expenditures of ^{2/} Public Sector (Reduced) ^{2/}	825.3	1585.3	1345.6	1353.1	1506.0
5. Internal Resources as a Percent of Investment Budget (line 3 as a % of 4)	42.5	38.5	35.5	39.3	40.0

^{1/} For 1972-73, the amounts shown are actual loans obtained from domestic sources. For 1974-76, Central Bank estimates of maximum permissible internal borrowing.

^{2/} The public sector investment program was reduced in this table to eliminate the unfinanced deficit shown on line 8 of Table 4. Thus, line 4 of Table 5 was obtained by subtracting line 8 from line 4 of Table 4, except for 1973.

Source: Table 4, except for 1972. The source for that year is the Planning Office's Plan Operativo for 1974

balance of payments for 1972-73, and a projection for 1974-76, are presented in Table 6.1/ A rough idea of the extent of dependence on official foreign financing can be obtained by adding the net official capital inflow to the deficit in the balance-of-payments. For example, in 1974 the net official capital inflow is projected at \$114 million; but in this year, there is a projected surplus of some \$9 million in the balance of payments. Thus, the net gap covered by net official foreign financing is \$105 million (\$114 less \$9). In 1975, the gap would be \$122 million (\$80 million + \$42), though reserves could perhaps be permitted to decline by \$30 to \$40 million in view of the build-up that occurred in prior years. In 1976, the gap is \$127 million (\$53 + \$74), and foreign exchange reserves may be too low to permit any further draw-down. Note that there was no gap in 1972.

e. Conclusions

The analysis of Nicaragua's budgetary accounts and the balance-of-payments reveal the extent to which the country is dependent on foreign capital inflows to finance its reconstruction and development programs. The Immediate Action Program shows that foreign financing accounts for \$93 million out of a \$170 million program. The analysis of the Central Government accounts shows that the surplus in the current budget over 1973-74 accounts for some 45% of the total capital budget; while the analysis for the consolidated public sector indicates that total internal resources (surplus in the current budget plus permissible internal borrowing) over 1972-76 ranges from 35 to 42 percent of the total capital budget of the consolidated public sector. The balance-of-payments analysis confirms the rapid increase in the gap requiring foreign official financing after 1972.

What does this analysis reveal with respect to the GON's capability of contributing to the financing of the reconstruction program? There appears to be no particular difficulty in financing the Immediate Action Program outlined in Table 1. However, our analysis suggests that donors should not, as a general principle, demand as large a counterpart ratio as we are currently programming for the AID urban section reconstruction loan. If all donors demanded a GON counterpart contribution equal to 57% of the amount of the program (\$40 million out of \$70 million), then the GON would have to come up with \$40 million out of a \$70 million reconstruction program. If Managua's reconstruction

2/ For a more detailed description of the basis for deriving the various projections, see Joel's report on the Nicaraguan Economy, Annex 3. Note that balance of payments projections for 1975-76 are extremely tentative at this stage and could be thrown off by a number of factors.

Table 6
BALANCE OF PAYMENTS PROJECTION
(Millions of U.S.S.)

	1972	1973	1974	1975	1976
Exports of Goods FOB (+)	248.9	275.7	361.8	426.4	500.6
Imports of Goods FOB (-)		<u>319.3</u>			
Commercial	195.2	<u>290.1</u>	400.1	460.1	529.1
Earthquake-related gifts-in-kind		29.2			
Earnings for Services (+)		<u>98.3</u>	<u>58.0</u>		
Ordinary	41.3	37.0	46.0	51.0	57.1
Earthquake-related reinsurance		61.3	12.0		
Expenditures for Services (-)		<u>141.4</u>			
Ordinary	103.3	<u>121.4</u>	143.2	158.8	176.3
Earthquake-related expenditures		20.0			
Unilateral Transfers (net) (+)		<u>54.5</u>			
Ordinary	4.0	4.5	8.0	8.0	8.5
Earthquake related		50.0			
Balance on Current Account	<u>-4.3</u>	<u>-32.2</u>	<u>-115.5</u>	<u>-133.5</u>	<u>-139.0</u>
Private Capital Inflow, <u>Net</u>	<u>6.4</u>	<u>-6.7</u>	<u>10.0</u>	<u>11.0</u>	<u>12.0</u>
Direct Investment (+)	10.0	8.0			
Loan Drawdowns (+)	5.9	7.0			
Amortizations (-)	5.5	-6.0			
Commercial Credits and Others	-4.0	-15.7			
Official Capital Inflow, <u>Net</u>	37.4	70.0	114.1	80.0	53.0
Allocation of SDR's	2.9				
Errors and Omissions	-7.3	0.5			
Surplus or Deficit in the Balance of Payments	+35.1	+31.6	+8.6	-42.5	-71.0

Source: 1972-73, actual data. For 1974-76, unofficial projection of Central Bank and ROCAP Economic Advisor. For additional information on derivation of individual items, see Joel's report, Annex 3, Tables 8, 9 and 10.

were spread over a 10-year period, this would mean a counterpart of \$40 million or about C\$280 million a year. Such a contribution would absorb about two-thirds of the total surplus in the current budget of the consolidated public sector, leaving only one-third to serve as counterpart for economic development outside the capital. Internal borrowing could be used to supplement the surplus in the current budget; however, any substantial recourse to this source is likely to produce inflation and balance of payments disequilibrium.

f. Conformity of CON Reconstruction Policy with INCAE's Policy Guidelines

In its "Agenda for Reconstruction and Development, Goals and Objectives 1974-78", INCAE proposed a set of goals and general policy guidelines, including giving major emphasis to the reconstruction of Managua, the diversification of exports, the acceleration of the growth rate, the reduction of unemployment, the increase in public investment (mainly for physical infrastructure and improvement of human resources), raising the ratio of tax collections to GDP, and keeping down the debt service burden by borrowing on long-term from the international agencies while minimizing short and medium-term financing through commercial channels. To what extent does current CON thinking and planning conform to these policy guidelines?

There can be little doubt with regard to the emphasis placed on reconstruction. Thirty percent of the total 1974 budget (current plus capital expenditures) is allocated to reconstruction. The Planning Office's Plan Operativo for 1974 declares that "the fundamental objective for the following year (1974) is to establish a solid basis to start the reconstruction of Managua, while continuing to meet the normal development requirements of the country."^{1/} At the same time, the Monetary Program of the Central Bank contains several provisions to promote the flow of credit to the private sector in Managua by exempting loans to the capital's commercial sector from ceiling requirements and favoring it with particularly low interest rates. We have already noted the substantial expansion in the capital budget. Most of this is going to infrastructure. With respect to the improvement of human resources, the 1974 budget allocates the substantial sum of C\$283 million to the development of human resources, which constitutes 16.6% of the total Central Government budget. The sum of C\$7.9 million was assigned in the General Budget to the Instituto Nacional de Aprendizaje which, with contributions from the OIT and the Canadian and Spanish governments, is expected to train some 2,300 skilled workers and 40 teachers in the construction industry.

^{1/} Plan Nacional de Reconstrucción y Desarrollo, Volumen I: Plan Anual Operativo para 1974, page III-3.

In the fiscal area, the government took a number of measures following the earthquake which led to an outstanding revenue performance in 1973. The most important of these measures was a 10% tax on all exports of primary products, which yielded C\$13.1 million during the year. Other fiscal measures included a special withholding tax on the salary of public employees (equal to one month's earnings,) the suspension of tax exemptions granted to all public agencies, and an expansion of the tax base for the 5% general sales tax.

The basic reason for the adoption of these tax measures was to offset the decline in direct taxes that was anticipated. It is to the credit of the Government that this decline did not occur as the government bureaucracy was able to keep functioning and maintain its income and real estate tax collections at about the same level as in 1972 in spite of the disruptions, and to collect substantially larger import and consumption taxes. As a result, the total current revenues of the Central Government increased from C\$644 million in 1972 to C\$929 million in 1973, an increase of 44% in a single year.

There has been concern that the government might drop the export tax after 1974 as the measure was intended for only a two-year period. The government has informed us of its intent to keep the export tax on for a third year, though it might be put on a sliding scale to fluctuate with the prices of primary products. In addition, the Mission has been assured that a tax reform program incorporating several of the IMF recommendations would be submitted before the end of 1974. We have thus projected the revenues derived from the export tax to continue at the 1974 level through 1976, and feel that this represents the minimum target of the GON. It appears, therefore, that the Government is doing its best to increase the ratio of taxes to GDP, step up the level of public savings and increase its contribution to the public investment program, in line with the objectives suggested by INCAE.

In conclusion, GON policy in 1974 has, with one exception,^{1/} conformed to the major guidelines suggested by INCAE in its Agenda.

1/ The GON has supplemented its foreign exchange resources by borrowing from foreign private banks. Such loans amount to \$63 million in 1973 and \$40 million in 1974. The GON has been strongly advised to discontinue the policy by AID, IMF and the IBRD. While Nicaragua's annual debt service burden is still well below 15% of the total value of exports of goods and services (INCAE flagged 20% at the danger level), a continuation of the policy of borrowing substantial sums on commercial terms would raise the ratio rapidly. For a calculation of the debt service burden of loans already contracted, of loans presently under negotiation, and of financing still to be secured, see Table 11 of Joel's report, Annex 3.

8. Critical Timing Considerations

While the Mission strongly supports the basic concepts contained in the Immediate Action Program for the first stage of the reconstruction, and indeed our consultants have assisted the GON in developing them, we question whether the economic and political dynamics of the Managua reconstruction situation will allow the GON to carry out its Program unless capital assistance to initiate and implement such a Program is provided in the relatively near future. For while both the public and private sectors strongly favor a deconcentration policy in their public statements, and are currently implementing such a policy, strong undercurrents are operating that could slow the current outward urban growth of Managua and impair the GON's implementing the Immediate Action Program as described above.

First, land owners in Managua's destroyed urban core are growing restless as the GON continues to defer an announcement of future plans and projects for the destroyed downtown area and Zone II. A group of land owners have recently organized and held several public meetings to pressure the GON into granting authorization for rebuilding in the destroyed downtown area. In addition, requests are being made for the GON to begin immediately some reconstruction activities in the downtown area, such as the development of a new street network and public market. This could substantially reduce current and proposed activities in the periphery and the former suburban areas of Managua. More quiet and indirect pressures from other land owners in the downtown area are also being brought to bear at various pressure points within the GON. To date, the GON has been able to contain and defuse these pressures, partly because the demolition and clean-up of the destroyed Center is still on-going, and partly through statements that more detailed planning for the Center is required before rebuilding can be initiated. However, while the Mission is hopeful that these pressures to return to the Center can continue to be contained until more detailed planning is completed, we believe that it will be increasingly difficult for the GON to resist these pressures unless additional reconstruction activities and infrastructure expansion in the periphery and suburban areas are soon initiated to provide locational alternatives to those displaced from the downtown area by the earthquake.

During the past month (May, 1974), GON concern over pressures to return to Center have appeared to increase and the GON has announced that downtown land owners would be allowed to enter the destroyed area to measure and survey their real

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estate for future urban planning purposes. In addition, the GON has further announced publicly a downtown circulation network (street pattern) that is under study by the VMUP. While the Mission understands that these measures are being used to diffuse pressure to return to the Center, they are another indication of mounting concern to begin rebuilding in the downtown area.

Second, while much of the pressures from the downtown land owners are being exerted out of fear over the future market value of their real estate, other market forces are also beginning to reappear and provide an additional reconcentrating influence. As mentioned previously, much of Managua's useable urban infrastructure (streets, sewer and water lines, electric and telephone facilities, etc.) is concentrated in the destroyed downtown area and becomes more limited as one moves out from the Center. While some of this infrastructure was destroyed or damaged, much of it remains in place serving as an constant incentive and a potential magnet that could pull reconstruction back into the destroyed urban core of old Managua, if allowed to do so. In addition, with Managua's street and traffic patterns not as yet fundamentally altered by the limited developments in the periphery and suburban areas, the downtown section still contains locational advantages that if left alone could encourage natural forces to move the city back into a highly concentrated pattern as happened after the 1931 earthquake. Added to this is the fact that the earthquake has displaced many people and activities from the downtown to adjacent damaged areas just outside of Managua's old urban core (essentially Zone II where Urbanismo reports densities as high as 600 people per hectare). The result is that the GON is confronted with a potentially explosive situation where population and economic pressures must be relieved either by an outward movement into a deconcentrated pattern or an eventual move inward, into the old Center. Without a Program of development in the periphery and the former suburban areas, economic, population, and locational forces could substantially frustrate the GON's deconcentration policy and lead to an unfortunate degree of reconcentration in the old downtown area of Managua.

Thirdly, while the GON firmly believes in a deconcentration policy for the reconstruction of Managua, the GON has not as yet fully created the new mechanisms and institutions that will be required fully to implement such a reconstruction program. The Vice Ministry of Urban Planning, with technical assistance from A.I.D., OAS, and the UN, is now gearing-up to do the planning for this effort, but it will require more time and support before it can get fully into control of the overall urban development scene in Managua. In addition, the GON is now only

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beginning to assess seriously the unprecedented capital requirements for reconstruction and the need to establish a land purchase and transfer mechanism to facilitate reconstruction and the deconcentration policy. While the beginnings of an overall coordinating body and staff for reconstruction has been initiated with the establishment of the National Emergency Committee and the MOF's Coordination and Implementation Unit, additional work is required to expand the institutional structures and mechanism for reconstruction. Thus initiation of the Immediate Action Reconstruction Program is an important step to take as soon as possible so that while the GON is still organizing for the full implementation of Managua's redevelopment its ability to determine the future course of the redevelopment of Managua may not be impaired by reconstruction forces.

While the dangers of again reconcentrating Managua in the old downtown area are recognized by both the public and private sectors, this sense of danger alone cannot be counted on to prevent the reconcentration of Managua in the old downtown area as happened after the 1931 earthquake. As Dr. John Dyckman says in his recent report on the Managua Reconstruction (attached as Annex 6).

"A long list of studies of behavior of individuals in disaster areas . . . show that individuals do not have the same perception of risk as the 'experts' and in any event cannot fully internalize the public costs involved. If this proves to be the case in Managua, it will take a great public effort to keep individuals from building on 'high risk' areas . . . "

In addition, this view is further supported by a recent study prepared for the National Science Foundation entitled Early Human Response to the 1972 Managua Earthquake that reports the following:

"With the press to restore facilities, encourage economic activity, and to reassert the security of familiar surroundings in the face of disaster, great pressure is generated to put back things exactly as before" *

* For further details, see Earthquake Engineering Research Institute Conference Proceedings, Volume II, November, 1973.

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Because of the above factors, the USAID believes that the years 1974-76 are the most critical period of the entire reconstruction program and will determine the course of Managua's future development. With the demolition and clean-up of the downtown area scheduled for completion in late 1974, a critical crossroads for the GON's reconstruction efforts will be reached, and the choices now appear clear. The GON and its policy of deconcentration, left without the active assistance and support of the International Agencies, the Mission believes might not be able to prevent the reestablishment of a concentrated and densely populated new Center.

The IDB is considering a new \$34.0 million reconstruction package for 1974 that will provide financing principally for Managua's Outer Beltway Road, an especially important project for the deconcentration effort, and several other projects in the area of housing, sewage, and hospital construction. While the Mission actively supports the most rapid IDB financing of these projects, and considers each of high priority, especially the relatively large Outer Beltway Road, the project nature of this reconstruction effort would not provide of itself the type of assistance needed for supporting the deconcentration policy. The IBRD is not known to be planning future technical or capital assistance for the Managua Reconstruction. The Mission thus believes that the necessary flexible and innovative international assistance for the early stages of the Managua reconstruction effort will have to be provided under the pattern already established of joint A.I.D., OAS, and UN, action in the technical assistance side and joint A.I.D.-IDB assistance with capital resources.

As determined in the DAP reviews of November, 1973, A.I.D. will continue to play an active role in providing both technical and capital assistance for Managua's reconstruction. The first part of this assistance (the Grant Project for Program Management and Project Implementation was approved in March, 1974) will provide for much of the technical assistance requirements for long-range reconstruction planning. The second part of the A.I.D. reconstruction effort (capital assistance), will complement the Technical Assistance Grant Project already approved and will be provided in the context described above -- to continue A.I.D. assistance to the GON for reconstructing Managua in a deconcentrated pattern and to further strengthen the institutional framework for the long-range reconstruction of Managua.

Because of the special circumstances that exist in Nicaragua, the Mission believes that A.I.D. is uniquely qualified to assist the GON with a broad enough program to get the first stage of the reconstruction program off the ground and into

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action so that the forces generated by it will support GON objectives. Not only does an important relationship exist between the GON and USG, but the USAID Mission is geared-up with a staff that now has sixteen months of direct experience in the implementation of recovery and reconstruction activities in Managua. During this period the entire USAID staff, and key personnel in AID/W, have gained invaluable experience with the local institutional, planning and urban development scene, and with the key Nicaraguan personalities and organizations involved in each of these areas. In addition, to facilitate the most rapid AID/W assistance for the day-to-day problems involved in the A.I.D. recovery and reconstruction effort in Managua, AID/W and USAID have developed a close and cooperative working relationship that will continue to be important in facilitating the implementation of the Program proposed in this CAP. Thus, the joint GON/AID efforts during the past 16 months have given to A.I.D. as an organization, invaluable knowledge and experience as to the Managua reconstruction situation that if used in the near future in an innovative manner, could be an invaluable resource to the GON in assisting in the carrying out of the first stage of their reconstruction program. This could provide the necessary support that could mean the difference between a concentrated or deconcentrated new Managua.

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SECTION V - PROGRAM DESCRIPTION

1. Introduction

The Immediate Action Reconstruction Program to be assisted by the proposed A.I.D. Loan and GON counterpart will be composed of seven components, as described below, with each component designed to further the reconstruction and deconcentrated urban development of Managua. In accordance with the GON's overall deconcentration policy, Program funding will be mainly concentrated in Zones III and IV, as shown in Annex F, approximately between Managua's Inner By-Pass Road to just beyond the Outer Beltway Road (Pista Rural de Circunvalación) that is being used by the VMUP as the general outer limits of new Managua.

The first two components (Transportation Improvements and Public Infrastructure Expansion) will aim at continuing the GON program to fill-in the infrastructure network in Managua's periphery and former suburban areas in support of the overall deconcentration policy and the policy of giving special attention to the hard-hit lowest income groups in allocating the benefits of such infrastructure expansion. The third component (Reconstruction and Expansion of Public Facilities) will aim at continuing the GON program of rebuilding vital facilities destroyed or disrupted by the quake, and using the design and location of these new facilities to further promote the GON's overall deconcentration policy. Component number four (Development of Open and Green Areas) will aim at initiating with GON funds a program in Zones I and II for thinning out densities and beginning a program of developing open and green areas particularly along fault lines and other dangerous seismic areas. Component number five will provide for the establishment of a GON Land Purchase Fund for the Program that at a later date could possibly be converted into the basic land transfer and purchase mechanism required to carry-out the longer-range reconstruction of Managua. Component number six (Small Enterprise Reconstruction Credit Fund) will aim at continuing and expanding the GON's Program of providing smaller enterprises with additional resources for rebuilding and reestablishing themselves in a deconcentrated pattern as well as directing credit resources at critical bottleneck areas for the reconstruction. And component number seven (Program Implementation Assistance) will provide funding for activity design, preparation and implementation in addition to specialized assistance for urban and national reconstruction planning.

Each Program Component is composed of a number of different activities, each of which have been identified as of particularly high priority for the

reconstruction of a deconcentrated Managua. Each activity will be developed by an individual GON Executing Agency, in conjunction with the MOF/VMUP, and then implemented in a manner similar to the way activities are implemented for the current A.I.D. Program Loan.

A more detailed description of each Program Component is given below, supplemented by Annex G that contains a list of illustrative types of activities that will be financed as part of the Immediate Action Program and that will be eligible for A.I.D. Loan funding.

2. Individual Program Components

A. Transportation Improvements: Improvements in Managua's transportation network has received major emphasis from the GON during the past year and as recognized by all the planners to have worked in Managua will be a vital element in the future reconstruction of the city in a deconcentrated pattern. As Dr. John Dyckman says in his latest report on planning for the Managua Reconstruction, "If the intention of the planners is to stimulate deconcentration of activities, the earliest attention should be given to strengthening the peripheral system of roads and transportation facilities". Of all the Components included in this Program, the Mission believes, transportation improvements may be of highest priority for determining whether the future reconstruction of Managua is pushed outward in a deconcentrated pattern or is pulled inward in an effort to reconstitute the old urban core of Managua.

Since the earthquake, as mentioned earlier, GON efforts have focused on pushing the city outward through the initiation of the paving, widening and/or completion of major roads in Managua's new transportation network. The Urban Sector Reconstruction Program being requested for authorization will provide additional funding so as to assist the GON in continuing its effort to develop the basic transportation network in the periphery and former suburban areas of Managua, thus supporting the overall deconcentration of the new city. Major road activities will be financed that will further develop the circulation patterns in the areas between the Inner By-Pass Road and the Outer Beltway Road.

Since the main "ring-roads" of Managua's transportation system (Inner By-Pass Road, Pista Suburbana and Outer Beltway Road) are either completed,

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being completed or have future funding,* the GON/AID effort will center on expanding the "radial road system" between the Inner By-Pass Road and the Outer Beltway Road, and extending from the North Highway to the South Highway. A number of high priority road activities, with preliminary cost figures, have been identified by the MOF/VMUP task force for initiation as part of the Immediate Action Program, and these roads would be eligible for financing by the proposed AID Loan. These road activities are shown in Annex G. Full plans and specifications exist for some of these road activities. However, for most of these activities plans, specifications and right-of-ways must be obtained, and for others detailed feasibility studies are underway and will be completed by late CY-1974 or early CY-1975. Since most of these road activities were in various stages of development prior to the earthquake, it is expected that all projects could be initiated in late CY-1974 or CY-1975 and be completed by the end of CY-1976. The GON's Highway Department or the Distrito Nacional would be the Executing Agency for each of these activities.

Preliminary estimates indicate that \$8.0 million of the proposed AID Loan will be dedicated to this Component along with GON counterpart contributions, and that approximately 80 kilometers of new or improved main roads in Managua's suburban network will be constructed by this Program.

B. Public Infrastructure Expansion: Managua's pre-earthquake public infrastructure network (roads, streets, water and sewage system, electric power network, telephone system, storm drains, etc.) while damaged and substantially disrupted by the earthquake, was not as hard hit as commercial, residential and office facilities; and the highly concentrated pre-earthquake infrastructure network is still basically intact. Because of the existence of this infrastructure, and the gravity generated by it, the planners consider that it could be a factor in encouraging over reconstruction in the old urban core.

Thus, if Managua's immediate urban reconstruction is to be directed outward in a deconcentrated pattern as recommended by the planners, those areas in Managua's periphery and former suburban sections must be provided with expanded infrastructure facilities so as to counterbalance some of the locational and infra-

* The GON is finalizing with the IDB a project for the construction of the Outer Beltway Road.

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structure advantages offered by those areas in old downtown section. This component will therefore provide for the financing of those highest priority infrastructure investments, in addition to roads, that will promote the continuation of Managua's deconcentrated urban development and that can attract additional commercial, industrial and residential investment. While this component of the Program will not attempt to fill in the entire infrastructure network in Zones III and IV, that by itself would be a multi-million dollar program, it will attempt to develop key magnets that can hold existing activities and population as well as attract new activities and new population from either Zone II or additional activities that will be generated during the coming years. As Dr. John Dyckman says in his latest work on the Managua Reconstruction, "In my judgement, the best way to insure that certain alignments are not built-upon is to attract the development to other sites, not to struggle to maintain their insulation from development in a situation in which development pressures are intense. At the least the planners must siphon off some of that pressure. . . . It is therefore important to move quickly to create new 'poles' of attraction, particularly toward the southeast."

This component of the Program will be composed of the following basic sub-components that will be used to structure the infrastructure investment as outlined below:

i. Development and Expansion of Infrastructure Requirements

for Managua's Industrial Zones: Managua's existing industrial strip along the North Highway was relatively undamaged by the earthquake, but has become overly congested with new commercial establishments and some light industrial activities displaced from Managua's destroyed urban core. Much of this congestion has been attributed to the lack of available infrastructure along the strip. According to the planners, if this industrial/commercial strip is to better support current activities located on it, as well as continue to attract new commercial/industrial investment in a deconcentrated linear pattern (from the outskirts of Managua's old downtown to beyond the Las Mercedes International Airport), additional infrastructure investments will be required.

The MOF, VMUP, MOE and Distrito Nacional are together developing preliminary plans for improving the carrying capability of the North Highway commercial/industrial strip with infrastructure expansion as a part of the GON's Immediate Action Program. New service roads, street paving, additional

sewer and water lines, expanded telephone and electrical facilities, and improved storm drains are anticipated for financing. Some investments would be financed by existing IDB/IBRD loans, but most anticipated activities are currently unfunded. Funds from the proposed AID loan and GON counterpart would be provided for those highest priority activities in coordination with current and planned activities of the IDB, IBRD and CABEL.

In addition, the development of the basic infrastructure framework for an area selected for Managua's heavier industry, it is expected, would be eligible for funding from the AID Loan and GON counterpart, in addition to investment along the North Highway strip. The Distrito Nacional and the Ministry of Economy will jointly execute these specific infrastructure activities.

ii. Development and Expansion of Infrastructure Requirements for Managua's Two New Commercial Zones: As mentioned earlier, in addition to the North Highway industrial/commercial strip two new deconcentrated commercial zones are forming to service the eastern and western sections of the city. Substantial investments in new shopping centers and adjacent public sector activities have already been made. However, additional complementary infrastructure will be necessary to assure that these Centers expand in future years and can adequately compete with the old downtown area.

The VMUP and its foreign technical advisors have begun to develop preliminary plans for these Centers that will call for new investment in service roads, street paving, sewer and water lines, expanded electrical and telephone service, street lights and storm drains. Funds from the proposed AID Loan and GON counterpart would be provided for those highest priority activities in coordination with current and planned activities by the other international agencies. The Distrito Nacional will execute individual activities either directly by force account or through contract work.

iii. Upgrading and Expansion of Infrastructure in Selected Low Income Communities: As noted earlier, almost all housing in Managua's old urban core was destroyed by the earthquake, displacing from the Center of Managua perhaps 150,000 to 200,000 residents, the majority of whom were low income citizens. While many of these fled to secondary cities immediately

(1) The Ministry of Finance which controls public sector fiscal policy; (2) The Vice Ministry of Urban Planning which will produce the capital budget for reconstruction; (3) The Central Bank; and (4) The National Planning Office which is charged with relating the public and private sectors of the economy and, along with the Ministry of Finance, with dovetailing normal economic development planning with the reconstruction crash.

Each of these four agencies is now performing in the general area of its assigned responsibilities but only the Central Bank is operating at a fully professional level. The Ministry of Finance is making a sound beginning but its operation is as yet without the necessary sophistication and its activities are not adequately coordinated with those of VMUP or the Planning Office.

The VMUP is also beginning well but has very far to go before being fully capable of designing and building the new city. However, the VMUP is slowly taking shape in satisfactory professional form. This maturation is now being rapidly accentuated by the beginnings of implementation of the VMUP foreign technical assistance effort. AID, UN and OAS have agreed to supply up to 24 foreign experts over the next two years. These experts are now coming on board, and VMUP is beginning to take the shape of a modern, professional urban planning entity. The foreign experts will hold "line" jobs at the start with Nicaraguan understudies who will eventually take over. VMUP has been given a free hand to pay competitive salaries for engineers, architects, and other technicians and is hiring numbers of such young professionals to be trained on the job.

What is needed by both the Ministry of Finance and VMUP is two-fold. First, outside technical assistance; and second, a relevant in-service training program. The CON has asked that INCAE be contracted with to provide these services to the Ministry of Finance and VMUP and also to help these two units establish a smooth working relationship with the National Planning Office, as described more fully below.

For the Ministry of Finance INCAE will undertake to build competencies that do not now exist in economic analysis, capital budgeting, and program budgeting; and it will give the Minister technical assistance in how

responsibilities for the Immediate Action Program and the AID Urban Sector Reconstruction Loan. Funding will be provided for employing specialized consultants (estimated at three man/years or \$120,000), plus assistance in obtaining additional local technical and financial personnel (estimated at \$50,000) and some commodities (estimated at \$30,000). This funding will further assist in strengthening and expanding the capabilities of the Ministry of Finance to carry out its coordination and implementation responsibilities for the Program.

(c) Up to \$500,000 for National Reconstruction Planning for the purposes and reasons indicated below.

The requirements for financing reconstruction in the combined public and private sectors loom so large as to threaten economic dislocations if the scheduling of their fulfillment is not accomplished with the utmost care. The inflationary pressures experienced by most countries from common causes are all present in Nicaragua. On top of these is the threat of the unique set of local factors to be found in replacement needs equal to one year's GNP, a construction industry that is already being taxed even as reconstruction begins, development investment pressures engendered before the earthquake and accentuated in its aftermath, particularly for the social services of education and health, a sense of need to pay for reconstruction through agricultural production which to be accomplished requires new investment, and a realization that whatever the requirements may be for reconstruction and development, new investment to maintain self-sufficiency in food supply in the face of rapid population growth is still priority number one. In this situation the GON must exercise extreme care in relating capital budgeting for reconstruction, to development investment, to private investment rates and levels, to inflationary trends, to construction capacity, to tax revenues, to both internal and external borrowing, and all in such a way as to control inflation and support the chosen priorities. Given the state of the planning organizations that the GON possesses at the outset of this task, the USAID and other international consultants believe that additional technical assistance will be required if Nicaragua is to develop an adequate national reconstruction planning capability.

Basically four agencies of the Government must work in concert under a single conductor if economic dislocations are to be avoided. These are:

G. Program Implementation Assistance: This component of the Program will provide necessary financial assistance for directly supporting the implementation of the Immediate Action Reconstruction Program and for providing specialized assistance for urban and national reconstruction planning not provided for by the Mission's grant project for Program Development and Implementation (524-11-993-106). While the Mission's Technical Assistance grant project will cover overall technical assistance requirements for the reconstruction, particularly for the Vice Ministry of Urban Planning, the Loan will finance requirements directly related to the formulation, preparation and implementation of individual Program activities and will cover other relatively large and high priority activities in the areas of urban and national reconstruction planning that because of their scope and cost cannot be financed by the Mission's grant project.

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This component will be composed of the following two sub-components:

i. Program Implementation Support: Funds from this sub-component of the Program will be used to expand capacity of key Executing Agencies for the implementation of the Immediate Action Reconstruction Program and the AID Urban Sector Reconstruction Loan. Assistance will be provided as follows:

(a) Up to \$2.0 million of AID Loan funds will be provided to expand and supplement existing capacity in various CON Executing Agencies (Highway Department, National Construction Agency, National District, DENACAL, Central Bank's FED, etc.) for preparing detailed plans, specifications and bid documents for individual activities to be implemented through this Program and to carry out inspection and supervision of these activities. Funds will be used for financing consulting contracts with local and foreign A/E firms and/or with specialized individual consultants for the preparation or supervision of particular activities to be undertaken. Since the AID assisted part of the Immediate Action Program will involve construction of approximately \$50.0 million of construction type activities (AID Loan plus counterpart), it is estimated that approximately 8 1/3% will be necessary for the financing of consultants for activity preparation and implementation supervision. Half of these costs will be financed by the AID Loan.

(b) Up to \$200,000 for assisting the Ministry of Finance's Coordination and Implementation Office carry out its supervisory and coordination

beyond Managua's Inner By-Pass Road in support of the GON's deconcentration policy, and that could promote and direct financing to key industries, such as brick making, nails, plumbing fixtures, soil pipe, asphalt, lumber, etc., so as to break critical bottlenecks for reconstruction.

Thus, the Mission anticipates that a part of the proposed A.I.D. Urban Sector Reconstruction Loan and an equal amount of local counterpart will be used to capitalize a special Small Enterprises Reconstruction Credit Fund. The fund will be operated by the Central Bank's Fondo Especial de Desarrollo (FED), a newly created second-story development bank that is also administering IDB and IBRD Loans. The FED would move reconstruction credits to small enterprise subborrowers through the Nicaraguan banking system for eligible subprojects.

The special Small Enterprise Reconstruction Credit Fund will also contain a specialized Implementation Unit that will work full-time with selected types of subborrowers to assist them in promoting, developing and financing their subprojects. The Implementation Unit will be staffed by a small group of highly qualified credit specialists, that will work in close coordination with the MOF and VMUP, to direct credit to those highest priority projects for the GON's Immediate Action Program. The emphasis of the Fund will be on promoting and developing a small group of critically important private sector projects, rather than in attempting to fill a credit gap or reaching a large number of subborrowers.

The Small Enterprises Reconstruction Credit Fund will also establish a special credit program that will make additional resources available to small enterprises. Credits will be channeled to those enterprises located in or around areas receiving assistance from other components of this Program, such as the eastern and western commercial zones and low income residential areas that will receive infrastructure assistance. For this Program the FED will operate through institutions that have well established small enterprise credit programs such as the Banco Nacional, the Banco Popular and FUNDE and any private bank wishing to participate. However, project promotion and development for this aspect of the program will be left to these specialized small enterprise credit institutions. Additional details and analysis of the Small Enterprises Reconstruction Credit Fund is contained in Section VII, Part 8, and in Annex 6.

F. Small Enterprises Reconstruction Credit Fund: As noted earlier, Managua's medium and large scale industrial capacity was relatively untouched by the earthquake, but perhaps as high as 90% of the City's small industrial enterprises were destroyed by the quake and major commercial activities, heavily concentrated in the downtown area, suffered in a like manner. Despite the extent of the destruction, Nicaragua's vigorous private sector quickly pulled itself out of the rubble of old Managua and began re-establishing itself in the periphery and former suburban areas. A number of large commercial centers have already been initiated, several smaller commercial complexes are being built, and as indicated in its recent convention, the Nicaraguan private sector has come out of the earthquake with new confidence and a strong desire to participate in the planning and reconstruction of Managua.

However, while many private sector reconstruction activities have been initiated, only a fraction of the commercial and warehouse space destroyed by the quake has as yet been rebuilt. Many small enterprises destroyed by the quake have not as yet been able to re-establish themselves. While the City is now spread-out over a wider area, thus requiring additional transportation capacity, the smaller bus and taxi companies have been somewhat slow in responding to the new opportunities by expanding capacity and few new companies have been established. The need for new construction industry capacity grows each day, yet Nicaragua's smaller construction firms continue to have difficulties obtaining financing for expansion from commercial banks. As each week passes, and the reconstruction boom grows, new opportunities and needs arise for the establishment and/or expansion of architectural and engineering firms, the development of new suppliers of building materials and building supplies, and other critical industries. Yet in certain of these areas, smaller Nicaraguan enterprises have been unable to respond to the new opportunities often leaving a critical field only to the few large established companies in each industry.

While the reasons for the above are complex and often involve far more than the lack of loan funds, the Mission believes that the GON's reconstruction program could be greatly assisted by a specially designed Small Enterprises Reconstruction Credit Fund that could promote and direct resources to high priority private sector investments such as expansion of the smaller construction firms, that could continue to direct private sector investments out

tries of Public Education and Health must depend heavily on donations of land for sites for schools and health centers. This latter fact has caused perennial problems and delays in construction of schools, health centers and other public facilities.

While the Mission believes that some of the activities included in this Program could be implemented utilizing the GON's traditional system of land acquisition, the scope of the Program will require a more established and flexible land purchase mechanism if individual activities are to be rapidly and effectively implemented. The Mission has therefore begun discussions with the President of the National Emergency Committee and with the MOF/VMUP reconstruction work group on the establishment of a GON Land Purchase Fund. Several papers on this subject have already been prepared by the VMUP for the National Emergency Committee and the Mission expects that a special Land Purchase Fund initially capitalized at 100 million cordobas (approximately US\$15.0 million) will be established for this Program. The Fund would be administered by the MOF in close coordination with the Distrito Nacional and the VMUP, and the creation of this Fund would be a condition of any new AID financing for reconstruction.

In addition, the VMUP with assistance from AID's Urban Development Advisor, has also been investigating the possibility of utilizing the Fund to purchase not only rights-of-way and sites for public facilities, but also for the purchase of key areas of real estate that will increase in value because of public sector infrastructure investments. Through this system, the GON with this Fund would purchase critical pieces of real estate prior to making particular infrastructure investments and then sell them back to the private sector for specified uses after public sector investments had been made. This mechanism would provide the Fund with self-financing characteristics and could provide the GON with an institutional model and funding bases (Urban Land Bank) for carrying out other aspects of the long-range reconstruction. While the Mission is encouraged by progress to date in this area, much more work is still necessary for establishing an Urban Land Bank that could actively buy and sell real estate in Managua. However, the Mission believes that the establishment of the GON's \$15.0 million Land Purchase Fund, plus other available GON land, should be sufficient by themselves to permit implementation of this Program and that further developments in the Fund could be made over the coming years with additional assistance from foreign technical advisors.

Likewise, in Zone II, densities could possibly be reduced by "hollowing-out" dangerous sites and dedicating them to open and green areas. Thus, the Mission believes the immediate development of some open and green areas within Managua's Inner By-Pass Road is an important element in the overall effort to deconcentrate Managua's urban development and that the GON should be encouraged to initiate such a program as soon as possible.

It is therefore expected that the Immediate Action Program will contain GON funding for the purchase and development of open and green areas within Managua's Inner By-Pass Road. Activities will be promoted and financed such as the development of parks, plazas, malls and monuments, sport fields, recreational facilities and any other type of activity that would prevent rebuilding on these dangerous seismic zones and reduce overall densities. GON resources would be used to purchase the particular sites or areas. The development of parks, plazas, sports fields and other types of recreational facilities would be eligible for GON counterpart funding from the Immediate Action Program. (AID Loan funds will not be used for this component of the Program.) The VMUP will provide necessary planning services for this component of the Program. The Distrito Nacional would implement the activity.

E. GON Land Purchase Fund

The implementation of each of the components shown above will require the purchase by the GON of extensive areas of urban real estate in Managua's periphery and suburban areas and along fault corridors and in other dangerous seismic areas. Rights-of-way for new road activities must be purchased, sites for infrastructure and public facility developments are necessary, and real estate to be converted into open and green areas must be obtained. The purchase of some of these areas by the GON will be an important part of the Immediate Action Program and as noted earlier the GON's longer-range reconstruction planning will also have to eventually deal with land purchase problems created by the future redevelopment of the old downtown area.

To date, the GON has no established system for purchasing land for public purposes. Generally, a budget allocation is made to a particular executing agency, such as the Highway Department, who in turn uses these funds to obtain necessary land for the particular project. Many GON agencies such as the Minis-

The GON plans to initiate soon the construction of an office complex for some GON agencies along the Inner By-Pass Road, adjacent to the western commercial zone. This GON office complex will contribute to the overall development of the western commercial zone, and will relieve the problems for some agencies. However, additional space will be required if the GON is to provide adequate office space to all of its key ministries and other agencies, improve overall operations, and respond to expanding demands for reconstruction and development activities over the next ten years.

In addition, the dispersion of GON office complexes over a wider area, similar to the deconcentrated development of the hospital system, can serve as another instrument for promoting deconcentrated urban development, better protect GON facilities from the disruptive effects of future earthquakes, and bring employment opportunities closer to where the current population of Managua is now living.

Thus this component of the Program will provide financing for the construction of additional office space for key GON Ministries. It is expected that two additional Government office complexes would be built--one adjacent to the eastern commercial zone and one along the North Highway. Priority will be given to agricultural development agencies (MOA, IAN, INCEI), the human resource development agencies (MOH and MPE) and the Distrito Nacional and the planning organizations such as the VMUP and National Planning Office.

D. Development of Open and Green Areas

While the major focus of the GON's Immediate Action Program will be the creation of new deconcentrated poles of attraction out beyond Managua's Inner By-Pass Road (in Zones III and IV), and the deferral of developments in the downtown area to the extent possible, the Mission and the MOF/VMUP work group also believe that positive actions within Managua's Inner By-Pass Road can and should also be initiated as a part of the GON's Immediate Action Program. As recognized by the planners, areas in Zone I, particularly along the faults, have been identified as extremely dangerous for future rebuilding. These areas--particularly some of the fault corridors and parts of the "graben" between Tiscapa and Chico Pelon could now be purchased and "freed-up" for open and green areas.

western post office and assistance for establishing improved garbage disposal areas and service out beyond the By-Pass. Facilities to be financed by AID will be mainly concentrated in the western and eastern commercial zones that will also receive infrastructure assistance from the Program, along AID financed roads and other areas being assisted by this Program. It is expected that up to \$7.0 million of the AID Loan will be dedicated to this component complemented by an additional GON counterpart. The majority of activities to receive financing involve relatively simple types of structures, the plans for which can be developed in less than six months. A list of activities eligible for Program funding, developed by the MOF/VMUP reconstruction work group is contained in Annex G. The MPW's Construcción Nacionales will be the principal Executing Agency for this component of the Program.

Since the rebuilding of schools, hospitals and low cost housing are covered through other AID Projects, it is not now anticipated that such activities will be included in this Program component. This component of the Program will expand earlier GON efforts to rebuild public facilities into other sectors and continue AID assistance for the reestablishing of Managua's public facilities. Also, because of the importance for the reconstruction of Managua, and the overall development of Nicaragua, of establishing improved office facilities for a number of key GON ministries, and the possibility of using the rebuilding of these office facilities as another important instrument for promoting deconcentrated urban development, this latter activity will also be included as a part of this component as described below.

As noted in all analyses of the Managua earthquake, the loss of most GON office facilities continues to seriously effect the GON's operations and limits its ability to carry out expanded reconstruction and development activities. To date, most GON ministries are still located in inadequate temporary facilities that adversely effect overall efficiency. While the situation has somewhat improved since early 1973, most of the key GON reconstruction and development agencies such as the Ministries of Agriculture, Education, Health and Economy, the Distrito Nacional and the Vice-Ministry of Urban Planning are still located in completely inadequate office facilities. This has not only limited and slowed down the operations of the GON, but also seriously limits the ability of the international agencies to assist these agencies with reconstruction and development activities.

v. HIG Housing: In addition to the upgrading of three low income residential areas, and the development of the Las Americas Colonies, the Mission expects to encourage the Nicaraguan Housing Bank to direct HIG housing in support of the GON's overall deconcentration policy. The Mission is hopeful that HIG projects adjacent to the low income residential areas to be assisted by this Program can be developed so as to contribute to further development on an equalitarian basis of the periphery and suburban areas of Managua.

C. Reconstruction and Expansion of Public Facilities

The destruction of vital facilities such as schools, hospitals, public markets and government offices has been one of the most disruptive effects of the Managua earthquake. Repairing and replacing some of the most important of these facilities, such as hospitals and schools, has been an important part of the GON's efforts during the emergency period immediately following the earthquake. However, lack of public facilities in other sectors remain a critical problem and the continuation of efforts to rebuild and expand other public service facilities has been identified as of high priority for the first stage of the GON's reconstruction program.

In addition to rebuilding and expanding public service facilities destroyed by the earthquake, the location for the rebuilding of these new facilities will have an important impact on the future patterns of growth in Managua. As with the transportation and infrastructure components, the emphasis in the area of public facilities can also move inward toward re-establishing the old urban core of Managua and its surrounding areas, or outward in a pattern that will promote deconcentrated urban growth as recommended by the planners. This component of the program will emphasize the rebuilding and expansion of vital public services destroyed or disrupted by the earthquake. In addition, by concentrating funding in Zones III and IV, outside the Inner By-Pass Road, the Program will use the rebuilding and expansion of these public facilities as an instrument for promoting the overall deconcentrated growth of Managua.

Eligible activities for AID and GON funding will be the construction of public markets in the eastern and western areas of the city, eastern and western bus terminals, community bus stations, fire stations, facilities for the establishment of small industries, health and employment centers, libraries, an eastern and

motion, development and technical assistance to the Community Home Improvement Associations. Such Community Associations would receive funds from the Bank through and after review and endorsement by the Grange. Loans to families, members of the Community Associations would be by each individual association to its members. It is estimated that in the subject three Barrios the number of Associations would reach 30-40 Associations in the first three years.

In addition FUNDE, CEPAD, The Credit Union Movement and CARITAS would be affiliated to the program in that each with its own resources and natural clientele would form, in its own way, Community Home Improvement Associations pertaining not directly to the Grange but to each Private Agency. The Grange would assist the Private Agencies in the techniques of forming Associations and each Association would be also a member, a hyphenated member, of the Grange (e.g. the FUNDE - San Judas #4 Home Improvement Association). Capital for re-lending to members of hyphenated Associations would flow directly from the Bank to FUNDE, CEPAD, CARITAS and FECACNIC, with such vetting by the Grange technical staff as the Bank may request.

The four Private Agencies and the Banco de Credito Popular, particularly the latter, are ready to move as this CAP written. The Bank's analysis underscores the seriousness of the problem to be solved and indicates a magnitude of need or demand that might well, in light of the newness of the approach be too much to take on at first. Gustavo Gomez Casco, President of the Bank, sees 20 Associations the first year, 50 the second, with up to 120 in five years with a total membership of 12,000 to 15,000 families. The Mission believes, however, that a more modest start, 30-40 Associations in two years, would be wise, with a formal reading as to needed course changes in December 1976. In this light \$1.6 million from the AID Loan is proposed as a fund to be administered by the Banco de Credito Popular for carrying out the program over an experimental, pilot two-year period. The Bank suggestion that these Community Associations can enhance their collective viability by establishing grocery stores to sell to members at a discount, and can also encourage members to grow and sell their vegetables to these stores, warrants serious consideration.

Attached as Annex 15 is a USAID Mission outline of the Proposed Program. Also attached as Annex 15 is a Banco de Credito Popular statement of the proposal.

temporarily on nearby land in Zone II. They will be displaced again as the city reconstructs and will have to migrate to the established low income areas noted above. About 15,000 families are in this category and most have salvaged or scrounged anew the material to reconstruct their shacks. These dwellings, that is their materials, are valued at between \$30 and \$70. On moving to what they hope to be a new long term arrangement there are several courses open to them, depending, however, almost entirely on the availability of credit.

(a) They can rent again and hook up to water, sewerage and electricity.

(b) They can, conceivably, buy a plot on credit--\$500 minimum--and proceed to improve the shack itself with a floor, roof and extra room.

Mechanism: A cooperative credit program that would meet the above needs has been developed and agreed to in principle by five key Nicaraguan Institutions which will work in concert, as described below, provided funds from this proposed AID Loan are made available as indicated.

The five institutions are: The Banco de Credito Popular, CEPAD (The Protestant CARITAS), FUNDE, CARITAS, and the National Credit Union Movement. The Banco Popular is a well-established autonomous Government entity dedicated to extending a broad spectrum of types of cash credit to low income families. The other four are well-known private entities, two of which also extend credit in cash (the Credit Unions and CEPAD). The remaining two (FUNDE and CARITAS) extend credit in kind.

The Banco de Credito Popular would be the repository for and manager of the Special Credit Fund to be set up to provide home improvement credit to meet the needs outlined above. The Bank would promote, develop and assist community based Home Improvement Associations established in the three Barrios referred to in iii. above. For effective administration there will be established at the top, between the Community Associations and the Bank, the Managua Grange of Home Improvement Associations to which the individual Association would belong. The purpose of the Grange would be to carry out the functions of pro-

in late CY-1974, plans for other communities will be developed in CY-1974 and could begin implementation in late CY-1974 or early CY-1975. The Distrito Nacional would be the principal executing agency and coordinate inputs from other GON agencies.

iv. Making Expanded Infrastructure available to the Lowest Income Groups: It will not be enough simply to bring new public services to lowest income areas, since many families living there and migrating there, will not be able to afford to take advantage of them. If they are renters they may even be moved out. The VAMUP has projected that between 1974 and 1979 the number of families living in low income neighborhoods with monthly per capita income below \$20.00 will increase by more than 85%. Of these the median per capita income is approximately \$10.00 per month. It was learned in the Low Cost Housing CAP study that many of these families of Managua, in fact the 26% of the population at the lower end of the income frequency distribution, do not have enough income to qualify for outright purchase of a Las Americas house. However, such families, now living in the "Opens" and in such areas as San Judas, the Rene Schicks and La Fuente, could afford to hook up to the new water and sewer lines, and to electricity as well, if they could find the credit necessary to invest in them. They do not have the cash. The need:

- (a) \$37 to install electricity.
- (b) \$85 for a water connection.
- (c) \$172 for a plumbing installation including sewer connection.
- (d) \$294 plus labor for all three.

These costs are obviously not affordable from the cash resources of the poorest half and there has been no existing source of credit. With credit made available through a program of cooperatives linked to the resources of the Banco Popular and with the cooperation of FUNDE, CARITAS, CEPAD, and FECACNIC, many of these families may secure the benefits of the urbanization occurring around them. They can in addition borrow to improve their structures with such additions as a cement floor, new roofing and possibly a new lean-to type room to decongest their typical one-room shack.

Then there are the former renters and squatters who were displaced from their downtown dwellings and are now borrowing or squatting

following the earthquake, most have now returned to Managua and have moved in with relatives or found provisional shelter in existing residential areas, particularly in the periphery and suburban areas.

As noted in the CAP for the AID Low Cost Housing Program, and in the description and analysis of the Immediate Action Program, the GON has attached high priority to the development of additional low cost housing during the first stage of the reconstruction effort and is now undertaking a large effort to develop and upgrade low cost housing in the southeastern area of the City. This effort will be further expanded by the AID Low Cost Housing Loan now pending authorization in AID/W. The development of low cost housing and related infrastructure will be critically important in promoting the GON's deconcentration policy and preventing the return of Managua's urban poor to the old downtown area.

While the Mission believes that the Las Americas Colonies being assisted by the AID Low Cost Housing Program will attract and hold some of the population displaced from the downtown area, and serve as the major low income residential area for the North Highway Commercial/Industrial strip and for the eastern commercial zone, much more can also be done to hold Managua's low income population in existing residential areas in the periphery and suburban areas. In addition, with necessary infrastructure improvements as currently being implemented for Las Americas, these existing low income residential areas can be up-graded so as to provide additional locational alternatives for those now heavily concentrated in the damaged areas of Zone II. Thus, additional infrastructure assistance will be provided for upgrading and expanding infrastructure in at least three existing low income areas that are strategically located and can serve as magnets for attracting additional population and residential investment. The MOF/MUP work group, and the USAID, have provisionally selected three areas--Barrio San Judas, to serve as a low income residential area for the western commercial zone; the three Schick Barrios adjacent to the Old Masaya Road; and Barrio La Fuente to serve as an improved low income residential area adjacent to the new eastern commercial zone.

In each of these existing low-income residential areas, public infrastructure such as expanded water and sewer lines, street paving, improved electric facilities and street lights, storm drains and bridges, and other community facilities will be financed by the AID Loan and GON counterpart. Plans are nearing completion for the San Judas Barrio and several activities could be initiated

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aided by the Office of Executive Assistance, the Legal Advisor's Office and the Office of Information and Public Relations. This executive structure directs the operations of the four Divisions created by law.

The Administrative Division presently has 13 professionals and 124 non-professional personnel working in four sections; Financial, Organization and Personnel, Provisions and Service and Transportation. This division handles the regular administrative functions of the Vice Ministry.

The Planning Division presently has 23 professionals and 63 non-professional personnel working in two sections; Programming and Regional and Urban Master Planning. This division develops recommendations to the Vice Minister for the whole range of Urban Development.

The task of the VMUP is to develop plans to meet anticipated urban redevelopment needs and coordinate the implementation of these plans with the various agencies involved.

Prior to the creation of the VMUP, the National District lacked a true planning capacity. The procedure was more one of programming the internally developed requirements of the various ministries and other entities rather than projecting anticipated urban demands and developing a coordinated plan for the ministries and other entities to follow. Naturally, in the absence of coordinated urban planning, the entities concerned with urban growth developed and implemented plans in their sectors.

The Application of Plan (Building Permits and Enforcement) Division presently has 64 professionals and 109 non-professionals personnel working in four sections; Subdivision Review, Permission to Build, Inspection of Construction, Analysis of Quality of Building Materials. The laws regulating subdivisions have been in effect for over a decade and the submissions usually present no major problems in processing in the Subdivision Review Section. The Permission to Build Section performs the work of any city building code department. The inspection of Construction and the Analysis of Quality of Building Material Sections police and enforce compliance with the laws and regulations governing construction.

This division is essential to the VMUP's strategy for the

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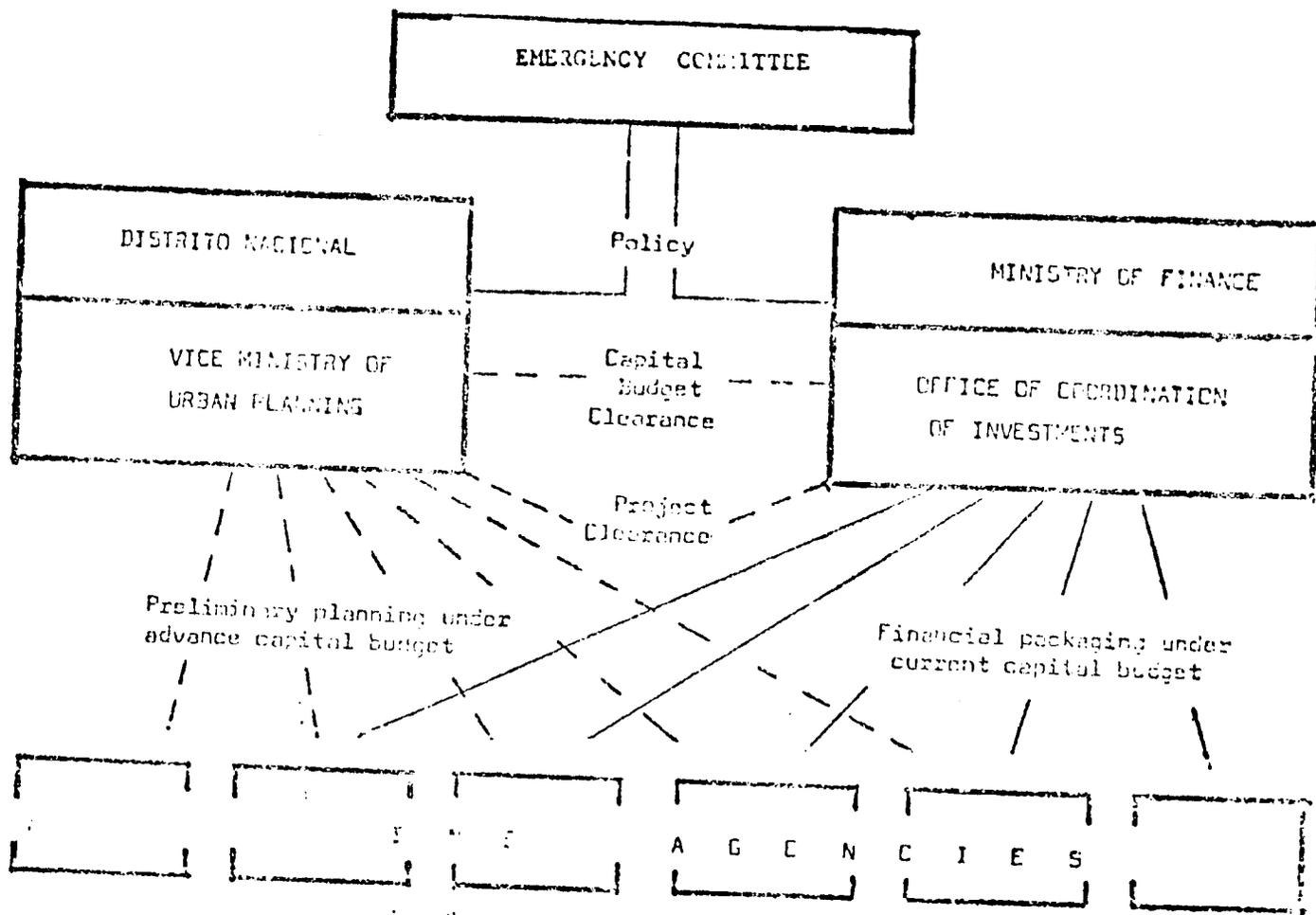
ii. VMUP's General Structure and Functions: Given Managua's pre-earthquake history of practically "laissez-faire" urban development policy and planning that resulted in concentration around the infrastructure available in the old city center, among the common recommendations of every reconstruction study carried out in 1973 was the provision for a strong agency capable of sensibly planning and strictly enforcing the implementation of the planned reconstruction of Managua. The GON adopted this recommendation in its creation of the Vice Ministry of Urban Planning. When the "Oficina Nacional de Urbanismo" was transferred from the Ministry of Public Works and placed under the Ministry of the "Distrito Nacional", all the laws, regulations, etc. of the old organization remained in effect and new powers and responsibilities were given the Vice Ministry of Urban Planning. VMUP was given the power to "organize and direct urban planning activities (in the National District) and control matters related to the construction of the City of Managua."

Under the law, the Vice Ministry is divided into four functional divisions: a) Planning, b) Special Studies, c) Application and Control of Plans, and d) Administration. The VMUP's organizational chart (attached as Annex 18) shows coordination with the following national organizations:

- (a) Oficina Nacional de Planificación
- (b) Banco Central
- (c) Banco de la Vivienda
- (d) ENALUF
- (e) Aguadora
- (f) Telcel
- (g) DENACAL
- (h) Catastro
- (i) Departamento de Carreteras
- (j) Ministerio de Obras Públicas
- (k) Ministerio de Educación
- (l) Ministerio de Economía
- (m) Other Ministries and Entities

The Office of the Vice Ministry has provision in the law for the establishment of citizen advisory groups and a formal policy board chaired by the Minister of the National District. In daily operations, the Vice Minister is

Working Relationships in the Capital Budgeting Function



VMUP generates and receives preliminary plans for area development and projects; develops functional feasibility, balances among projects according to urban plan; prepares advance capital budget for 6 years based on economic, social, urban policy.

OCI also generates projects and does financial analysis re: external credit and FON funds, and maintains accounting control of current capital budget.

funds to various GON executing agencies for implementation of activities included in the Immediate Action Program. (A more detailed description of the MOF and its Coordination and Implementation Office follows below.)

The working relationship among the National Emergency Committee, the Vice-Ministry of Urban Planning, the Ministry of Finance's Office of Coordination and Implementation and individual Executing Agencies is shown on the following chart.

B. Vice Ministry of Urban Planning:

i. Brief History of Planning and Zoning in Managua: Prior to 1954, Managua was zoned under a loose "Reglamento de Fraccionamientos Urbanos" which was designed more for purposes of tax revenue than for land use control and structural safety. In December of 1954, the National Office of Urbanismo was created (see Annex 17 for Decree creating Urbanismo), and for the remainder of the decade, it continued to prepare, revise and enforce, land use controls, subdivision standards, etc. Its staff, during this period, averaged 10. By December of 1972, the National Office of Urbanismo had a staff of 50, including only 5 inspectors, who clearly could not even handle the pre-earthquake workload, not to mention the tremendously increased responsibilities that came with the reconstruction effort.

The earthquake destroyed the building in which Urbanismo was located, and all records and equipment were lost as a result; its employees were drafted into emergency relief work and, not until May of 1973 did the office begin to function again, operating informally out of the home of the Director.

In October of 1973, the old organization of "Oficina Nacional de Urbanismo" was moved from the Ministry of Public Works and placed under the Ministry of the National District. In the process, it was renamed the "Vice Ministerio de Planificacion Urbana". New powers were given to the newly created Vice Ministry (see Annex 17 that contains a copy of the Decree creating the VMUP), with the result that it has expanded from a staff of 125, at the time that it was established, to the present number of 450. It is now located in temporary quarters, which consist of a group of remodeled private houses.

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continuous input into the deliberations of the NEC and into the implementation of the Immediate Action Program.

The two principal staff units of the NEC for the implementation of the Immediate Action Program and the AID Urban Sector Reconstruction Loan will be the Vice-Ministry of Urban Planning (VMUP) and the Ministry of Finance's Coordination and Implementation Unit. A special inter-agency coordinating mechanism between the VMUP and the Coordination and Implementation Unit will be established for the implementation of the AID Loan. Because of the importance of this inter-agency coordinating mechanism to the implementation of the AID Loan, its establishment will be a condition precedent for the AID Loan.

The VMUP, with foreign technical assistance provided by OAS, UN and AID, will provide necessary urban planning services for the AID assisted Program, establish overall priorities for financing, assist various GON Executing Agencies and the MOF's Coordination and Implementation Unit in structuring and developing individual Program activities and will approve each activity prior to financing. With the assistance of the AID Grant Project for Program Management and Project Implementation, and resources from the OAS and the UN, the VMUP is now getting geared-up to provide the necessary urban planning services for this Program as well as for the longer-range planning required for the reconstruction. The Mission is confident that the VMUP, with foreign technical assistance, can provide the necessary urban planning services for the Program. (A more detailed analysis of the VMUP is provided below.)

Once a capital budget for Program Activities has been structured, finalized and approved, Individual Program Activities will be directed by the Executing Agencies to the MOF's Coordination and Implementation Unit for funding. This latter Unit will function as the overall financial and coordinating body of the Immediate Action Program and, as with the current AID Program Loan, will supervise the implementation of individual Program activities undertaken by various GON agencies. This MOF Unit will administer AID Loan funds, GON counterpart funds, and the Land Purchase Fund to be established for the Program. The operations of this Unit with AID and GON counterpart funds will follow the procedures established with AID Loan 524-1-028 and that have now been functioning for the past sixteen months. In effect, the MOF's Coordination and Implementation Unit will function as ICI for the Program, providing grants from AID and counterpart

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SECTION VI - PROGRAM IMPLEMENTATION STRUCTURE

1. Organizational Structure: The Program being proposed for authorization will be implemented through existing GON units similar to the way in which the current A.I.D. Program Loan is being implemented. While the proposed implementation structure would not preclude the later development of a new type of reconstruction institution, such as a Managua Redevelopment Corporation, the Mission considers that the development of a new reconstruction institution will require more study, and should more appropriately be included in the second stage of reconstruction after more detailed planning has been completed. Thus, the Mission anticipates that during the Immediate Action Program activities will be implemented through GON units or agencies that have been strengthened or created during the past sixteen months.

As during the emergency period, the GON policy body for the Immediate Action Program will be the National Emergency Committee (NEC) headed by General Anastasio Somoza Debayle and composed of all the Ministers of the executive branch of the GON and autonomous agencies. After the completion of the upcoming elections it is expected that the NEC will continue to function in its present form or as the GON's Basic Cabinet organization. It is therefore expected that the NEC will continue to function in its present form or as the GON's Basic Cabinet organization. It is therefore expected that the NEC will continue to provide overall policy guidance and direction for the Immediate Action Program.

In addition, during the emergency period following the earthquake, the NEC promoted the development of a Private Sector Advisory Panel that served as a vehicle for mobilizing the Nicaraguan private sector for the relief and recovery effort and that later developed into an important vehicle for expressing private sector views on reconstruction developments and planning. While this Panel has only functioned sporadically during the past months, the Mission believes that it played a vital role in mobilizing private sector efforts during the emergency period and that this Group could play an equally important role for the first stage of the reconstruction. Since the Immediate Action Program for the first stage of the reconstruction will depend on private sector support if the deconcentration policy is to be successfully implemented, the Mission expects that GON will make all efforts to invigorate the Private Sector Advisory Panel so that it can provide a

ii. Additional GON Resources for the Immediate Action Reconstruction Fund: In addition to the above described Land Purchase Fund, the GON will also provide as counterpart for the AID Urban Sector Reconstruction Loan up to \$25.0 million for financing reconstruction activities included in the Immediate Action Program. These funds will be provided over the period 1975-78 and will be available for financing reconstruction activities included in Annex G or other activities that should develop as reconstruction planning continues. GON counterpart financing may be provided for all components of the Immediate Action Program (road and infrastructure construction, public facilities, the development of open or green areas, small enterprises, reconstruction, administrative and technical assistance for the Program, etc.), and may be used to finance Program activities either jointly with AID Loan funds or as separate activities. These counterpart funds will form a part of the Immediate Action Reconstruction Fund to be established for the Program. AID will monitor on an annual basis the contribution of these GON resources to the Fund and their ultimate utilization in reconstruction activities. In addition, should the need arise, GON contributions to the Immediate Action Reconstruction Fund may also be used for counterpart contributions to reconstruction projects financed by the other international agencies.

iv. The activity can be initiated in CY-1975 or CY-1976 and completed by the end of CY-1977.

v. The Vice Ministry of Urban Planning and the Ministry of Finance's Coordination and Implementation Unit have certified that the GON considers the activity of high priority.

In accordance with progress in implementing the current Emergency Program Loan (524-L-023), it is expected that \$15.0 million of the AID Urban Sector Reconstruction Loan will be committed to individual PASP's in 1975 and that these funds will be fully disbursed by the end of CY-1976. An additional \$15.0 million of Loan funds will be committed in 1976 and fully disbursed by the end of CY-1977.

B. GON Counterpart for the AID Loan: The AID Urban Sector Reconstruction Loan will provide the GON with a part of the resources necessary to carry out its Immediate Action Program in those components specified above. As indicated previously, the GON will provide approximately \$77.0 million of the total cost of the Immediate Action Program and these resources will be provided through either counterpart to individual foreign loans provided for the Immediate Action Program or as additional GON resources provided for the reconstruction. While the AID Loan will form a part of the overall Immediate Action Program, it is expected that the GON will directly provide up to \$40.0 million counterpart for the AID Loan that will also form a part of the Immediate Action Program. This counterpart contribution will be provided as follows:

i. Land Purchase Fund: The GON will establish a Land Purchase Fund for the Immediate Action Program and capitalize it with up to the equivalent in cordobas of approximately US\$15.0 million. The Fund will be utilized to purchase sites for the construction of public facilities to be built during the Immediate Action Program, rights-of-way for new roads and infrastructure, and sites for some open and green areas. The establishment of this Fund will be a condition precedent to disbursement of AID Loan funds for other than Program Implementation Assistance.

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An Immediate Action Reconstruction Fund will be established for the financing of the program. AID loan resources will be provided to this fund for the following components of the Immediate Action Program: Construction of Transportation Improvements, Expansion and Upgrading of Infrastructure, the Reconstruction and Expansion of Public Facilities, and for Program Implementation assistance. Throughout the Immediate Action Program, flexibility will be maintained to shift AID funding among these components and between local and dollar expenditures so as to most effectively deal with the dynamic planning environment that will exist throughout the course of the Immediate Action Reconstruction Program. In addition to these contributions to the Immediate Action Reconstruction Fund, up to \$3.2 million of the AID loan will be available for the Small Enterprises Reconstruction Fund to be established in the Central Bank's Special Development Fund (FED). No shifting of A.I.D. Loan funds between the Immediate Action Reconstruction Fund and the Small Enterprises Reconstruction Fund is now expected.

In order to qualify a particular activity for reimbursement from the AID Urban Sector Reconstruction Loan, the Government of Nicaragua, acting through the Ministry of Finance's Coordination and Implementation Office will present to AID a Proposed Activity Summary Presentation (PASP) for each activity proposed for AID Loan funding as further explained in Section VIII, Part D. The PASP for each of these activities will be a short summary document that will include the following information--activity description, explanation of how the activity fits within the overall Immediate Action Program, estimate of total activity costs, costs of individual activity elements, an estimated disbursement schedule and other additional information that may be required for implementing the particular activity. In determining whether the proposed activity qualifies for AID Loan funding, the USAID will take into consideration the extent to which the activity meets the following criteria:

- i. The activity is consistent with the policies and guidelines developed by the GON for implementing the Immediate Action Reconstruction Program.
- ii. The activity will rectify dislocations attributable to the earthquake or will promote recovery from the indirect effects of the earthquake.
- iii. The activity is of high priority for promoting the overall deconcentration of Managua's urban development.

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In addition to the above, this competition shall be in accordance with the "Code for Architectural Design Competitions" of the American Institute of Architects, a copy of which is attached hereto, as Annex 29. Also, an estimation of the cost breakdown for this competition is attached as Annex 28 to this CAP.

3. Financial Plan

A. A.I.D. Loan: It is expected that AID Loan funds will be allocated to Program Components approximately as indicated below. While the total amount of AID Loan funds provided is based on the unprecedented resource requirements for the reconstruction, the specific allocations of funds to individual Program components is based on a review of the number and type of activities that can be ready for implementation in CY-1975 and CY-1976, and past progress in implementing the Emergency Program Loan. Individual Program activities within five of these Components will be eligible for AID Loan funding. A list of activities included in each component of the Immediate Action Program is attached as Annex G to this CAP.

(In million of US Dols.)

<u>PROGRAM COMPONENT</u>	<u>AID LOAN FUNDS</u>	
	<u>DOLLARS</u>	<u>LOCAL CURRENCY</u>
1. Construction of Transportation Improvements	\$ 2.0	\$ 6.0
2. Expansion and Upgrading of Infrastructure	2.0	5.0
3. Reconstruction of Public Facilities	3.0	4.0
4. Development of Open and Green Areas	-	-
5. Land Purchase Fund	-	-
6. Small Enterprises Reconstruction Fund	-	3.2
7. Program Implementation Assistance	3.0	1.8
TOTALS	\$10.0	\$20.0

Immediate Action Program is now being made by the VMUP. However, It is expected that additional studies for approximately \$500,000 or more will be ready in 1975 and 1976 for implementation.

(h) Design Competition for the Reconstruction of the Center:

While a primary purpose of the Immediate Action Reconstruction Program is to promote the further planned development of a deconcentrated multi-centered new city, the destroyed urban core of Managua must eventually be rebuilt. Since this area, and adjacent damaged sections require the most extensive reconstruction planning and controlled development, the Mission proposes to provide the GON with up to 0.6 million of loan funds to finance an international competition for selecting a firm to prepare conceptual plans for the redevelopment of Managua's destroyed urban core and possibly some other heavily damaged areas. This competition and planning work would provide the VMUP with a preliminary design concept, which would become the basis for future more specific design solutions. The preliminary design concept would not in itself directly lead to the erection of a definite project on a definite site, but would provide general guidelines for more specific detailed design to be undertaken at a later date, by private developers or the GON.

In implementing this competition, the GON would first advertise for prequalification information from interested firms. After reviewing this prequalification information, the GON, with AID concurrence, would select a designated number of entrants, who are known for their competence in the field of urban design. Based on an approved scope of work, the selected entrants would submit detailed solutions for a judgement by a jury. Each competitor would be paid an appropriate remuneration for his services. Such remuneration should be enough to reimburse costs of submission. There will be no contract agreement since there is no actual project that will definitely follow. In addition to the costs of preparing and submitting the drawings, the winner, who shall be determined by a jury, shall receive an adequate cash prize.

It is estimated that the entire competition from time of prequalification through announcement of the winning submission should take no more than 24 months.

(d) Infrastructure Capacity Studies: These studies are particularly important in the old center of Managua and other areas. Studies would show capacity and the conditions of existing water, sewer, storm drainage lines, and would indicate adequacy of existing lines for uses contemplated. These studies in selected high priority areas are estimated at \$400,000.

(e) Selected Pre-Investment and Pre-Feasibility Studies: These studies would show demands for space for industry, commerce, services, and housing in selected areas. It is estimated that \$300,000 will be required for these studies.

(f) Urban Development Studies for Managua's Satellite Cities: Because of the geophysical dangers at Managua, and throughout the Pacific Region, Managua must eventually look to the future development of a larger decentralized metropolitan region including Managua and its five satellite cities of Tipitapa, Masaya, Granada, Diriamba and Jinotepe. GON planning already anticipates this need, and expects to eventually extend the deconcentration program out into the satellite cities as an overall decentralization effort. However, if such a decentralization effort is to be possible in the future, planning should now be initiated for the satellite cities. In addition, development activities, particularly those financed by the World Bank, are already ongoing in some of Managua's satellite cities and should be related in some planned manner to the reconstruction effort in Managua. (Annex 27 to this CAP provides additional material and rationale for this Study.)

While the OAS is currently assisting the Regional Planning Unit of the Ministry of Economy on a study of the Central Pacific Region of Nicaragua, an area around Managua, it is not now expected this group will produce detailed and long-range urban development plans for Managua's satellite cities. Studies in Managua's satellite cities would therefore be eligible for funding from this subcomponent of the Program and it is estimated that up to \$400,000 will be required for these studies in the satellite cities.

(g) Additional Studies: Annex 14 provides a list of additional studies that may be required for planning the longer-range reconstruction. A final determination on which of these studies will go forward as part of the

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(d) Up to \$100,000 for a Contingency Fund to finance unexpected requirements that may develop during the implementation of the AID Loan. Funding could be provided for the training of additional construction workers, if this should develop as a serious bottleneck during Loan implementation, specialized technical assistance requirements not covered by the above, or other unforeseen needs that should develop.

ii. Special Studies and Surveys: While sufficient resources from AID and the other international agencies now exist to cover the technical assistance requirements of the VMUP for the near future, an important unfulfilled need involves financing for special studies and surveys required for carrying forward the long range reconstruction planning. It is therefore anticipated that the proposed AID Urban Sector Reconstruction Loan will provide up to \$2.0 million for contracting foreign and local consulting firms to carry out special reconstruction related studies and surveys. The following is an illustrative list of studies that are considered for financing in 1975 and 1976, and cost estimates for each:

(a) Survey and Inventory of all Existing Structures in Managua: This work will continue the VMUP's efforts to survey and inventory all existing structures in Managua to determine extent of damage by the earthquake and overall quality of these structures. This will assist in determining whether to permit permanent improvements to get under way, especially if surrounding areas are not planned to remain in their present use. The cost of this survey and inventory is estimated to be approximately \$400,000.

(b) Additional Geophysical Studies on Managua Fault and Soil Conditions: This work has already been initiated by the VMUP with its own funds. However, additional studies will be required for future reconstruction throughout the planning period. These studies will permit application of fault zoning and graded building permits and proposals for urban renewal treatment. Based on previous work, estimated cost of these studies is \$300,000.

(c) Surveys and Analysis of Existing Neighborhoods in Managua: These studies would provide the VMUP with more detailed community development information on many of Managua's neighborhoods for which little information or analysis now exists, thus making planning more difficult. Based on several such surveys already undertaken and number of areas yet to be covered, estimated cost of these surveys would be \$200,000.

to modernize budgetary controls. For the VMUP, INCAE is being engaged to conduct its in-service training program for all Vice Ministry personnel. As indicated above, this is a large, new staff of well-trained but inexperienced young people some of whom will understudy the foreign experts they will replace. Others will be learning their regular job, on the job. INCAE will use its own trainers in this work plus subsuming for training purposes some of the time of the foreign experts. This factor of time availability to serve within the INCAE-VMUP in-service training program is being built into the scope of work of each foreign expert.

In the IRR it was suggested that INCAE provide assistance in national planning to the Office of Planning. In the intensive review, however, it was found--in fact, declared--by the GON that INCAE is needed as described above to help with Reconstruction Planning and Implementation, not national planning, except as they impinge on each other. In this relation, however, the desire of the GON is that INCAE support the reconstruction side of what is hoped will be a happy reconstruction-development-social services-recurring costs equation.

The Planning Office already has technical assistance in national planning from ECLA, financed by IDB. What is needed of INCAE at the Planning Office is the knitting into its fabric of the capital and program budgeting initiatives of VMUP and the Ministry of Finance in such a way that there is a Planning Office review from the national economy standpoint of proposed reconstruction investment. Also concerned is the Planning Office view, as professional economists, of the relation of proposed reconstruction agenda items to such constraints as the construction and related industries and the effects on the economy and inflation of an imbalance between public and private sector use of the construction industry. In these areas, INCAE can be particularly helpful to the Planning Office in helping it to play its role in concert with Finance and VMUP, also advised by INCAE.

Thus, the proposed AID Loan will provide up to \$500,000 for partial funding of the new GON-INCAE contract now being negotiated between them along the lines noted above. The GON will provide a matching \$500,000 for this contract, and the activity will extend over the life of the Immediate Action Program.

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expected to be made before mid-1975. Thus, while the Urban Sector Reconstruction Loan is gearing-up for implementation, the Emergency Program Loan will be in the final stages of disbursement, further indicating how the emergency period will melt into the first planned stage of the reconstruction.

iv) Role of the Ministry of Finance in the Urban Sector Program: In accordance with procedures in operation for the A.I.D. Program Loan since early 1973, and its role as National Emergency Committee coordinator for reconstruction programs, the Ministry of Finance's Office of Coordination and Implementation will perform the following functions for the Immediate Action Program and the A.I.D. Urban Sector Reconstruction Loan:

- (a) Serve as overall coordinator for the Program and assure that documentation for meeting CPs and other conditions of the Loan are prepared and presented to A.I.D. on a timely basis.
- (b) Serve as the implementing unit for the capital budget developed by the Vice-Ministry of Urban Planning.
- (c) Provide any necessary assistance to the VMUP in the collection of projects from various executing agencies.
- (d) Assist the VMUP in processing the Capital Budget for approval by appropriate GON authorities.
- (e) Once the Capital Budget is approved, assure that it is implemented by various Executing Agencies.
- (f) Supervise implementation of various activities financed by the Program.
- (g) Administer A.I.D. Loan funds, and GON counterpart funds.
- (h) Assure that individual Program Activities are implemented in accordance with the policies and guidelines of the Immediate Action Program and A.I.D. regulations.

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iii) Operations to Date: To date the Ministry of Finance's Office of Coordination and Implementation has responsibilities for the coordination and overall supervision of three loans -- the A.I.D. Emergency Program Loan (524-L-028), the IDB Emergency Reconstruction Program and the A.I.D. Feasibility Studies Loan (524-L-024). While each of these loans provides funds for different purposes, the operating mechanism for each is very similar.

The Office of Coordination and Implementation acts as an intermediary between the international agencies and the GON Executing Agencies that actually carry out individual projects such as the Ministry of Public Works, the Ministry of the Distrito Nacional, DENACAL, Aguadora, the Central Bank, etc. It operates for the Nicaraguan public sector much as an Intermediate Credit Institution acts for the private sector, however, instead of providing subloans it provides subgrants to various GON Executing Agencies for carrying out specific projects within a larger program and assures that each project is carried out in timely manner and in accordance with appropriate regulations. Working from an approved project listing, generally developed jointly between the GON and the international agencies, this Office has assured that the A.I.D. Emergency Program Loan was fully committed in 12 months, that the IDB loan was properly coordinated and most rapidly implemented, and that scopes of work for individual feasibility studies have been prepared by various Executing Agencies and presented to the USAID. After sixteen months this Office has established adequate operating procedures for project review, accounting, disbursement and overall coordination.

To date, the work with the A.I.D. Emergency Program Loan has absorbed the greatest amount of time and energy of the Office of Coordination and Implementation and it is this model that will be continued through the Urban Sector Reconstruction Loan being requested for authorization. By the mid-1974 almost the entire A.I.D. Emergency Program Loan (\$14.4 million) had been committed to 23 activities and the remaining \$0.6 million is now being committed. (A list of Program Loan activities and the financial status of each is included in Annex "22" and of this CAP). While approximately \$7.5 million of Program Loan funds have been disbursed or are in the process of being disbursed, approximately \$3.0 million of additional Program funds have been expended and are in various stages of preparation for reimbursement. Thus the Mission expects that by the end of CY-1974, when the Urban Sector Loan will be ready for disbursement, the Program Loan will be more than two-thirds disbursed. However, an extension of the TDD for the Program Loan into CY-1975 may be required, but all disbursements for Program Loan activities are now

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further backstopped by a contract with a U.S. A/E consulting firm for hospital construction activities currently underway. This Division reviews technical plans from the Executing Agencies in preparing and implementing project proposals in accordance with approved Program plans. The Financial Division is headed by a Financial Analyst and staffed with three accountants and four auditors that review the financial elements of individual project proposals and reimbursement requests, and maintain a continuous audit over ongoing expenditures for project implementation. And lastly, the Administrative Division of this Office provides the Director and the other Divisions with overall administrative support.

In addition to the Nicaraguan and foreign consulting personnel that are or have provided this Office with staff support, the USAID Mission also maintains a close working relationship with this Office providing through Mission personnel in the Offices of Capital Development, Engineering and the Controller, additional assistance for the most rapid preparation and processing of necessary material for the implementation of A.I.D. Programs. This close and cooperative relationship has assured that the current A.I.D. Program Loan was committed in one year and that matters of coordination and supervision are most appropriately dealt with.

While the Office of Coordination and Implementation is adequately staffed for current Programs, the authorization of the new A.I.D. Urban Sector Reconstruction Loan plus a possible future IDB loan for reconstruction will require some staff expansion in this Office. A detailed new staffing plan for this Office is now being prepared and will be presented to the USAID as a condition precedent to disbursement for the Loan being requested for authorization. In summary, the new staffing plan will expand personnel in the existing divisions (two or three additional supervisory type engineers and/or architects will be added and some additional financial, accounting and audit personnel will be provided). In addition, it is expected that this Office will continue to receive services from consulting firms for specialized tasks, as in the past, and up to \$200,000 of Loan funds are being provided to assist this Office in meeting its expanded responsibilities under the Program being requested for authorization. Also, the Land Purchase Fund to be established for the Immediate Action Program may be established in this Office. However, other possible alternatives are also being investigated such as establishing this Fund in the Central Bank or the Distrito Nacional. In any case, should the Land Purchase Fund be established in the MOF's Coordination and Implementation Office, additional personnel for the administration of this Fund will be necessary.

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accordance with Article No.2 "The Implementation Unit will control and coordinate for the Government of Nicaragua the overall implementation of reconstruction programs financed by the international agencies The individual activities carried out with Program funds will be supervised by the Implementation Unit". Article No. 3 provides that the Implementation Unit will: a) coordinate, supervise and evaluate the particular Program activities b) collaborate with the Executing Agencies in the elaboration of activity proposals c) study and analyze the proposals to insure that these come within the priorities of the Government g) verify that the data and information contained in the proposals is true and correct j) maintain a general accounting system which will show the disbursements made from international loan funds as well as the utilization of those funds in each activity n) prepare or approve the necessary recommendations concerning engineering plans and specifications o) when necessary make, in accord with the Executing Agencies, relevant and necessary changes in the activities in order to meet their purposes, and to avoid difficulties and problems of coordination."

In summary, the Ministry of Finance's Office of Coordination and Implementation serves as the GON's administrator of international loan funds for reconstruction. It receives and reviews project proposals prepared and presented from various GON Executing Agencies, provides financing for these projects and then supervises the financing to ensure that projects are implemented on a timely basis and in accordance with individual project proposals. When projects involve combined actions by various agencies, this MOF Office ensures that actions and decisions are made and carried forward. In addition; this Office reviews reimbursement requests from the various Executing Agencies prior to submission to the international agencies to ensure conformity with regulations of each of these organizations and maintains a continuous audit of GON Executing Agencies participating in individual reconstruction programs to assure that funds from the GON and international agencies are utilized for project purposes.

The Office of Coordination and Implementation is headed by a young dynamic Nicaraguan lawyer that has been working in reconstruction programs since the Managua earthquake and is now fully familiar with the operations of the international agencies, particularly A.I.D. and IDB. The Director is served by three Divisions that provide necessary technical financial and administrative staff support for existing Programs. (See Organization Chart of this Office attached as Annex 21). The Technical Division is currently staffed by one engineer, one architect and is

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In carrying out its duties the Ministry of Finance and Public Credit will conduct the fiscal policy consistent with the achievement of the best social and economic development levels, working in close coordination with the other organizations of the present public sector, and the National Economic Council.

The Ministry of Finance will be in charge of handling of the public debt, endeavoring to the extent possible to obtain the best financing conditions and to observe that commitments are met punctually.

It will endeavor to achieve the modernization of the budget system, updating the techniques of program budgeting, improving the organization of the administrative procedures of the Government dependencies in order to insure their efficiency at a lower cost and continuing improvements in the administration of the tax system.

As administrator of international loans, it will conduct the coordination of programs related to reconstruction works that are undertaken by the different Government dependencies and will administer funds granted to the different decentralized organisms.

ii) Office of Coordination and Implementation:

In order to fulfill this last policy statement and carry forward its duties as coordinator of reconstruction programs, the Government shortly after the earthquake established through Executive Decree No.7, dated February 22, 1973, a specialized Office of Coordination and Implementation to handle these new duties. While this Office was originally established to coordinate and supervise the implementation of the A.I.D. Emergency Program Loan, the duties and function of this Office by mid-1973 were expanded through Decree 13, dated June 6, 1973, to include the same functions for all reconstruction loans provided by the other international agencies. (The Decree creating and expanding the functions of this Office is attached as Annex "20" .) Thus, by June, 1973, the GON had created in the Ministry of Finance an overall coordinating mechanism to supervise the implementation of international loans provided for the reconstruction.

Decree No.7 as later modified by Decree No.13, specifies the principal duties of the Ministry of Finance's Office of Coordination and Implementation. In

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3. The Ministry of Finance

i) Introduction:

The Ministry of Finance and Public Credit was established through the Law creating Nicaraguan Ministries of State and Other Dependencies of the Executive Power. The Ministry of Finance is in charge of the following matters:

- (a) The Fiscal Policy of the National Government.
- (b) The liquidation, guarantee and payment of the public debt.
- (c) The administration of internal and external loans, contributions and all that affects the assets of the State.
- (d) The preparation and drafting of the budget that must be presented to Congress for its approval and implementation, and administrative and economic control over public expenditures, without prejudice to the supervision of these funds exercised by the Court of Accounts.
- (e) The collection and administration of the Government revenues.
- (f) The administration of public property and assets of the Nation.
- (g) The administration of the property of the State, and the carrying out and resolution of all matters relating to contracts or transactions pertaining to such property.
- (h) To serve as the National Emergency Committee's overall coordinator for the reconstruction program.

In carrying out these above duties, the 1974 budget document specified the following as principal policies of the Ministry of Finance:

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knowledge with them and leaving a core of experience upon their departure. This approach will serve to promote institution-building efforts.

(b) A Planning Consulting firm, with the capability to put together the package of projects and the capital budget program, may be necessary to meet a significant condition precedent of the loan. Such a team might very well include an urban planner, architect with specialty in site design, infrastructure engineer and urban economist to put together the Capital Budget. The contract might cover a 4- to 6-month period. Here again, the relationship with Nicaraguan counterparts would be close, with the consultants providing on-the-job training. This type of experience could serve to strengthen the capability of the Nicaraguan technicians, enabling them to perform the function on their own the second time around.

In general terms, the periodic introduction of specialized technicians and consulting firms would certainly strengthen rather than weaken the institution building effort. Any such introduction of consulting firms would naturally be cleared in advance with the other participating international agencies.

It is recognized as essential that the Vice Ministry continue in its significant planning role in the long process of the reconstruction of Managua and that its staff be reinforced to meet the urgent technical demands that are brought to bear. Any advisors and or consulting firms employed to assist the Vice Ministry in its efforts would be those whose efforts will enrich the permanent staff during their tenure thereby leaving the Vice Ministry a stronger organization when they complete their assignment.

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visit was short, it was extremely valuable and served to help the VMUP develop review procedures comparable with those undertaken in the California office of Structures. Mr. Robert Hazen, Manager of New York State Urban Development Corp., was brought in on TDY to help the VMUP review the components necessary to set up a Redevelopment Agency, which would undertake land acquisition, issue bonds, etc. AID has also used some of its grant assistance to bring to Nicaragua a number of prospective candidates for various positions to be filled, such as urban designer, regional planner, infrastructure engineer and special aid to the Vice Minister. This individual recruiting process is continuing at the present time. In addition to such short-term assistance financed by AID, the OAS has funded long-term assignments for an urban planner, a traffic engineer and an urban lawyer while the UN has provided an urban economist to work with the VMUP.

This is only a sampling of the many skills that are required to bring the technical assistance program to a successful conclusion. In total, there will be approximately 24 long-term specialists required, with additional technicians required on a short-term basis for special purposes.

Naturally, the major objective of each of the three international agencies involved in the technical assistance program is to strengthen the permanent capacity of the VMUP. This is, by definition, a long-term process. Recruitment for personnel will continue, but it is clear that the program cannot wait until the process is completed. It is likely, therefore, that specific components of the Reconstruction effort may have to be conducted by firms under contract for relatively short periods. Two concrete examples anticipated are:

(a) Experts in plan review (structural engineering). Such individuals, with extensive experience and language capability are in extremely short supply. Considering the vital nature of the function and the obvious vulnerability of the VMUP to criticism if this function is not carried out fastidiously, both the VMUP and USAID have come to the conclusion that it would be advisable to contract with a consulting firm for a relatively short period (say 4 months) to review plans, examine the building codes and provide on-the-job training for employees of the VMUP. Individuals employed under this contract would work closely with Nicaraguan technicians in both the public and private sectors, sharing

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meeting of international experts was convened in Managua under the sponsorship of the IDB, OAS and World Bank (IBRD). The report made by this convention recommended deconcentration of Managua's population, industry and commerce by the development of both existing and new communities on the outskirts. During March of that year, the GON signed a contract (financed by AID) with the Central American Institute for Business Administration (INCAE). The contract established an Advisory Center to assist the GON in formulating a general strategy for reconstruction and development and projecting the levels of external assistance that would be required by reconstruction programs and projects. A number of significant position papers have been produced as a result, with the GON responding favorably.

During the spring and summer months of 1973, Professors Mann and von Moltke from Harvard University were among the international experts that reviewed the Managua situation from the standpoint of the GON capacity to plan and program reconstruction activities. Dr. Adolf Ciberowski, the Director of the UNDP's Center for Housing, Construction and Urban Planning, came to Managua to do a comprehensive study of the technical assistance required by the GON in the field of urban planning. He drew upon the previous work of Professors Mann and von Moltke, as well as Dr. John Dyckman of the University of Southern California, and advisors contracted by USAID in developing proposal for intensive large-scale technical assistance to build and reinforce the Vice Ministry of Urban Planning. Under his proposal, financing will be shared by the UNDP, the OAS and AID. All of the agencies have actively participated in the recruitment and screening of potential technical advisors. (See FROP for Project 524-11-998-106 for additional details on Technical Assistance program for the VMUP.)

AID has made a substantial commitment to provide technical assistance to assist the VMUP to carry out its prescribed functions. This arrangement was formalized in April of 1974, by a PROAG for \$350,000* which would serve to assist in the strengthening of the capability of the VMUP to carry out its responsibilities in the Reconstruction Program. Thus far AID has provided for periodic visits by a well-known U.S. urban planner, George Nier, who has had extensive experience in general city planning and specifically in the reconstruction program for the City of Skopje, Yugoslavia, which was destroyed by an earthquake in 1963. In addition, AID provided the services of John Meehan the Research Director and Supervising Structural Engineer for the California State Office of Architecture and Construction, whose specialty is in earthquake resistant construction. Although his

* With an increase of \$200,00 as of June, 1974

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recreational and low density commercial uses. AID will encourage the establishment of an effective program of land acquisition, replanning (through international competition) disposition procedures, issuance of bonds to property owners, in payment for parcels, redeemable at a special premium or discount in the peripheral areas of the city. This could be supplemented by the issuance of a decree which would establish an Interim Use District, giving special powers to the VMUP to approve only essential uses in that area and then only subject to limited life and special conditions. Another important consideration in this area, is that, prior to undertaking any work, a careful study of infrastructure capacity and condition would have to be undertaken to determine exactly what infrastructure capability actually exists in the old center.

The most effective mechanism for accomplishing all of the tasks outlined above, at least in the old center of Managua would probably be a Redevelopment Corporation. AID, in collaboration with the GON will continue to explore the possibility of establishing such a mechanism.

AID, though not directly involved, is also concerned with the damaged area of Mangua (Zone 2) and would urge that the VMUP undertake condition of structures surveys, special fault zoning studies, obsolescence surveys, to determine the degree and magnitude of investment that should be undertaken to rehabilitate these areas. The compatibility of rehabilitation with new uses proposed should also be taken under consideration. It is evident that the ambitious programs described herein will require a rather strong capability in areas such as urban planning, engineering, architecture, urban economics, urban programming, and a host of other related specialties.

vi. VMUP's Technical Assistance Requirements: The first major assistance for long-range planning for the reconstruction of Managua came from a Mexican urban planning firm, which had already been working in Nicaragua prior to the earthquake. The work of this firm resulted in an idealized city center plan and a conceptual plan for rebuilding and restructuring the future growth of Managua in a deconcentrated cellular pattern.

During the nine-month period while the work of the Mexican team was in progress, other studies were underway. In March and April, 1973, a

- (a) Preparation of the Capital Budget; and
- (b) Review of projects to maximize the impact of capital investment in the implementation of the immediate action program's criteria.

These activities will be carried out in accordance with policies concerned with land use, circulation pattern, location of community facilities, etc. The program will serve to enable the VMUP to continue refining its criteria to meet the specific needs of the Managua Redevelopment Program. This continuous process will result in a flexible Master Plan that will respond to the ever changing needs of the metropolitan area. Concurrently, it is contemplated that at intervals of 1 or 2 years, the VMUP will identify a specific package of projects which will form, in effect, a capital budget program. A six-year cycle will be established in this continuous process. The first year's projects will be relatively detailed with regard to cost, location, time phasing, etc., while the remaining five years of project packages would be progressively less detailed. The continuous process would move the second year to the first year, third to second, etc., constantly refining the detail as implementation becomes more imminent. The VMUP will also have the responsibility for evaluating progress of projects being implemented by the Executing Agencies during each year of the Program and making recommendations for modification for following years.

Putting the capital budget into actual operation is a year-by-year process. Each year when the current administrative budget is formulated, one year of the capital budget is incorporated. No accurate accounting records, therefore, are kept on the capital budget as such; it becomes a matter of record only when the capital items appear in the current administrative budget. (See Annex " 30 " for description of suggested Capital Budget and Processing Procedures).

It is contemplated that all public agencies will submit project projections to the VMUP to enable the VMUP to examine those projections in the context of achieving the redevelopment program's objectives with regard to location, financing and timing. A.I.D. will urge the GON to issue a decree which will guarantee that all governmental agencies adhere to this procedure.

Although the A.I.D. loan program will be financing projects that will be built only on the periphery of the city (between the By-Pass and the Outer Beltway Highway), the other components of the Reconstruction Program, in whatever manner they may be financed, are also of concern to A.I.D. For example, one component of that program is the old center of the city where A.I.D. urges delayed redevelopment, and then, only for institutional, governmental,

premium in Managua today, the private sector has outbid the VMUP for some of the more capable engineers. Nevertheless, in spite of the initial slow start, the VMUP plan examination rate is now beginning to keep pace with the rate of submission of building plans. (See Annex 19 that contains a more detailed analysis of the VMUP's staff capabilities to process plans. In addition, Annex 21 provides an overall analysis of the VMUP's procedures for plan review conducted by Mr. John F. Meehan, from the State of California's Building Code Division.)

However, in spite of the progress made thus far, it would seem advisable to provide whatever assistance is necessary to help accelerate the process of "Plan Review". USAID will continue to promote a program of technical assistance in this area for the Vice Ministry directly, in addition to a program of education for technicians in the private sector, as exemplified by seminars conducted by visiting structural engineers earlier in the year. Such seminars help technicians in both the public and private sectors to gain a better understanding of the Building Codes. This program will be complemented by the advisors or consulting firms who will be working with the Structural Safety Section of the Vice Ministry. With complete, well prepared submissions, reflecting a better understanding of the new code, we expect that the Plan Review Process will speed up rather than hold back, the reconstruction effort, in strict compliance with the anti-seismic provisions of the Building Code.

v. VMUP's Role in Program Implementation: The principal objective of the Reconstruction Loan now under consideration is to finance projects that are contemplated to fit into the overall program of deconcentration in a controlled, well-structured manner, providing a Capital Budget Programming System, supported by an urban planning process. The VMUP's responsibilities in the Reconstruction Program are to prepare an immediate action program and a master plan for the long-range reconstruction of Managua, identify and process projects which will be instrumental in achieving redevelopment goals and enforcing the zoning and structural safety provisions for new construction. The CON considers these responsibilities of sufficient importance to give cabinet rank to the VMUP to abet program implementation.

The specific responsibilities of the VMUP with regard to the implementation of the Immediate Action Program and the Urban Sector Reconstruction Loan will be:

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(d) The zoning section checks the plans approved by the structural safety section to be sure they are all signed, sealed, dated, etc., and then it prepares the VMUP conditional approval papers. These papers consist of sign-offs by the other government agencies concerned with land use or taxation; Sanidad, Distrito Nacional, Junta Local, Catastro and Seguro Social. This section places one set of plans in the official file and returns 3 sets and the conditional approval papers to the owner of the property.

(e) The owner leaves one set of plans with the Distrito Nacional and maintains one set in the construction site office. He gets the signature and seal of the required offices paying the taxes required.

(f) With the conditional approval papers complete, the owner returns the documentation to the VMUP and gets its official permission placard to start construction.

(g) As the construction progresses, inspections are made to check conformity with the approved plans. A final approval is given if the construction is in accordance with the plans.

iv. Analysis of the Plan Review Process: The Plan Review Process of the VMUP moves at the same slow rate as a local HUD/FHA insuring office in the United States and, consequently, Nicaraguan builders have criticisms similar to those generated by delays in FHA processing. There are some minor adjustments to VMUP processing that could slightly reduce the time between submission of a request to build and granting of permission. These adjustments include instant review of the submission for completeness before accepting the submission, "red lining" comments on tracing paper, etc. However, the major dilemma in the processing procedure is the delay in structural safety review.

The new provisions of the Managua Building Code adopted early in 1973 are not universally understood in the private sector and often plans and specifications are submitted for processing that are either incomplete or inconsistent. This, naturally, multiplies the work of processing. With qualified structural engineers at a

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implementation of urban planning. If the VMUP did not have the power of review of each and every building permit, there would be little incentive for the various agencies involved in urban development to adhere to a master plan. However, with this review power, the Vice Ministry has sufficient authority to assure compliance of the various agencies in the coordinated redevelopment of Managua.

The Special Studies Division presently has 7 Professional and 24 non-professional personnel and administers the geological survey of Managua contracted for with Woodward Lundgren and Associates. This division supplies facts to the Vice Ministry essential for projections in the planning process.

iii. VMUP's Plan Review Process (Description of the Process):
The following steps are followed by any property owner seeking the VMUP's permission to construct or repair a structure in the National District. At any time during this process if the submission is found in error, it is returned to the central control desk for transmission to the owner.

(a) The owner of a property submits his plans (5 copies) and specifications to a central control desk where they are logged in.

(b) Central control sends the plans to the zoning and compliance section, which reviews the submission to see if it is complete, signed, etc. and if it is within the permissible land use, set-backs, open space, etc. Once initially approved, the submission passes through the central control desk and is logged into the structural safety section.

(c) The structural safety section reviews the plans and specifications to determine if the building is structurally sound and within the building code. Unless there is a major conceptual error, the minor errors are noted and a memo drafted to the owner for correction. Once the submission is in satisfactory condition, the chief of the section reviews all approvals. Attention is paid to the illustrative details of the blueprints. Once the final approval is given, the structural safety section passes one copy of the plans to the inspection section and four copies pass through central control on the way to the zoning and compliance section.

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SECTION VII - PROGRAM ANALYSIS

1. Problems or Constraints Being Addressed by the Program

The Urban Sector Program being requested for authorization in this CAP will address the following major problems or constraints in the GON's reconstruction effort:

A. Reconstruction Resource Requirements: Nicaragua is faced by a gigantic reconstruction effort that will extend over at least the next ten years. The total cost of reconstruction and deconcentrated urban development ranges from a low of \$700 million to as high as \$1.0 billion or more and will place a tremendous new burden on a Government that was not fully able to discharge its financial responsibilities to the Nicaraguan people prior to the earthquake. This Program will contribute to providing some of the initial financial resources required for this massive reconstruction effort and will continue the A.I.D. effort at assisting the GON with capital assistance to recover from the effects of the Managua earthquake. (An analysis of the specific financial gap being filled by this Program is contained in Section IV Part 7 and a current analysis of the Nicaraguan macro-economic situation is attached as Annex "3").

B. Rebuilding Vital Public Facilities and Expanding Infrastructure: As noted earlier, most of Managua's public facilities, commercial and warehouse space, and public and private sector offices were heavily concentrated in the downtown area and were destroyed by the earthquake. In addition, Managua's infrastructure network, also largely concentrated in the old downtown area, was damaged and seriously disrupted by the quake, and has been removed from immediate major use by the demolition and clean-up program thus necessitating the heavy use of the limited infrastructure in the periphery and suburban areas. Efforts have been initiated to begin replacing some of the highest priority facilities destroyed by the quake such as hospitals, schools, and shopping areas, and expanding available infrastructure in the periphery and suburban areas. However, much remains to be done just to get Managua back to its pre-earthquake level of services, facilities and infrastructure that even prior to December 23, 1972, were not adequate for servicing the rapidly growing population.

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The DN's projects to be financed by this program will become the responsibility of the Division of Public Works of the DN. The Division has had a similar responsibility for the implementation of the program loan projects which has resulted in increased experience to the DN in the administration and implementation of projects along A.I.D. requirements and guidelines. The Division has performed well. Results have been many new streets, avenues, and by-passes, lined drainage canals, bridges and the repair of public buildings. It is expected that this Division will perform a similar role under this program. USAID feels that with some increase in its technical capacity and assistance from consulting firms for the larger projects, the DN can implement the projects to be financed by this program.

Most of the work that the Division will perform will be the construction of city streets and avenues. Construction has been accomplished using the force account method and the award of competitive bids. The DN has turned almost completely to construction by private contractors and the force account method is used only when the work is not suitable or is too small to attract competitive bids. The DN retains construction and/or maintenance capability for such cases. It is expected that the projects of the DN that will be financed by this program will be constructed by private contractors.

viii) The Central Bank's Fondo Especial de Desarrollo (FED)

The Nicaraguan Central Bank's FED will be the Executing Agency for the Small Enterprises Reconstruction Fund. A detailed description of the FED and participating financial institutions is provided in Section VII , Part 8 , and in Annex 16.

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This portion of the program involves a number of governmental departments with an overlap of action-step responsibility. The general intent of this phase is to provide facilities for public benefit that become an asset to the overall municipality. In general the program will provide: market places for the wholesale trade along with additional markets for the general public along with smaller markets for the casual shopper, bus terminals in both the eastern and western sectors along with the lesser, but equally important, bus stops at convenient locations along the various routes, post offices located near the population clusters in both the eastern and western areas; fire stations to serve the newly developed districts; a library along with the strategically located health centers. As a closely related function of this phase, will be such actions to facilitate the establishment of small industries which may require some installations of plants and equipment that will be beyond the capability of the small businessmen.

vii) Distrito Nacional (DN - City of Managua)

The DN is the municipal authority of the city of Managua and responsible for the city's municipal operation. The highest authority of the DN is the Minister of the Distrito Nacional and is equal to a cabinet position of the central government. The Minister's authority is delegated by the President of the Republic of Nicaragua.

As in most cities in Latin America, the DN is responsible for the construction and maintenance of city streets, public markets, slaughterhouses, parks and recreation facilities, bus terminals and most municipal services. The city is not directly responsible for water supply, sewage disposal and electrification which are services provided by the semi-autonomous agencies like Aguadora, DENACAL and ENALUF.

The Vice-Ministry of Urban Planning is responsible to the DN. The Vice-Ministry was created in October 4, 1973, because of the urgent need to delegate authority and have singular attention for the reconstruction of Managua. The Vice-Ministry is the Office that will implement much of this program as described in detail in another part of this CAP.

Construcciones Nacionales (CN) which will implement the construction of the public facilities and public offices for this program is also responsible to the Minister of the Distrito Nacional. DN is well staffed and participated very much in the implementation of projects financed by the Program Loan.

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the structure by the user agency, the task assigned to Public Works to accomplish the mission. At this point the Public Works would determine and select the professional talent required to prepare the plans and specifications along with management of the contracting arrangements. Competitive bids would then be received and the contract awarded. The actual supervision (inspection) and contract administration would be performed by Public Works either with their own staff or under a contract with one of the many firms that have that capability.

The need for the construction of several complete market complexes has been acknowledged and studies are now underway. The construction of small community markets are contemplated and may also be funded under this program. These would be widely scattered within the various residential areas.

The two inter-urban bus terminals come under the authority of Consejo Nacional del Transporte. This agency is actively engaged in the planning stage of these two terminals. The construction of small community bus stations are also under consideration.

The fire department envisions the construction of at least three new stations to adequately cover the new zones of development. Plans are now being prepared for the standard type of installation along with the taking of the initial steps to obtain the land. With the devastating blow suffered by the fire department during the last disaster, considerable care is being exercised in the selection of the location of the new facilities along with a critical analysis of the design criteria. The construction of these stations should be funded to the tune of about one and half million Cordobas (\$200,000) each not including the cost of the land.

There is indication that the construction of a library should include other functions in the cultural field. Under the plans contemplated by MEP this structure will include such things as an art training center, small theaters for the performing arts, exposition halls and other cultural facilities. It is envisioned that the Escuela de Bellas Artes would be housed in this structure.

It was proposed that a building for the National Archives be considered under this program. At this time the Archives are housed in very marginal facilities in the National Palace. (Within a few years the termites will have destroyed most of the records).

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which did survive the earthquake but suffered considerable damage. This building also contains the main post office. It will decrease in importance as new station/exchanges are connected. Exact site of the new main building will be decided pending culmination of plans by the Vice-Ministry of Urban Planning.

It is the opinion of A.I.D. engineers that TELCOR has the necessary competence to implement the work proposed for inclusion in the Immediate Action Program.

Since preparing their construction plans for 1973-1976, TELCOR has seen the need for an additional 10,000 lines above those listed as having funding arrangements secured. Three additional Mobile Exchange Units would be installed for permanent as well as interim use. They can be connected to overhead and underground lines, and in addition can operate in conjunction with microwave. Each unit has a capacity of 1,000 lines. TELCOR considers line installation cost of \$400 per number, including incremental cost of exchange facilities. On that basis, the 3 units would require \$1,200,000 including line costs to serve 3,000 customers. The other 7,000 lines would be connected to the conventional exchanges scheduled at the same rate of \$400 per line on a total of \$2,800,000.

vi) Construcciones Nacionales (CN)

Construcciones Nacionales is the construction subdivision of the Ministry of Public Works and is responsible for the government's construction program. In effect it is responsible for the construction for all public buildings financed under the national budget. During the confusion of the post earthquake period CN immediately began repairing and expanding the most urgently needed structures, such as the expansion of Velez Paiz Hospital and the restoration of vital institutions. The department was able to respond rapidly to the assigned tasks and operated under a force account arrangement to produce speedy results. In other cases, such as the two new hospital contracts, the department was instrumental in the supervision of the architectural preparation of the plans and specifications along with the award of construction contracts and inspection of the works. In total, the department is well organized to handle those functions that they may be called upon to perform.

Under the Immediate Action Program, the reconstruction and expansion of public buildings, will be a major activity and this department will play a key role. The optimum arrangement would follow the path of identifying the requirements of

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It is estimated that the cost of installing sewer mains to these areas would be about 17,195,000 Cordobas (\$2,456,600). The commercial entrepreneurs would have to pay 1,608,000 Cordobas (\$230,000) for the service connection charges.

The Empresa Aguadora states that they are arranging to construct one 0.5 M.G. storage tank, one 500 gpm capacity well and about one kilometer of 12" A.C. main to south of the area America No.4 in order to provide immediately an adequate pressure to this high service area. It is estimated that Aguadora will fund this construction at a cost of 1,700,000 Cordobas.

To meet the 1976, peak loads with adequate pressure for Americas 1-3-4 low cost housing areas, Aguadora states that they will request financing for two 2.5 M.G. concrete storage tanks located in the vicinity of the above 0.5 MG tank, 3 kilometers of 24" ductile iron pipe, one kilometer of 16" ductile iron pipe and about 500 meters of 12" A.C. pipe. It is estimated that about 7,700,000 Cordobas (\$1,100,000) will be required to finance these facilities including design.

The USAID is confident that DENACAL can undertake the activities included in the Immediate Action Program.

v) Tele Communication (TELCOR)

TELCOR, (Telecommunications and Correos), while owned entirely by the GON, is an independent entity for operating purposes. The organization is similar to those in various other countries in that post office and telecommunication services are under one head; i.e., the Director General of TELCOR. See Organization Chart.

The telecommunication system is operated as a separate organization with authority to acquire property, contract obligations, and execute all legal acts necessary or convenient to accomplish its objectives. Prime objectives are management and operation of communication facilities for public and private use.

The system consists of lines serving 20,000 subscribers with automatic telephone equipment, microwave, carrier, international radio, telex and various exchanges and facilities such as the recently initiated automobile telephone service. Majority of equipment is West German, Japanese, and Swedish. There is some American equipment such as the Motorola car telephone, and negotiations are under way for future U.S. equipment. The principal exchange is in the original building

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Sewer Projects: The firm Hazen-Sawyer-Chan Engineers had prepared a plan for DENACAL for the disposal of sewage prior to the earthquake of December, 1972, which would provide for treatment at Portezuelo and then discharge into Lake Managua. The Inter-American Development Bank (IDB) provided financing for this work and for distribution extensions in numerous communities under IDB Loan No. 267 SF/NI. DENACAL reappraised the project after the earthquake and obtained approval of the IDB to study an alternate for sewage disposal. The study of an alternate by Hazen-Sawyer-Chan recommended that the best solution technically and economically would be to construct the interceptor sewer so flow would proceed from east to west along the southern shore of Lake Managua and discharge at the Los Brasiles area and after treatment be pumped to irrigated areas in Los Brasiles. A feasibility study to consider the costs and benefits to be derived from application of the water thus made available for irrigation farming will be considered separately. The estimated cost of this scheme would be about 69,460,000 Cordobas for the first stage and 20,470,000 for additional facilities after 1980. The ultimate capacity of this sewer interceptor is designed for 78.1 MGD in the year 1990 which will be adequate for one million people. The IDB Loan will provide financing for the final design of the first stage construction of the main interceptor sewer, a study for the survey of the damage to the existing sewers, and for the installation of sewers in 15 satellite communities all of which were designed by DENACAL.

The GON has requested the IDB to consider a new loan of about 238 million Cordobas (\$34 million) to provide financing for additional development which shall include among other infrastructure, additional satellite communities and connecting laterals to the main interceptor sewer from outlying communities.

Both Empresa Aguadora and DENACAL have definite plans, financing and construction implementation for the major portion of the immediate program and are awaiting further instructions for the deconcentration program plans now being prepared by the VMUP.

There are three areas of concentration within the Immediate Action Program in which Empresa Aguadora and DENACAL will be preparing plans for water and sewerage. These areas are (1) North Highway industrial/commercial strip, (2) the Eastern Commercial Zone and (3) the Western Commercial Zone. It has been estimated that the cost of installing main water service to these areas would be about 9,240,000 Cordobas (\$1,320,000). The commercial entrepreneurs would have to pay 946,000 Cordobas (\$135,140) for the service connection charges.

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The water sources for the City of Managua area, Laguna de Asososca, a volcanic crater in the western part of the city is the main source. The dependable average yield from this source is estimated at 20 million gallons per day (MGD), however, during years of normal rainfall about 25% more water can be withdrawn. Four wells drilled at Altamira provide a safe yield of 2 MGD while the new battery of six wells being developed at Las Mercedes will provide a safe yield of 17.5 MGD. Two wells are being constructed in Open #3 community with a safe yield of 0.72 MGD. The average daily demand on the existing system which serves about 68% of the population was 23.7 MGD for March, 1973, which if projected at the same rate of consumption and serving about 78% of the population in 1976, will be about 35.1 MGD leaving the city with very little excess capacity unless additional sources are developed. Empresa Aguadora is investigating the possibility of constructing a 42" main from the west side of Managua to Lake Nicaragua, a distance of 40 kilometers.

The USAID is confident that the Empresa Aguadora can adequately undertake activities included in the Immediate Action Program.

iv) Departamento Nacional de Acueductos y Alcantarillados

DENACAL is the organization charged with the responsibility of operating, expanding and maintaining the entire sewage system for the city of Managua. This organization is under the management of an Executive Director who reports directly to the Ministry of Public Health and is divided into three divisions, studies and construction, administrative, and operation and maintenance.

DENACAL is well organized and knowledgeable on all aspects of the sewer system. This organization has contracted the services of Hazen-Sawyer-Chan Engineers to design the major interceptor sewage collector system along Lake Managua from east to west. A study of Los Brasiles area for disposal of the waste water on irrigable land is underway. DENACAL prepares the designs for the interior sewage collection systems. Detail plans for the expansion of nine emergency development areas were provided to the USAID as an example of their competence. DENACAL normally contracts for the construction of the major portions of sewers. To the extent possible they do construct the smaller collection systems, all house connections and maintenance.

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Water Projects: The firm Hazen-Sawyer-Chan Engineers prepared a report for a past earthquake Immediate Water Project for the City of Managua which was estimated at \$9.5 million and consisted of immediate repair and rehabilitation works, the provisions of water supply to 15 satellite communities consisting of Open #3, Open #2, Open #1, Quinta Nina, El Horizonte, Barrio Urbina, Las Jaguitas, Jocote Dulce, San Pedro, El Espanto, San Judas Sur, San Isidoro Bolas, Loma Linda, Torres Molina 2, and Pochocuape, the development of a new source of water supply from wells at Las Mercedes, and additional transmission mains chiefly to serve the high service Zones which have had an influx of population because of the earthquake. The IBRD and Empresa Aguadora signed a loan BIRE 803 NI on March 17, 1972, for \$6.9 million to provide funds for the above project. The loan can be used for rehabilitation, all foreign exchange costs, 95% of local materials costs and 28% of local labor costs. The IDA under Loan No. 389 NI for \$2.5 million can be used to finance 55% of the local labor costs and needed studies. The Government of Nicaragua would provide counterpart financing of the work in the amount of about 15 to 20 million cordobas.

Under these loan funds, Empresa Aguadora issued invitations and received bids on April 5, 1974, on two construction tranches. One tranche for the supply and installation of 57,560 linear meters of 4" to 12" asbestos cement pipe and 37,200 linear meters of 2" PVC was bid at 3,266,697 Cordobas (\$466,671) by Monolitica, S.A., of Ecuador who was the lowest bidder of eight local and international firms. The second tranche for the furnishing and installing of 24,840 linear meters of 16" to 36" ductile iron pipe and 200 linear meters of 6" to 12" asbestos cement pipe, was bid at 5,502,120.25 Cordobas (\$786,017) by AISA of Nicaragua who was the lowest bidder of six local and U.S. firms. Bids were also received for the manufacturer and supply of 12,000 pipe saddles by Fundicion Industrial of Nicaragua for 240,010 Cordobas (\$34,287.14) who was the lowest bidder of five local and international firms, and of 12,000 corporation stops by NIBCO of Mexico for 157,010 Cordobas (\$22,430) who was the lowest bidder of four Mexican and U.S. firms. The remaining work has not yet been bid.

The Housing Bank of Nicaragua is negotiating a loan with Empresa Aguadora for 5.5 million Cordobas to partially finance the installation of 11,000 house connections in the low-cost housing developments of Americas 1-2-3-4. The Empresa Aguadora will finance 6.5 million Cordobas to meet the cost of the labor for installation.

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A plan has been finalized for the construction of a 138 KV transmission tie line around the city of Managua, starting from the site of proposed Los Brasiles substation at the northwest edge of the city, making a southern loop, and tying into the existing transmission line at the Tipitapa substation northeast of Managua. One 30 MVA substation to be called Managua South will be built at approximately the mid-point of the loop.

Los Brasiles is the terminus for the transmission line from the Puerto Somoza power plant. The Managua South substation will be a distribution source for the southeastern area and perhaps a take-off point for a double circuit tap north into Zone 4. A Zone 4 substation will be located when the master plan is finalized.

The Asososca substation, in the industrial area, is being enlarged from existing 15 MVA capacity to 30 MVA. Tipitapa to the east of Managua, will also be expanded from 15 to 30 MVA. The oriental substation between Managua and Tipitapa is now 30 MVA.

Distribution lines will be built from the various substations in the outlying areas. Of interest to A.I.D. will be those to be constructed in Zone 4 and extending easterly and southeasterly.

iii) Empresa Aguadora de Managua (AGUADORA)

Aguadora is the organization charged with the responsibility of operating, expanding and maintaining the entire water system for the city of Managua. This organization is under the direction of a Manager and Deputy Manager responsible to the Ministry of Public Works. It is divided into three divisions, the technical, administrative and data processing each of which is sub-divided into specific task assignments to carry out the operations of the water company. It is well organized and knowledgeable on all aspects of the existing system and actively processing all the proposed activities of the planned future expansion. The Company has contracted with Hazen-Sawyer-Chan Engineers for the major designs of the transmission system while they perform the designs for the distribution system. The Company also installs all house connections and performs all the maintenance and operation of the system. It also does all procurement, contracting and bill collecting.

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Although the Managua power plant suffered serious, extensive damage, 15 MW unit #1 was back on line within 20 days, 15 MW #2 within 40 days, and 40 MW #3 within four (4) months. As further testimony to the ability of the ENALUF operating staff, the morning after the earthquake, a load of 20 MW in those sections of Managua with the least damage, was served and crews began immediately restoring service to those places that were determined safe. Temporary connections were made to the transmission system, substation equipment was repaired, moved and improvised; so that as the generators were restored to service, the Company was able to connect critical load. Already the 30 to 40 MW load that was lost is being replaced.

Plans for future expansion have been prepared. These are awaiting the overall plans of the Vice-Ministry of Urban Planning for finalizing and for locating substations and distribution lines. ENALUF has included plans for interties with other Central American countries and is quite dedicated toward an ultimate Central American grid, which should save enormous investments in reserve generation as well as increasing reliability and strength of systems in each participating country.

ENALUF completed their first rural electrification project in 1968. It is operating successfully. Usage in only the fourth year of operation is nearly double the usage estimated in the feasibility study for the tenth year of operation. A.I.D. is financing two more electric cooperative projects through Loans 524-L-021 and 524-L-025, each of which contribute 64% of total cost of the respective project. ENALUF and the GON contribute the cordoba funds amounting to 36% of the cost of these projects.

Object of the power portion of this endeavor is to assist in development and implementation of the electric utility plans which are a part of the Managua master plan of the Vice-Ministry of Urban Planning. ENALUF envisions an investment of approximately \$50,000,000 by 1977, in the reconstruction effort.

Since the GON is striving to deconcentrate and decentralize Managua, ENALUF is planning their construction program accordingly. New substations, transmission, and distribution facilities will be required in the areas designated for housing, commercial and industrial establishments. Generation will necessarily have to be expanded as scheduled, but not for the immediate period of time involving this program.

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USAID review of the capabilities of the Highway Department indicate that they are adequately staffed, provided that funding is available for A/E consultants, to carry out activities included within the Immediate Action Program.

ii) Empresa Nacional de Luz y Fuerza (ENALUF)

As in other countries this power company is the result of a gradual evolution resulting from the merging of various small companies, and eventually being wholly owned by the Government of Nicaragua. ENALUF as it is now organized was made an autonomous public utility in 1954, Persona Jurídica, and authority to acquire property, contract obligations and execute all legal acts necessary or convenient to accomplish its objectives.

According to its charter dated October 23, 1954, prime objectives are production and distribution of electric lighting and power to public and private users.

ENALUF executive management consists of a Board of Directors, Executive President who is Chairman of the Board, and a General Manager. Below this level are the General Assistant Manager, Administrative Assistant Manager, Auditor, several operational divisions, and a Public Relations Office.

The Board of Directors consists of the Chairman, a representative of the private sector, a representative of the minority party and their respective alternates. All board members are appointed by the President of Nicaragua for two-year renewal terms. Principal executives are appointed by the board; principal operating officers by the Executive President and the General Manager. ENALUF has 56 professional level personnel, including 40 engineers, 4 CPA's, five (5) lawyers, four (4) economists and three (3) medical doctors.

It is the opinion of A.I.D. engineers that the organization has the necessary experience, technical and physical capability, and adequate consultant assistance to implement the work proposed for A.I.D. participation.

ENALUF has been operating for 20 years, during which time it has expanded from a capability of 12,000 KW generating capacity to 160,000 KW in 1974. A new thermal power station, Puerto Somoza, is under construction and will add 150 MW to the system generation capacity.

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plans, carrying out investigations on basic information for planning purposes and maintaining an adequate control on the programming of construction works. Furthermore, amongst its specific obligations, they have to evaluate the economical justification of projects that serve as base for obtaining loans from international loan agencies, for the construction of the roads.

The Supervision and Studies Division is in charge of the execution of all the road construction sub-programs financed by foreign loans, and a few other important roads. Its functions are to program, organize, direct and supervise the execution of the works; prepare documents to establish the basis of the competitions and organize bids for the projects. It also makes requests for reimbursement from the loans for the amounts disbursed to carry out the projects, and cooperate in any other Government activity related to the transportation sector and other national scope activities.

In addition to being responsible for the routine work related with the maintenance and improvement of the roads of the country, this Division also has the responsibility of executing the road programs related to feeder and penetration roads.

Through this Division, the Highway Department collaborates in the joint contracts, with the private and municipal sector in the construction of roads necessary for the economic and social development of the country.

The Administration Division has the responsibility of solving satisfactorily the administrative problems which are presented to them by the staff of the Highway Department. They also handle, distribute and control the funds which are used to carry out the road projects, and also the great number of activities related to the administrative complex.

In addition, they are also in charge of the office of materials and other administrative equipment warehouse.

The Mechanical Maintenance Division is a critical center of activities of the Institution since they handle the repair shops. The Highway Department depends on this Division for the maintenance not only of the construction equipment but of all the office equipment of the Highway Department.

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Based on sixteen months experience with this Office, the Mission is confident that the MOF's Coordination and Implementation Office can continue to carry out the same responsibilities for the A.I.D. Urban Sector Reconstruction Loan, as effectively as it carried out these duties for the A.I.D. Emergency Program Loan.

4. Executing Agencies

While the Vice Ministry of Urban Planning will provide overall urban planning services for the Immediate Action Program, and the Ministry of Finance's Office of Coordination and Implementation will assure that necessary implementation actions are being taken, and that funding is available on a timely basis for the Program, actual Program activities will be implemented by various GON Ministries and Autonomous Agencies. These latter GON entities will receive subgrants from the MOF's Office of Coordination and Implementation for particular Program activities. The following entities are expected to be Executing Agencies for the Program.

i) Dirección General de Carreteras (Highway Department)

The Highway Department was founded the 1st of January, 1940. It is the official organization in charge of planning, designing, building and up-keeping of the national highway system, and complementary works. It forms part of the Ministry of Public Works according to the national organization chart.

At present, to be able to fulfill its commitments successfully the Highway Department is organized in five divisions: Planning Division, Supervision and Studies Division, Feder Roads and Maintenance Division, Administration Division, and Mechanical Maintenance Division.

All and each of the Divisions that form the Department, have a specific and necessary function to efficiently achieve the objective of the Institution, which is precisely to endow the country of an efficient functional road system that will positively help the economic and social development of Nicaragua. The functions are briefly described as follows:

The Planning Division has the responsibility of evaluating the alternatives of investments, proposing new projects in accordance with the national development

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ment purchase in addition to construction, as part of industrial installations attracted by public infrastructure. Another addition to the private investment component could be that sector's investment in land as former owners of downtown property move to the periphery. However, the national average described above does not reflect the heavy concentration of commercial and industrial (i.e. private) investment in Managua. Therefore, it is appropriate to assume that public investment of, say, \$50 million in reconstruction will generate or attract a private investment of \$ 65 - 75 million, or 1 1/3 to 1 1/2 times the public construction program over a five year period.

Summary: Thus, public sector investment planned for the periphery of Managua should conservatively attract at least an equal amount of private sector investment over a five year period. With more than US\$100 million in public infrastructure and other public sector construction planned for the periphery as a part of the Immediate Action Program, at least an additional \$100 million in private sector investment should be attracted to the periphery by these public sector actions. According to VMUP urban planning consultants (particularly Dr. Dyckman) a combined public and private sector investment in the periphery of \$200 million should "fill" Managua's urban development into a permanently deconcentrated pattern.

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Architects from the Ministry of Economy's regional planning office using a similar method achieve a 1:3 ratio of infrastructure to housing/commercial investment* (See Footnote II below).

The National Accounts Approach: Total construction in Nicaragua is estimated to have been C\$70.3 million in 1973 (see Table I). Of this, 67% was public sector investment and 33% was private. Direct comparison of these figures yields a ratio of 2:1 for public versus private construction investment. If we assume that private construction does not occur until after public infrastructure is in place, the lagged comparisons change to a ratio of 1.3 to 1 (1971 public to 1973 private). If we take the portion of public construction, that is "services," and therefore more likely to attract private investors, the balance changes, and our ratio becomes 1 to 1.1, or slightly more private construction for one unit of public service infrastructure.^{2/} The private investment component also increases if we include some portion of equip-

^{2/} A ratio of 55% "services" (including streets, sewers, telephone, water, schools, hospitals, electric lines and some housing) to 45% "indirect" construction (highways, grain storage, airports, docks, etc.) was derived from an INCAE document breaking down 1973 public investment.

*Footnote II

	Área = 10,000 M ²		
A.	Infrastructure Costs - C\$ 30/M ²	=	<u>C\$ 300,000</u>
	50% to communal areas (streets, schools, parks, etc.)		
	50% to habitational areas = 5,000 M ²		
B.	Construction on Habitational area = 30%	=	1,500 M ²
	Costs of Housing/Commercial Construction -		
	C\$ 600/M ² = 600 x 1,500	=	<u>C\$ 900,000</u>
C.	Ratio A to B = 1:3		

The "Package" Approach: Urbanization of Managua's periphery has followed a pattern of private improvement of specific parcels of land, "repartos" or sub-divisions, including installation of public services. Financed by the country's savings and loan system, and limited by the city's zoning and building codes, the typical private construction (or "urbanizing") company will purchase a parcel of land near major highways and water and sewer mainlines, then construct its own entryroad and suburban streets, and lay its own water and sewer pipes as well as electricity lines. Green areas are set aside for community health, recreation and education structures (to be added later by the government). All of this infrastructure is then "donated" to the National District or public utility which assumes responsibility for operation and maintenance. The cost of this investment is passed on to the client in the form of higher priced lots. In middle and lower middle suburbs the company then typically builds housing units, and possibly a commercial center, and puts the units up for sale. The ratio of this public type investment in infrastructure to private sector investment in housing or commercial construction in these neatly planned sub-divisions runs from 1:3 to 1:4. (One unit of public type investment within this package yields three to four units of private sector investment).

One local firm (CYPSA) developing a lower middle class sub-division (Ciudad Xolotlan) near the North Highway calculates their infrastructure to investment ratio as 1:4: * (See footnote 1 below).

*Footnote 1

	Area = 40 manzanas	Number of Units = 950	
A.	Cost of Land per Lot:	$\$ 7/M^2 \times 230 M^2$	= C\$ 1,610
B.	Cost of Infrastructure per Lot:	$\$40/M^2 \times 230 M^2$	= C\$ 9,200
			<hr/> C\$10,810
C.	Improved Land for 950 units (approx.)		C\$ 10,026,950
D.	Housing & Commerce Construction (approx.)		+40,000,000
			<hr/>
	TOTAL:		C\$ 50,026,950
E.	Ratio Infrastructure to Housing/Commerce equals 1:4		

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Overall Impact of the Program: Obviously major infrastructure projects are not the whole requirement of reconstruction. The commercial, industrial and housing investments undertaken by the private sector will contribute at least as much to restoring normality and promoting deconcentrated urban development as the public sector efforts defined in the Immediate Action Program and the A.I.D. Urban Sector Reconstruction Loan. As has been noted, shopping centers, industry and new subdivisions have already sprung up around the city's periphery. The public sector reconstruction investments to be made in the periphery and former suburban areas over the coming years are expected to attract private sector investment and direct the overall reconstruction into a deconcentrated pattern.

In order to calculate the potential additional private investment attracted to the poles of development within the deconcentration zone, we looked at two different formulas. First, a limited "package" of urbanized area was examined to determine the ratio of infrastructure or community area (assumed to be public) investment to housing and commercial investment (assumed or to be private). Secondly, we checked national accounts data for total annual public construction nationally compared to total private construction. Conceptually, the latter methodology should underestimate private investment generated by public construction, since government office buildings, grain storage, and intercity highways, for example, are much less directly related to attraction of private investment than are "service investments" such as city streets, schools, hospitals, electricity, water and sewage infrastructure. Also, we should assume a lag of up to two years after public infrastructure is in place, for private investment to be implemented - to account for decision-making, design, planning and construction. We checked national accounts on both annual and lagged bases.

These two methodologies yielded widely disparate ratios as described below, but do allow us to make some tentative estimates concerning magnitudes. Our conclusion, after reducing the private component indicated by examining neatly planned subdivisions, and after reducing the public component indicated by national accounts data to include only the "service investments", is that private investment in Managua's periphery will be at least one (and probably one and one half to two times) public infrastructure investment, over a five-year period. We assume public investment will be higher the first years, and then private investment will overtake public. It is well to note here that the GON contribution to the Program will further boost the public component of reconstruction, and thus provide additional leverage for "tilting" Managua into a permanently deconcentrated pattern.

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(iii) The capital budget of the Central Government rose from C\$387 million in 1972 to C\$527 million in 1973, and to a budgeted C\$880 million in 1974. This rapid rise in the Central Government's capital budget reflects to a large extent the cost of reconstructing the capital city, and has caused the GON to continue to be heavily dependent on foreign loans despite its good revenue performance.

Nicaragua's heavy dependence on official capital inflows is documented even more dramatically by the balance of payments analysis presented in table 6 of the Economic Analysis Section^{1/}. We noted that the "foreign exchange gap" could be calculated by adding the "net official capital inflow" to the remaining deficit (if any) in the balance of payments. On that basis, the resource "gap" can be projected at about \$105 million in 1974, \$122 million in 1975 and \$127 million in 1976^{1/}. Losses in foreign exchange reserves are projected at \$42 million and \$74 million in 1975 and 1976, respectively,^{2/} in contrast to the substantial balance of payments surpluses obtained in 1972 and 1973.

In Conclusion: While the budget and balance-of-payments do not point to an immediate crisis, they indicate the extent to which the Nicaraguan economy is dependent on foreign borrowing and establish the impossibility of raising some \$70 - \$100 million a year to rebuild Managua within a reasonable period of time without recourse to foreign borrowing on a substantial scale. The projection of the debt service burden^{3/} shows that the total amount of foreign borrowing presently envisaged will not impose an excessive burden on the balance of payments, provided the funds required are obtained on concessionary terms.

^{1/} Section IV, Part 7.

^{2/} These projections are admittedly highly tentative at this stage.

^{3/} See Table II of Annex "3" .

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construction of Managua within a reasonable period -- say 8 to 12 years -- without a substantial amount of foreign economic assistance on concessionary terms. The cost of rebuilding Managua, plus providing for the growth of its population through 1985, has been estimated at US\$700 million to \$1.0 billion^{1/}, or US\$70 - US\$100 million a year over a ten-year period. Of this requirement, only some US\$54 million in loans were secured in 1973 from the international agencies.^{2/}

Analysis of the budgetary situation of the Central Government and of the consolidated public sector^{3/} showed that, in spite of recent actions by the GON to raise fiscal revenues, Nicaragua's resource gap and dependence on foreign loans on concessionary terms has increased. The reason is that, starting in 1973, the public sector's capital budget must include provision both for Managua's reconstruction and for the country's normal development requirements.

Specifically, the analysis showed that:

(i) Even before the earthquake, the GON has relied heavily on foreign borrowing to cover its capital budget. In 1972, foreign borrowing provided C\$230 million to the Central Government, while the surplus in the current budget supplied only C\$125 million toward the financing of its investment program. In 1974, the Central Government has projected an external borrowing requirement of C\$413 million (Table 2, Section IV, Part 7) which, when added to the external borrowing carried over from 1973, will finance two-thirds of the 1974 capital budget.

(ii) The special tax measures adopted by the Central Government following the earthquake substantially raised its surplus in the current budget from C\$125 million in 1972, to C\$307 million in 1973 and to a projected C\$325 million in 1974.^{4/}

^{1/} See Nez's study of November 30, 1973, Annex "2" , pages 10-12 and Joel's report of April 15, 1974, Annex " 3 " , pages 26-27, for details of the calculation.

^{2/} For a breakdown of the loans obtained from the international agencies in 1973, see Joel's report, Annex " 2 " , page .

^{3/} See Tables 2 and 4 of Section IV, Part 7.

^{4/} Table 2 of Economic Analysis Section (Section IV, Part 7).

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Program Loan Concept: Certain considerations that usually form the basis of program loans also contribute to the justification of the proposed loan. These include (a) the need to move forward quickly and (b) budgetary and balance of payments considerations.

There are two principal reasons for proceeding with all deliberate speed: the first relates to the urgency of providing an alternative to reconstructing the city at the old site. While the Government can and will impose controls to discourage the rebuilding of the old city, such controls may not be sufficient in the absence of strong positive incentives to build in the periphery. Second, the reconstruction momentum that has been built up in 1973 and in the first half of 1974 must be maintained. The reconstruction of the city cannot proceed in spurts. Continuing employment must be provided for the increasing number of construction workers that are being trained. Construction materials must keep flowing after investment in the facilities has been completed. Interruption of reconstruction activity owing to absence of funding or to the need of completing time-consuming feasibility studies could not only result in the rebuilding of the city at the old site, but would also entail substantial hardship and inefficiencies.

Let us now turn to a brief analysis of the extent to which the budgetary outlook of the Central Government and Nicaragua's balance-of-payments situation support the request for the proposed loan^{1/}. We wish to emphasize at the outset that we do not claim that the budgetary and balance-of-payments outlook are confronting the country with an immediate crisis situation. Given the emergency fiscal measures taken by the government in 1973, the government's ability to maintain its revenue collections in spite of the catastrophe, the generous response of A.I.D. and the international organization, and strong demand conditions for the country's primary export-products, the budget and balance of payments outlook for 1974 is favorable. What the analysis makes clear, however, is that Nicaragua has neither the budgetary nor the foreign exchange resources to undertake the re-

^{1/} The budget and balance-of-payments analysis are presented in detail in Section IV, Part 7 of this paper, as well as in Juell's economic report (Annex " 3 ").

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Model I involves rebuilding Managua at the site of the old commercial center with normal scattered development in the periphery; Model II calls for the reconstruction of Managua following a deconcentrated pattern envisaged in the GON's Immediate Action Program; Model III would combine deconcentration of Managua with the simultaneous development of the satellite cities.^{1/} Dr. Nez goes on to describe the major considerations that should be considered in determining the relative advisability of selecting the appropriate model, including geophysical hazard, urbanization capital costs (mainly infrastructure development), operating costs, the productivity of the urban work force and other factors, and suggests numerical weights to be attached to each.

While Dr. Nez suggests these criteria and numerical ratings merely as guidelines for future urban planning purposes, a number of implications are nonetheless clear. Model I must be ruled out on account of the serious dangers to life and property that it entails. The site of the old commercial centers is traversed by fault lines of such seriousness that all experts agree on the folly of rebuilding Managua's main commercial and service center at the old location. With respect to Model III (Peripheral Development plus satellite cities), Dr. Nez notes that it may become attractive after 1980, with the improvement of the surrounding infrastructure and other developments. However, for the near-term, the development of Model III would entail infrastructure development and operating costs considerably greater than Model II. Moreover, under present conditions, the productivity of the urban labor force is likely to be higher under Model II than under Model III. This combination of factors rules out Model III for the near future.

In Conclusion: There is a strong justification for this sector loan and for the GON's Immediate Action Program. It consists of the unquestionable need of rebuilding the infrastructure and the commercial and residential sectors destroyed or severely damaged by the earthquake. Owing to considerations of safety, cost and labor productivity, there is a strong consensus (see Section III of this CAP) among the experts with respect to the advisability of rebuilding Managua along a deconcentrated pattern.

^{1/} The five main clusters outside Managua are: San Benito to Tipitapa, Diriamba-Jinotepe, Masaya, Granada and Nandaime.

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the development of an integrated sector program directed at a specific goal -- the reconstruction of a safer and better planned capital.

On the other hand, the A.I.D. Loan Program shares two features with program type loans. First, there is a strong sense of urgency, and as indicated in other sections of this CAP, time is of the essence. Second, budgetary and balance of payments analysis make it clear that in the absence of a substantial amount of foreign economic assistance, the task of reconstructing Managua within a period of as short as 8 to 12 years, is simply out of the question. We shall now examine the main aspects of this evaluation in greater detail.

Sector Loan Concept: There are two aspects of the Sector Loan rationale: the first relates to the need to replace the destroyed housing, commercial real estate and infrastructure; the second to the advisability of rebuilding Managua along the particular lines suggested in the Immediate Action Program.

The economic importance of the public infrastructure, and of the commercial and residential housing destroyed or damaged by the earthquake can be easily demonstrated: Managua contains 80% of the country's industrial capacity and 60% of its commercial activity. INCAE estimates that some 90% of the capital's distribution facilities were destroyed. The earthquake also destroyed some 50,000 out of its 70,000 dwelling units occupied by an estimated 200,000 - 250,000 people as well as all four of its hospitals and two-thirds of its classrooms. The importance of the capital to the nation's economic life is illustrated by the fact that it accommodated some 450,000 people in 1972 or 22% of its 2,000,000 population. No other city is in the same class: the second largest city, Leon, has a population of only 76,000. The quake reduced the total contribution of the housing sector to the country's GDP by 26%. The rapid reconstruction that the private sector began in the second quarter of 1973 in spite of the lack of any formal planning commitment with respect to the location and outline of the capital is further evidence of the key role that the destroyed facilities played in the country's economic life, and of the urgent need to restore them as soon as feasible.

Granting the need to rebuild and repair the destroyed and damaged facilities, the question arises as to the justification for rebuilding Managua along the deconcentrated lines envisaged in the GON's immediate Action Program. While deconcentration concept has been supported by all the GON's planning consultants, the VMUP's Urban Development Advisor, Dr. Nez, addresses the deconcentration rationale in the greatest detail in his report on Managua's Periphery Development to 1985, reproduced as Annex " 2 " . Dr. Nez discusses three alternative models:

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Here, the comments of the National Science Foundation Study Group are particularly appropriate. In their recent study of the human response to the Managua earthquake the Group reports the following:

"If developing countries suffer more from natural disaster, they also do less to prepare for and to prevent them. Many features of the 1931 earthquake are faithfully reproduced in 1972, yet no significant emergency planning, seismic-resistant construction, or redundancy and decentralization of emergency services was developed over the 40 year history between earthquakes. The low national priority given to seismic-loss reduction is not peculiarly Managuan, but universal. Natural disaster may be costly to developing countries, but so is disease, unemployment, and public disorder. Planning horizons are short, attention is centered on increasing economic wealth. The international community of nations is called on to provide for the exceptional need; the small national surplus is needed daily."

Thus, the Urban Sector Reconstruction Loan being requested for authorization will assist the GON in overcoming these above considerations and in continuing its efforts to develop a new urban design for Managua that can better protect the city from the most disruptive effects of future geophysical occurrences. This will benefit all Nicaraguans as well as providing future generations of Managuans with a safer and better place to live.

3. SUMMARY JUSTIFICATION

Below is provided a summary of the Loan Program's basic rationale and an overall evaluation.

Because of the nature of the GON's First Stage Reconstruction effort (Immediate Action Program), the sector lending technique is considered preferable for structuring A.I.D. Loan assistance in support of the concepts contained in this Immediate Action Program. In common with sector loans, the A.I.D. Loan Program being requested for authorization will finance a range of closely interrelated investment activities designed to promote the accelerated reconstruction of the Managua urban sector in accordance with specific urban development guidelines and policies. Activities such as the construction of roads, infrastructure, public facilities; the establishment of a small enterprise reconstruction credit fund, and the upgrading of key GON implementing and planning institutions all serve to support

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lower income suburban "barrios". Through the Program and the companion Low Cost Housing Loan, low income suburban areas will be provided with housing, and improved infrastructure such as water, sewerage, and electricity and credit facilities designed to bring these loans to every family. In addition there will be better access roads and paved streets; reconstructed public facilities such as new public markets, bus terminals, and health and employment centers; improved public services through the construction of community bus stations, fire stations and post offices; and new employment opportunities through the creation and/or expansion of commercial and industrial activities in the former suburban areas of Managua.

Second, the Program will lead to the further development of a multi-centered new Managua, that is currently being established around several new commercial, service and employment centers, as opposed to the basic one-center model that existed in Managua prior to the earthquake. This newer and more modern city, if further developed, will bring public services and employment closer to where the average Managuan lives, thus reducing overall travel time between home, shopping and employment and developing the basic framework for a more modern, functional and efficient new city. Such developments will improve the overall quality of life for all Managuans, but especially for many lower socio-economic groups that prior to the earthquake had the longest and most difficult access to public facilities and available infrastructure.

Third, twice in this century, in 1931 and 1972, Managua has been destroyed by earthquake and subsequent fires bringing to the population death, injury, economic and social disruption, and substantial suffering and hardship especially for the lower and middle classes of Managua. Since Managua is located on one of the most dangerous geophysical areas in the world, earthquakes can be expected to recur with frequency while Managua grows into a much larger urban center. If the historic patterns of growth and geophysical occurrences continue as expected by the planners, with major earthquakes at least every 40 years interspersed by regular but smaller disturbances, Managua will contain a population of well over one million when the next major earthquake occurs. Projecting from the past, this disaster could kill and injure over 100,000 Managuans if the urban patterns and densities of old Managua are allowed to reestablish themselves. The suffering and hardship that such a disaster would bring to the future population of Managua, and the economic and social dislocations that would be created, can now well be anticipated from past events.

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out most recovery activities initiated in the emergency period, both those funded by the A.I.D. Program Loan and those funded by the GON's Special Reconstruction Fund. This partnership proved successful in making the emergency period less disruptive than it otherwise might have been.

While the current situation is different from the emergency period, similarities exist, and the Mission believes that, given the problems mentioned above, the model that has guided A.I.D. assistance in the emergency period is now even more relevant for the first stage of the reconstruction program, however, now with an additional urban planning input. Thus, the Urban Sector Reconstruction Loan being requested for authorization will assist the GON in getting its first stage reconstruction program moving, and thereby deal with the above mentioned problems, in a manner similar to the way the A.I.D. Program Loan assisted the GON in the emergency period. The Urban Sector Reconstruction Loan will assist the GON structure, plan and finance its reconstruction activities; it will provide a focus and framework to support the GON's Immediate Action Program and to guide USAID assistance in support of this Program; it will create a situation in which decisions can be made, bottlenecks broken, institutions strengthened, new procedures and mechanisms developed, and where critical reconstruction policies and actions are given the support of international agencies and energized by their staffs. In addition, it will create the framework in which the technical resources, close support and experience of the USAID Mission can be brought to bear in assisting the GON in moving forward on a broad range of reconstruction activities.

2. Program Beneficiaries

The Urban Sector Reconstruction Program being requested for authorization will have as a target group the victims of the Managua earthquake of December 23, 1972, and all present and future citizens of Managua. While the target group is relatively large and includes the entire population of Managua (currently estimated at 350,000 with projections indicating that a population of 650,000 will exist in Managua by the early 1980's), it should be recognized that the majority of the target group is comprised of lower social-economic citizens (Managua's urban poor) and that these lower income groups will receive many long-term benefits from this Program.

First, the Program will rebuild public facilities and expand infrastructure, public services and employment opportunities in the periphery and former suburban areas of Managua, particularly in and around sections presently characterized as

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E. Continued International Assistance for the Managua Reconstruction:
The years 1974-76 will be critically important years for the reconstruction of Managua and will determine the future course of the city's urban development. To date much urban analysis and urban planning have been completed for the reconstruction, a great deal of rebuilding is already underway, and the GON is finalizing the development of an Immediate Action Program and Guidelines for the first stage of the reconstruction and is gearing-up for doing the long-range planning. Taken together all of these actions are quite noteworthy, represent significant GON progress in moving forward with the reconstruction effort, and support the rebuilding of a deconcentrated new city as recommended by the professional planners.

On the negative side, however, pressures to return to the Center are increasing and could pull too much reconstruction back into the Center in an unplanned and uncontrolled manner. The Vice-Ministry of Urban Planning has been temporarily diverted by the mechanics and the details of enforcing the building code and issuing building permits. It has only recently been able to dedicate adequate time to the overall planning effort required for the reconstruction. And the GON has not moved as quickly as desirable in creating and strengthening the institutional units and other mechanisms required for reconstruction, though it should be noted that significant new budget allocations have been made to strengthen these mechanisms. Nor has the GON fully faced-up to the need for expanding its investment budget for reconstruction projects. In addition, some decisions have not been made because of a natural "let-down" since the intense work that characterized the emergency period following the earthquake, and because of the current political campaign. Thus while much has already been done, and past trends are positive, much still remains to be done in getting the first stage of reconstruction off the ground.

This Program will address these problems in a way in which similar problems were successfully addressed by A.I.D. Loan 524-L-028 (Program Loan). Just after the earthquake, the GON was disrupted and disorganized, however, had taken some positive steps in dealing with the immediate consequences of the earthquake, but was overwhelmed by the dimensions of the disaster, and needed assistance in developing activities that could be immediately initiated to relieve some of the more disruptive effects of the earthquake. The A.I.D. Program Loan and an activist A.I.D. staff, provided the GON with the needed assistance for carrying

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This Program will address this problem by providing financing for the continuation of the rebuilding of vital public facilities such as public markets, bus terminals, health centers, post offices, fire stations, and office facilities for key GON development ministries and agencies. In addition, a credit fund will be provided so that the many smaller enterprises destroyed by the quake and previously located in old downtown area of Managua can begin rebuilding activities. Also, the current program for expanding the infrastructure network in the periphery and suburban areas will be expanded with funding from the Program so that these areas can better service and hold the existing population, particularly low income groups, and can also attract new commercial, industrial and residential investment.

C. Promoting Deconcentrated Urban Development: This Program will assure that a major portion of Managua's public and private sector reconstruction investment is directed towards promoting a deconcentrated pattern of urban development, thus counter-balancing the centralizing forces that could pull reconstruction inwards towards the old downtown area. In addition, and equally as important, the Program will be promoting the development of a more functional and modern multi-centered new city where public facilities, services and employment are located closer to where the future population of Managua is expected to live, thus improving the standard of living of all Managuans, especially the most populous low income families, and the overall efficiency of the new city.

D. Strengthening GON Planning and Implementation Capabilities: Managua is faced by a massive urban reconstruction effort that will require the expansion and strengthening of the GON's planning and implementation mechanisms if Nicaragua is to meet the future reconstruction requirements of Managua as well as continue long-range development. Such an expanded planning and implementation structure will also be necessary if the GON is effectively to mobilize and channel its own resources into reconstruction and to more rapidly utilize resources from the other international agencies. This Program, plus the Mission's Grant Activity for Program Management and Project Implementation, will address these problems by providing for funds for strengthening key GON Reconstruction Agencies. While the Mission's Grant Project will focus on the overall technical assistance requirements required for the reconstruction effort, and particularly on further strengthening the Vice-Ministry of Urban Planning, the proposed Loan will focus on providing assistance for activity design and formulation and implementation support directly related to the Immediate Action Program in addition to specialized urban and national planning not possible for funding by the Grant Project.

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In the case of specific, locally produced materials, action has been taken to offset future shortages in several important cases. The cement company's new kiln will be installed by early 1975 and full production (6,300,000 bags, as opposed to 1974's 4,500,000 bags) should be reached shortly thereafter, assuming the demand exists. A new crushed rock plant is to be built about 20 kilometers from Managua, possibly by late 1974. In the meantime, a U.S. firm contracted to supply crushed rock (with movable equipment) for the construction of the north highway, has been authorized to sell surplus rock to local builders. Thus, supply of this necessary element for concrete should not constrain capacity.

Wood continues to be a problem because the native "pochote" has almost disappeared and reforestation is a lengthy process. One alternative is to begin to exploit stands of another type of wood. The less desirable pine wood is being processed but mainly for export purposes. Furthermore, the new pine treatment process is inadequate against termites. Improved processing plus some form of export controls will resolve the shortage of pine in the short term.

Production of cement articles - blocks, tubes, and asbestos cement roofing - can continue to be expanded locally, and should not become an insuperable bottleneck. However, funding for small producers must be made available to some extent, through local credit or the Low Cost Housing Loan, and organization and investment may have to be promoted among these groups.

E. Demand/Supply Balances for Skilled Labor: While everyone agrees that the first constraint on construction capacity is lack of skilled manpower, there currently exists a pool of unemployed construction workers, according to Social Security data. ^{1/} This is blamed on a temporary lull in construction as Urbanismo applies the more rigorous building code to permits. Meanwhile, virtually every national training institute has, with the assistance of the UN-ILO, OAS, voluntary agencies and embassies of Spain and Colombia, begun intensive courses in construction skills. New information developed during the Intensive Review indicates that over 1,000 new skilled workers trained in 1973, and possibly over 3,000 in 1974 and 4,000 in 1975 (see Table VI), more than doubling the estimated pre-quake pool of skilled construction workers. While the programs range from 15 days to two years, they are apparently adding to each of the various skills (foremen, masons, carpenters, electricians, welders). Of course, short-training courses do not yield laborers who

^{1/} December 1973, 14,837 construction workers registered with INSS; January 1974, dropped to 14,125.

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Table V
Price Index for Construction Materials

<u>Item</u>	<u>Characteristics</u>	<u>Unit</u>	<u>Base</u> <u>August '73</u>	<u>December '73</u>	<u>January</u>	<u>February</u>	<u>March</u>
Concrete	3.000 lbs. /2	M3	100.00				
Terrazo Brick	30 x 30 cms.	brick	100.00	101.19	151.42	151.42	151.4
Common Brick	25 x 25 cms.	brick	100.00	100.00	113.63	114.54	114.5
Iron	Corrugated 3/8"	100lbs	100.00	110.00	121.42	122.85	122.9
Iron	Smooth 1/4"	100lbs	100.00	130.42	137.91	140.93	149.0
Window glass w/frame	Anodized		100.00	115.01	123.33	123.33	130.0
Lamps	2 tubes, 40 watts	M2	100.00	102.52	91.42	121.00	121.0
Wire	No. 12 Phelps Dodge	lamp	100.00	120.89	147.07	180.78	183.6
Wiretube	EMT 1/2" galvanized	Lb.	100.00	118.64	126.40	128.00	128.0
Cables	4/0 Phelps Dodge	foot	100.00	119.04	121.90	143.80	143.8
Waterpipes	PVC 4"	meter	100.00	118.26	129.42	133.63	133.6
Drain plate	Aluminum 4"	foot	100.00	113.22	128.42	129.84	129.9
Plywood	Caobilla 4x8'x1/4"	colademas	100.00	107.41	101.14	105.11	115.0
Aislite (ceiling material)		sheet	100.00	121.58	121.58	121.58	121.6
Asbestos cement	2 x 4' x 4 mm	M2	100.00	112.50	125.00	150.00	150.0
Cement blocks	15 x 20 x 40 cms.	sheet	100.00	100.00	100.00	112.85	112.9
Clay blocks	15 x 20 x 40 cms.	block	100.00	118.07	156.62	168.67	180.7
Pine board	1'x12'x12'	block	100.00	100.00	-	-	-
Wiretubes	EMT 1/2" ungalvanized	millas.	100.00	110.70	118.14	-	-
Window glass w/frame	Mill finish	de pie					
Cement blocks	10 x 20 x 40 cms.	foot	100.00	179.59	179.59	179.59	179.6
Clay blocks	10 x 20 x 40 cms.	M2	100.00	102.97	102.97	126.73	126.7
Nails	2" to 6"	block	100.00	118.18	137.87	165.15	174.7
Cement	97 lbs. bag	block	100.00	100.00	100.00	-	-
Lime	97 lbs. bag	Lb.	100.00	111.86	136.72	145.76	149.0
Rock	No. 1/2	bag	100.00	100.00	124.69	126.88	126.9
Sand		bag			-	129.23	132.30
Zinc	No. 26 6'		100.00		-	136.36	200.00
Sewer pipes	6"	M3	100.00		-	133.33	-
Tiles		Unit	100.00		-	164.55	164.55
Plywood (pine)	4 x 8' x 1/4	Unit	100.00		-	118.18	118.18
Wire	No. 18	Unit	100.00		-	261.11	296.29
Lumber (pochote)	Sq. in.	sheet	100.00		-	138.33	138.33
		Lb	100.00		-	214.28	261.42
		Tls. varas	100.00		-	214.28	287.8
Source: Banco de la Vivienda				113.02	121.21	132.24	153.5

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TABLE IV

RECOMMENDED PROGRAMMING OF 1975
CONSTRUCTION ACTIVITY

	<u>Public</u>	<u>Private</u>	<u>TOTAL</u>
Reconstruction	¢ 300	¢ 300	¢ 600
Construction Outside of Managua	150	150	300
TOTAL	¢ 450	¢ 450	¢ 900

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is anything more than one-half of public, the estimated capacity of \$900 million would be insufficient to cover the demand, creating inflationary pressures unless substantial amounts of public projects were done with imported construction capacity. However, as the economic analysis notes, the public capital budget will have to be trimmed, to bring it into line with available sources of financing. The same is true with regard to real investment programmed for 1976. With real investment budgets reduced to around \$600 million per year through 1976, staying within local construction capacity limits is much more likely. Public construction would then be around \$400-450 million, and an equivalent amount could be expected from the private sector, without overburdening construction capacity. Of the total public construction, about \$300 million is estimated by USAID to go to Reconstruction annually leaving \$100-150 million for development related construction in other areas of Nicaragua. Table IV summarizes the recommended limits within 1975 capacity as discussed above.

D. Demand/Supply Balances for Construction Materials: The original shortages ^{1/} occurred in cement blocks, bricks, tiles and crushed rock (used in production of concrete). The Housing Bank also noted deficits in metal structures and lavatories. The latest price indices (see Table V) show substantial (over 50%) price increases between August 1973 and March 1974 for cement block, tiles and crushed rock, plus similar increases for concrete, ceiling material, wire and wire tubes, zinc and pochote wood. Of course, a portion of cost increases is due to higher transport costs. But another portion of the increase is due to the non-competitive structure of the materials supply industry. Retail prices for imported materials in many cases show increases, according to preliminary INCAE findings, that cannot be attributed to imported inflation. Iron reinforcement rods, for instance, show a 43% cost rise over the period December 1972 to March 1974, if one looks at import statistics, but a survey of local suppliers reveals retail price rises of as much as 157% over the same period. Similar disparities appear for zinc, wire tubing, fluorescent lights, and metal fixtures (locks, joints, etc.). One conclusion we could reach is that the materials suppliers are dominated by several large firms, creating monopoly-like conditions. If further research confirms that this is a major cause of inflation, portion of this loan's contingency fund could be used to support a cooperative-type import organization for small builders, or related activity designed to reduce prices of imported materials.

^{1/} According to the INCAE Study.

TABLE III

	<u>Construction Output</u>	
	<u>Cuentas Nacionales</u>	<u>Center</u>
<u>1973</u>		
	679	599
Clearing of Managua	<u>100</u>	<u>100</u>
Construction excl. clearing	579	499
<u>1974</u>		
Volume increase 15%	88	81
Price increase 20%	<u>133</u>	<u>116</u>
Construction excl. clearing of Managua	800	696
Clearing of Managua	<u>50</u>	<u>50</u>
TOTAL	850	746
<u>1975</u>		
Volume increase 15%		
1975 at 1974 prices	<u>120</u>	<u>104</u>
	<u>920</u>	<u>800</u>

Source: INCAE Center discussions

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TABLE NO. II

SUMMARY OF CAPACITY OF NATIONAL CONSTRUCTION INDUSTRY IN RELATION
TO CONSTRUCTION PLANS

(Thousands of Cordobas)

Concept	1973					1974				
	Build-ings	Houses & Small Commerce	Infra-structure	High-ways	Total	Build-ings	Houses & Small Commerce	Infra-structure	High-ways	Total
Construction Plans	152.7	539.4	109.1	77.7	878.9	128.1	308.3	98.7	32.2	567.3
Construction Capacity	104.9	170.7	105.8	48.9	430.3	150.4	246.5	151.6	70.2	618.7
(Deficit) or surplus of year	(47.8)	(368.7)	(3.3)	(28.8)	(448.6)	22.3	(61.8)	52.9	38.0	51.4
Deficit Carried Over from 1973						(47.8)	(368.7)	(3.3)	(28.8)	(448.6)
Combined Surplus or Deficit () for 1973-74						(25.5)	(430.5)	49.6	9.2	(397.2)

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SOURCE: INCAE: Capacidad y Planes de Construcción en Nicaragua para 1973 y 1974, May 26, 1973.

at \$1,046 million excluding the Ministry of Public Works' additional capacity (See Table II). Thus, a shortfall of \$400 million would occur during the 1973-74 period if planned construction were not postponed and capacity did not change. Of the \$878.9 million programmed for 1973, only \$570 million was completed, according to national accounts. Thus we should assume approximately \$300 million in construction projects were shifted to 1974, raising this year's demand to \$867 million, for both public and private sectors. Given INCAE's new estimate of capacity for 1974 of \$746 million, only \$120 million worth of programmed construction activities would have to be postponed until 1975.

As Table III shows, INCAE now estimates construction output (assumed to be equal to capacity from 1974 on) at \$696 million in 1974, plus \$50 million in clearing of rubble, implemented with imported capacity. This concedes a 15% increase in INCAE's estimate of 1973 output and 20% increase in price. A similar increase in 1974 local volume yields a 1975 capacity of \$800 million. Since 1974 training programs are expected to increase skilled labor 36% and cement production is due to increase by 40% in 1975, we believe 15% increase in capacity is conservative. Although shortages of wood and plywood, cement blocks and metal structures are still going to constrain growth, a 30% increase in 1974 capacity, or to \$900 million, is still realistic. Allowing for 35% of construction to occur outside of Managua, a 1975 reconstruction program of \$600 million for both public and private sector would probably not excessively burden the industry's capacity, although activity would be at the top acceptable level.

If \$900 million worth of construction can be supplied in 1975, what level of demand will exist to draw on this capacity? Little final information is available with which to determine demand for 1975 or 1976. In the Economic Analysis (Section III) of this paper, 1975 Real Investment of the public sector is estimated to be \$900 million conchas. Real investment covers construction of various kinds, and purchase of machinery and equipment, as well as some minor services. The trend over the last 4 years has been for construction to consume 80%-90% of real investment, but another trend has been for about 80% of programmed public investment not to take place, for various reasons. Thus, we might calculate that of the \$900 million programmed in 1975 capital budget, only \$612 million in public construction will be implemented. ^{1/} If private investment in construction

$$1/ \quad .85 \times 900 \times .80 = 612$$

ordered by the cement company that is expected to increase its productive capacity by 40% during 1975; a new rock crushing plant is being installed and temporary arrangements have been made for crushed rock until then. However, in supply of wood and plywood, controls on exportation are essential, to increase supply in the short run, as new processing capacity for pine that has been installed so far is being exported. In the medium-term, other woods of Nicaraguan forests might be used. Other shortages may be attributed to slow delivery of materials and production equipment from the U.S. and other sources, and to the monopolistic structure of local suppliers (four "ferreterias" supply 60% of materials). These shortages might be remedied through making AID credit and commercial assistance available to small enterprises, as detailed in the Small Enterprises Reconstruction Credit Program section of this paper.

B. Analyses of Construction Capacity: The first major studies of construction capacity were undertaken in mid-1973 and include: 1) INCAE Advisory Center's Capacidad y Planes de Construccion en Nicaragua para 1973 y 1974 (May, 1973); 2) the Central Bank's study Perspectivas de la Construccion (July 1973); and the Housing Bank's Plan Bienal de Construcciones del Banco de la Vivienda y del Sistema de Ahorro y Préstamo (April and October, 1973). Only the INCAE document is currently in the process of updating, although the Housing Bank has published a review of rising prices. Tentative new estimates of capacity have been made by the INCAE Center for inclusion in this document. Due to lack of new information on planned total construction, this section will use estimates of demand partly based on these prior studies.

On the basis of Central Bank concern about inflationary pressures, public sector construction investment is being trimmed by the GON for 1974 to give reconstruction programs priority but to leave sufficient capacity for private sector investment in Managua reconstruction to share. We assume such active concern will continue, and that, if reconstruction programs financed by this and other loans outrun construction capacity, the GON will act to spread out the implementation period for public construction to ease inflationary pressures.

C. Demand vs. Supply in the Construction Sector: Aggregate national demand for construction for 1973 and 1974 was estimated in the INCAE document to be \$1,446 million over the two year period, and cumulative construction capacity

TABLE INew Construction Workers Trained

<u>Institution</u>	<u>1974</u>	<u>1975</u>
Don Bosco	531	290
Instituto Tecnológico de Granada	300	600
INA (ILO)	1,200	1,800
CNC Training Center (OAS)	694	290
CNC - UNAN (foremen)	-	140
Min Labor (Page)	309	864
Vocational Tech. Institute	54	79
	<u>3,088</u>	<u>4,063</u>

a/ USAID estimates after discussions with each institute and INCAE.

Bustamante/Jones

15 May 1974

6. Construction Industry Capacity

A. Conclusions and Recommendations:

i. Both the construction and building materials industries were suffering from substantial excess capacity at the time the disaster hit in December 1972. Excess capacity may well have been as high as 50%.

ii. Demand for construction services and materials swung into high gear beginning mid-1973. According to national accounts data, the value of construction output in 1973 was 32.2% over the 1972 level. Cement production increased by some 48% in 1973 compared with the year before. Inventories of construction materials have been depleted while demand for labor helped increase wages 40% between December 1972 and May 1974. The cost of building materials increased 45-48% between August 1973 and March 1974.

iii. The weight of the evidence indicates that the capacity of the construction industry may be seriously strained during 1974-1976. The substantial further increase in demand that is anticipated together with the hefty increases in the cost of materials and wages that have taken place so far lend support to the conclusions of the INCAE Advisory Center and Central Bank studies which found existing capacity to be inadequate. The most serious bottlenecks are in the area of skilled labor (especially foremen, assistant foremen, and certain specialist categories such as carpenters, masons and welders). Shortages are also being experienced for a number of construction materials (particularly cement products, metal structures, iron bars, reinforced steel, wood, and flat glass). However, these are not expected to constitute insuperable obstacles as production can be expanded (or needed supplies imported) following a 4-6 month gestation period. Nonetheless, steps must continue to be taken to firm up projected requirements for specific materials; determine what can be produced locally and what should be imported, and place orders for materials and equipment.

iv. Programs already are under way to overcome possible bottlenecks to increase capacity although there is some question as to whether these efforts cover all bottlenecks. Various training programs (see Table I) are being conducted to increase the supply of skilled labor; a new kiln has been

the GON recover from the disastrous earthquake of 1972.

With completion of these three Programs during the next several years, the basic physical outlines of a new deconcentrated Managua will have been created and the GON's institutional structure for reconstruction planning and implementation will have been substantially strengthened for the longer-range reconstruction effort that lies ahead. Thus, the USAID expects that after the development and authorization of the Urban Reconstruction Sector Program, the Mission's immediate new loan efforts will shift back to rural development and that the other international agencies will be encouraged to provide the GON with future reconstruction assistance.

2. Engineering Considerations

Detailed plans and specifications for individual Program Activities will be prepared during the implementation of the Immediate Action Reconstruction Program by various GON Executing Agencies and presented to the VMUP and the Ministry of Finance's Office of Coordination and Implementation for approval. For those activities to be associated with A.I.D. Loan disbursements, final plans and specifications for each activity will be approved by the USAID's Engineering Office in the context of Mission acceptance of a Proposed Activity Summary Presentation (PASP). During Program implementation USAID Engineers will also closely monitor actual physical progress on each activity and review individual progress reports presented for reimbursement to the USAID. Procedures will follow those being successfully utilized for the A.I.D. Program Loan currently being implemented. Additional Engineering Considerations on the Urban Reconstruction Sector Loan are provided in Annex 23.

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v) Low Cost Housing: The Mission currently has pending in AID/W a CAP for a Loan of \$13.0 million to the Nicaraguan Housing Bank for upgrading and converting the Temporary Shelters into permanent low cost housing. For additional details on this Project see CAP 524-L-029. This Low Cost Housing Project will form an important part of the larger Urban Reconstruction Sector Program being proposed in this CAP.

vi) Grant Project for Program Management and Project Implementation: As noted by all the planners to have reviewed the reconstruction scene in Managua, the GON requires immediate foreign technical assistance to improve its overall planning and implementation capabilities. To respond to this need, the Mission in late CY-1973 developed a Grant Project for Program Management and Project Implementation that along with assistance from the OAS and UN will provide foreign technical personnel to assist the VMUP and other GON agencies upgrade their planning and implementation capabilities. The PROP for this Project was approved in March, 1974, and the Project Agreement with the VMUP was signed in April. The first contracts funded by this project have been finalized and will provide assistance to the VMUP in finalizing the Immediate Action Program for the first stage of the reconstruction and for continuing long-range planning activities.

The A.I.D. Grant Project for Program Management and Project Implementation, along with assistance from the OAS and UN, will provide for most of the foreign technical assistance required for reconstruction planning and institutional strengthening. However, substantial additional funds will also be necessary to assist GON agencies plan and implement activities now included in the Immediate Action Program. For example, various GON Executing Agencies will require substantial assistance from local and foreign A/E consulting firms if Program Activities are to be quickly designed, prepared for financing, implemented and adequately supervised. Thus, it is anticipated that the proposed A.I.D. Urban Reconstruction Sector Loan will provide funds for this latter aspect of the Program as well as provide funding for specialized urban and national planning requirements that because of their relatively large scope cannot be financed by the A.I.D. Grant Project.

vii) Urban Reconstruction Sector Loan: The Urban Reconstruction Sector Loan contained in this CAP, along with the Low Cost Housing Loan and the Mission's Grant Project for Program Management and Project Implementation will close out the Mission's immediate reconstruction program in Nicaragua. With each of these Programs, A.I.D. is dealing with immediate high priority areas for assisting

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labor intensive public works activities, activities for cleaning-up the destroyed areas of downtown Managua and activities for replacing vital public facilities destroyed by the quake, and assisting the GON continue other vital development projects. Over the past sixteen months, the Program Loan has been one of the activities most instrumental in assisting the GON relieve some of the most disruptive aspects of the earthquake and, as noted previously, in structuring and implementing its own recovery and reconstruction activities.

The Loan was signed on February 14, 1973, and the GON moved immediately forward and created within the MOF a Special Coordination and Implementation Office for the Loan. This Office was organized in one week, CP's were met by the end of February, and Program Loan activities were initiated in March, 1973. By the end of CY-1973, in record time, \$14.4 million of Program Loan funds had been committed to 23 activities and the remaining \$9.6 million is now being committed. (A list of Program Loan Activities and the financial status of each is included in Annex twenty two of this CAP). All Program Loan activities are proceeding with good progress and it is now expected that most Program Loan activities will be completed by the end of CY-1974. (It should also be noted that the GON created a \$50.0 million-- approximately \$13.0 million-- Reconstruction Fund to complement A.I.D. Program Loan and with this fund and counterpart contributions to individual Program Loan activities, the GON has well exceeded the level of counterpart expenditures normally required for A.I.D. Loan Projects. This is particularly noteworthy, since only very limited counterpart requirements existed for the A.I.D. Program Loan).

iv. Education Sector Loan: Shortly after the earthquake, an A.I.D. Education Sector Loan, authorized prior to the earthquake, was restructured to provide additional assistance to the GON in reconstructing primary schools destroyed by the quake and fulfilling additional demands created in secondary cities by the refugee population. This restructured Loan will provide for the construction of 834 primary classrooms in Managua and surrounding secondary cities and will replace most of the primary school facilities destroyed by the quake. While construction has encountered some difficulties, particularly in obtaining land titles to various school sites, 273 classrooms are under construction, construction of an additional 185 classrooms is out for bids, and the construction of the remaining 376 classrooms will be under contract by the end of CY-1974. The Mission expects that this Program will provide for the replacement of primary school facilities destroyed in Managua and that no additional reconstruction assistance in this area will be necessary.

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4. Place of the Urban Reconstruction Sector Loan in the Mission's Overall Program in Nicaragua

Since the earthquake of December 23, 1972, A.I.D. has been actively involved in assisting the GON deal with this disaster and the A.I.D. Program has been instrumental in assisting the GON alleviate some of the most disruptive aspects of this disaster. Since all of these relief and reconstruction activities have already been extensively reported on to AID/W, this part of the CAP will only briefly describe each activity.

The Mission's relief and reconstruction program is composed of the following major elements:

i) Immediate Emergency Assistance: Following the earthquake, the USG provided substantial emergency assistance to the GON in the form of medical supplies, food and other emergency commodities to assist Nicaragua in overcoming the most immediate effects of the earthquake. The total cost of this assistance was about \$10.0 million and was fully phased out by late CY-1973.

ii) Temporary Shelters Project: Immediately following the earthquake a major GON/AID concern was the provision of temporary shelters to the many Nicaraguans left homeless by the earthquake. Since up to 50,000 housing units were destroyed by the quake and thousands were located in tents surrounding Managua and in secondary cities, immediate action in this area was necessary.

To deal with this immediate emergency problem, A.I.D. provided the Nicaraguan Housing Bank (BVN) a grant of \$3.0 million for the construction of 11,100 temporary shelters. The Project was initiated in January, 1973, and completed in record time by April, 1973, and was instrumental in providing shelter for thousands who had lost their homes in the earthquake. In addition, this activity was one of the first projects to begin the overall deconcentration of Managua as later recommended by the planners. (Additional details on this Project are provided in the Low Cost Housing CAP now pending authorization in AID/W).

iii) Emergency Program Loan: While the above activities covered the most immediate relief requirements, the earthquake also created other very serious problems of extensive unemployment and disruptions to vital public facilities. To assist the GON in dealing with these problems, A.I.D. developed in January, 1973, an Emergency Program Loan for \$15.0 million that provided financing for a series of

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Developing and recommending government procurement policies assuring appropriate access to government business.

Providing larger business firms with information about small business firms active in areas of interest to larger firms.

Providing information to foreign bidders about potential Nicaraguan sub-contractors and joint ventures.

Carrying out seminars, meetings and social events at which small businessmen can meet and establish contacts with management personnel of larger firms.

Providing information to the small business community about training opportunities and the utility of continuing education in business technique.

(d) Technical Assistance Requirements: The brief history of assistance to small enterprises in Nicaragua firmly demonstrates the significance of effective technical assistance for this area of the credit project.

The Banco Nacional (BNN) conducted a credit program for small enterprises and in 1967 AID signed an agreement with the BNN to lend \$2,000,000 to expand the program. One third of the program was within Managua. Up to \$200,000 was provided for technical assistance and promotion of the program. Even with this assistance the BNN was unable or unwilling to expand its existing program, although the AID loan was disbursed rapidly. USAID suspects that the cost of appropriate technical assistance in this type program is high and has not been realistically estimated by local institutions.

The private sector has also demonstrated the same point. In 1964-66 INFISA was formed by a private sector conglomerate active in various industries and commercial areas to finance credit to small enterprises. Using their own funds and money borrowed from INFONAC and CNI they promoted about \$1.0 million into the small enterprise sector at high rates of interest and without technical assistance. The venture was a disaster. Local observers report that INFISA was aware of the high administrative cost of the program but not cognizant of the risk element and the need for technical assistance in this type of program.

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In addition, the maldistribution of credit contributes to gross inequities such as "loan sharking". Evidence obtained from the local markets indicate about €4.2 million in loans made by loan sharks in 1972 and an estimated €6.0 million in 1973. Interest costs on these loans ranged upward to 480% p.a. (See Annex 16K)

As a further example, FUNDE assists a limited number of individual taxi operators including the cost of the vehicles (taxes, transportation, etc.) as well as the cost of the license. The license is currently traded for US\$2,000. The Ministry has not increased the 1200 licenses made available before the quake. This problem has other impacts in the sector. FUNDE has created eleven "cooperativas", one of which consists of 32 taxi operators. Four operators are driving their own vehicles financed by FUNDE. The other members are renting vehicles from large owners at excessive rentals. This restraint is imposed by the lack of credit availability as well as the unavailability of licenses. FUNDE is planning an approach to the GON to request a certain number of licenses be issued to new individual operators that FUNDE will finance with resources from the new AID loan. Similar problems involving franchises and routes confront drivers of buses.

As illustrated above, there is and has been a variety of constraints on the distribution and availability of credit affecting and excluding the target population, which will continue to be excluded unless the GON undertakes specific action to alter the course of events as proposed in this component of the Program.

This constraint will be addressed by allocating counterpart resources of \$3.2 million which will be matched by an AID loan fund of \$3.2 million to create a special credit fund of \$6.4 million which will be exclusively available to the target population of this program. The participating banks and subborrowers are expected to support the program with additional counterpart resources in the course of the execution of the program.

Supplementing credit and technical assistance tools, the FED will also attempt to lift constraints of small enterprise activities due to lack of information and contacts with the rest of the private sector and act as an advocate for the sector by:

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(d) Procurement policies and procedures designed to encourage large prime contractors to provide management and technical assistance to smaller enterprises with which they are dealing.

(e) Procurement policies and procedures designed to facilitate and encourage the establishment of independent new enterprises by capable and experienced employees of prime contractors.

ii. Limited Distribution of Resources and Credit:

(a) The two largest commercial banks in Managua currently have a total portfolio of working capital loans to 13 construction companies. Twelve of these loans are to larger firms and the other is medium sized (identified as "small" by the bank). One of the banks has a portfolio of loans on 30 new buses to 8 owners, representing the larger companies in the industry.

(b) The current BID loan through the FED shows twelve construction activity sub-loans ranging from \$250,000 to \$7,817,500 Córdobas. Only one of these borrowers might be a smaller firm.

(c) Furthermore, an officer of the largest commercial bank (Banco Nicaraguense) has told USAID that his bank has temporarily stopped making new loans to the industry sector in order that the bank will be in a position to meet the traditional demands of their cotton and agriculture sector clients for seasonal credit. Normally, the bank at this time of the year has fully repaid credits from external banks but it has been unable to "clean-up" this year because of the unusually heavy demand for credit from the industry sector. If these conditions persist or recur annually in the regular credit channels, it seems clear that credit available in the regular sources will not be accessible to the smaller firms and people in the target area including small enterprises. In particular, the supply of credit available to the small enterprises sector has always been limited. Up to the earthquake, the sector flourished and maintained an important place in the economy by relying mainly on its own resources. This situation has dramatically changed since the quake virtually wiped out the entire equity base of the sector. Consequently, the sector's weak financial base is a major constraint on the amount of assistance that the regulated credit system can be expected to provide.

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B. Constraints Being Addressed By The Project : Three major constraints are being addressed by the Project. These include (i) structural concentration in the private sector economy, (ii) the distribution of available resources and credit, and (iii) the requirements for technical assistance. These are further discussed below:

i. Structural Concentration in the Private Sector Economy: The Nicaraguan private sector is dominated by a few powerful economic groups that have controlled a large area of the economy since well before the quake. The new requirements created by the reconstruction, particularly in the areas of construction, building materials and transportation have created new opportunities for increasing production. In addition, with rapidly expanding demand in certain areas, critical supply bottlenecks have developed often as a result of the dominance of a Nicaraguan industry by a limited number of firms. The proposed credit project will deal with this constraint by channelling resources to smaller enterprises that are independent of the firms now dominating business activity and could effectively use credit and technical assistance to help relieve "bottlenecks" in construction related activities, in particular. The FED will finance construction related "bottleneck" activities through a special "window" of the credit fund.

Bottlenecks resulting from the dominance of a few firms are evident in the transportation area also. It is anticipated that individual bus drivers and taxi drivers who want to own their equipment can borrow through the small enterprises channel of the credit fund and that the Ministry will be requested to cooperate by making available a number of licenses and franchises. In addition to credit and technical assistance, it is expected that the FED will promote special policies in the construction area by the GON in order to improve the opportunities for smaller firms such as may be possible and consistent with sound management and engineering practice. These policies would be as follows:

(a) Structure specifications of work for construction and procurement in a manner to facilitate competition for work by smaller enterprises.

(b) Where appropriate, open certain elements of work for bids by smaller enterprises only.

(c) Encourage prime contractors by incentive or mandate to subcontract and enter into joint ventures with smaller enterprises.

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that operate as intermediate financieras using resources from FUNDE and the savings of their members. The Cooperativas are organized in the market centers, the Bancos de Barrios in large low income districts. Since the quake approximately 1,500 members have been organized into eleven cooperativas and bancos de barrios. This new structure operates as "branches" of FUNDE in different markets and barrios, and permits wide distribution and better control over lending operations. One of the cooperativas is now self-sufficient and all are expected to become self-sufficient that is, reliant on their own savings which will represent their "equity", and a basis to justify borrowings.

One of the newer cooperativas (actually a "pre-cooperativa"), is an organization of 32 taxi-drivers. Only four drivers own their vehicles. The others rent vehicles at an exorbitant daily rental from owners of large fleets.

FUNDE aims to create more "Cooperativas" and "Bancos de Barrios" but is limited by funds and resources which must be advanced for organization and administration expenses during the initial period. USAID is impressed by FUNDE's achievement and objectives in this area and this credit program proposes to advance FUNDE funds for loans to new cooperativas and bancos de barrios, and technical assistance to continue this noteworthy activity.

The FED will require that each participating institution provide an adequate technical assistance program to effectively utilize the resources made available for the program. In this target area it is estimated that about 1,600 small enterprises will be assisted by the end of the disbursement period.

(b) Smaller Firms Reconstruction Related Bottleneck areas:
From 15 to 30 selected smaller firms are expected to be assisted in this target area. The FED, in consultation with VMUP and INCAE, will obtain the dimensions of supply and demand factors in critical areas of the reconstruction effort and identify potential bottleneck industries and activities. Identification and analysis of candidates for credit and technical assistance would follow and a decision will be made that such particular assistance will support the GON's overall reconstruction program. The technical assistance requirement may include consulting services that will be paid for by the client as part of the subloan.

The FED and the participating banks will maintain full information on each client's progress so that the program may be adequately evaluated.

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(e) The FED will prepare and submit regular reports to USAID on the operation of the fund and a plan for evaluation of the credit project acceptable to AID.

iii. Targets of the Credit Project: The credit project has two prime targets related to the Immediate Action Reconstruction Program, 1) Small Enterprises in Managua that need credit and technical assistance in order to locate or expand in the deconcentration zone and the population centers of the new city, 2) Smaller firms in reconstruction related bottleneck areas that could contribute to the Immediate Action Reconstruction Program, if credit and technical assistance are made available.

(a) Small Enterprises in Managua: Before the quake, the bulk of working funds available to small enterprises in Managua was financed in the form of paid-in capital, an index of remarkable self-reliance and strength in the sector. From this we conclude that the small enterprises sector received little support from regular credit channels, even less support than we had suspected.

As a result of the quake, the small enterprises sector, having lost virtually its entire equity-base, and blocked off from the regulated commercial sources of credit, has a greater access requirement for resources than ever before. Until the sector regenerates its equity base, the need for credit will probably remain high but the supply of available technical assistance will set limits on the amount of credit that can be effectively delivered to the sector in a prudent program. (The role of technical assistance in the program is discussed in Annex 16B) Credits will be channeled to these enterprises located in or around areas receiving assistance from other components of the Program, such as the eastern and western commercial zones and generally in the deconcentration zones and low income residential areas that will receive infrastructure assistance. For this Program the FED will operate chiefly through institutions that have well established small enterprise credit programs such as the Banco Nacional, the Banco Popular and FUNDE. These institutions will be required to support the AID program with technical assistance to the subborrower for project promotion and development commensurate with the number of loans being processed.

FUNDE has taken an imaginative step in promoting its program for small commerce by creating "Cooperativas" and "Bancos de Barrios"

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(b) To provide a credit fund for attacking critical supply bottlenecks that will slow down the overall reconstruction of Managua.

(c) To assist Managua's small enterprise sector to further recover from its almost total destruction caused by the earthquake.

(d) To provide lower income citizens of Managua with a new opportunity to reestablish or expand their enterprises and new cooperatives to play a more active role in the Managua reconstruction.

ii Elements of the Credit Project

(a) The credit fund will be structured with the FED as a second-story bank that will channel the funds resources through banks and institutions of the national credit system.

(b) The FED will create an operating unit staffed with a small group of highly qualified credit specialists. The staff will work in close coordination with the MCF and the VMUP and directly supervise this credit project with the participating banks and institutions.

(c) The FED will establish financial mechanisms to provide incentives to the participating institutions.

(d) The second-story bank (FED) operation will provide two "windows" for channeling the funds resources:

A "window" for Managua's small enterprise sector to help it recover from its near total destruction during the earthquake.

A "window" for smaller firms that could help to relieve critical construction related bottlenecks.

The mechanisms and operation of the credit fund and the roles of the institutions are described in Annex 16A.

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particularly smaller Nicaraguan enterprises have been unable to fully respond to the new opportunities partly reflecting the restricted availability of resources and technical assistance. This has resulted in a critical reconstruction field often being left to the few large established companies in each industry.

The reasons for the above are complex and often involve far more than the lack of loan funds. However, the Mission and the GON believe that the future reconstruction program could be greatly assisted by a specially designed Smaller Enterprises Credit Fund that could promote and direct resources to high priority private sector investments such as expansion of the smaller construction firms, direct private sector investments out beyond Managua's Inner By-Pass Road in support of the GON's deconcentration policy, and that could promote and direct financing to key smaller enterprises, such as in the area of building materials and transportation, so as to break critical bottlenecks for reconstruction.

Thus, the Mission anticipates that a part of the proposed AID Urban Sector Reconstruction Loan and an equal amount of counterpart will be used to capitalize a special smaller enterprises reconstruction credit fund. The fund will be operated by the Central bank's Fondo Especial de Desarrollo (FED), a newly created second-story development bank that is also administering IDB and IBRD Loans. The FED would move reconstruction related credits to smaller subborrowers through the entire Nicaraguan banking system by discounting and financing eligible sub-projects. However, the fund would not only move its own resources to sub-borrowers but would also mobilize private resources for reconstruction. The financial mechanism to operate this fund is currently being used by the FED, and is described below in Annex 16A.

i Purposes of the Small Enterprises Reconstruction Credit Fund: The purposes of the Small Enterprises Reconstruction Credit Fund will be the following:

(a) To provide the Vice-Ministry of Urban Planning and the Ministry of Finance with a specialized credit fund through which credit can be directed at developing smaller enterprises in specific geographic areas in support of the GON's overall deconcentration policy.

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8. Small Enterprises Reconstruction Credit Fund

A. Scope of the Credit Project: The Government of Nicaragua estimates that 95% of Managua's small enterprises were destroyed by the quake as well as major commercial activities concentrated in the downtown area. On the other hand, medium and large scale industrial capacity, for the most part situated outside of the heavily damaged zones, was relatively untouched and has almost fully recovered from the quake. Major commercial activities are relocating in and around the new deconcentrated commercial centers and along the new by-passes and the newly widened Masoya highway. In general, the private sector has displayed vigor and confidence in recovering from the quake and in initiating new construction and investments outside of the destroyed and heavily damaged areas.

Private sector investment and recovery are expected to continue at a pace that will be defined largely by the limit to its resources, management and technical "know-how". These prerequisites to action are, of course, not evenly distributed and indeed are heavily concentrated and controlled in relatively few companies and groups in Nicaragua. As a result, while many private sector reconstruction activities have been initiated, only a fraction of the small enterprises have been restored. In addition, other critical bottleneck areas for the reconstruction have not received any special attention and existing demand could be met by smaller Nicaraguan firms if appropriate credit and technical assistance were provided to them. Little commercial and warehouse space destroyed by the quake has as yet been rebuilt. No smaller office complexes, and many other smaller businesses have as yet been initiated. While the city is now spread-out over a wider area, thus requiring additional transportation capacity, the smaller bus and taxi companies have been unable to respond to the new opportunities by expanding capacity and only new companies have been established. The need for new construction industry capacity grows each day, yet Nicaragua's smaller construction firms continue to face difficulties in financing expansion with their own limited resources and from commercial banks. As each week passes, and the reconstruction boom grows, new opportunities and needs arise for the establishment and/or expansion of architectural and engineering firms, contractors, subcontractors, the development of new suppliers of building materials and building supplies, and other critical industries. Yet in certain of these "bottleneck" areas, the private sector and

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The Report concludes that with the growth of Managua from a population of roughly 400,000 to an estimated population of about one million by 1985, and the projected expansion of the city to the south and east, the demand for public transportation is likely to increase at an even higher rate than the population growth. At the same time, increased industrial and commercial activity will increase the demand for truck transport. With economic growth, the fleet of private vehicles will also grow. For the long run, in order to achieve economic and social success of the Las Americas Low Cost Housing Program, and of other reconstruction projects, the street system and public transport systems need to be improved and expanded.

While the GON is reviewing these above recommendations, and other studies undertaken on the transportation system in Managua, it is precisely this need for improvement and expansion in the Managua transportation system that will be placed under continuous study by the Vice-Ministry of Urban Planning and will be an important component in the Immediate Action Program. In addition, traffic and transportation experts may be brought in funded with A.I.D. Grant funds, as necessary to continue exploring the specific needs in this area and assist the GON in developing a more comprehensive transportation policy and program for the reconstruction.

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7. Transportation Implications of the Reconstruction Program :

In conjunction with the preparation of the Low Cost Housing CAP a special advisor from the U.S. Department of Transportation was brought to Managua by the Mission to study traffic and transportation implications and policies of the Las Americas Low Cost Housing Program. This advisor (Miss Grace Finne from the Technical Assistance Division of the Office of International Programs, of the Department of Transportation) prepared a report entitled, Transportation Aspects of A.I.D. Post Earthquake Construction of Low Income Housing in Managua, Nicaragua, dated November, 1973. In addition, to specific recommendations regarding the A.I.D. Low Cost Housing Program, the report made a number of recommendations which were based upon generalized transportation and traffic needs of the overall Managua reconstruction effort. They are as follows:

1. To assure the long run social and economic benefits from the reconstruction of Managua, an overall program for street rehabilitation, traffic regulation and improvement of the bus system should be carried out. Problems that require immediate attention include street drainage and surfacing. Improved patterns of bus routes and a system of transfers should receive attention from the GON.
2. Terminals for buses with transfer platforms for city buses would facilitate integration of regional and local bus service. Incentives such as temporary suspension of import duties, changeover from ad valorem to fixed fees and liberal tax deductions for scrapping of older vehicles would seem desirable to promote renewal of the bus fleet.
3. With a current daily bus ridership in Managua of about 185,000 passengers and an expected rapid growth in demand for bus service, daily savings in transit time imply significant economic and social benefits. Studies should be carried out in this regard.

The Report attached as an Annex of the Low Cost Housing CAP goes into an extensive analysis of both the transportation needs of the Las Americas Program and includes a detailed analysis of the traffic and transportation recommendations of the Mexican Plan.

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the courses are one-month in length with 341 trained to date, and an estimated additional 270 during the rest of the year. In addition, 80 supervisors for private companies were trained in longer programs. Future programming foresees a possible union with INA to make permanent a construction worker training center, with OAS and Colombian government assistance.

iv. Vocational Technical Institute with newly built facilities, began accelerated six-month courses which include 54 people in construction skills. Regular two year courses also include construction skills and may add another eight workers during 1974, and more in future years. VTI also trained 69 drivers for heavy equipment for the Highway Department. This is a GON Ministry of Education institution with buildings financed under the AID Sector Loan.

v. National University (UNAN) and Construction Chamber united to train firemen (maestros de obra) in one and two year courses. This has been a crucial skill shortage. The first graduates will enter the work force in 1975.

vi. Technical Institute of Granada largely financed by the Spanish Government, which provided equipment and 16 instructors, has encountered delays in beginning its courses. However, 25 counterpart instructors have been prepared (as well as another 20, for INA), and the estimated start date is now July 1974 for training workers.

vii. The GON contracted directly with a private firm, Page Engineering, to conduct intensive training in construction skills--2,000 workers in two years. Facilities are still under construction (40% completed) but officials believe courses can begin in June or July. If the program does begin as scheduled (largely dependent on additional GON funding), some 300 workers can be trained in 1974.

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can produce as efficiently as experienced skilled workers. However, the additional workers help ease a difficult situation. Two significant programs, the Technological School at Granada and the Page contract with the Ministry of Labor, have not yet begun to train workers, although instructors are being trained at Granada. However, officials of both programs insist some training will begin by July 1974. Therefore, partial year estimates have been included for these programs.

The Central Bank Study has pointed out the need to control expansion of skilled construction workers so that a large group of unemployed workers will not develop as reconstruction activity terminates. They estimated that an \$800 million annual investment over 14 years in reconstruction would produce no unemployment at the end of the period.^{1/} Compressing reconstruction into a shorter period, requiring more skilled labor per year, would leave a surplus of workers as construction activities begin to decline.

Thus, more money invested in new full-time institutional training programs may well only duplicate the efforts of the activities described below. An alternative approach would be to provide contingency funding, such as that included in the Low Cost Housing Loan, to support on-the-job training on a project specific basis, if the need arises. Worker training programs now under way or in advanced stages include:

- i. Don Bosco Youth Center - supported by CARITAS and Central American religious orders, began training welders, plumbers, electricians, masons and carpenters in May, 1973. In the first year they have trained 890 people in three-month courses. They will switch to longer term preparatory courses beginning in July, 1974.
- ii. National Training Institute (INA) supported by ILO, began in February 1974 to provide three-month courses to masons, welders, electricians, carpenters and plumbers. They estimate 1,200 will be trained during 1974. In 1973, over 200 workers were trained, in part with Canadian development assistance. For 1975, a survey will be made of construction industry needs before programming training.
- iii. Construction Chamber, OAS and Ministry of Labor together conducted emergency 15-day courses in 1973, reaching about 600 persons. For 1974, -----
^{1/} Given a total investment of \$2 bill. in reconstruction which is low compared to latest estimates of total costs.

TABLE VISKILLED LABOR

A.	Actual 1973	7,433	
B.	Trained during 1973	1,112	
C.	Total by end 1973	<u>8,543</u>	
D.	Estimated trained 1974	3,088	
E.	Total by end 1974	<u>11,633</u>	(+ 36%)
F.	Estimated trained 1975	4,063	
G.	Total by end 1975	15,696	(+ 35%)

Source line A and B: INCAE
 Lines C-G: USAID

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In the early part of 1973, INFONAC was exploring the feasibility of establishing a guaranty fund to back up some percentage of loans to the small enterprise sector that would be made through a program involving the commercial banks. At that time INFONAC was not contemplating an extensive technical assistance element. However, that program was not carried out. INFONAC does conduct a program for medium-sized industry in which area the technical assistance constraint may not be so binding.

Banco Popular and Banco Nacional are currently providing less than adequate technical assistance for their small enterprises programs. That method of operating will produce less viable enterprises and high credit losses to the institutions. FUNDE alone appears to have an appreciation for the technical assistance element required for successful operations in the small enterprises area. This project will provide resources for substantially increasing technical assistance to the participating institutions in the small enterprises area.

In the "bottleneck" assistance area the credit fund will be dealing with construction related firms smaller and financially weaker than those now receiving financing under the BID construction program through the FED. The analysis of candidates for assistance in the bottleneck area may show various needs besides credit, including assistance in management, marketing, cost estimating, accounting, etc. The subborrower will pay for the required technical assistance. The cost will be included as part of the subloan.

This constraint will be addressed by requiring a high level of technical assistance in both the small enterprises financing and in the "bottleneck" financing. The project committee firmly believes that success in both programs will be dependent on an appropriate amount and quality of technical assistance. See Annex 16B for the proposed technical assistance program.

C. Demand Analysis for Small Enterprises Credit Program: Analysis of potential credit demand for the small enterprises fund has proven difficult for a number of reasons. Data gathering and analysis by government and private sources was of course, seriously interrupted by the earthquake.

Residents of Managua displaced by the quake have been scattered to all parts of the country. Hence, interviewing and survey data collection has proven unfeasible except on a non-systematic basis. Further, a major constraint, perhaps,

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is that the small enterprise sector in Managua was almost totally wiped out while, in contrast, medium and large industry sustained less than 10% damage to plant and assets.

We have, therefore, approached the analysis in the following manner. First, we seek to develop a figure which reasonably reflects the replacement cost to the small enterprise sector of assets destroyed in the quake. A study prepared by the Banco Nacional has been helpful in establishing this estimate.

Additional partial data on potential development and reconstruction related demand is provided based upon growth and population characteristics. We have also reviewed the current supply of credit available to the small enterprise sector.

We have aimed to conservatively evaluate these partial data which suggest a large unsatisfied demand for credit. Furthermore, we have concluded that the true constraint on the development of small enterprises is not credit demand but rather the capacity to deliver effective technical assistance. This constraint is fully analyzed in Annex 16-B and a projected effective demand for credit plus technical assistance is determined. It is this effective demand for credit fully supported by technical assistance which forms the basis of this element of the Urban Sector Reconstruction Loan.

Demand for resources and credit in the small enterprises sector is investigated under the following heads:

- (1) Replacement of damage
- (2) Growth of Demand
 - (a) Reconstruction related
 - (b) Development

These will be discussed in the above order.

i Replacement of Damage: Ninety-five per cent of the small enterprises in Managua were lost or seriously damaged in the December 1972 earthquake. At the time of the quake, the Banco Nacional de Nicaragua (BNN) was financing

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practically 100% of small industry credit expended by the banking system and had 2388 clients in Managua.

The BNN headquarters in the city was severely damaged and substantial records on small business operations were lost.

The BNN's investigation (November 1973) of the small enterprises sector estimated that damage resulting from the quake to clients in the city amounted to \$46.0 million cordobas (US\$6.5 million). This appears to be the only estimate of sector damage available.

The BNN's loans to these clients totalled \$7.5 million cordobas about half of which is a total loss to the BNN.

The estimated damage \$46.0 million consisted of \$38.6 million in inventories and \$7.4 million in fixed assets. (Certain other accounts may have existed in the sector including accounts receivable and accounts payable which to some extent may have offset each other.)

The damage estimate is converted into a replacement estimate. We assume a five-year average age for the fixed assets. (They are probably much older.)

	\$ 7.40 million fixed assets (5 yearsold)
plus	\$ 1.04 million GDP deflator at 14%
	\$ 8.44 million - replacement estimate at December 31, 1972
plus	1.01 million - 1973 inflation at 12% *
	\$ 9.45 million
plus	.95 million - 1974 estimated inflation at 10%
	<hr/>
	\$ 10.40 million - replacement estimate for fixed assets
	Replacement value of inventories of \$38.6 million is estimated:
	\$ 38.6 million value at December 31, 1972

* 12%, the nationwide rate, yields a conservative result. Inflation rate in Managua was about 30%.

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plus € 4.6 million - 1973 Inflation 12%
€ 43.2 million
plus € 4.3 million - 1974 estimate inflation at 10%
€ 47.5 million replacement estimate for inventories
plus € 10.4 million replacement estimate for fixed assets
57.9 million total estimated replacement of damage in sector.

(It is possible that a portion of the damage estimate €46.0 million has been recovered from insurance. However, no data is available and there is no way of knowing if the insurance payments will be invested in a small enterprise.)

ii. Growth in Demand - Reconstruction related: The above discussion has evaluated the direct damage to the small enterprise establishment. In addition, losses and damages sustained by consumers and residents in the city reflected very substantial quantities of items needed for housing and the operation of households. Many of these items (e.g. furniture, cooking utensils, cement products) were produced by small enterprises before the earthquake. We believe that these enterprises will want to expand their capacity to meet this new demand. An estimate of this additional capacity to help replace the quantities of goods lost by consumers and residents should be added to the direct replacement of damage calculated above.

Along with the damage to small, medium and large industry and commercial properties, approximately 53, 000 housing units were destroyed or damaged by the quake. Huge quantities of household related goods and articles were lost or destroyed. These would include a wide variety of metal goods, wood products, plastic utilities, as well as larger pieces of furniture, ice boxes, refrigerators, cooking units, etc. The value in housing and household related goods lost or destroyed has been estimated ** at €365,000,000 cordobas (US\$95,000,000). A nominal portion of this amount is probably counted in the damage estimate in the small enterprise sector. The huge loss of personal properties and effects appears to point to a huge potential demand for products of small enterprises well beyond what the replacement capacity

* 12% the nationwide rate, yields a conservative result. Inflation rate in Managua was about 30%.

** On the basis of a survey of 1,325 pre-quake residents who suffered losses in personal belongings and household goods conducted by Federación de Cooperativas de Ahorro y Crédito de Nicaragua (FECANIC), published March 1974. It is interesting that 88% of those surveyed said they desired to reestablish their residence in Managua.

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(\$58.0 million as defined above) can supply.

This growth in demand for small enterprise is estimated as follows: Gross domestic product in Nicaragua for secondary and tertiary activities aggregated \$4,115 million cordobas in 1972. During that year small enterprises contributed about 18% of the product, as calculated using BNN data. Relative to the gross domestic product of Managua we would estimate a lower contribution from small enterprise, say 15%, since there is a concentration of larger firms and product in Managua. Taking 15% of \$665,000,000 cordobas results in \$99,150,000 cordobas (US\$14,250,000) growth in demand for products of small enterprises. According to BNN data four units of sales are produced by one unit of investment. Thus, new small enterprise investment resources necessary to meet this estimate of the growth in demand would be about \$25,000,000 (US\$3,520,000).

This portion of the demand schedule for products of small enterprises reflects requirements resulting from the quake. However, the rapid reconstruction of the city over the next two to three years and the anticipated growth of population up to 665,000 by the end of the decade suggest that a significant portion of this demand will become a permanent part of the market for products of small enterprises.

iii Growth of Demand-Development: Whether substantial amounts of the investments calculated above are likely to be committed or in place over the next two to three years will depend, in large part, on the availability of resources. Some corroboration of the general magnitude of resources required is obtainable from a forecast of the investment needed for the number of types of small business units that would conform to the projected structure and size of the new city. It is anticipated that the new city will be rebuilt for a population of 665,000 by the end of the 1970's over an area of about 80 square kilometers. Before the quake Managua's 400,000 people were concentrated in about 33 square kilometers.

Present estimated population, 350,000, is expected to reach the 400,000 prequake level in about two years. The proposed structure of the new city in concentric arcs outside of the old city core could consist of several multi-polar centers including population clusters ranging from 75,000 - 250,000, markets, bus stations, business establishments, residences, schools, etc., and small enterprises.

The FED will instruct and encourage the participating institutions to undertake special promotional efforts to support particular small enterprise activities

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that will be needed to provide the necessary goods and services in the new population centers. Such small enterprises would include barber shops, clinics, dry cleaning shops, hardware, food, clothing, repair shops, etc. Annex 16C estimates the number and types of new small enterprises and the range of investment that will be needed to "flesh out" a population center of 75,000 people. For a population center of approximately 75,000 people, small business investment would range from \$1.2 million to \$2.3 million which figures would be doubled for a population center of 150,000 people. Some planners envision the new city with three polar centers of 150,000 population each which would indicate an aggregate investment need ranging from \$7.2 million to \$13.8 million.

iv. Additional Demand: Another identifiable element of potential demand for small business resources appears to be additive to the magnitudes discussed above. In February, 1973, CABEL prepared a proposal for promoting a small business export operation as a contribution to the rehabilitation of small industries. See Annex 16D for the study.

Briefly the study identified types of small industries that can contribute particularly to the improvement of Nicaragua's trade in the CACM. Thus, certain small industries would be rehabilitated so as to produce exportable products as well as products for the domestic market.

The project contemplated two large prefabricated buildings built on land provided by the GON resulting in a low level of overhead for the small enterprises.

The program identified the following industries, summarized:

	<u>Total Units</u>	<u>Total Loan Amount</u>
1. Food Products	24	CA\$ 259,000
2. Shoes and clothing	53	CA\$ 15,000
3. Furniture & Wood Prod.	22	CA\$ 67,000
4. Paper & Paper Prod.	5	CA\$ 102,000
5. Printing and Books	14	CA\$ 100,000
6. Rubber Products	7	CA\$ 57,000
7. Leather Products	12	CA\$ 52,000
8. Chemical Products	29	CA\$ 129,000
9. Metal Products	54	CA\$ 333,000
10. Machinery	19	CA\$ 210,000
11. Electrical Equipment	20	CA\$ 262,000
12. Others	21	CA\$ 126,000
TOTAL	<u>280</u>	<u>CA\$ 2,020,000</u>

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The CABEL proposal has not been implemented. The nature of the program would increase the amount of small business resources participating in export operations and production for domestic use. This would bring new markets, diversification and additional resources to assist the rehabilitation of the sector.

USAID has had discussions with the FED and intends to develop a special program for assisting small enterprises to enter the export market. A program involving about 200 to 300 small business could be identified in the activities listed above. With the advent of resources available under the new AID assisted credit program, this would appear to be the right time to expand opportunities for the small enterprise sector.

Execution of an export oriented sub-program will require substantial technical assistance. A special effort in this area would increase the need for resources in the small enterprises sector. The CABEL study proposes credit totalling \$2,020,000 to 280 small companies, average loans of about \$7,000. After 1-1/2 years these estimate need to be raised probably at least 30% to credit requirements of about \$2,626,000 (¢18,382,000 Cordobas).

An addition to small enterprise credit demand is also identifiable in the transportation sector. The Consejo Nacional de Transporte, in a recently prepared preliminary study of urban bus and taxi service requirements over the next five years, indicates that substantial investment will be needed to (1) finance replacement of old buses and taxis and (2) to finance additional buses needed due to the deconcentration and population growth in the city. Preliminary estimates show ¢96,000,000 needed to finance 377 new buses and 809 new taxis in the 1975-76 period. (See Annex B-E). A part of the small enterprise program will be aimed at this sector.

The demand schedule for small enterprises might well include a portion of the "loan shark" business in the market estimated at ¢6.0 million for 1974.

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SUMMARY OF RESOURCES ANALYSIS OF SMALL ENTERPRISESDemand Estimates

Replacement of Damage	C\$ 53.0 million
Growth in Demand	
Reconstruction Related	C\$ 25.0 million
Development	C\$ 18.0 million
Estimated Resources Demand	<u>C\$101.0 million</u>

Supply

Banco Nacional 1973	C\$ 5.6 million*
Banco Nacional 1974	C\$ 5.6 million
Banco Popular 1973-74	C\$ 7.0 million
FUNDE 1973-74	C\$ 3.0 million
Estimated Total Credit	<u>C\$ 21.2 million</u>
Estimated equity available from insurance payments and rescued properties	<u>C\$ 25.0 million</u> C\$ 46.2 million

Shortfall	C\$54.8 million
AID/FED Small Enterprises Credit Program	C\$32.4 million
Additional Demand Balance	C\$22.4 million

* 40% increase in BNN Small Business portfolio

D. Demand for Financing in Bottleneck Activities Program

A bottleneck in construction services and supplies exists and will grow more serious as the reconstruction proceeds. Additional capacity undoubtedly will develop. Some of the new capacity is being provided by the BID Reconstruction Loan through the FED. But it is considered important that this needed capacity not be generated entirely within the business groups which dominate the industry in Nicaragua and to grasp the opportunity at the present time to assist smaller independent firms to gain a foothold.

The "bottleneck" project will attack this problem with a two-pronged strategy. First, the process of procurement will be handled in such a way as to encourage the participation of smaller firms, and second, an action program of promotion, credit and technical assistance including the FED and the participating banks will be initiated to facilitate the entry into the various construction service and supply markets of effective competitive entities.

The first step will be an investigation of competitive conditions in selected lines of construction services and supply conducted by the FED assisted by short-term consultants. Estimates of requirements for additional capacity will be developed building upon an updated industry study by INCAE now nearing completion. The investigation will recommend structuring in each of the construction areas taking into account factors including needs for efficient construction activity, viability of proposed units, feasibility of assuring fair competition, plans for lending from other sources, general economic conditions and such other criteria deemed appropriate by the FED in consultation with the VMUP and INCAE. The FED will also survey existing firms and identify areas and possible firms for promoting expansion of capacity. The technical assistance needed by such firms will be supplemented and completed by the participating banks.

Structuring bid packages in such a fashion as to optimize the participation of smaller firms will be investigated. This may in some cases involve adjusting the size or structure of bid packages, in other cases attracting foreign competition and the local industry to undertake joint ventures with smaller firms.

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In addition, the terms and conditions of prime contracts may encourage or require sub-contracting or joint-venturing designed to support the objectives of this activity.

The general objective is to obtain reasonable pricing and equitable growth in the industry to help meet the large reconstruction demand that will be standing in line.

The action program to promote expansion of existing smaller firms and entries of new firms will be more intensive than the small enterprises operation.

1. Special promotion will be undertaken by the FED and coordinated with Technical Assistance from the participating banks.
2. The amounts of individual operations are expected to be substantially larger than the average under the small enterprises project.
3. There is a great time urgency in the construction emergency project so that funds will be moved within 24 months.
4. Up to 80% financing by the FED.

The amount of the construction bottleneck fund is difficult to define precisely. For six months, the Mission has attempted to obtain information directly from the Camara de la Construcción but not surprisingly, this group, dominated by the large firms, has refused to cooperate. However, the USAID was able to obtain limited information from building permit statistics, informal queries at the private commercial banks and other sources as to the structure of the industry.

Construction Firms

An analysis of construction industry awards based on permits issued to contractors for 1971 and 1972 shows the following:

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	Construction Firms		Amount	
	<u>No.</u>	<u>%</u>	<u>C\$</u>	<u>%</u>
Total Construction Awarded	56	100	120,914,000	100
Construction Awarded-Large Firms	6 (1)	11	76,682,000	63
Construction Awarded-Other Firms	50	89	44,232,000	37
Average Construction Awarded-Large Firms			12,780,000	
Average Construction Awarded-Other Firms			885,000	

(1) SOVIPE, AISA, Cardenal, CONTECSA, C. Molina (foreign,) EDIFICADORA.

The relative position of the share of the market of large firms has not changed substantially since the earthquake. A review of C\$31,485,000 of C\$80,500,000 in building permits issued by the Vice-Ministry of Urban Planning from June to December, 1973, shows that the five large local firms above were awarded C\$18,211,000 in new construction (58%). One other firm (Cuadra) was awarded C\$6,247,000 in new construction (20%), leaving C\$7,027,000 (22%) for the balance of the construction firms.

Also the top five firms picked off approximately C\$17,500,000 in awards under the A.I.D. Program Loan 028.

There has also been an increase in the number of firms in the construction industry. The total number of firms awarded construction contracts in 1971-1972 was 56. This number has increased to at least 80 firms. (1) However, of these 80 firms, 43 were awarded less than C\$100,000 each in contracts over a four month period, an indication of the small size of these firms. The Camara de la Construcción has only 33 construction firm members, including the top five local firms.

(1) Review of firms issued construction awards for a four month period. (Source: VMUP permit statistics.) 1971-1972 figure was probably on the low side because of tighter permit controls imposed after the earthquake. On the other hand, the 80 firms represent only 4 months permits issued and would not doubt be substantially larger number if a two-year base period were to be used.

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Informal inquiries with the private commercial banks indicate that financing is not provided to the smaller firms. Total financing outstanding as of April 30, 1974, with private commercial bank's own resources amounted to approximately C\$13,000,000 to 13 firms. These firms are all large or medium sized. Bank classification of small firms was made for only one loan. USAID would classify this firm which was awarded C\$2,976,000 in construction contracts in 1971-1972 as medium sized.

Financing of the construction firms under the IDB-FED program is also going to the larger firms. Stratification of the 12 construction firm projects either declared eligible for financing by the FED or its project inventory is shown below. Only one of the twelve firms is considered small.

<u>Total Project C\$ Range</u>	<u>No. of Firms</u>
C\$ - 0 - C\$ 700,000	1
C\$ 700,001 - C\$1,000,000	4
C\$1,000,001 - C\$2,000,000	5
C\$2,000,000 +	2

Further analysis derived from an auditor's report, shows what appears to be the typical corporate organizational structure in the construction industry for the large firms: a group of entities grouped by a holding company which affords a vertical integration of the industry from production to supply to financing to land development and ultimately construction. See Annex 16-F.

Thus, the USAID has strong indications that the large firms control a major portion of the construction market. Also, expansion financing is not available to the smaller firms. Therefore, the thrust of the credit program would be to direct needed credit and technical assistance to allow the smaller construction firms to participate more equitably in the reconstruction while at the same time increasing needed capacity.

Construction Materials

The construction industry capacity section of the CAP (Annex 24) indicates that shortages can be expected for a number of construction materials including cement products, metal structures, iron bars, reinforced steel, wood, flat glass and asbestos sheets, etc. This identified lack of sufficient building materials will frustrate the efforts to expand capacity in the reconstruction effort. Therefore, this program will also concentrate

on financing additional construction materials capacity and expansion at the smaller producer and supplier level. There appears to be a variety of opportunity to assist the smaller firms in these areas to expand their outputs and contribution to the reconstruction. (Here again the Mission was stonewalled by the Cámara de la Construcción in its effort to elicit direct information about the construction materials industry. The Cámara includes in its membership the leading 25 construction materials firms).

The following table shows the number of firms engaged in areas where construction materials shortages are projected:

CONSTRUCTION BOTTLENECK PROGRAM

Construction Material Firms by Number of Employees (1)

<u>Type of Firm</u>	<u>No. of Firms</u>	<u>No. of Employees</u>
Cement Blocks and Bricks	5	0 - 5
	6	6 - 15
	2	16 - 25
	3 - Two large firms with 63 & 83 employees	25 - 83
Nails, Reinforcing Bars and Zinc Sheets	16	0 - 5
	7	6 - 15
	8 Three large firms with 55, 65 & 86 employees	25 - 86
Crushed Stone and Asbestos Cement	10	0 - 5
	2	6 - 15
	4	16 - 25
	2 One large firm with 56 employees	25 - 56

(1) SOURCE: INSS (Social Security) listing, November, 1973

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<u>Type of Firm</u>	<u>No. of Firms</u>	<u>No. of Employees</u>
Steel Structures		64
	- Large Firm	108
	- Large Firm	167
	- Large Firm	606
Glass		0 - 5
		6 - 15

There is an opportunity here to aid the smaller producers. FED consultants will investigate the possibilities for assisting these smaller firms with credit and technical assistance to expand their capacities. (Some of the very small firms might be assisted by the institutions disbursing the small enterprises fund).

An illustrative list of the types of firms together with credit requirements which would be financed and supplied technical assistance under this Program is shown in Annex 16-G.

Based on the USAID's preliminary findings it is believed that \$1,200,000 can be sub-loaned through the construction bottleneck credit program. As a condition to disbursement for this division of the credit program, the USAID will require an investigation of additional capacity and competitive conditions in selected lines of construction services and supplies to determine exact financing requirements.

E. Cost of the Small Enterprises Reconstruction Credit Fund:

Total cost of the credit project is estimated at US\$6.4 million provided for the following purposes:

Small Enterprises Credit and Technical Assistance	US\$ 5.2 million
Bottleneck Activities Program including Technical Assistance	<u>US\$ 1.2 million</u>
TOTAL COST	US\$ 6.4 million

The A.I.D. Urban Sector Reconstruction Loan would finance C\$3.2 million of this cost and local sources would contribute counterpart of \$3.2 million equivalent.

The cost of the credit project has been evaluated from the viewpoint of the demand situation and the technical assistance capacity of local institutions to effectively utilize the loan resources. The data indicates there is an unmet demand in the vicinity of approximately \$8.0 million for resources in the small enterprises sector, reflecting the disaster to the sector caused by the quake as well as opportunities due to the expansion of the new Managua as well as for development. On the other hand, the technical assistance capacities of the local lending institutions have set a limit on how much credit can be prudently moved into the sector over the next two to three years. It is this amount \$5.2 million, set by the technical assistance limitations, that we recommend for the small enterprises credit program.

In the bottleneck activities area, the demand data while not comprehensive, is specific in terms of types of activities and shops and the amount of new capacity that can be added in certain critical areas. The FED will undertake an investigation in the construction related areas in consultation with the VMUP and INCAE in order to define these bottlenecks areas more precisely. As above, the limits to this activity will be set by the technical

assistance that the FED can provide to support this activity. We estimate that 15 to 30 accounts in selected bottleneck areas can be handled by available technical assistance to process loans to a maximum of \$100,000 each. Thus, the estimated cost in the bottleneck area will approximate C\$1.2 million.

Following is a table showing general parameters of the credit programs.

(See Overleaf)

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F. SUMMARY: CREDIT PROGRAM, ELIGIBILITY, LOAN TERMS
SMALL ENTERPRISES RECONSTRUCTION CREDIT FUND (*)

	<u>Banco Nacional</u>	<u>Banco Popular</u>	<u>FUNDE</u>
Credit Program Amount	\$2.9 MM	\$0.50 MM	\$1.6 MM
Interest Rate to Institution	2%	2%	2%
Sub Borrower Eligibility			
Small Industry	Up to 60,000 fixed assets	25,000	25,000
Small Commerce	25,000	15,000	15,000
Sub Loan Terms			
Small Industry			
Maximum Amount	40,000	5,000	10,000
Term	up to 10 yr.	Up to 5 yr.	Up to 5 yr.
Interest Rate	10%	10%	10%
Small Commerce			
Maximum Amount	15,000	3,000	10,000
Term	Up to 10 yr.	Up to 5 yr.	Up to 3 yr.
Interest Rate	10%	10%	10%
No. of Enterprises Financed	790	270	480
No. of Employees (**)	3,000	450	1,400
Average Loan Size	\$ 3,500	\$ 1,500	\$ 3,000

CONSTRUCTION BOTTLENECK FUND

Credit Program Amount	\$1,000,000
Interest Rate Spread to Institution	4% - 6%
Sub Borrower Eligibility	a) Contractor with less than US\$200,000 per year in construction awards b) Construction material firms less than US\$100,000 in fixed assets
Sub Loan Terms	
Maximum Amount	\$100,000
Term	Up to 5 yr.
Interest Rate	9% - 12%
No. of Enterprises Financed	15 - 30
No. of Employees	-

* Estimated on a 10% final interest rate and on a 2% cost to the institution.
See comments in operation of the FED.

** Based on BNN survey fixed assets/employment ratio of US\$900

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Financial Plan

The total cost of the project is estimated at \$6,400,000; 50% to be financed by A.I.D. and 50% to be financed by local counterpart. It is expected that the local counterpart contribution will come from GON general budgetary support, the Banco Central, PFI participation and borrower participation.

The following is an overall budget for the project:

COMPONENT	<u>A.I.D.</u>	<u>LOCAL COUNTERPART</u>	<u>TOTAL</u>
CONSTRUCTION FUND	\$ 600,000	\$ 600,000	\$ 1,200,000
Technical Assistance	100,000	40,000	140,000
Credit	500,000	500,000	1,000,000
Administration	-	60,000	60,000
SMALL ENTERPRISE FUND	2,600,000	2,600,000	5,200,000
Technical Assistance	260,000	100,000	360,000
Credit	2,340,000	2,300,000	4,640,000
Administration	-	200,000	200,000
TOTAL:	\$ 3,200,000	\$ 3,200,000	\$ 6,400,000

The estimated costs of the program are based on the two-year theoretical technical assistance capacity build-up in the participating institutions, (see Operation of the Credit Fund) as this capacity represents the primary constraint to effectively move credit. It is anticipated that capacity levels will not be reached as soon as planned; therefore the program will probably cover an approximate three-year period.

Total amounts available for the construction Bottleneck Credit Fund are \$1,200,000 divided among technical assistance (\$140,000), credit (\$1,000,000),

and administration (\$60,000). Total funds programmed for the Small Enterprise Fund are \$5,200,000 broken down among technical assistance (\$360,000), credit (\$4,640,000), and administration (\$200,000). Administration costs of \$260,000 refer specifically to those general and administrative costs at the FED level to plan, implement and supervise the program. Technical assistance costs are divided into three types: (1) at the FED level, \$190,000; (2) direct operating technical assistance at the PFI level, \$140,000; and (3) supporting technical assistance (training, equipment, consultants, etc.) again at the PFI level, \$170,000. Funds are expected to be disbursed over a three-year period.

Detailed financial plan for disbursement of the project funds and ten-year cash flow and financial statements will be required as part of the PASP submission.

G. Institutional analysis, operations, implementation and disposition of the Small Enterprise Reconstruction Credit Fund.

Please see Annex 16 Exhibits A and B for additional data on the credit fund classified under the following heads:

EXHIBIT A

1. FED institutional analysis
2. PFI institutional analysis

EXHIBIT B

1. Operation of the Credit Fund.
2. Operating Unit of the FED.
3. Operating mechanism of the FED with the PFI's.
4. Technical Assistance Capacity to Mobilize Credit.
5. Implementation of the Small Enterprise Reconstruction Credit Fund.
6. Disposition of the Small Enterprises Reconstruction Credit Fund

SECTION VIII - LOAN ADMINISTRATION1. Implementation Plan

Major execution steps of the urban sector program are described below. The Loan Agreement, together with its Annex and Basic Implementation Letter No. 1, will state the conditions which must be fulfilled by the Borrower prior to disbursement. In addition, the Loan Agreement Annex will include the basic principles that will guide the Program as described earlier. USAID/Nicaragua will ensure that conditions precedent, the covenants and conditions contained in the Loan Agreement and Annex, and the procedures required thereunder are being followed. USAID personnel will make regular inspections of the program and will actively assist the GON in assuring that the Program is carried out on a timely basis and in accordance with approved documentation and A.I.D. regulations.

2. Target Implementation Dates

It is expected that the A.I.D. Loan will be implemented in accordance with the following schedule:

Loan Authorized	: June 30, 1974
Loan Agreement Signed by	: August 30, 1974
Conditions Precedent to Initial Disbursement, Satisfied by	: September 30, 1974
First Disbursement of Funds for Program Implementation Assistance	: October, 1974
Conditions Precedent to Disbursement for Funds for Other than Program Imple- mentation Assistance, Satisfied by	: December 31, 1974
First Disbursement for Construction Activities	: January, 1975
First Evaluation of the Program	: Sept-November, 1975
Second Evaluation of the Program	: Sept-November, 1976
Terminal Commitment Date	: December, 1976
Final Evaluation of the Program	: Sept-November, 1977
Terminal Disbursement Date	: December 31, 1977

3. A.I.D. Financing Procedures

In accordance with the purpose of this program the primary financing procedure to be utilized is the direct purchase of local currency with dollars and the reimbursement of this local currency to the GON for authorized expenditures. The disbursement of program dollars (except for direct dollar procurement will be handled by a Letter of Commitment to be established as and when the need is recognized) will be tied basically to the properly documented cordoba expenditures as described below and currently being used for the A.I.D. Program Loan.

4. Procedures for Linking Program Activities with A.I.D. Funding

The Immediate Action Program to be assisted by the A.I.D. Urban Sector Loan will involve the financing of a wide range of activities such as the construction of roads and infrastructure, the rebuilding of vital public facilities, the financing of a small enterprise reconstruction credit fund, and the funding of various planning and other support activities for the Program. While some activities within the Program will be financed mainly by the GON or by the A.I.D. Loan, others will also be financed jointly by GON and A.I.D. funds. However, in all cases, for administrative convenience, all A.I.D. disbursements will be identified with specific activities, the plans and implementation procedures for which will be reviewed and accepted by the USAID prior to loan disbursements for the particular activity.

In accordance with procedures already being utilized for the current A.I.D. Program Loan, the initial document in this linking procedure will be a Proposed Activity Summary Presentation (PASP) approved by the Ministry of Finance's Office of Coordination and Implementation and presented to the USAID. The PASP for each activity will be a short summary document that will include the following information: (Examples of a PASP are included as Annex "25").

- a. Activity Description.
- b. Explanation of how activity fits within overall urban sector program.
- c. Estimate of total activity costs.
- d. Costs of individual activity elements.
- e. Estimated Disbursement Schedule.

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If the activity set forth in the PASP fulfills, to the satisfaction of A.I.D., the criteria established under the program, A.I.D. shall notify the Borrower by Implementation Letter of its intention to disburse.

In order to receive disbursements in reimbursement for GON expenditures, which must have covered a period of one calendar month or more, the GON will submit a Local Currency Funds Disbursement Request (LCFDR). Along with the LCFDR, the GON through its Office of Coordination and Implementation, will present an Activity Progress Report (APR) to the USAID. The APR describes progress-to-date, defines problems impeding progress (if any), and indicates total funds received and expended on the activity and amounts pending. The overall activity budget, if necessary, can also be updated through the APR to provide a current picture of the entire estimated activity cost. When accepted by the Mission, the LCFDR and its attached APR become the authority for the reimbursement of A.I.D. Loan funds for Program expenditures. (Examples of LCFDR's and APR's are attached as Annex "26"). The above procedure continues until all funds are disbursed at which time a final activity report is prepared and presented to the USAID.

5. Procurement Procedures

With respect to those activities with which A.I.D. Loan disbursements are to be identified, we will expect that the GON will adhere to the type of procedures outlined in the various A.I.D. Guidelines, as is being done under the current A.I.D. Program Loan. In this way, we can identify our funds with well-implemented, reasonably priced activities.

We will, however, permit the GON to depart from these Guidelines where requirements of the Program require greater flexibility. As mentioned earlier, the most rapid implementation of individual Program activities will be important if the Program is to have its maximum impact on the reconstruction and urban development problems of Managua. Because of this, and since most loan funds will be used for local currency disbursements, standard small business notifications will not be required. In addition, in order to mobilize Program Support Funds as quickly as possible to prepare for later stages of activity implementation, formal advertising will not be required for procurement of consulting services under a value of \$100,000. Also if the USAID concurs, formal competitive bidding for any contemplated procurement of goods and/or construction services under \$100,000 may be dispensed with. For larger procurements, AID/W concurrence will be required.

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6. Monitoring Procedures

The basic Mission monitoring tools for the Loan will be the GON's Immediate Action Program, the Time-Phased Implementation Plan and PASPs and APRs for individual Program Activities. Through these, the USAID is capable of initially assuring the most appropriate activity selection and proper allocation of funds and monitoring of the actual use of funds.

In dealing with the GON, a major thrust of USAID monitoring activities will be to keep responsibility for planning within the Vice-Ministry of Urban Planning and direct coordination and administration of the Program in the Ministry of Finance's Office of Coordination and Implementation. Once the Immediate Action Program and Time-Phased implementation Plan have been completed, day to day supervision of the activities linked to A.I.D. disbursements will be carried out by the Office of Coordination and Implementation of the Ministry of Finance, which will review and approve each activity proposed by an executing agency for financing prior to preparation of the PASP. This review process is designed to assure technical soundness including adequate engineering plans and specifications where required as well as conformance with the terms of the A.I.D. Loan Agreement and Implementation Letters. The Coordination and Implementation Office will provide funds to Executing Agencies to engage consultants to prepare adequate plans and provide other engineering services. This Office will also review and approve all PASPs and APRs prepared by the Executing Agencies and supporting vouchers submitted there-with for compliance with the A.I.D. Loan Agreement and Implementation Letters. However, vouchers will be permanently kept in each Executing Agencies' files and the APR will be the formal request for reimbursement. Certification of the APR by the Ministry of Finance's Office of Coordination and Implementation will constitute evidence satisfactory to A.I.D.-- subject only to post audit--of the validity of the material certified.

7. Annual Evaluation of the Program

A joint review and evaluation of the Program by both A.I.D. and the Borrower to determine the adequacy of progress in the GON's Immediate Action Program will be held at least annually, during the period September to November to coincide with the time when the draft GON budget is being prepared, or at such interim times as may be agreeable to both parties.

The review and evaluation committee will consist of the following:

Representing GON: Minister of Finance or his designee.
Director of the Office of Coordination and Implementation.
Director of the Budget.
Vice-Minister of Urban Planning.
Appropriate Technical Advisors.
Such other members as designated by the GON.

Representing USAID: USAID Director or his designee.
Capital Resources Development Officer.
Housing and Urban Development Officer.
Engineering Officer.
Mission Economist.
Technical Advisors according to need.

In addition, the USAID expects that a prominent urban planner familiar with the Managua Reconstruction situation, such as Dr. John Dyckman, and a senior AID/W official will also be invited to attend each annual review of the Program so as to provide assistance to the GON and the USAID in evaluating overall progress of the Immediate Action Reconstruction Program.

Approximately one month prior to each review, the Director of the Ministry of Finance's Office of Coordination and Implementation and the Vice-Minister of Urban Planning will jointly develop an agenda listing the activities to be reviewed, establish guidelines for assembling data and supporting documentation and make a checklist to assist the review committee in assessing progress during the period under review.

The major purpose of the periodic reviews is to determine if sufficient and satisfactory progress has taken place during the preceding budget period so that activities scheduled for implementation subsequent to such review may be authorized. At the same time, the Program analysis and strategy will be reviewed to determine if the Program should be adjusted and the Time-Phased Implementation Plan will be updated to correspond with the GON's forthcoming budget period. The agenda shall also include a specific evaluation of the timeliness of GON and A.I.D. financial inputs.

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Evaluation Plan:

A detailed evaluation plan for the AID Urban Reconstruction Sector Loan and the GON's Immediate Action Reconstruction Program will be developed jointly by the GON and AID as part of the development of the Immediate Action Reconstruction Program. It is expected that this evaluation plan will be prepared by the GON's urban planning consultants in coordination with the USAID. It is expected that indicators in the following general areas will be developed as a part of the evaluation structure for the program.

- 1) Extent of recovery from the earthquake as measured by the number of public facilities and services destroyed or disrupted by the earthquake that have been rebuilt, expanded or normalized during the Immediate Action Reconstruction Program.
- 2) Extent to which Managua's urban growth has been tilted into a permanently deconcentrated pattern as measured by indicators such as:
 - a) Number of new kilometers in use for Managua's urban development (Managua's pre-quake area covered 33 square kilometers with a goal of eventually expanding this area to 80 square kilometers).
 - b) Lower average densities than Managua pre-quake (reduction from 12,000 to 13,000 per square kilometer, to 8,000 to 10,000 per square kilometer).
 - c) The extent to which a new multi-centered city has been established by measuring public and private investments in the periphery of Managua.
- 3) Extent to which redevelopment of the highly concentrated and densely populated downtown area of Managua has been prevented and adequate planning established for the eventual redevelopment of the area.
- 4) Extent to which the AID loan and Immediate Action Reconstruction Program have provided new opportunities for Managua's lower socio-economic groups through the creation in the periphery new employment opportunities, access to public facilities and services, additional urbanized lots in low income residential areas, credit for small enterprises, etc.

5) Extent to which AID Urban Reconstruction Loan and the AID Grant Project for Program Management and Implementation have strengthened the GON's institutional capabilities for planning and implementing the long-range reconstruction effort.

8. Loan Monitoring

Planning, coordination and implementation responsibilities for the Program will be under the control of the Vice-Ministry of Urban Planning and the Ministry of Finance's Office of Coordination and Implementation. Mission monitoring of the Program will be handled by the USAID's Capital Resources Development Office, Housing and Urban Development Division, and the Offices of Engineering and the Controller. During the past year, each of these offices has received additional staffs to handle expanded reconstruction and development activities and a new Housing and Urban Development Division has been established. In addition, to most effectively support the rapid implementation of this Loan, the Mission has available a Contract and Procurement Advisor and a Legal Advisor that have assured that bid documents and contracts are rapidly reviewed and most appropriately structured for individual reconstruction activities.

June 14, 1974

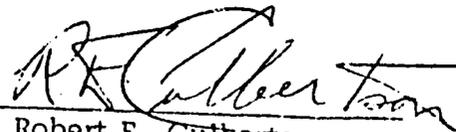
ANNEXES

- A. Director's 611 (e) Certification
 - B. Checklist of Statutory Criteria
 - C. Draft Loan Authorization
 - D. GON Letter of Application
 - E. Guide to Points Raised in IRR Cable (STATE 091701)
 - F. Map of Managua
 - G. Illustrative List of Program Activities and Table of Program Estimates and Illustrative Program Map
- Supplementary Volume (Additional Annexes)

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CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE
FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I CERTIFY to the Administrator of the Agency for International Development that, to the best of my knowledge and belief, Nicaragua possesses both the financial capability and human resources to maintain and utilize effectively the project to be undertaken pursuant to the terms of the A.I.D. Loan proposed in this paper for the Urban Reconstruction Sector Program for the city of Managua between the Government of Nicaragua and the United States of America. It should be noted that provision is being made under the Loan for significant technical assistance pursuant to the Implementation Assistance portion of the program. I have also taken into account the maintenance and utilization of projects in Nicaragua previously financed or assisted by the United States, the capability of the institutions of Nicaragua, and the activities under this Loan are closely interrelated.



Robert E. Culbertson
Director
USAID Mission to Nicaragua

CHECKLIST OF STATUTORY CRITERIA

(Alliance for Progress)

In the right-hand margin, for each item, write answer or, as appropriate, a summary of required discussion. As necessary, reference the section(s) of the Capital Assistance Paper, or other clearly identified and available document, in which the matter is further discussed. This form may be made a part of the Capital Assistance Paper.

The following abbreviations are used:

FAA - Foreign Assistance Act of 1961, as amended.

FAA, 1973 - Foreign Assistance Act of 1973.

App. - Foreign Assistance and Related Programs Appropriation Act, 1974

MMA - Merchant Marine Act of 1936, as amended.

BASIC AUTHORITY

2. FAA § 202; § 204; § 205;
§ 206; § 207. Is loan being made

a. for agriculture, rural development or nutrition; a. No

b. for population planning or health; b. No

c. for education, public administration; or human resources development; c. No

d. to solve economic and social development problems in fields such as transportation, power, industry, urban development, and export development; d. Yes, with the exception of Export Development.

e. in support of the general economy of the recipient country or for development programs conducted by private or international organizations.

e. No

COUNTRY PERFORMANCE

Progress Towards Country Goals

2. FAA § 208; §.251(b).

A. Describe extent to which country is:

(1) Making appropriate efforts to increase food production and improve means for food storage and distribution.

(2) Creating a favorable climate for foreign and domestic private enterprise and investment.

The GON has been making such efforts. In CY 1973 the area for basic crops financed by the BNN was 164% larger than for 1972. The number of clients for basic food crops loans increased by 242%. Planning is underway for the location, design and construction of produce marketing facilities for the city of Managua.

(2) The GON has created a favorable climate for foreign and domestic private enterprise and development. The private sector encouraged by the government has made a major contribution to reconstruction efforts. This Loan will provide infrastructure designed to promote and support additional opportunities for private investors, as well as providing a private sector credit fund to facilitate investment.

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(3) *Increasing the public's role in the developmental process.*

(3) The public's role in the development process in Nicaragua has been quite significant. This role will be increased under the present loan by the construction of public markets, and facilities for the establishment of small industries.

(4) (a) *Allocating available budgetary resources to development.*

(4) Approximately 67% of the 1974 budget of (a) the Central Government will go for development purposes.

(b) *Diverting such resources for unnecessary military expenditure (See also Item No. 20) and intervention in affairs of other free and independent nations.) (See also Item No. 11)*

(b) There appears to be no unnecessary diversion of resources for military purposes.

(5) *Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.*

(5) Nicaragua has initiated various social reforms. After the earthquake several temporary taxes were imposed to raise funds for reconstruction. Consideration is presently being given to continuing those, or similar measures, to raise the additional revenue on a permanent basis. Individual freedoms are generally respected in Nicaragua.

(6) *Adhering to the principles of the Act of Bogota and Charter of Punta del Este.*

(6) The GON is adhering to those principles.

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AID 1240-3 (5-74)

(7) Attempting to repatriate capital invested in other countries by its own citizens.

(7) By fostering political stability and helping to increase opportunities for private investment, the GON is encouraging citizens to repatriate capital invested in other countries.

(8) Otherwise responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.

(8) The large participation of the Government of Nicaragua in this program is evidence thereof.

B. Are above factors taken into account in the furnishing of the subject assistance? B. Yes.

Treatment of U.S. Citizens by Recipient Country

3. FAA § 620(c). If assistance is to 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) debt is not denied or contested by such government? 3. No

4. FAA § 620(e)(1). 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? 4. No

AID 1240-2 (5/74)

5. FAA § 620(o); Fishermen's Protective Act. § 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters,

5. Not Applicable.

a. has any deduction required by Fishermen's Protective Act been made?

a. Not Applicable

b. has complete denial of assistance been considered by A.I.D. Administrator?

b. Not Applicable

Relations with U.S. Government and Other Nations

6. FAA § 620(a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba?

6. No

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AID 1240-2. (5-74)

7. FAA § 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? 7. Yes.
8. FAA § 620(d). If assistance is for any productive enterprise which will compete in the United States with United States enterprise, is there an agreement by the recipient country to prevent export to the United States of more than 20% of the enterprise's annual production during the life of the loan? 8. Assistance is not for a productive enterprise
9. FAA § 620(f). Is recipient country a Communist country? 9. No
10. FAA § 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression? 10. No
11. FAA § 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property? 11. No

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AID 1240-2 (5-74)

12. FAA § 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, in convertibility or confiscation, has the A.I.D. administration within the past year considered denying assistance to such government for this reason?
12. The Investment Guarantee Program is operating in Nicaragua
13. FAA § 620(n). Does recipient country furnish goods to North Viet-Nam or permit ships or aircraft under its flag to carry cargoes to or from North Viet-Nam?
13. No
14. FAA § 620(q). Is the government of the recipient country in default on interest or principal of any A.I.D. loan to the country?
14. No
15. FAA § 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?
15. Nicaragua has not severed Diplomatic Relations with the United States.
16. FAA § 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?
16. The U.N. Quota for 1974 has been paid. The quota for 1973 is unpaid, and payments will begin to be made in 1975.

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17. FAA § 481. Has the government of recipient country failed to take adequate steps to prevent narcotic drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? 17. No
18. FAA, 1973 § 29. If (a) military base is located in recipient country, and was constructed or is being maintained or operated with funds furnished by U.S., and (b) U.S. personnel carry out military operations from such base, has the President determined that the government of recipient country has authorized regular access to U.S. correspondents to such base? 18. There is no such facility in Nicaragua.

Military Expenditures

19. FAA § 620(s). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).) 19. Of the country Budget for 1974, approximately 6% goes for military expenditures. No sophisticated weapons systems have been purchased. In CY-1973 only \$150,000 in foreign exchange was spent on MAP purchases.

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CONDITIONS OF THE LOAN

General Soundness

20. FAA § 201(d). *Information and conclusion on reasonableness and legality (under laws of country and the United States) of lending and relending terms of the loan.*
20. Lending and relending terms are legal and are considered reasonable.
21. FAA § 251(b)(2); § 251(e).
Information and conclusion on activity's economic and technical soundness. If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds \$100,000, has country submitted to A.I.D. an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner?
21. The activity is judged to be economically and technically sound. An application from the host government has been received.
22. FAA § 251(b). *Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.*
22. Nicaragua has the capacity to repay the Loan. Prospects of repayment are good.
23. FAA § 251(b). *Information and conclusion on availability of financing from other free-world sources, including private sources within the United States.*
23. Other development donors are participating in various phases of the reconstruction project. Because of the nature of the project and the magnitude of the capital required, financing is not available from private sources within the United States on the required terms.

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24. FAA § 611(a)(1). Prior to signing of loan will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the United States of the assistance? 24. Yes
25. FAA § 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 loan? 25. Not Applicable
26. FAA § 611(e). If loan is for Capital Assistance, and all U.S. assistance to project now exceeds \$1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project? 26. Yes.
- Loan's Relationship to Achievement of Country and Regional Goals
27. FAA § 207; § 251(a); § 113. Extent to which assistance reflects appropriate emphasis on: (a) encouraging development of democratic, economic, political, and social institutions; (b) self-help in meeting the country's food needs; (c) improving availability of trained manpower in the country; (d) programs designed to meet the country's health needs; 27. The loan funds will finance needed transportation and communications systems required for the new decentralized city of Managua. In addition, several public markets will be constructed to improve food distribution.

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(e) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (f) integrating women into the recipient country's national economy.

28. FAA § 209. Is project susceptible of execution as part of regional project? If so why is project not so executed? 28. The Project is local by nature.
29. FAA § 251(b)(3). Information and conclusion on activity's relationship to, and consistency with, other development activities, and its contribution to realizable long-range objectives. 29. The Project is a part of the Managua reconstruction program which is the highest priority development activity in Nicaragua. It will result in a new urban area designed so that the disastrous effects of the recent earthquake will not be repeated.
30. FAA § 251(b)(7). Information and conclusion on whether or not the activity to be financed will contribute to the achievement of self-sustaining growth. 30. The Loan is designed to foster self-sustaining business activity in the Managua area.
31. FAA § 209; § 251(b)(8). Information and conclusion whether assistance will encourage regional development programs, and contribute to the economic and political integration of Latin America. 31. This is a local project by its nature.

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32. FAA § 251(q); § 111. Information and conclusion on use of loan to assist in promoting the cooperative movement in Latin America.
32. The loan is to reconstruct a city destroyed by an earthquake, and thus aid to the cooperative movement is not directly involved.
33. FAA § 251(h). Information and conclusion on whether the activity is consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress in its annual review of national development activities.
33. The activity is consistent therewith.
34. FAA § 281(a). Describe extent to which the loan will contribute to the objective of assuring maximum participation in the task of economic development on the part of the people of the country, through the encouragement of democratic, private, and local governmental institutions.
34. The loan will finance the basic infrastructure of the new decentralized Managua. Participation in this and subsequent reconstruction plans will be encouraged on the part of various governmental and private institutions.
35. FAA § 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 civic education and training in skills required for effective participation in governmental and political processes essential to self-government.
35. The reconstruction of the capital city of Managua is of highest priority in the country's development plan. As the new city takes form, it is anticipated that local institutional development, partially supported by other A.I.D. projects, will have a concomitant development.

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36. FAA § 601(a). Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.
36. The loan will help to increase the opportunities of the small businessman in Nicaragua to reestablish after the terrific loss suffered in the earthquake.
37. FAA § 619. If assistance is for newly independent country; is it furnished through multilateral organizations or plans to the maximum extent appropriate?
37. Nicaragua is not a newly independent country.

Loan's Effect on U.S. and A.I.D. Program

38. FAA § 251(b)(4); § 102. Information and conclusion on possible effects of loan on U.S. economy, with special reference to areas of substantial labor surplus, and extent to which U.S. commodities and assistance are furnished in a manner consistent with improving the U.S. balance of payments position.
38. Procurement under the Loan will be open to U.S. firms. It is hoped they will participate, giving an advantage to the U.S. balance of payments.
39. FAA § 252(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.
39. Virtually all of the loan funds will be used for procurement from the private sector. The Private Sector Credit Fund will provide credit to the private business community in Managua.

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40. FAA § 601(b). Information and conclusion on how the loan will encourage U.S. private trade and investment abroad and how it will encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
40. U.S. firms will participate in the program by providing goods and services purchased with loan funds. A good number of the products available in Nicaragua come from the U.S. and it can be assumed that this trade will increase as small business are able to reestablish in Managua.
41. FAA § 601(d). If a capital project, are engineering and professional services of U.S. firms and their affiliates used to the maximum extent consistent with the national interest?
41. Yes
42. FAA § 602. Information and conclusion whether U.S. small business will participate equitably in the furnishing of goods and services financed by the loan.
42. Yes, they will.
43. FAA § 620(h). Will the loan promote or assist the foreign aid projects or activities of the Communist-Bloc countries?
43. No
44. FAA § 621. If Technical Assistance is financed by the loan, information and conclusion whether such assistance will be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis. If the facilities of other Federal agencies will be utilized, information and conclusion on
44. All loan financed procurement is anticipated to be from the private sector.

whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs.

Loan's Compliance with Specific Requirements

45. FAA § 110(a); § 208(c). Has the recipient country provided assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the Loan is to be made? 45. Yes
46. FAA § 112. Will loan be used to finance police training or related program in recipient country? 46. No
47. FAA § 114. Will loan be used to pay for performance of abortions or to motivate or coerce persons to practice abortions? 47. No
48. FAA § 201(d). Is interest rate of loan at least 2% per annum during grace period and at least 3% per annum thereafter? 48. Yes
49. FAA § 604(a). Will all commodity procurement financed under the loan be from the United States except as otherwise determined by the President? 49. Yes. Procurement will be restricted to Nicaragua and Geographic Code 941 countries.
50. FAA § 604(b). What provision is made to prevent financing commodity procurement in bulk at prices higher than adjusted U.S. market price? 50. The Loan Agreement will not allow such procurement.

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51. FAA § 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will loan agreement require that marine insurance be placed in the United States on commodities financed by the loan? 51. Yes
52. FAA § 604(e). 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? 52. Not Applicable as there will be no such procurement.
53. FAA § 604(f). If loan finances a commodity import program, will arrangements be made for supplier certification to A.I.D. and A.I.D. approval of commodity as eligible and suitable? 53. Not Applicable.
54. FAA § 608(a). Information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items. 54. The Loan Agreement will contain the standard clause on use of such property.
55. FAA § 611(b); App. § 101. If loan finances water or water-related land resource construction project or program, is there a benefit-cost computation made, insofar as practicable, in accordance with the procedures set forth in the Memorandum of the President dated May 15, 1962? 55. Not Applicable.

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56. FAA § 611(c). If contracts for construction are to be financed, what provision will be made that they be let on a competitive basis to maximum extent practicable?
56. The Loan Agreement will so provide.
57. FAA § 612(b); § 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the United States are utilized to meet the cost of contractual and other services.
57. As detailed in the Loan Paper, the Host Government is making a substantial contribution to the project.
58. App. § 113. Will any of loan funds be used to acquire currency of recipient country from non-U.S. Treasury sources when excess currency of that country is on deposit in U.S. Treasury?
58. No
59. FAA § 612(d). Does the United States own excess foreign currency and, if so, what arrangements have been made for its release?
59. None is owned.
60. FAA § 620(a). What provision is there against use of subject assistance to compensate owners for expropriated or nationalized property?
60. The Loan Agreement will not allow funds to be used for such purpose.

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61. FAA § 620(k). If construction of productive enterprise, will aggregate value of assistance to be furnished by the United States exceed \$100 million? 61. No
62. FAA § 636(i). Will any loan funds be used to finance purchase, long-term lease, or exchange of motor vehicle manufactured outside the United States, or any guaranty of such a transaction? 62. No
63. App. § 103. Will any loan funds be used to pay pensions, etc., for military personnel? 63. No
64. App. § 105. If loan is for capital project, is there provision for A.I.D. approval of all contractors and contract terms? 64. Yes
65. App. § 107. Will any loan funds be used to pay UN assessments? 65. No
66. App. § 109. Compliance with regulations on employment of U.S. and local personnel. (A.I.D. Regulation 7). 66. Yes

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67. App. § 110. Will any of loan funds be used to carry out provisions of FAA §§ 209(d) and 251(h)? 67. No
68. App. § 114. Describe how the Committee on Appropriations of the Senate and House have been or will be notified concerning the activity, program, project, country, or other operation to be financed by the Loan. 68. AID/W will accomplish this by usual procedures.
69. App. § 601. Will any loan funds be used for publicity or propaganda purposes within the United States not authorized by the Congress? 69. No
70. MMA § 901.b; FAA § 640C. 70. Yes
- (a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed with funds made available under this loan shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.
- (b) Will grant be made to loan recipient to pay all or any portion of such differential as may exist between U.S. and foreign-flag vessel rates? (b) Such a grant may be made if appropriate.

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LOAN AUTHORIZATION

Provided from: Alliance for Progress Loan Funds
NICARAGUA: Urban Sector Loan (Managua Reconstruction)

Pursuant to the authority vested in the Administrator, Agency for International Development, by the Foreign Assistance Act of 1961, as amended ("Act"), and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan pursuant to said Act and the Alliance for Progress, to the Government of Nicaragua ("Borrower") of not to exceed thirty million United States dollars (\$30,000,000) to assist in financing the United States dollar and local currency costs of a Urban Reconstruction Sector Program for the city of Managua.

The loan shall be subject to the following terms and conditions:

1. Interest and Terms of Repayment

Borrower shall repay the loan to the Agency for International Development ("A.I.D.") within forty (40) years from the date of the first disbursement under the loan, including a grace period of not to exceed ten (10) years. Borrower shall pay to A.I.D. in United States dollars, on the outstanding balance of the loan, interest at the rate of two percent (2%) per annum during the grace period and three percent (3%) per annum thereafter.

2. Source and Origin

Goods and services (except for ocean shipping) and marine insurance financed under the Loan shall have their source and origin in countries of the Central American Common Market or countries included in Code 941 of the A.I.D. Geographic Code Book. Marine insurance may be financed under the Loan only if it is obtained on a competitive basis and any claims thereunder are payable in freely convertible currencies. Ocean shipping

financed under the Loan shall be procured in any country included in Code 941 of the A.I.D. Geographic Code Book, excluding countries which are members of the Central American Common Market.

3. Local Currency

United States dollars utilized under the Loan to finance local currency costs shall be made available pursuant to procedures satisfactory to A.I.D.

4. Conditions Precedent to Initial Disbursement

Prior to the issuance of any commitment documents or disbursements under the Loan, Borrower shall furnish in form and substance satisfactory to A.I.D.:

- a) Evidence that an Inter-Agency Committee has been established between the Vice Ministry of Urban Planning and the Ministry of Finance's Office of Coordination and Implementation, to coordinate activities in the Immediate Action Reconstruction Program.
- b) Evidence that sufficient and qualified staff is or will be available for the implementation of the Loan.

5. Conditions Precedent to Disbursement for Other than Program Implementation Assistance

Prior to the issuance of any commitment documents or disbursements under the Loan for other than Program Implementation Assistance, Borrower shall furnish, in form and substance satisfactory to A.I.D.:

- a) A finalized copy of the Borrower's 1974-76 Immediate Action Reconstruction Program, which should include but not be limited to the policies, guidelines, objectives and components of said program; a capital budget for the program, and a time-phased implementation plan for carrying out all major planning and reconstruction activities included in the Immediate Action Reconstruction Program.
 - b) Evidence that the Borrower will establish a land purchase fund for the Immediate Action Reconstruction Program.
 - c) Evidence that Borrower will provide in a timely manner all counterpart funds in accordance with the Time-Phased Implementation Plan.
6. Other Terms and Conditions

The Loan shall be subject to such other terms and conditions as A.I.D, may deem advisable.

ADMINISTRATOR

DATE: _____



COMITE NACIONAL DE EMERGENCIA
PRESIDENCIA

MANAGUA, D. N.

NICARAGUA, C. A.

May 24, 1974

CNE/0277/74

Ambassador
Turner B. Shelton
American Embassy
Managua, D.N., Nicaragua

Dear Ambassador Shelton:

In relation to the financial assistance of the United States of America, for the Government of Nicaragua, for the reconstruction of the city of Managua, allow me to give you the salient points for your consideration.

- 1- The Government of Nicaragua, deeply engaged in the reconstruction of Managua, following the December 1972 earthquake, has sought and obtained technical advice from experts both inside and outside Nicaragua notably from Mexico and the United States to help plan the reconstruction. On the basis of reports and recommendations made by these experts, the Government has adopted a conceptual plan and established principles and guidelines for Managua reconstruction that will see a new Managua, fully rebuilt, with provision also for the expected population increase, in about ten years.
- 2- As a guide for early action in carrying out these plans, the Government is now preparing an Immediate Action Program to cover the highest priority reconstruction projects to be initiated in the remainder 1974 and in 1975 and 1976 --the next 2 1/2 years.

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- 3- This Immediate Action Plan, while not yet complete, is now in intensive preparation and will be completed in the late summer of this year, coinciding with the preparation of the Government budget for 1975. However, the global nature and size of the reconstruction effort over these next two years is already reasonably clear since the Government has firm policies as to how to go about reconstruction and it also knows its own financial capacities and limitations, and thus also its needs for external assistance.
- 4- The Government at present sees the need and the possibilities for approximately \$150 million in reconstruction projects which would be initiated in the next two and one-half years and which would be completed during the four-year period, 1975-78. The Government is prepared to finance one-half of this total, \$75 million over these four years, and is seeking international assistance for financing the other half.
- 5- The relevant Ministries and offices of the Government have been conferring with the USAID Mission to Managua, among other international lending agencies, and the Government has concluded that it would like to share the costs of implementing its Immediate Action Program with the several international lending agencies, including A.I.D. We are requesting that A.I.D. lend, on favorable terms, \$30 million to be applied to the projects composing the Government's Immediate Action Program. In this connection the Government will itself establish in its Ministry of Finance a counterpart fund into which it will place 175 million córdobas over the life of the project (four years), these funds also to be applied to the projects composing the Immediate Action Program. We intend that both the A.I.D. funds and those of the Government will be administered by the Ministry of Finance.
- 6- In addition, in order that the projects composing the Immediate Action Program may be undertaken without delay once the funds from A.I.D. and the Government become available, the Government will, starting as soon as possible, acquire the necessary rights of way and sites. For this purpose the National Emergency Committee is establishing under its Treasurer, the Minister of Finance, a replenishable Land Purchase Fund of 75 to 100 million córdobas with which these rights-of-way and sites for the first and highest priority projects will be acquired.

5/24/74

- 7- Although the Immediate Action Program is still in preparation, a number of the more critical activities have been identified. I am attaching a list of these projected activities as illustrative of the nature of the full Immediate Action Program.
- 8- We should also like to share with you, in summary form, the basic principles and guidelines that are being utilized by the Government in preparing the Immediate Action Program. These guides have been formulated by us with the help of Mexican and other foreign consultants. The Mexican Government proposed a conceptual plan in late 1973 which we have adopted with modifications and have promulgated as our "Plan Regulador". The principles on which this plan and its implementation include the following:

The first rule is that Managua must be restored as a safe city in which to live, given the seismic risks that will continue indefinitely to exist. This of course, has required regulation to prevent building on known faults and the adoption of a scientifically sound building code with standards adapted to the seismic risks involved. We are now vigorously administering that code so as to insure maximum protection to the people of Managua.

As important as avoiding known risks and building strongly is the principle of deconcentration. Managua is being rebuilt to a level of density much lower than pre-earthquake. This rule has required planning an extended city of low height and density following the natural growth patterns identified by our own experts and those we have invited to advise us.

We are also taking the opportunity afforded by the need to deconcentrate to plan a more efficient city, with the convenience of the population and access to economic opportunity and social services uppermost in mind. In this connection we are particularly concerned with the needs of our lowest income citizens. For them our objective is not just restoration but to more than restore that which was destroyed by the earthquake. Our goal is to improve their housing, their access to schools, health and community facilities; transportation and employment opportunities.

More specifically, we are proposing in the Immediate Action Program to concentrate on:

- (a) Expansion of the number and quality of houses, especially for low income groups;
- (b) Rebuilding and expansion of vital public facilities;
- (c) Strengthening and extending Managua's grid of traffic arteries as the basic framework for deconcentration;
- (d) As proposed by the Mexican consultants, the establishment, in conjunction with the deconcentration pattern, of several high priority new integrated centers for commerce, industry and homes. These several "poles" of development will give form and structure to the new city and provide for an especially strong expression of the principle we are following throughout that homes, jobs, and services should be integrated to the fullest extent possible;
- (e) Developing open and green areas over the known seismic faults;
- (f) Meeting the as yet unmet credit needs of those whose business and industrial enterprises were destroyed;
- (g) Taking all necessary steps to expand the capacity of the construction industry to meet building demand and to provide assistance to other industries also critically important to the reconstruction;
- (h) In all of the above we have recognized the special importance of so conducting reconstruction that we may remain within the constraints of sound economic policy. We are well aware that too rapid a pace of reconstruction could cause such inflation as to choke off reconstruction. Thus the National Emergency Committee, advised by the Ministry of Finance, the Planning Office, and such invited consultants as INCAE, is maintaining a constant watch on the economy in relation to reconstruction and is continuously studying the future pace of rebuilding so as to keep it within the bounds of safety;

Our policy of rebuilding Managua on a deconcentrated basis does not mean that the old city is being forgotten. While this once congested area is known now to be laced with seismic risks, its appropriately controlled rehabilitation, taking these risks into account, is a part of the long-range, though not the Immediate Action Program. As noted above, the zoning of faults for open and green areas is a requirement that is most pronounced in the old city which in the past year has undergone a huge and comprehensive demolition and clean-up effort. Plans for the redevelopment of this area call for, in addition to green areas, the dedication of the reclaimed land essentially to special uses such as public and community facilities, rigidly designed and constructed.

- In this connection we are planning to invite an International Competition to choose the best rehabilitation design for the old central area, and we will wish to include this Competition among the projects to be financed under the joint A.I.D.-Government of Nicaragua program.
- 9- In implementation of the Immediate Action Program, and as a matter of fact in connection with all construction, public and private, the Government's policy is that the new building code, designed with the help of experts from experienced earthquake prone countries, will be faithfully applied, by the Vice Ministry for Urban Planning, in issuing all building permits. In addition the Government (VMUP) will evaluate sites proposed for public and private building as to their degree of seismic security and will approve or disapprove particular proposed uses depending on risk to human life factors. For example, the erection of schools and hospitals will be permitted only on clearly very safe sites. Site standards for a one-family, one story house that meets building code requirements would be less rigid. Public and private construction will also be required to conform to the Managua Urban Plan now being developed. As the Immediate Action Program moves into operation, the Government will step up the process, already started, of developing the Managua Urban Growth Plan. This plan will be used by the Government to control land use patterns as the city rebuilds in order to assure the integration of home, job and services, the efficiency of traffic flows, and esthetic consideration as well. Building permits will not be used for structures to perform functions on sites that, even though meeting building code and seismic standards, are not in accord with the Government's land use plan.
- 10- The Government of Nicaragua is taking and will continue to take fiscal measures necessary to provide adequate financing for reconstruction as well as for development and for general governmental expenses. While we clearly need and are seeking external aid, we shall finance as much as we can from domestic resources. This is both prudent in terms of guarding our debt servicing capacity, and it also bears a direct relationship to the inflation danger I referred to earlier. To minimize the inflationary dangers of reconstruction, we expect to finance as much as possible from tax revenues. In 1973 new tax measures and better collections increased tax revenues by 42.4% over 1972. An important contribution to this was the emergency tax on exports of 10%. This tax has been continued in 1974 and it, or equivalent tax measures, will continue indefinitely so as to maintain the present level of tax income. In addition, we are preparing to effect a major overhaul of the tax structure during this calendar year with a view to correcting inequities,

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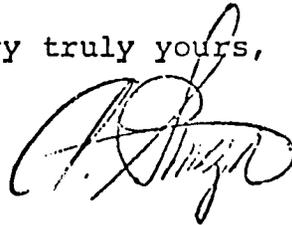
eliminating

taxes whose administrative costs are too high, concentrating on the most remunerative measures, and, overall, raising the level of Government income. In this effort we are relying on the advisory services of the IMF, INCAE and the Central Bank.

Finally, we should like to assure the Government of the United States that all funds made available from the United States will be used in an economically and technically sound manner.

It trust that this letter has given you ample information for your consideration, and look forward to your comments and reply.

Very truly yours,



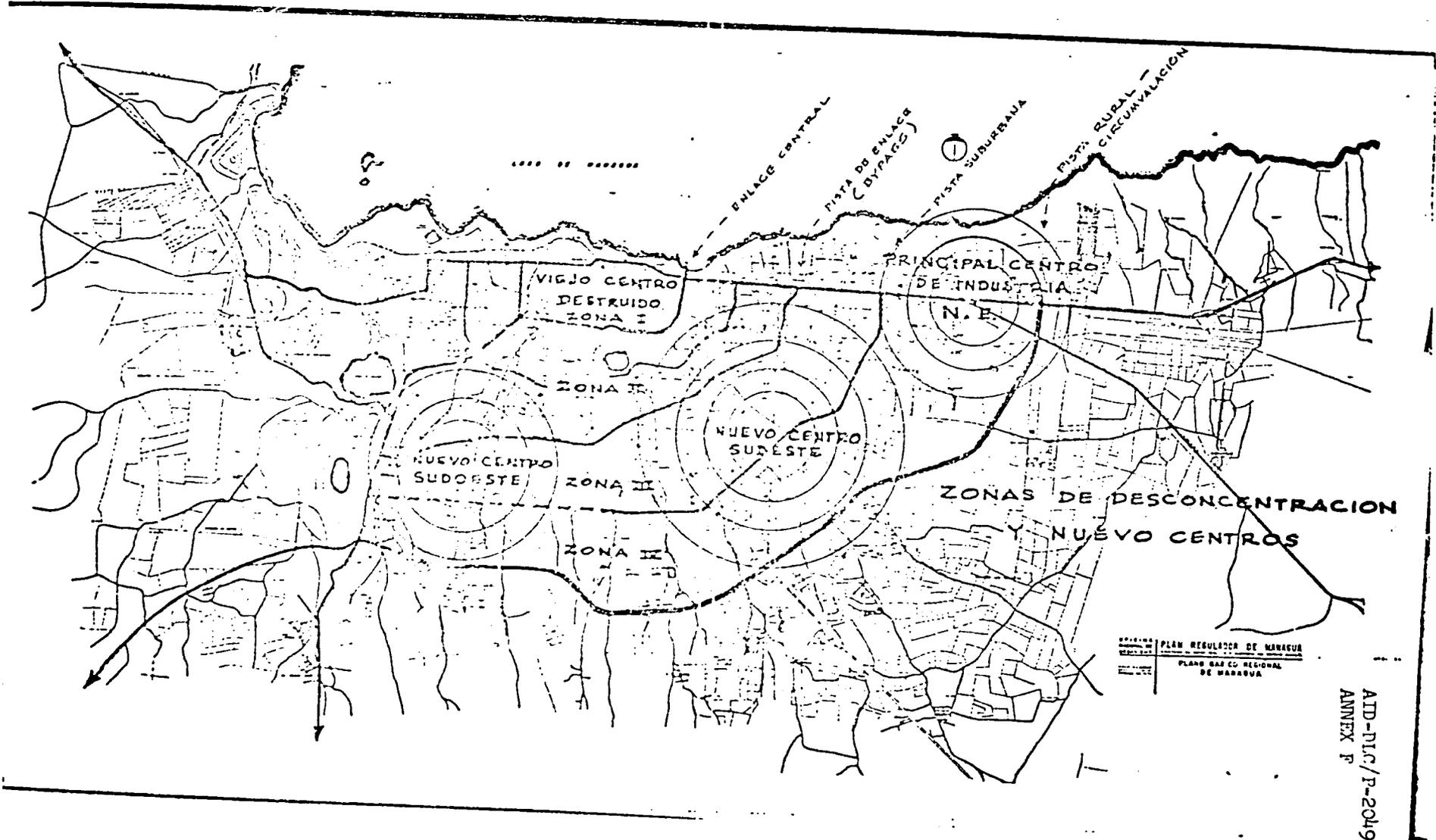
Anastasio Somoza D.
President
National Emergency Committee

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GUIDE TO ISSUES RAISED IN IRR -- DAEC MEETING (SEE STATE 091701)

1. CAP should, in sector context, describe principles which will guide reconstruction during 1974-76. Principles are fully described in Section IV, Part 4.
2. CAP should describe the policy framework for the GON's Immediate Action Program. Policy Framework is fully described in Section IV, Part 4.
3. Each principle or guideline should be analyzed and described as to the weaknesses of its current state: first in terms of technical completeness, and second in terms of how serious is the GON commitment to the principle concerned. This is dealt with in Section IV, Part 6.
4. On the basis of the analysis in No. 3 above, the CAP should then describe for each principle or guideline, (a) what additional technical development is needed to make the principle an adequate bearing structure for the Immediate Action Plan, and (b) what further pledge or commitment from the GON may be required to assure that the principle concerned plays a sound role in forming the foundation for the Immediate Action Plan. This is dealt with in Section IV, Parts 6 and 7.
5. CAP should treat reconstruction transportation requirements and bus fares. See Section VII, Part 7.
6. CAP should describe self-help measures. See Section IV, Part 7.
7. CAP should contain commitment to self-help revenue measures. See Annex D, GON Letter of Application.
8. In connection with fiscal self-help discussion, CAP should treat the Fiscal Targets outlined in the Agenda of INCAE and relate GON plans to it. See Section IV, Part 7.
9. Preferred GON counterpart is \$40.0 million; \$25.0 million minimum. See Sections IV and V, Parts 7 and 3 respectively and Annex D that provides for \$40.0 million counterpart.

10. CAP should propose a formula for shifting of funds among categories and propose prior approval relationship. See Section V, Part 3.
11. CAP should describe loan implementation procedures. See Section V.
12. CAP should provide for annual evaluation with particular emphasis on GON budgetary contributions to the Program. See Section VIII, Part G.
13. Program Implementation Assistance should be detailed in CAP to establish cost estimates. See Section V, Part 2.
14. CAP should describe International Design Competition for Center. See Section V, Part 2.
15. Specific cost estimates for the Special Studies and Surveys should be treated in CAP. See Section V, Part 2.
16. A rationale should be included in the CAP for including a national planning activity. See Section V, Part 2.
17. A rationale should be included for implementing urban planning for the satellite cities. See Section V, Part 2, and Annex 27.
18. The Credit Fund should be treated as an ICI project loan; See Section VII, Part 8, and Annex 16.
19. CAP should analyze VMUP's capacity to both issue permits and plan. See Section VI, Part 2 and Annex 19.
20. CAP should describe executing agencies. See Section VI, Part 3.
21. In the treatment of the Credit Fund, the capabilities of the FED, FUNDE, and Banco Popular should be treated. See Annex 16.
22. Construction Industry Analysis should be included. See Section VII, Part 7.
23. The CAP should describe the "extent to which the program can maximize benefits to the low income residents of Managua". See Section VII, Part 2.
24. The CAP should deal with possible dangers of windfall profits for land speculators. See Section IV, Parts 5 and 6.



AID-PIC/P-2049
ANNEX F

Illustrative List of Activities

<u>A. Transportation Improvements</u>	
1. North Highway widening, construction of service roads, and two parallel roads	C\$ 41.3
2. Relocation of Railroad	31.0
3. Construction of Pista Larreynaga between the Inner By pass Road and the Outer Beltway Road	4.5
4. Construction of the Old Masaya Road between the Pista Suburbana and Reparto Schick	6.7
5. Widening of three kilometers of the New Masaya Road	1.2
6. Construction of Main San Judas Access Road between Inner By Pass Road and the Outer Beltway Road	5.3
7. Selected Main Secondary Roads between the Inner By Pass Road and the Outer Beltway Road	<u>60.6</u>
	C\$ 150.6
	US\$ 21.51

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ANNEX G (1)

Page 2 of 5

B. Public Infrastructure Expansion

- | | |
|--|----------|
| 1. Selected infrastructure improvements for Managua's North Highway industrial commercial strip, sewer, water, line expansion, expanded telephone and electrical facilities, street lights, and storm drains. | C\$ 53.0 |
| 2. Selected infrastructure expansion and improvements for Managua's Eastern Commercial Zone (service roads, street paving, sewer and water line expansion, expanded telephone and electrical facilities, street lights, and storm drains) | 27.0 |
| 3. Selected infrastructure expansions and improvements for Managua's Western Commercial Zone (service roads, street paving, sewer and water lines expansion, expanded telephone and electrical facilities, street lights, and storm drains.) | 70.0 |
| 4. Selected infrastructure improvements for Barrio San Judas (street paving, water and sewer lines, street lights, telephone, public facilities.) | 21.0 |
| 5. Selected infrastructure improvements in Reparto Schick (street paving, water and sewer lines, street lights, telephone, public facilities, etc.) | 22.0 |

C\$ 193.0

US\$ 27.57

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<u>C. Reconstruction and Expansion of Public Facilities</u>	
1. Construction of Wholesale Market	C\$ 25.0
2. Construction of Western Public Market	5.2
3. Construction of two Eastern Public Markets	16.0
4. Northern Post Office	1.6
5. Construction of Eastern Post Office	1.6
6. Construction of Western Post Office	1.6
7. Construction of Western Bus Terminal	5.4
8. Construction of Eastern and Southeastern Bus Terminal	11.0
9. Construction of Small Community Bus Stations	1.8
10. Construction of three Fire Stations	2.4
11. Construction of three Small community health centers	3.7
12. Construction of two libraries	27.0
13. Facilities for Establishment of Small Industries	7.75
14. Construction of GON and Municipal Offices	13.50
15. Other Community Facilities	14.0
	<hr/>
TOTAL	C\$ 151.5
	US\$ 21.0

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ANNEX G (1)

Page 4 of 5

D. Development of Open and Green Areas

Development of parks, plazas, malls and
monuments, sports field, recreational
facilities on dangerous seismic zones

C\$ 65.0

TOTAL

C\$ 65.0

US\$ 9.28

E. Private Sector Credit Fund

Credit for Reconstruction and Expansion
for Small Enterprises

C\$ 56.0

TOTAL

C\$ 56.0

US\$ 8.0

F. Program Implementation Assistance

1. Program Implementation Support

US\$ 3,000,000

2. Special Studies and Surveys

3,000,000

TOTAL

US\$ 6,000,000

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<u>GRAND TOTAL</u>	
A. Transportation Improvements	US\$ 21,510,000
B. Public Infrastructure Expansion	27,570,000
C. Reconstruction and Expansion of Public Facilities	21,000,000
D. Development of Open and Green Areas	9,280,000
E. Private Sector Credit Fund	8,000,000
F. Program Implementation Assistance	6,000,000
	<hr/>
	US\$ 93,360,000

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ANNEX C (II)

Page 1 of 2

Summary Table of Program Estimates on Public Land Acquisition
and Construction Costs for 1975-1978

- A. All sites and projects are derived from the larger and more general estimates of urban reconstruction covering a six year period 1974-79, being made by VMUP together with the GON agencies.
- B. The land prices are obtained from Catastro Official values, which were assessed in early 1973 and were since increased to reflect general area increases in the land market. However, actual sale prices today may still be higher; though no regular factor of increase is applicable, due to erratic variations among terms of sale for individual parcels.
- C. Construction prices are current estimates, based on VMUP standards for public facilities.
- D. All these estimates - land and construction - are only current. Any additional allowance for future price increase during the 2-4 years of program execution must be determined in capital budgeting.
- E. This table reflects a policy of advance land acquisition - in most cases several years ahead of project construction - with the purpose of establishing the best locations for the projects. These are particularly for clustering public facilities and employment activities in the new sector centers. Land acquisition includes all public facilities, markets, building sites, transport terminals and bus stations; early acquisition of strategic land for low cost housing, assuming however, that much housing construction on such land will be only self-help, during the high growth period; and substantial recreation open space in fault zones. Some land is to be acquired for light industry parks and quasi public social institutions. Also, additional land may be acquired for relocation of some central area activities and property owners displaced by public projects elsewhere.

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MANAGUA DECONCENTRATION PROGRAM ESTIMATES FOR 1975-1978
VICE-MINISTRY OF URBAN PLANNING (JUNE 1, 1974)

	S.W. Sector			S.E. Sector			N.E. Sector			Totals		
	Total	Constr.	Land									
TRANSPORTATION												
(c) Highways	34.1	34.1		23.56	21.56	2.0	31.7	27.7	2.0	92.3	89.36	4.0
(Ti) Terminal Interurban	5.4	5.0	0.4	5.5	5.0	0.5	5.5	5.0	0.5	16.4	15.0	1.4
(Tp) Local Bus Stations	0.35	0.26	0.09	1.12	0.75	0.37	0.35	0.29	0.06	1.82	1.3	0.52
(Al) Sidelines	12.4	12.4	-	24.0	24.0	-	9.6	9.6	-	46.0	46.0	-
(Tc) Cargo Terminals	3.0	2.5	0.5	2.9	2.5	0.4	11.3	6.0	5.3	17.2	11.0	6.2
(F) Railroad							31.0	25.0	6.0	31.0	25.0	6.0
SUBTOTAL	58.25	57.26	0.99	57.02	53.81	3.21	89.45	75.59	13.86	204.72	186.65	18.12
PUBLIC INFRASTRUCTURE												
(A) Water	10.0	10.0	-	15.25	15.25	-	14.5	14.5	-	39.75	39.75	-
(As) Sanitary Sewer	15.0	15.0	-	20.0	20.0	-	22.1	22.1	-	57.1	57.1	-
(Ap) Storm Sewer	9.3	9.3	-	13.0	13.0	-	14.8	14.8	-	37.1	37.1	-
(Tel) Post, Telegraph Sta.	0.45	0.45	-	1.6	1.2	0.4	1.6	1.2	0.4	3.65	2.85	.8
SUBTOTAL	34.75	34.75	-	49.85	49.45	0.4	53.0	52.6	0.4	137.60	136.80	.8
PUBLIC FACILITIES												
(H) Hospitals												
(Cs) Centers of Health	0.9	0.8	0.1	0.7	0.8	0.1	1.8	1.6	0.2	3.6	3.2	0.4
(Sc) Soc. Multi-Purp. Cnrs.	5.2	3.3	1.9	4.3	4.1	0.2	3.8	3.4	0.4	13.3	10.8	2.5
(R) Parks-Recreation	26.0	9.1	17.9	26.0	8.0	18.0	13.2	-	13.2	65.2	16.1	49.1
(Om) Offices Municipal	2.5	2.0	0.5	2.5	2.0	0.5	2.5	2.0	0.5	7.5	6.0	1.5
(N) Offices National	3.0	-	3.0	-	-	-	3.0	3.0	-	6.0	3.0	3.0
(Bi) Library	13.8	13.75	.05	13.7	13.0	0.7	-	-	-	27.5	26.75	0.75
(Bo) Fire Station	0.8	0.7	0.1	0.8	0.7	0.1	0.9	0.8	0.1	2.5	2.2	0.3
(M) Market	5.2	5.0	0.2	16.55	10.0	6.55	25.0	16.6	8.4	46.75	31.0	15.15
(Ed) School	8.6	6.15	2.45	35.7	32.0	3.7	13.5	12.0	1.5	57.8	50.15	7.65
SUBTOTAL	66.0	39.8	26.2	100.45	70.6	29.85	63.7	39.4	24.3	229.15	149.20	80.35
SMALL IND. PARKS												
	1.75	-	1.75	2.0	-	2.0	4.0	-	4.0	7.75	-	7.75
GRAND TOTALS	160.75	131.81	28.94	269.32	173.86	35.46	210.15	167.59	42.56	580.22	473.26	106.95

Illustrative Map of Immediate Action Program Activities
by Use and Location

The attached map Annex G(III), shows illustrative Immediate Action Program Activities by use and location. The scheduled projects form part of the three major clusters to the Southwest, Southeast and Northeast of the City. These three new major communities, generally located between the Bypass and the proposed Pista Rural de Circunvalacion, Outer Beltway Road will contain a loose multi purpose cluster of public facilities, plus business and industry.

The clusters are located in close proximity to existing residential barrios which will be the subject of special infrastructure programs which will serve to upgrade the physical composition of these communities. They will be further enhanced by the construction of such additional ancillary facilities as bus stations, clinics, markets, offices, etc.

When completed, the three new communities will represent significant new employment and service nuclei, outside the center of Managua, serving as "Poles of Attraction", to "Tip the Balance" in favor of "Decentralization".

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SUPPLEMENT

S24-0140

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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

CAPITAL ASSISTANCE PAPER
SUPPLEMENTARY VOLUME (ADDITIONAL ANNEXES)

Proposal and Recommendations
For the Review of the
Development Loan Committee

NICARAGUA - URBAN SECTOR LOAN (MANAGUA RECONSTRUCTION)

AID-DLC/P-2049(SUPPLEMENT)

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June 14, 1974

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2. Managua Periphery Development to 1985.
3. Macroeconomic Analysis
4. Translations of Important Excerpts from the Mexican Plan (Original Spanish Version of Mexican Plan on File in LA/DR). *
5. The Mexican Conceptual Design for the Managua Urban Area. *
6. Dyckman Report on the Managua Reconstruction.
7. Report from the International Advisory Panel on Reconstruction and Re-development of the Managua Region. *
8. Geological and Seismological Aspects of the Managua, Nicaragua Earthquakes. *
9. Building Performance in the 1972 Managua Earthquake *
10. INCAE - Agenda for Reconstruction and Development - Targets and Objectives 1974-78
11. A Process of Planning and Urban Design for the Reconstruction and Development of Managua. (Mann and von Moltke) *
12. Managua Reconstruction Planning - Dr. Adolph Ciberowski
13. Speech Given by General Somoza in San Francisco on Managua Earthquake and the Mexican Plan.

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*See LA/DR Bulk File and USAID Bulk File

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28. A/E Code for Design Competition *
29. Meehan Report *
30. Capital Budgeting Description

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* See LA/DR Bulk File and USAID Bulk File

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ANNEX 2**

AID-DLC/P-2049

June 14, 1974

MANAGUA PERIPHERY DEVELOPMENT TO 1985

**A Preliminary study of Comparative Advantages
Relative to Other Metropolitan Forms**

**George Nez
Regional Planning Adviser
AID/Nicaragua**

November 30, 1973

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INTRODUCTION

At this time when the fourth earthquake in a century has destroyed large parts of a city which had persistently rebuilt itself in an increasingly obsolescent functional pattern, it is necessary to consider what form and degree of deconcentration to aim for, through loan policy. At stake is not only the reconstruction of urban capacity for today's 400,000 population, but the safety of 800,000 in 1985 and 2,000,000 when the next major earthquake strikes. All loan projects are of such nature as to pin down urban functions and locations for at least three or four decades.

Alternatives range from one extreme, rebuilding the old city in place at super standards of anti-seismic design, to the other extreme of decentralizing most growth into other centers to minimize risk of geophysical damage and spread benefits of reconstruction to poor urban economies across the country.

Our study examines the middle of this range, in preparation for intensive review of a new loan and policy. It considers the feasibility of immediate peripheral expansion up to about 1985, while also preparing for later and wider development of a metropolitan satellite town system.

Government's choice of a future pattern will exist for only a short planning period. Many public agencies, and private enterprise, are striving to build, and the pressure is increasing for restoring the old patterns of the city with increased density, lot by lot. Any substantial shift to peripheral or satellite development would need special initiative by government in extensive land acquisition for new centers, low-cost housing sites and infrastructure.

Definition of pertinent terms, facts, concepts

Centralization of earthquake damage. It is ominous and incredible that the nation's capitol persisted in rebuilding in this most dangerous geophysical spot in entire Latin America where both seismic and volcanic exposure is maximum. The east and west boundaries of Managua's city center are defined by two classic repeat fracture faults, Chicopelon and Estadio, while two more lie in between, the Bancos and Tiscapa faults. On its East edge the city center is bounded by a graben of some 700 meters width, which settled by as much as 34 cm in some places after the recent earthquake. There have been nine Managua earthquakes since 1844, with disasterous losses of life and property recorded on the last two occasions.

Historical Centralization. Since the year 1846, Managua's town center aggregated a large share of national construction investments, commercial and government buildings, and infrastructure. It was a mutually reinforcing accumulation of social and economic facilities and increasing building density. This occurred before it was possible to deconcentrate through any water, sewerage, electricity or telephone.

Transportation Deconcentration. Clearly visible since the 1947 census is an advance of radial salients of urban growth outward along the three main routes to the East, Southeast, and Southwest. By the time of the 1972 census, there had also begun a second Southeast salient and a Western salient. These were entirely transportation-oriented, foretelling the rapid radial deconcentration which would follow with the transportation revolution.

Industrial Deconcentration. This became evident in 1947 in the easterly direction, and since 1953 in the westerly; a rapid development reflecting both the enlargement of industry units, their dependency upon a highway trucking corridor, and running sewage into the lake.

Commercial Deconcentration. It was hardly evident by 1972, due to the persistent historical centralization of marketing activity and the mutual gravity of many small commercial enterprises, and the lack of credit for any new commercial centers. Yet commercial decentralization was beginning to show up due to high levels of central congestion.

Deconcentration Objectives. Urged by every planning mission - from the first International Advisory Panel to Dyckman, Mann and Von Moltke, the AID Mission, the OAS regional planning Mission, Ciberowski of the UN, and the Urbanismo office itself. Briefly, the recommendations have included:

- (1) to reduce density of building, particularly residential and high concentration of public occupancy in the old center;
- (2) to require new building methods and standards, and the implied locations in the periphery were to follow transportation and industrial deconcentration, and to be the priority area for infrastructure and housing. Other complementary objectives were soon identified by AID planners:
 - (3) to deconcentrate systematically into the periphery and beyond.
 - (4) to induce central owners and operators to sell and go into the new outlying areas, and
 - (5) to redevelop the center much later, for non hazardous, non-concentrated public or commercial land uses.
 - (6) to create several large-scale housing projects for the great majority of low-income residents and their many small enterprises, .
 - (7) to create new public facility clusters, and zones of employment in major sub-centers of Managua around key government offices, markets, transport terminals and general community facilities; with government itself acting as developer of the enlarged centers, leasing land for commercial development.

- (8) to add a modern wholesale food center, local popular markets, bus terminals, facilities for recreation, plazas. The evident functional complementarities and space sharing among public and commercial facilities would make it possible for government to make large land assemblies in strategic locations at low cost of improved land and then act as general developer of these centers,

Aggregate Growth and Significant Change in the Past.

The persistent historical centralization after several past earthquakes deserves some consideration of the probable causes. These may be ranked

- as follows:
- (a) Major national commercial services concentrated at this place;
 - (b) National government offices concentrated at this place;
 - (c) Lack of any extensive technology of transportation, communication, water or sanitation, to make possible relocation of any of these functions;
 - (d) Relatively weak public economy to afford the instantaneous costs of relocation;
 - (e) Strong vested interests in downtown property and their efforts to restore the land values, i.e., inability of the numerous owners to act together to relocate their property investments even if many so desired.

It is worth noting that in other earthquake cities, and also in numerous war-damaged cities of Europe there arose the same conditions (d) and (e) - despite efforts of planners to modernize the metropolitan patterns.

It is also significant to look at the moving picture of Managua's urban expansion since 1917 (illustrated on the following map). There has been

Turning ahead to the probable curve of future population, this may be projected in gross terms, by a standard method of deriving from the broad secular trends of Nicaragua and the Central Region the probable growth of Managua. The following projection is not a prescription, but a crude trend which is needed as a reference base for considering any other population distribution. ^{1/}

	NICARAGUA POP. (000)	CENTRAL REGION POP. (000)	MANAGUA POP. (000)	SHARES		
				C.R. % of Nic.	Managua % of Nic.	Managua % of C.R.
1950	1,057	334	109	.317	.104	.33
1963	1,535	527	235	.342	.153	.45
1970	1,830	722	358	.392	.195	.50
1973	1,970	790	(420)*	.400	.214	.53
1975	2,120	860	500	.410	.235	.58
1980	2,450	1,070	660	.430	.270	.61
1985	2,800	1,340	840	.480	.300	.62

^{1/} G. Nez and A. Benjamin, The Mexican Conceptual Design for the Managua Urban Area, USAID/M monograph, 22 October 1973

* It should be noted that there was a sharp 250,000 dip in the Managua population during 1973 but the city is rapidly recovering its refugees.

It is thought that the return flow results mainly from two factors:

(1) the doubled up housing in satellite towns began to create tension, and (2) the refugees were ever more dependent on work in Managua.

Now, a year after the exodus, they are able to return to somewhat increased housing opportunities and jobs somewhere in reconstruction.

All of this may over-attract young job-seekers, so that the population curve would return to normal and overshoot the curve, which would normally be 500,000 as soon as 1975, 660,000 in 1980 and 840,000 in 1985.

If the curve is extended to the next likely date of a major earthquake, around 2010, it would have some 2,500,000 population living somewhere in the metropolis. The question really is: where in the metropolis? In a more concentrated pattern than in 1931 and 1972? Or in a planned deconcentration?

At this point it is useful to note the historical trend in Managua's urban density. We are able to determine the following changes, based on past population census data.

Table _____

Trends in Population Density in Managua

	<u>Urban Area</u>	<u>Population</u>	<u>Density</u>
1917	4½ Km ²	40,000	9,000 persons/Km ²
1926	5½	50,000	9,000
1947	9½	100,000	10,000
1953	11½	145,000	12,500
1972	40	400,000	9,000

The rise and fall of density is significant. Before 1953 it had increased by more than one third in about 25 years; and then declined as much in the next 20 years. This may mean several things which are significant for our analysis:

- a. Before 1953, the growth in intensity of private land use, i.e. building size, exceeded the horizontal expansion of public infrastructure, both for reasons of technological lag in infrastructure and because of lag in the whole municipal system of planning and programming;
- b. After 1953 this cumulative increase in density, where thousands of commercial and multiple housing units crowded closer to-

gether, itself forced the improvement of public technology - auto and bus transportation, trucking, water and sewer systems and telephone.

A key question for deconcentration policy will be what densities should be assumed in future? This should be investigated during the intensive review, by researching all these factors:

- a. Average mixed - land use density - appears to be about 9,000 persons/Km² at present, going down to 8,300 persons/Km². The Mexican plan is very useful for this purpose, as it treats fairly carefully the new residential area planning, including community centers, fault corridors and recreation areas. It arrives at a gross density of 8,300 persons/Km² for a balanced composition of all land uses, including industry, commerce and government.
- b. Residential area densities - will range between 15,000 and 30,000 persons/Km² more than double the gross urban density. For example the Las Americas projects will house approximately 20,000 persons/Km², which includes community areas and open areas. The Mexican residential cell would house approximately 30,000 persons/Km², as it uses some two story construction and attached, common wall housing.

c. In order to give better protection against seismic and volcanic hazards, the optimum city building density must be reduced by allowing plenty of intermittent space for:

1. Fault and drainage corridors. Usually running in the same direction and may be combined for faults, storm drains and sanitary sewerage.
2. Fire breaks. Important to lay out as belts across the urban pattern - transverse to the direction of prevailing wind. This means the fire breaks should be in NW to SE direction. These belts would cross the fault corridors and result in rectangular or diamond shaped polygons - or city cells. These cells could be optimized to fit the neighborhood unit sizes. Something like this is shown in the Mexican-plan's new SE area beyond the compromise of existing land uses.
3. The highway framework should be co-designed with faults and fire breaks. Will require wider rights-of-way, multiple lanes, center and side planting strips to protect through traffic flows. Rights-of-way widths must double from the present 20-30 meters to 40-60 meters for major routes. These would fall at 2 Km. intervals, and their numerous controlled intersections with major and minor roads would require additional land for adequate sight distances, curved corners, circles, and grade separation ramps.
4. The old downtown area. Needs much opening up through parks and plazas, major street widenings, off-street reservoirs of space for parking and bus terminals. This would result in a basic control standard of proportional open space, much higher than the 1972 condition, as a guide to the new design. The building coverage should not exceed 30-40% of the land area, and seismic construction standards should guard against a compensating rush to increase building heights.

High Degree of Fluidity in the Urban Pattern

We have noted that in recent years the growth pattern has stretched out from the old center along lines of recent transportation and infrastructure, and that industry, depending upon these facilities, filled out quickly. While the fluidity of the urban pattern was reshaping the old concentric density pattern, another earthquake destroyed between 1/4 and 1/3 of all the city's land uses. But this earthquake arrived in a different era of urban technology than that of 1931, and it is hoped that this combination of conditions may tip the possibilities in favor of rational deconcentration, not too difficult for GON policy if aided by deconcentration loans.

By our preliminary estimate, a first priority set of effectual deconcentration projects would cost some \$330 million (see last section of this paper). These projects are examples of high-leverage public facilities which would pull along other public and private investment. Even if the sum had to be 100% higher, it would still be small in relation to the full \$4,000 million estimate for all public facilities and low-cost housing to handle 400,000 population in a new periphery. It is this possible leverage which makes an intensive review of loan policy very worthwhile.

Let us look at some recent gross estimates of costs of reconstruction and growth.

First, reconstruction (without growth). INCAE estimated some \$4.9 billion of damage to buildings, equipment and inventory, public and private.

INCAE's January estimate is shown on the following Table. This has recently been judged by the estimators themselves to be probably too high.

ESTIMADO DE DAÑOS MATERIALES OCASIONADOS
POR EL TERREMOTO

(Millones de córdobas)

Sectores	Construcciones	Muebles y Enseres	Inventarios	Total
Gobierno	157.5	63.0	7.0	227.5
Industria	21.0	105.0	20.3	146.3
Comercio	420.0	84.0	220.5	724.5
Viviendas	2,186.1	350.0	14.7	2,550.8
Servicios	199.5	79.8	31.5	310.8
Infraestructura	<u>709.8</u>	<u>215.6</u>	<u>40.6</u>	<u>966.0</u>
Total	3,693.0	897.4	334.6	4,925.0

fuente: "Evaluación Preliminar de Daños Causados por el Terremoto de Managua del 23 de Diciembre 1972", Centro de Asesoramiento, No. NI/PL-001, Enero, 1973.

Our own calculation of €2.5 billion was built up from unit per Km^2 costs for (a) infrastructure, (b) housing and (c) capital equipment for a normal mix of industry. This does not include equipment of housing and commerce, nor inventories. An average replacement cost of €100 million per Km^2 is applied to some 20 Km^2 of destroyed and badly damaged area, plus additional cost of much obsolete infrastructure in the rest of the city. But this is replacement, without growth.

Second, we must calculate the growth of some 400,000 population up to 1985 at a present average density of 8,500 persons per Km^2 , about 47 Km^2 of additional urbanization, at the basic cost of €100 million per Km^2 , or a total of €4.7 billion (at 1973 price level).

Combining reconstruction and growth estimates:

Reconstruction and replacement of facilities for the pre-earthquake city of 400,000 population	¢ 2.5 billion
Growth to 1985, distributed mainly into the periphery .	¢ 4.7 billion
<hr/>	
Total reconstruction and growth costs for a total 1985 population of 800,000 (+) population	<u>¢ 7.2 billion</u>
	8,500 per capita

These rough estimates give some idea of the magnitude of public and industrial capital investment to be made in the next decade, as a "fluid stock" which may be used to bring about safer and more efficient development. More particularly only the "leading investments" in peripheral and satellite development, about ¢330 million or 7% of the gross total of ¢4.7 billion, could set into motion a strong trend of deconcentration.

This is an extremely advantageous planning opportunity in Nicaragua's history, since the total ¢4.7 billion will have to be deployed in one pattern or another, and since the rapid and effectual investment of this fluid stock is now in 1974 very dependent upon modern regional design and programming by government.

It is also relevant to consider which forces and purposes would tend to direct this fluid stock to a deconcentrated pattern:

- a. Concern among responsible community leadership for the great geophysical hazards;
- b. General public preference for low building heights due to several reasons - the earthquake plus: impracticability of elevator residences or offices due to the mechanical problems and congestion of immediate area population and traffic, predominance of outdoor cooking in the majority low-income households, high child ratio plus aged persons in the families, high expense of mechanical air conditioning and requiring the entire adaptation of the building design to air conditioning.
- c. The advent of large housing projects - both high and low income - using new extensive housing credit and planning systems, and modern extensive construction techniques.
- d. Extensive peripheral highway network plus a growing bus system.
- e. Extensive new patterns of water, sewer and electricity; with new designs for multiple sources of water and electricity to safeguard against local cut-offs in future earthquakes.
- f. Work progressing on the telephone network.
- g. Necessary decentralization of the food marketing system - beginning with a main new central wholesale market, refrigeration and storage system, and proceeding to a system of satellite public markets, planning now underway.
- h. Imminent decentralization of shopping, which shows evidence of moving out with the transportation network.

- i. The possibility of government office clusters of related Ministries and agencies is very significant for new centers in the Managua periphery, in satellite towns or in secondary cities. The old government facilities were extremely inadequate.

Momentarily the many offices of Ministries and agencies, and quasi-public agencies such as FUNDE, Chamber of Industries, etc., are scattered - but an entirely new pattern may be seen emerging:

Cluster a. Ministry of Agriculture and branches is clustering east of the airport where test farms, airport and highway are optimal.

Cluster b. Geographic Institute, Cadastral Office, Inter-American Geologic Survey and similar scientific offices form a cluster, which could be placed in a new peripheral center, accessible to airport and highway network.

Cluster c. Judicial and National Assembly buildings, Executive Headquarter. Offices, Ministries of Foreign Affairs, Government, and Finance would form a strong cluster, including foreign embassies, legal offices, international trade organizations. This is the basic national cluster for a new "central government plaza."

Cluster d. A "civil works" cluster would comprise the Distrito Nacional, Ministry of Public Works, Water, Sewer, Electricity, and related private civil engineering offices. This strongly interrelated group needs a peripheral location with high transportation accessibility.

Cluster e. A "human resources" cluster can be projected, including Ministries of Education, Health, Economy, JNAPS, Census, etc. These are closely related in many ways for data, planning, decision making and field operations.

All need excellent communications, a computer center, and close working contact among professional personnel.

- j. Arrival of general development programming, through the reconstruction activities being organized in Distrito Nacional, and the funding Coordination Unit under the MOF.
- k. Substantial role of AID and other donors in geographic allocation of reconstruction loans.

Timeliness of an Intensive Study of the Alternative Patterns

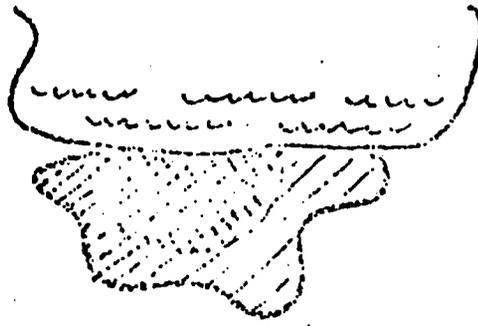
At this fluid moment in history, intensive review should be given to alternative patterns of urbanization, their advantages and disadvantages stated in cost-benefit terms. There is already sufficient information available on the regional economic and seismic geography; on living and working environments, on costs of housing, commerce and industry; on the social structure, its change, and its life styles; and on policy thinking in the GON agencies responsible for the key infrastructure and facilities. The exercise would be very timely for focusing loan policy and project selection in AID, in the new Vice Ministry of Urban Planning, and perhaps in other donors and agencies. Both the Vice Ministry and the OAS have made first statements on desirable regional patterns, favoring deconcentration. There is a latent recognition among the various functional planners, of the cardinal importance of deconcentration. What is lacking right now is an objective, quantitative and qualitative analysis of deconcentration.

For a preliminary look at the alternatives, we postulate three simplified regional distributions or Models for the period 1974 to 1985. Then we suggest some discriminating criteria and try to compare the three models.

Comparative Patterns of Reconstruction/Growth

Any research on feasibility of deconcentration policy must set up target models of metropolitan development, as basis for, benefit-cost evaluation. As an illustration, we may postulate three basic models for 1985, as follows:

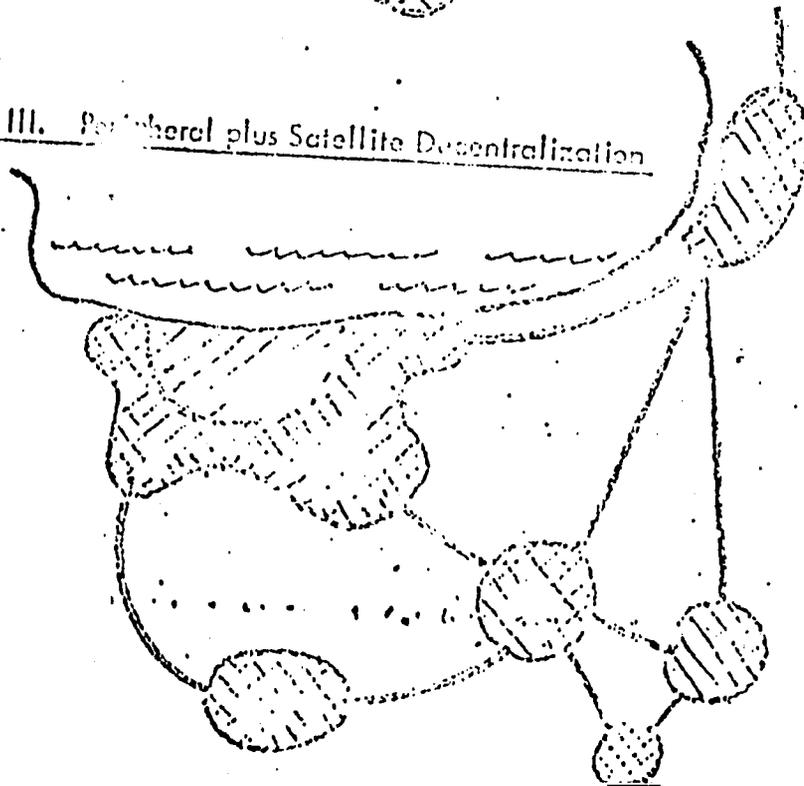
Model I. Growth of Old Managua



Model II. New Peripheral Decentralization



Model III. Peripheral plus Satellite Decentralization



Model I is mainly a market-dictated reconstruction of existing property and interstices, at higher building density, plus normal scattered development in the periphery. It assumes no change in past development practices, and only minimal investment in public facilities in the periphery or in satellite towns. It would result in placing at least 250,000 more population within the Pista de Enlace (By-Pass) for a total of 550,000; and 200,000 more population outside the By-Pass for a total suburban population of 300,000; both areas together totalling 850,000, and about 70 Km². Meanwhile, the slow growth of the satellite towns ^{1/} would be unaffected and they would grow to 170,000 in 1985. They would continue exporting young labor force to Managua. The average density of land use in the Managua urban area would be 12,000 persons per Km² - which is about 33% higher than it was in 1972.

Model II would maximize the planning, public investments and growth on the Managua periphery, as shown in the Mexican Plan. Using the same 1985 target population, a larger total urban area of 100 Km² would now have a smaller density of 8,500 persons per Km². Satellites retain same size as in Model I.

^{1/} The five key satellite settlements, all within 20 to 60 minutes of Central Managua: (1) Tipitapa San Benito Zone, (2) Diriamba-Jinotepa zone, (3) Masaya zone, (4) Granada zone, (5) Nandaimo zone. Their total population in 1972 was 120,000, approximately (depending on rural fringe census variations). Their growth rates were from .25 to .50 of Managua's growth rate, because their labor force was migrating to Managua.

Model III would go even further out and distribute investments and growth about equally between the Managua periphery and the satellites, so that each zone would receive about 275,000 added population by 1985, and the average densities would be about 8,500 persons per Km². But now the Managua urbanized area would be only 75 Km², while the satellites have grown to a total of 46 Km².

Total 1985 population in urban areas would be the same in all the models - about 1,030,000.

Table _____

GROWTH TO 1985		Population	Area
MODEL I (Market-dictated, higher density, 12,000 persons per Km ²)	Managua inside the By-Pass	Add 250,000 population Total 550,000	70 Km ²
	Managua Periphery	Add 250,000 population Total 300,000	
	Satellites $\frac{1}{2}$	Add 50,000 Total 170,000	20 Km ²
MODEL II (Managua Periphery, lower density, 3,500 persons per Km ²)	Managua inside the By-Pass	Add no population Total 300,000	100 Km ²
	Managua Periphery	Add 500,000 Total 550,000	
	Satellites $\frac{1}{2}$	Add 50,000 Total 170,000	20 Km ²
MODEL III (Periphery plus Satellites, lower density, 8,500 persons per Km ²)	Managua inside the By-Pass	Add no population Total 300,000	75 Km ²
	Managua Periphery	Add 275,000 Total 340,000	
	Satellites $\frac{1}{2}$	Add 275,000 Total 390,000	46 Km ²

$\frac{1}{2}$ Five main clusters outside Managua contiguous area - (1) San Benito to Tipitapa, (2) Dolores-Jinchipe, (3) Masaya, (4) Granada, (5) Nandaime.

Criteria

The objective comparison of these alternative metropolitan patterns would proceed by applying certain basic criteria. While there would always remain large uncertainties - particularly in public policy and administration - this kind of exercise would clarify the choices for public policy.

Criteria	Possible Range of Ordinal Values ^{1/}	Comparative Evaluation		
		Model I.	Model II.	Model III
<u>Geophysical Hazard</u>				
Most Concentrated pop. exposure	= -10			
Medium " " "	= - 5			
Least " " "	= - 0			
<u>Urbanization capital costs</u>				
Highest	= -10			
Lowest	= 0			
<u>Urbanization operational costs</u>				
Highest	= -10			
to Lowest	= 0			
<u>Rel. Productivity or urban economy</u>				
Highest	= +10			
to Lowest	= 0			
<u>Widest job distribution to reach resident labor force</u>				
Highest	= + 5			
to Lowest	= 0			
<u>Life-style acceptability</u>				
Most amenable to majority	= + 5			
Least amenable	= - 5			

^{1/} Supported by results of cost-benefit or cost-effectiveness analysis, as feasible. See following discussion.

Methods and Problems in Applying these Criteria

- a. Geophysical Hazard. Seismic and volcanic mapping would show the historic earthquake and volcanic areas, by degrees and frequency coefficients. This would require some supplemental scientific work, but new basic research is emerging currently. With this mapping available, it would be possible to develop a discrete population hazard coefficient for each model, using the maps and population densities of each model. Though it seems obvious enough that the second and third models are safer, we need to ascertain how much safer, how significant is the difference in the percent and severity of risk exposure. This comparative rating might take into account the improved technology for disaster mitigation - warning systems, independent transportation channels, street and highway loadings, fire controllability by independent water loops and adequate sources, etc.

b. Public Capital Costs to Accommodate Growth

Model I suggests lowest additional costs because of partial existing infrastructure, but it is necessary to determine how much improvement cost is needed to handle the growth in population density. Normally the incremental building process, by many private owners, would favor this model for its laissez-faire simplicity. Permitting building density to rise would appear to increase income to land owners. This model would seem to need least planning, regulation, government intervention or bureaucratic proliferation.

Model II represents more land planning and engineering of public facilities, and generally more cost and administration. It would generate more public buildings and operations, in the extensive new territory. But it would thereby deliver more services. This cost-benefit relationship needs to be studied.

Model III means unique efforts in economic base planning and investment (more lead time and managerial augmentation); substantially more main highway and public transit investments; somewhat more work on infrastructure sources of water and power; and equal or lesser cost of housing, where partial self-help may be effective. Generally this set of capital investments may

exceed the other models, the lead time will be longer, and the administration more complex. This should be flow-charted in the intensive review.

c. Operating Costs

The intensive review process should identify the comparative costs of operating services. Model I would appear to be least costly, as the higher urban density would utilize fewer and larger public facilities (public transportation, markets, health and recreation facilities) and therefore less proportional operating costs than either of the other models. Comparing the models, the most differential services would appear to be maintenance of main streets, traffic management, spread of bus service, fire and police service, recreation and sports facilities, and public markets. Other services would seem to be fairly constant or indifferent to the models. Model II might present some operating economies due to the new and efficient installations of optimum coverage, while Model III would appear most expensive by requiring six service systems and separate operating establishments.

d. Economic Productivity Productivity in both private and public sectors may be closely related to size and concentration of work force, materials, equipment, business communications and markets. Alonzo has shown that urban economic productivity will rise with size of urban population by an amount greater than the rise costs - and that urban size restriction for the purpose of cost saving would be a false economy. ^{1/} Productivity in the Capitol region's main industries and government functions should be examined, for each category. Even governmental "productivity" in creating new office clusters concerns work output. The key question is how much more productive Model I might be than the others; and how much less productive Model III would be. This may have to be confined to selected industries where inputs and outputs are better known. It may also be useful to examine other Latin American cities of the single centered and multi-nucleated types, using simple basic criteria such as the value added in production or services, per worker; and also the real income per capita; then correlate these economic indicators with the city size and the degree of decentralization in the Metropolitan region.

^{1/} W. Alonzo The Economics of Urban Size, Regional Science Papers, Vol. XXVI, 1971

e. Spread of Job Opportunities

This criterion would have several applications - to the immediate period of construction, and to the later period of labor redeployment. While common labor is very mobile, there are effects upon family composition, and community composition, effects both in the old communities and in the new. These may be significantly different from Model I to Model III.

f. Life Style Adaptation. As in e. above, there may be important social differences in the three models. Based on the changes and problems now being observed by education, housing and social workers, and evidence in recent surveys, it may be possible to find differences among the models in terms of:

- (1) Motivation for training, work adaptation, inducement to further job mobility, and its effects;
- (2) Separation of generations; relocation of youth and breadwinners;
- (3) Dislocating/re-establishing family roots;
- (4) Effects upon the traditional and small local industries;
- (5) Suitable residential environment for new family formation and family responsibility;

- (6) Physical problems of higher density urban housing on small children and aged, living in upper floors, in higher traffic with less outdoor space, lack of refrigerators, lack of family privacy.

Although social factors are difficult to measure on a precise scale comparative, ordinal ranking of the models should be attempted. First, according to each criterion and then by summing the scores for each Model. Ordinal ranking is an accepted procedure in social evaluation where mixed criteria are involved, and its validity depends mainly upon careful definition of criteria and an adequate number of observations.

Should the Policy Change in Time from
Model II to Model III ?

Although any large public capital investments have long time implications, it would be a mistake to rely upon immediate conditions and objectives, such as used in Model I or II, as being also suitable for a long term development policy. Just as it was necessary to concentrate first on the emergency housing and services, so it appears necessary to anticipate the future in stages. The 1935 stage, as postulated by the Mexican conceptual plan, is logical only up to a point. One obvious limit is where the southeastern salient approaches the lava zone of the dangerous Santiago volcano located between Managua and Masaya. But even before it is necessary to build that far, an entirely new regional salient may open up, such as the much safer and more strategic Northeast salient. More particularly:

- a. Model I is so readily available (the city having been quickly replaced at higher density after each destructive earthquake) that its own suicidal tendency must be circumvented, by hastening the construction of Model II or III.
- b. Model II would be a large step into a new extensive metropolitan form, but requires quick government planning and

investment to lead growth away from the old city. Yet, certain inherent limitations may be anticipated:

- (1) It is comparatively more expensive in transportation utility networks and communications;
- (2) Requires more supplementation with new public facilities and services;
- (3) Presents a danger of over-attracting labor during suburban building boom;
- (4) Growing in a direction of volcanic hazard.

c. Model III may become attractive in the not too distant future, say after 1980 or 1985, when certain events occur in the metropolitan satellite cities. Consider for example, the 1980 scenario for the Tipitapa-San Benito salient, located 10-15 Km NE from the Managua International Airport:

- (1) The PanAmerican highway is improved from Sebaco down through San Benito and Tipitapa, and the current new link is extended straight into Masaya, thence carrying through traffic into Granada and Nandaime for the first time and turning Tipitapa into one of the country's major road junctions;
- (2) Managua Lake is cleaned up within a decade and attracts urbanization around the rim, and over to the North rim near the highlands, an optimum area for agriculture, building and recreation, and geophysically safer;
- (3) San Benito becomes a four-way main road junction when a main road comes across the north of Lake Managua;

- (4) Stone, gravel and building material industries increase operations in the mountains north of San Benito (the only good source) to serve the Managua reconstruction, possibly with a railroad extension;
- (5) The between-lakes Tipitapa River into Lake Nicaragua and a 300 Km Coast is made available for industrial shipping and given parallel road service from the Panamerican highway;
- (6) A new supplemental electric plant might be located near Tipitapa, where process water is readily available, located on the hydroelectric main line, to serve Managua and the southern group of satellite cities;
- (7) The cool and scenic higher terrain lying extensively north of San Benito becomes popular for residential and recreational colonies, completely safe from earthquakes and volcanoes;
- (8) National government field offices and institutions move up the north salient to San Benito and Sebaco.

Aside from such geographic growth combinations which seem inevitable, the intensive review should look further into the particular reconstruction industry potentials of advantage to satellite communities which are located close to Managua. It is possible to identify a number of "captive" reconstruction industries, which must be near Managua within short delivery distance, low in land cost, requiring natural resources and reliable labor, such as:

Wood products, prefabricated building components,
windows, doors, etc.

Tile, ceramic, mosaic and stone products;
Plaster, paste and aggregate industries;
Paint, glue and similar products;
Fibre, fibreboard and lightweight insulation and roofing;
Steel and other metal sections;
Building equipment and tools;
Furniture and fixtures, fabrics;
Hardware, tableware, containers;
Truck bodies, bus bodies;
Tableware, craft and art objects.

The feasibility test for industries in these satellite cities might consist of a Capital/Output Index, based on combined public and private investments required in say Masaya, relative to the cost of output plus delivery into Managua. Wherever this index scored nearly as favorable, or more favorable, values as in Managua, the industry would be identified as feasible. Given the special natural resources of these cities and the labor reservoirs, the prospects should be good.

It should be pointed out that the World Bank and the Ministry of Economy are looking into the industrial potential of these and other secondary cities. Also, an OAS team of regional economists is scheduled to do

further work along this line, during the coming year. These missions could expedite the analysis of Model III, if the AID would specify the questions and work with them.

Consideration of Loan and Other Instruments for Carrying out a
Deconcentration Policy

A broad combination of instruments would be needed to affect the substantial changes in historic trends, in order to achieve a deconcentration Model II by 1985 or/and begin on Model III for the longer future. These instruments would bear upon the size, type and location of urban infrastructure and construction.

For Model II - The Periphery Model

1. A general Land Use Plan is needed for the periphery, with target date of 1985, target population of 550,000 and a rough balance of self-contained major public facilities and substantial share of required industrial employment in small and light industry. It is important here to distinguish this Land Use Plan from a set of detailed project plans for public facilities - coming along later and more fragmented in execution, and which would not exert a collective influence soon enough to swing the tide of investments into the periphery. Moreover, these projects would themselves require the assurance of mutual support in new locations, i.e., the assurance of an official land use plan. In short, a land use plan would be the first instrument to set the trend

for peripheral investments of all sorts, public and private.

2. Government should acquire large blocks of land at location indicated in the Land Use Plan for major community centers, including space for commercial and light industrial development to be leased or sold to private enterprise. 1/
3. Government should acquire land in all major corridors, of seismic fault zones, highway routes, water and sewer major installations, flood drainage courses, park and recreation areas, etc. Actually the most strategic zones and corridors would be multiple use areas for such purposes. Only the land use plan could identify this, in advance of the numerous project plans for these facilities.
4. Government should acquire land for large-scale housing projects of low to medium income range - without regard to detailed project plans. The gross amount and locations of residential development will be known from the land use plan. BAVINIC

1/ See Appendix A on Feasibility of Two Major Community Centers in the Managua Periphery. Also see Appendix B on a Land Policy.

already has begun a land-banking operation - but it is narrowly constrained to the low income housing and the funds becoming available for projects. Under the Model II and III, the much larger growth prospects of a doubled population would dictate advance land acquisition while land prices are low, in the periphery and in the satellite towns. This land could be conveyed to public and private bodies for low and medium income housing.

5. Land for industrial parks and small industry cooperatives should be acquired, at strategic locations in the Managua periphery and in satellite towns. In this acquisition, it may be possible to coordinate the resources of government with industrial development groups and agencies.
6. Land should be acquired according to the land use plan for large government and quasi-public buildings and activities: Ministry field offices; university branches; hospital areas; experimental agricultural and forest zones; lake rim recreational zones around Lake Managua in anticipation of the future recovery of potable water, and also lake and park sites elsewhere in this scenic

region; airport expansion and hazard protection zones; future water-supply reservoirs and their stream basins; etc.

7. In order to undertake land acquisition, development, leasing and sale on this scale, it is necessary to form an adequate Land Office of the Distrito Nacional and tie into it the land acquisition programs of the functional agencies. DN will be in the strategic position of drawing up the land use plan and many project plans for municipal services.
8. After land acquisition, it is possible to indicate priorities in specific project formulation bank loans, AID loans and construction:
 - a. Strategic highway segments and infrastructure to open up areas where large blocks of housing and public facilities is possible - this means not adhering to the usual peripheral extension but actually jumping out some distance to new community units of large size.
 - b. Industrial facilities at planned locations, away from the tightly constrained urban periphery, where adequate space is available and project design can be generous. Example the building materials industries, concrete product industries, building prefabrication industries, etc.; their warehouses and storage yards.

AID Loan Policy for Decentralization

If decentralization initiative by the Government is to develop quickly enough to swing the tide of investments into Model II, AID and other donors would have to encourage this with some changes in their own procedure for selecting and qualifying loans. The new donor policy would have to be geographically selective; would have to endorse land use plans; allow for clustering or multiple projects involving several functional GON agencies.

This means some administrative adaptation. Nicaraguan inter-agency coordination has already appeared in the MOF's Coordination and Implementation Office. For physical planning there is now emerging a Vice Ministry for Urban Planning. And there is under consideration a strong Budget Programming operation to become part of the Distrito Nacional.

Along with these policies and organization, AID could adopt the following new decentralization loan criteria:

- a. Basically favoring the projects with the most decentralization effect; preferring location beyond a geographic boundary such as the Pista de Enlace (By-Pass).

- b. Its leverage value for other deconcentration investments, example: a wholesale food market to be located in the periphery, critical highway segments, etc:
- c. Its effect upon new employment locations in the periphery or satellites, example: a small industry park or infrastructure, bus or trucking terminal for small industry.

An Initial Catalog of Effective Projects for Deconcentration

The following example project selections illustrate the application of these criteria. In order to locate these projects for the reader, we refer to the following sketch maps. The given costs are gross, and assume funds from all sources, - not solely from AID. This gives an idea of magnitude of the strategic land and improvements in a peripheral policy, i.e. Model II.

Highways

Of prime importance for drawing development into the periphery. In order to serve the 1985 area illustrated in the Mexican Plan, the total major and minor highway land and construction (not local streets) outside the Pista de Enlace (By-Pass) would be approx 120 Km (linear), at \$ 235 million. Bu the most strategic 1st priority segments of this system would be approx. 56 Km L., at a cost of \$ 144 million

Sanitary Sewers

Next to highways in importance, sanitary sewers serve modern, extensive housing projects, which cannot be built on local ground disposal systems. Sanitary sewers are inherently very extensive, because of the off-site

requirements for major outfall lines and treatment/
disposal capacity many kilometers away. Here we estimate
only the requirements in the periphery, outside the By-Pass,
up to the year 1935, which total approx. 140 Km L., of the
system at \$ 40 million. The strategic segments for decon-
centration would be approx. 85 Km L., at a cost of . . .

\$ 25 million

Water System

Of equal importance for large-scale construction of housing,
industry and commerce, would be the main line system of
water lines, new water sources and storage tanks, plus
lateral distribution lines. This is all essentially outside the
By-Pass, to serve the Model II area of 1935 development.
The gross cost would be \$ 85 million, but Model II portions
of greatest initial value for deconcentration would be
approx. 63 Km L., at a cost of . . .

\$ 19 million

Storm Drainage

In order to clear certain areas for large scale building and
insure the efficiency of streets and sanitary sewers during
rainy seasons, the total storm drainage needed for the 1935
periphery, outside the By-Pass, would be approx. 70 Km L.,

at approx. €39 million. First priority segments might be 30 Km l., at a cost of

€ 15 million

Land for Multi-Purpose Centers and Government Clusters

The Government Clusters described on p. 13 a, plus facilities such as markets, commercial centers, transportations, all require community central land, and can therefore be expedited by advance acquisition of well-located multi-purpose sites. Approximation of total community center land for the 1985 periphery ranges from 300 to 400 Ha. This would be located in four or five centers. The strategic land locations should all be selected early, planned and improved by government, a convenience for all subsequent public and private building. If not acquired early, the optimum locations will be lost, and the public and private investments will be scattered into many expensive and less effectual roadside locations. Assuming that 200 Ha., or half of the major sites were bought immediately, at a cost of per Vara ²

€ 72 million

Markets

A new metropolitan food distribution center for wholesaling, refrigeration, storage, grading belongs in the periphery, and is estimated to cost some \$ 12 million (using land in the Center). Additionally, 10 local food markets are needed for the 1985 periphery, at a cost of approx. \$ 5 million. First priority investment would be in the complete food distribution center, plus some 5 local market sites and assume 3 completed, total cost . . . \$ 15 million

Bus Terminals

Since the entire urban economy relies on the busing of labor, shoppers, school children and all social trips beyond walking distance, an efficient bus system would be a basic necessity to achieve the Model II. A first estimate for Model II would be 15 standard off-street terminals with shelter, office and bus service facilities at .5 million each for land and building, plus 15 minor pick-up stations along the routes at .15 million each; a total of \$ 10 million for the terminals. First priority might be half these terminals; or \$ 5 million

Buses

The extreme overloaded condition and poor mechanical condition of the present bus stock, reflects the low addition of equipment during the past year and the poor condition of roads, and wide ranging demands into out-lying barrios. It would be critical for deconcentration policy to achieve the improvement of this rolling stock. Since these are recoverable funds through fare income, the initial funding would simply speed up the development of Model, II and III. Say some 50 buses at approx . . . \$ 10 million

Recreation Centers

This is one of the most neglected facilities, and most essential for a Model II population distribution. Using some of the above community center lands, plus fault zones and drainage zones, it would be possible to provide recreation centers within walking distance for the majority of youth and young adults in the periphery. This would mean some 10 to 15 centers by 1935. Say half in the near future, at a cost of some land plus improvements, totalling . . . \$ 7 million

Multi-purpose Health and Social Service Centers

A severe necessity for low-income people, and an inducement to move into new peripheral housing away from their old central family location, is the multi-purpose health and social service center. The entire peripheral population of 1985 would require 20 to 30 such centers; but immediate future requirements might be set at 5 centers, at a cost of ₡ .5 million each

₡ 2.5 million

Technical-Vocational Schools

Overdue on the education scene in Nicaragua, such schools would fill the important role of upgrading the labor force from its very low initial schooling, to reach the opportunities for trades and services in the reconstruction program. At the beginning, four such schools, including equipment, at ₡ 1.0 million each

₡ 4.0 million

Basic Elementary Schools

Assumed to be provided in the existing funding program.

Essential Public Buildings

Various Administrative Offices, Fire Stations,
 Police Stations, Post Offices, Telephone Exchanges,
 Libraries and Social Clubs, Plazas and Church Sites
 are necessary to achieve rapid population shifting
 and construction of a Model II or III. The total
 requirements for a 1985 increment of some 450,000
 would be € 30 million. The first one fourth of the
 slate of facilities to be built in the first three years
 might be estimated at € 7.5 million

Aids to Small Industry

Given the historically high proportion of labor force,
 approaching 20%, engaged in small industries, and artisan
 trades and their ability to produce the many materials of
 reconstruction, it will be essential to provide small office
 space, lease buildings and warehouses adapted to these
 groups. These might be roughly estimated at € .4 million
 each; one located in each of the six initial community
 centers, at a total cost of € 3 million

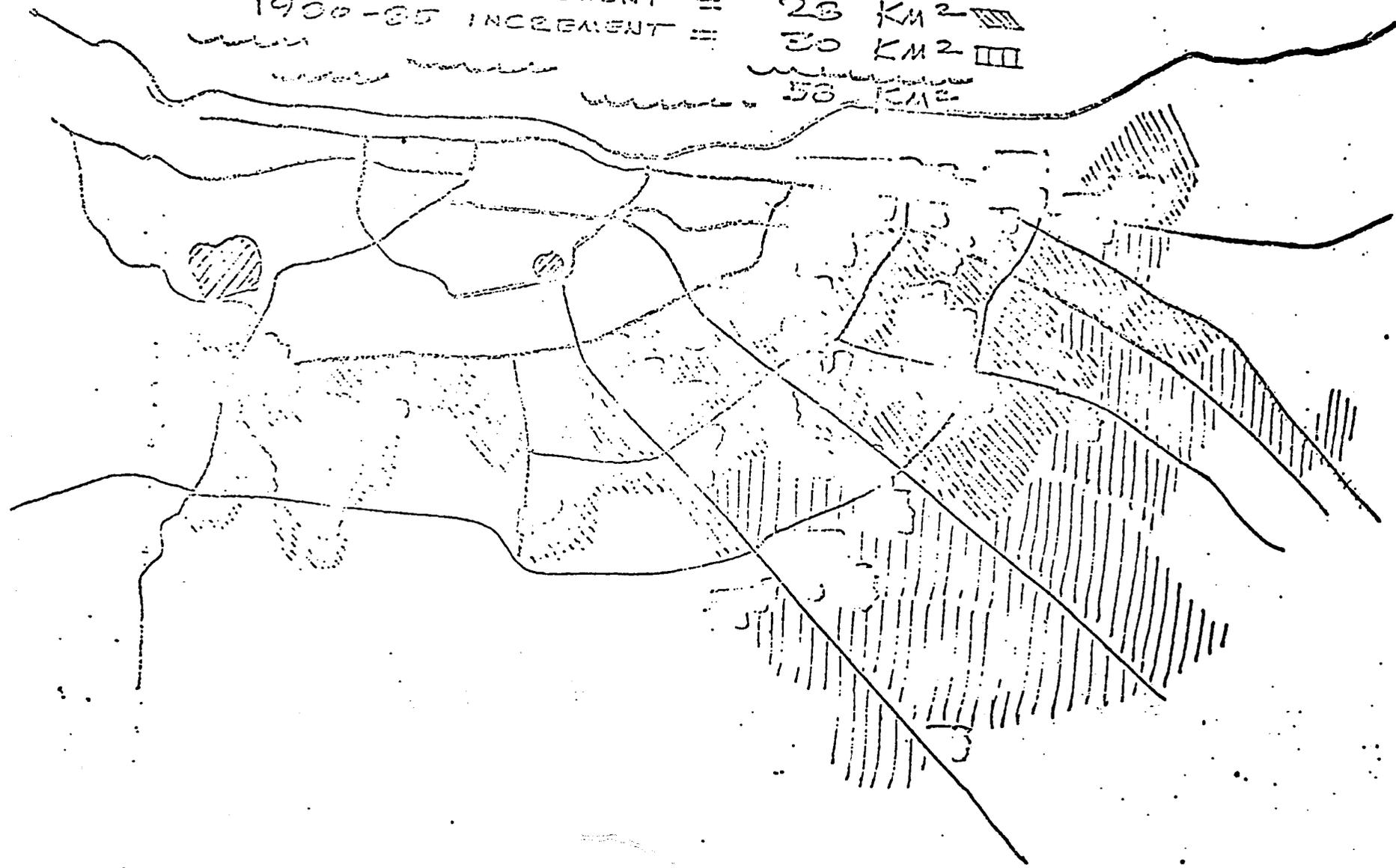
TOTAL of first priority public land and facilities
 for deconcentration, Model II € 329 million

1974-85 GROWTH OF URBAN LAND (REF. TO MEX PLAN)
(ALL OUTSIDE OF PISTA DE ENLACE - BYPASS)

1974-79 INCREMENT = 23 KM² 

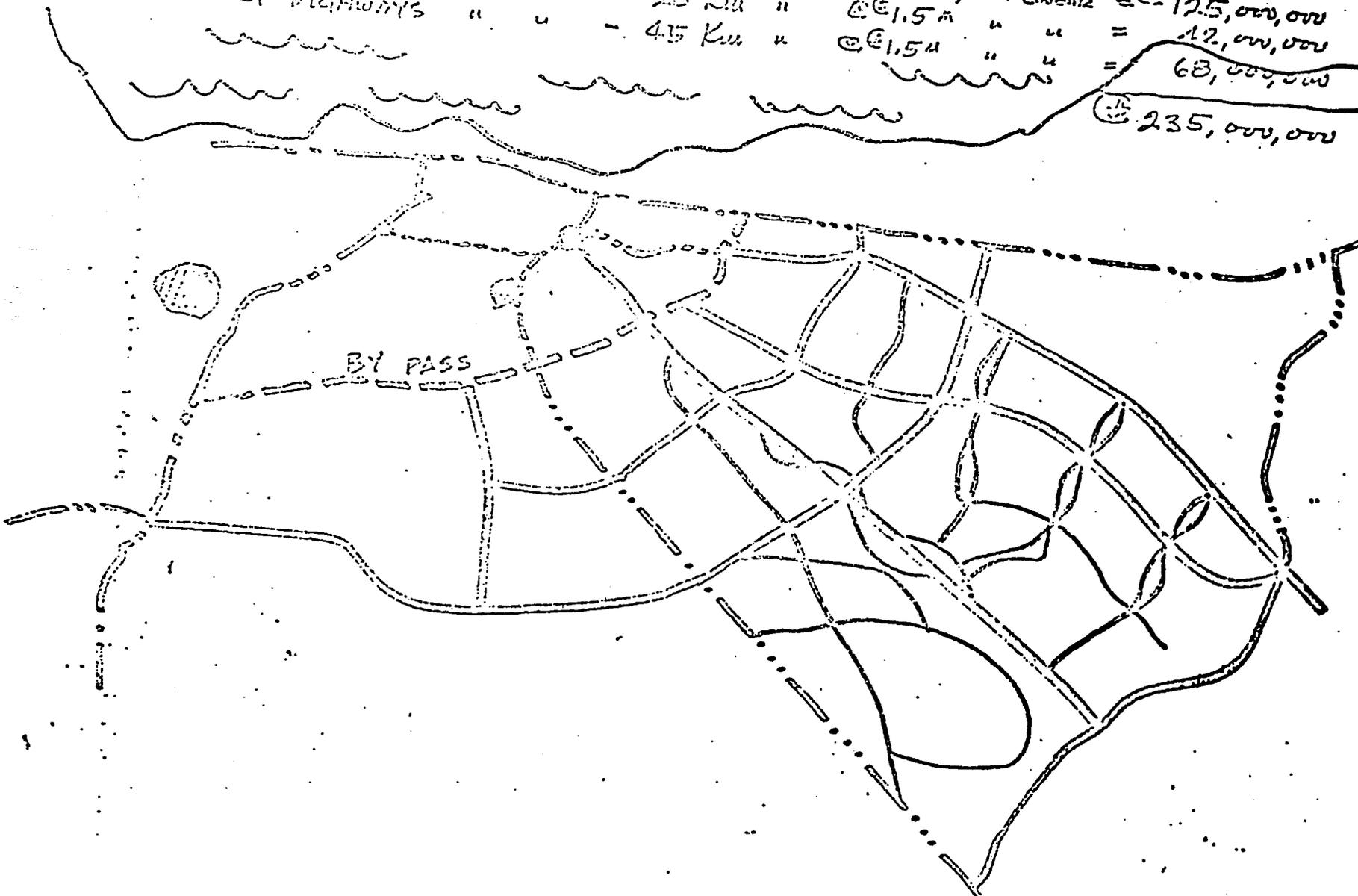
1980-85 INCREMENT = 30 KM² 

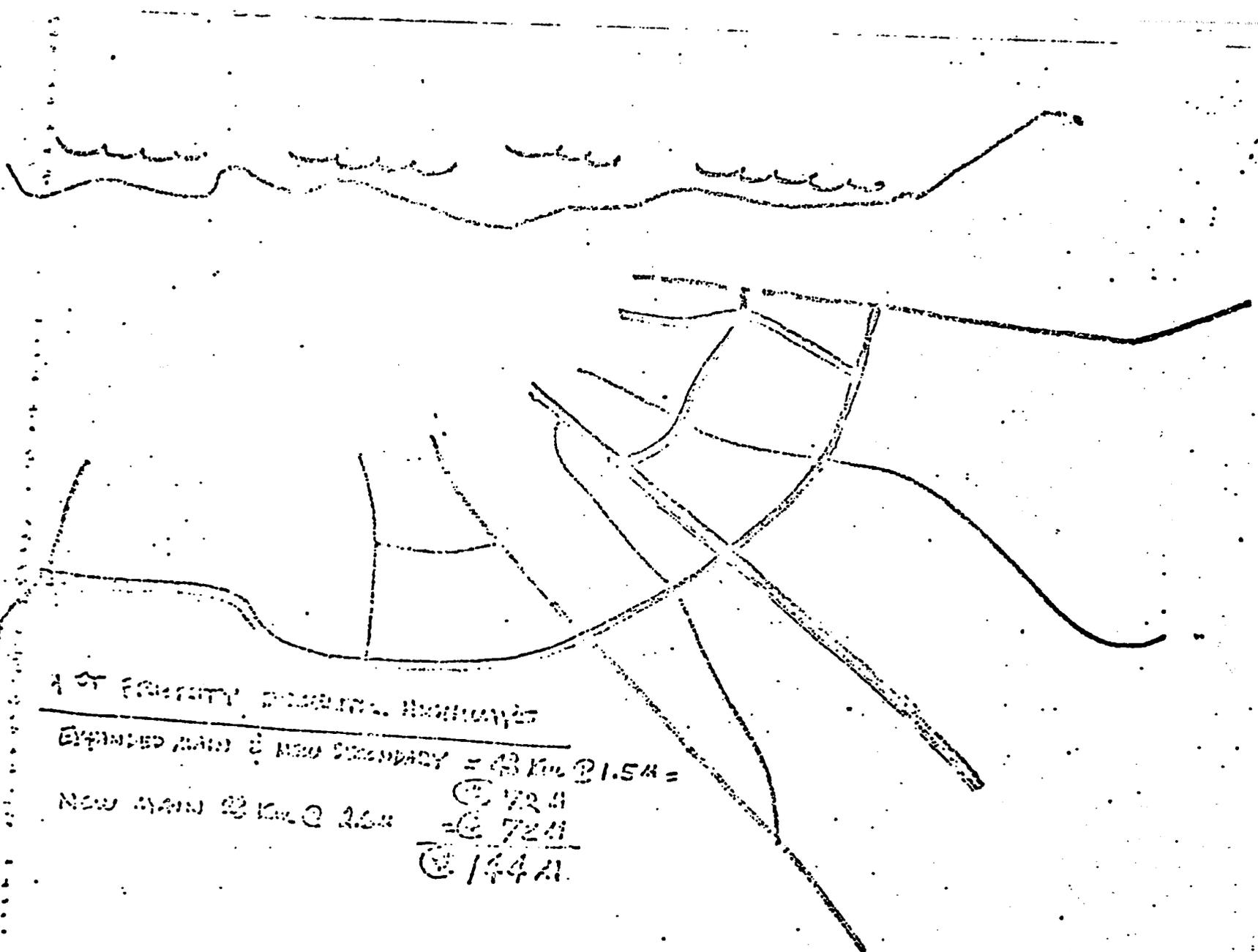
53 KM²



1974-85 HIGHWAY CONSTRUCTION (MEX. PLAN)

MAJOR HIGHWAY - LAND & CONSTR -	43 KM LINEAR	@ \$2.6M / KM LINEAR	=	\$125,000,000
EXPAND MAJOR HIGHWAYS " "	28 KM " "	@ \$1.5M " "	=	\$42,000,000
SECONDARY HIGHWAYS " "	45 KM " "	@ \$1.5M " "	=	\$68,000,000
			<u> </u>	<u> </u>
			⊕	\$235,000,000





1st PRIORITY PROGRAM. HIGHWAYS

EXPANDED MAIN & NEW SECONDARY = 43 Km @ 1.5M =

64.5M

NEW MAIN 23 Km @ 2.6M

= 59.8M

124.3M

BEST AVAILABLE COPY

WATER SYSTEM (FROM MEX. PLAN)

TO 1970 - MAIN LINES, SOURCES, TANKS = 50 KM. LINES @ \$250,000/KM = \$15,000,000
 TO 1985 - " " = 30 KM " " " = 9,000,000

Est. 24,000,000

PLUS LATERAL DISTRIB. LINES @ \$150,000/KM²

Est. 60,000,000
 Est. 84,000,000

WELLS

NEW SOURCE

BY PASS

OT

1980

1985

OT

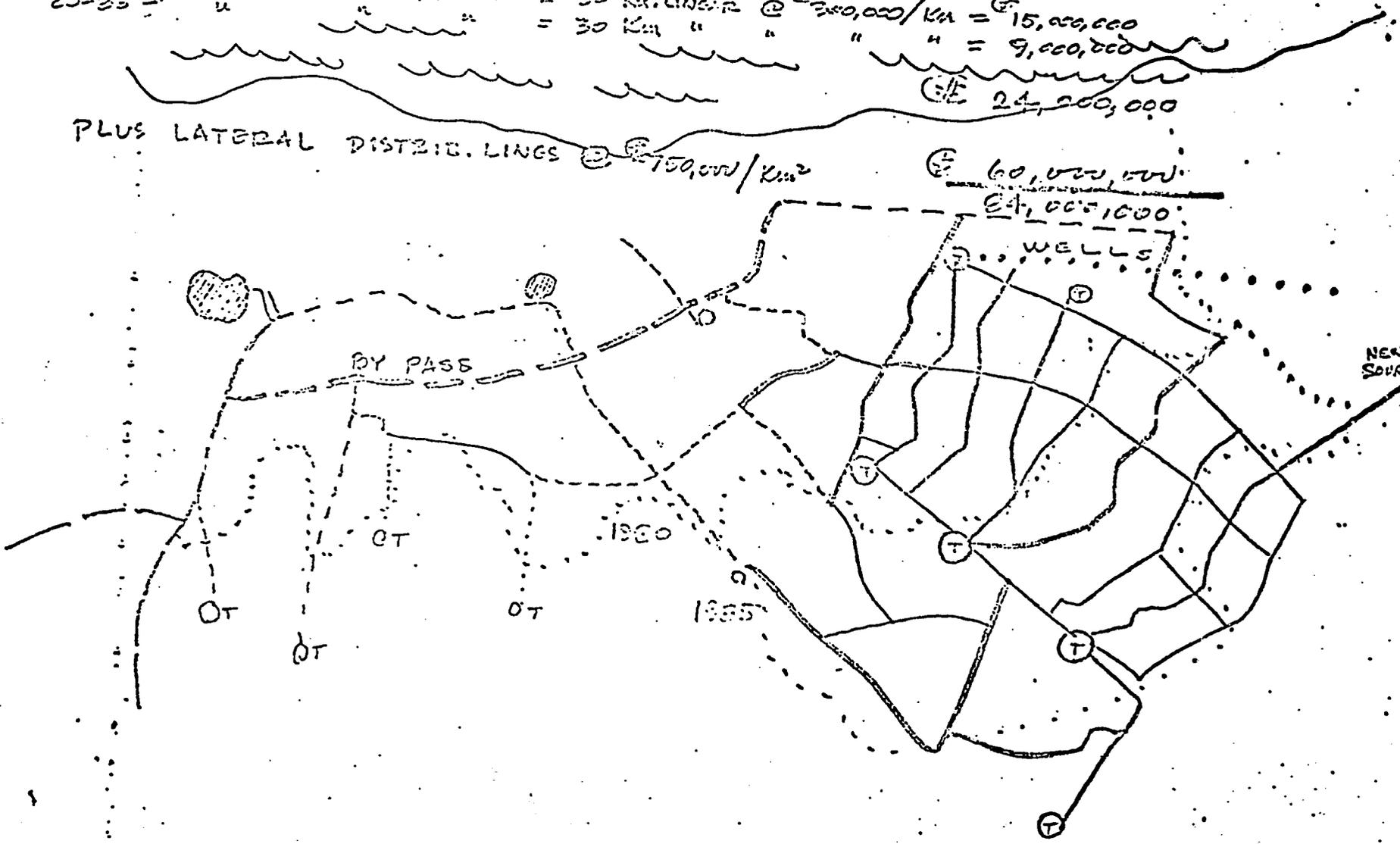
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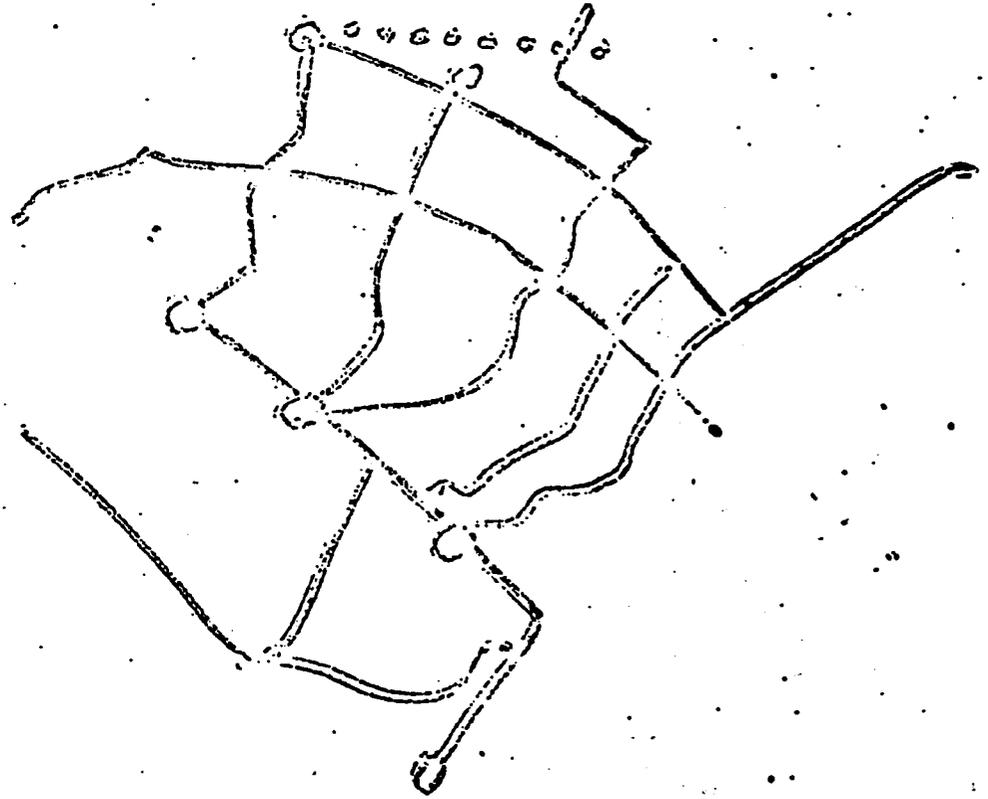
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1st Primary Position. Water
63 KA C. E. H. 2/19 M

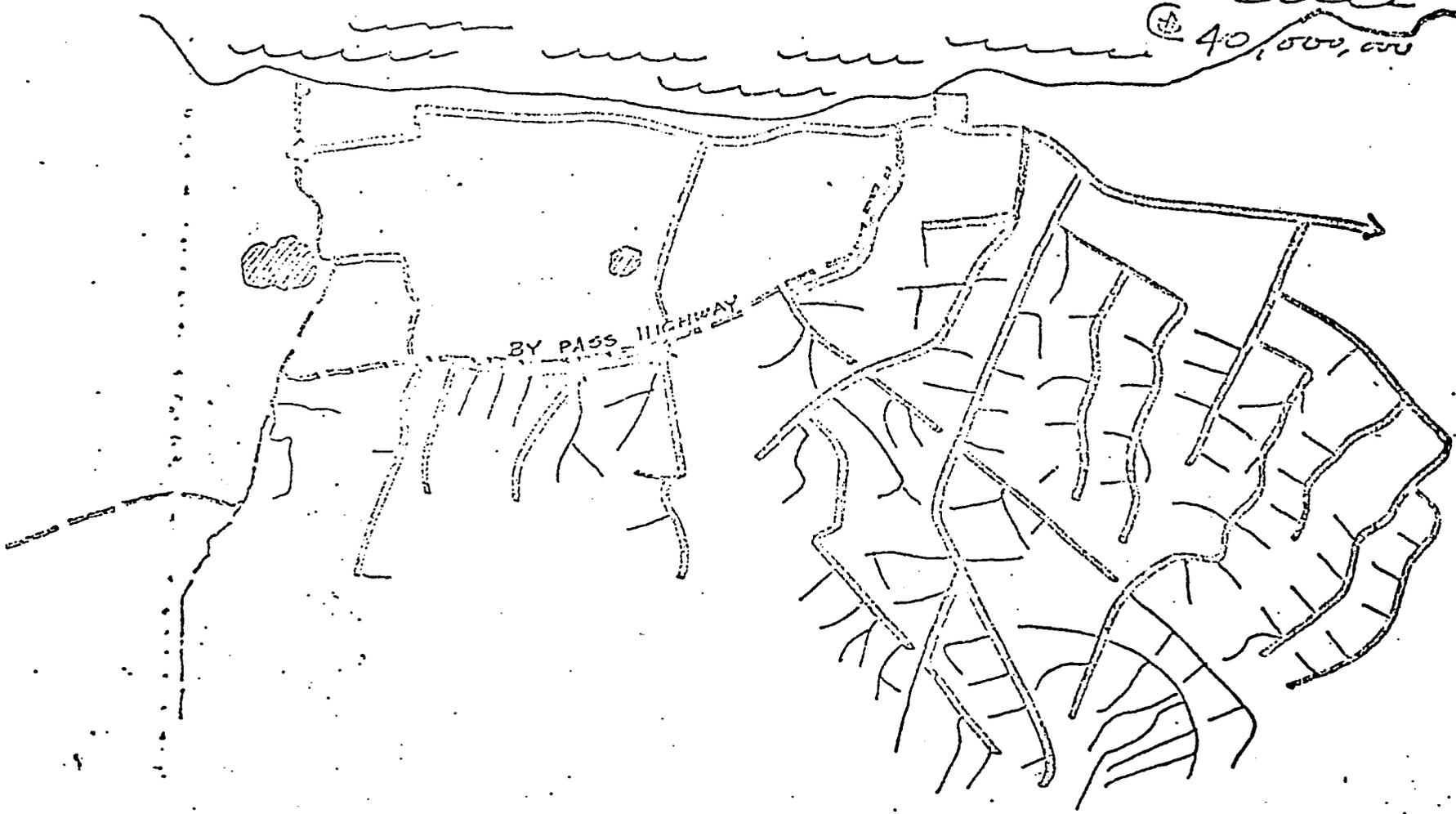
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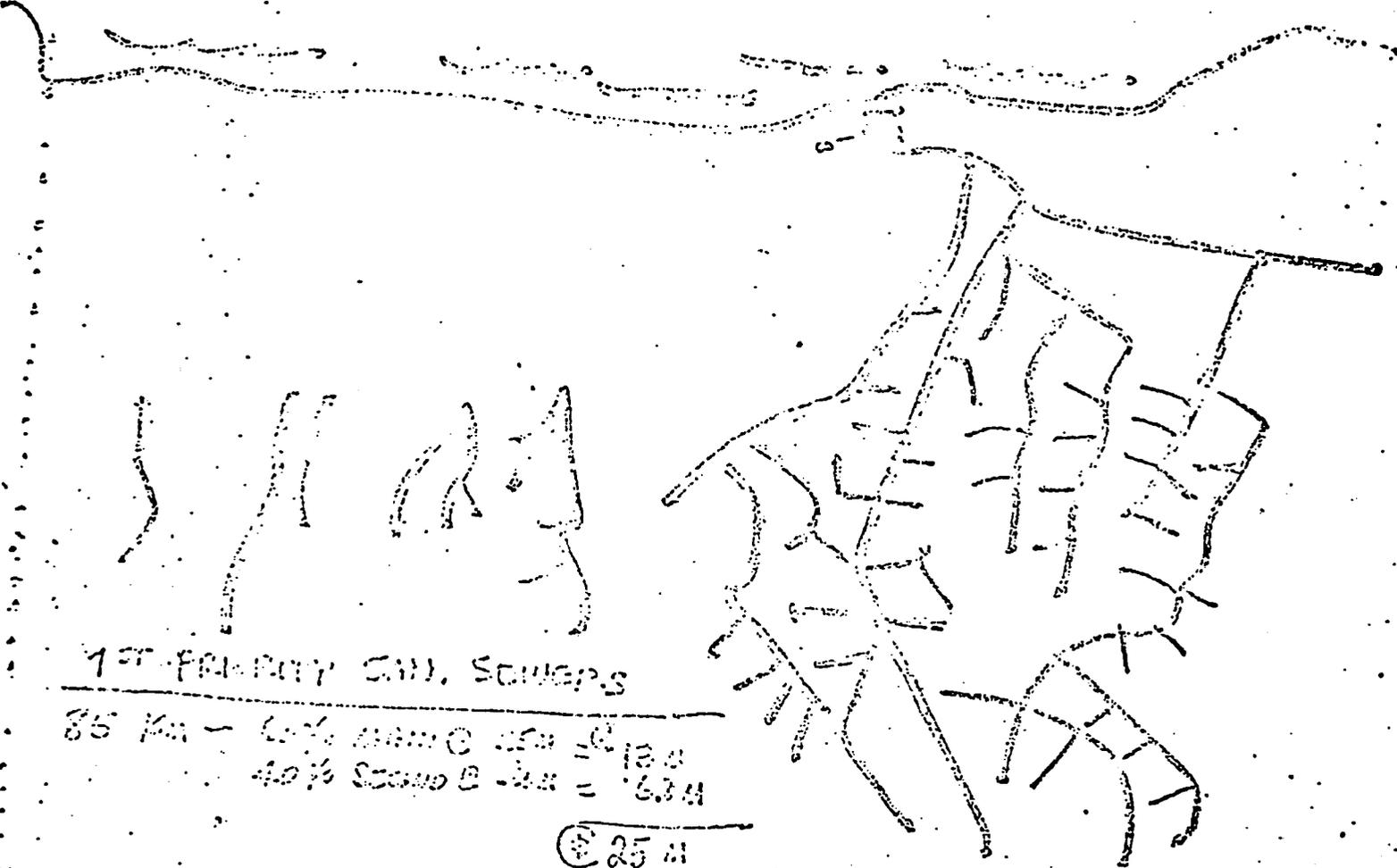
74-35 - SANITARY SEWER LINES (MEX PLAN)

MAIN LINES, LAND = 80 KM LINEAR @ @ 350,000/KM = 28,000,000

SECONDARY " " = 60 " " @ @ 200,000/Km = 12,000,000

@ 40,000,000





1ST PRIORITY CH. SCHEM.

85 Km - 60% ROAD @ 150 = 12.75
 40% ROAD @ 150 = 6.00

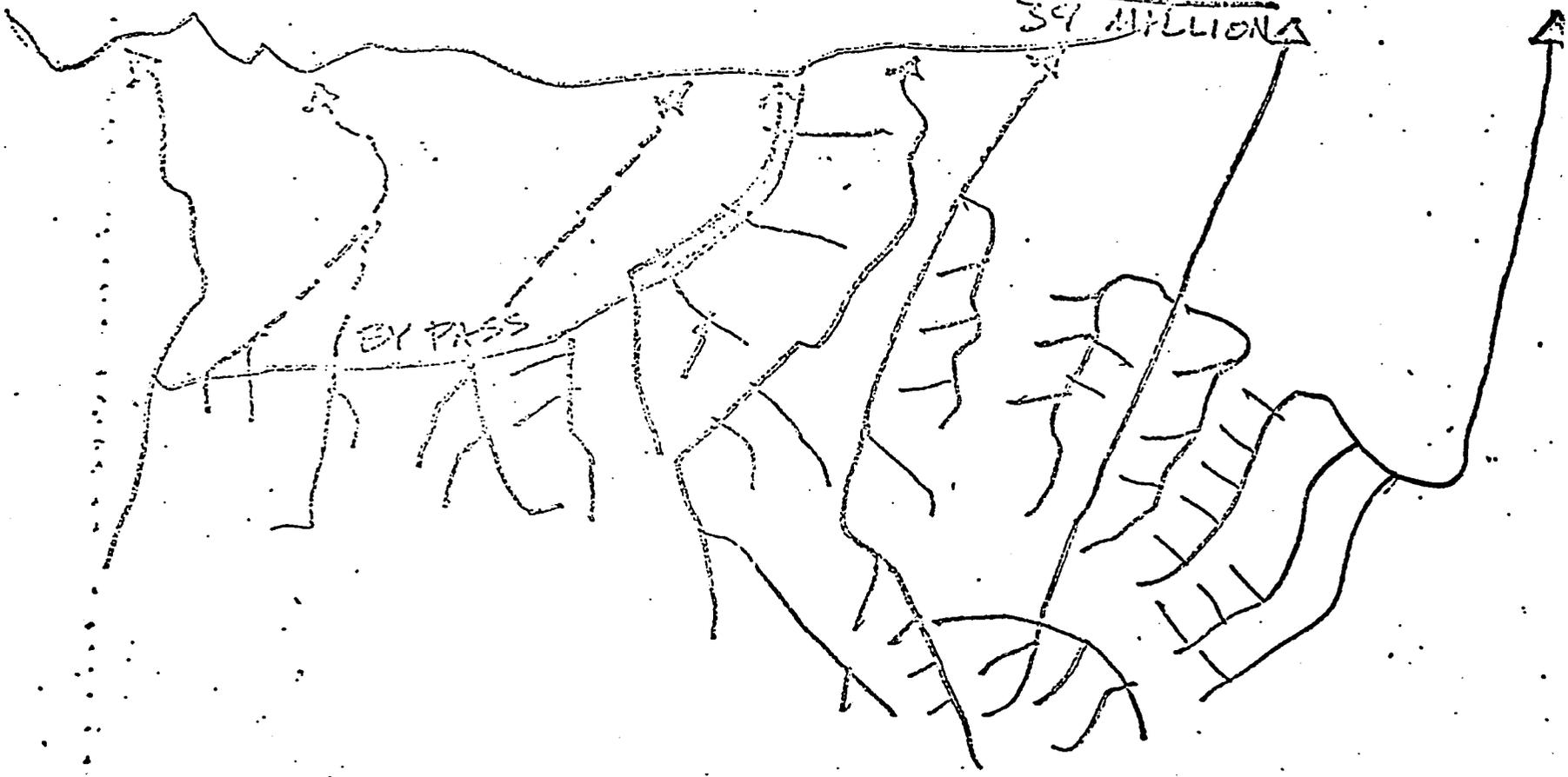
25 M

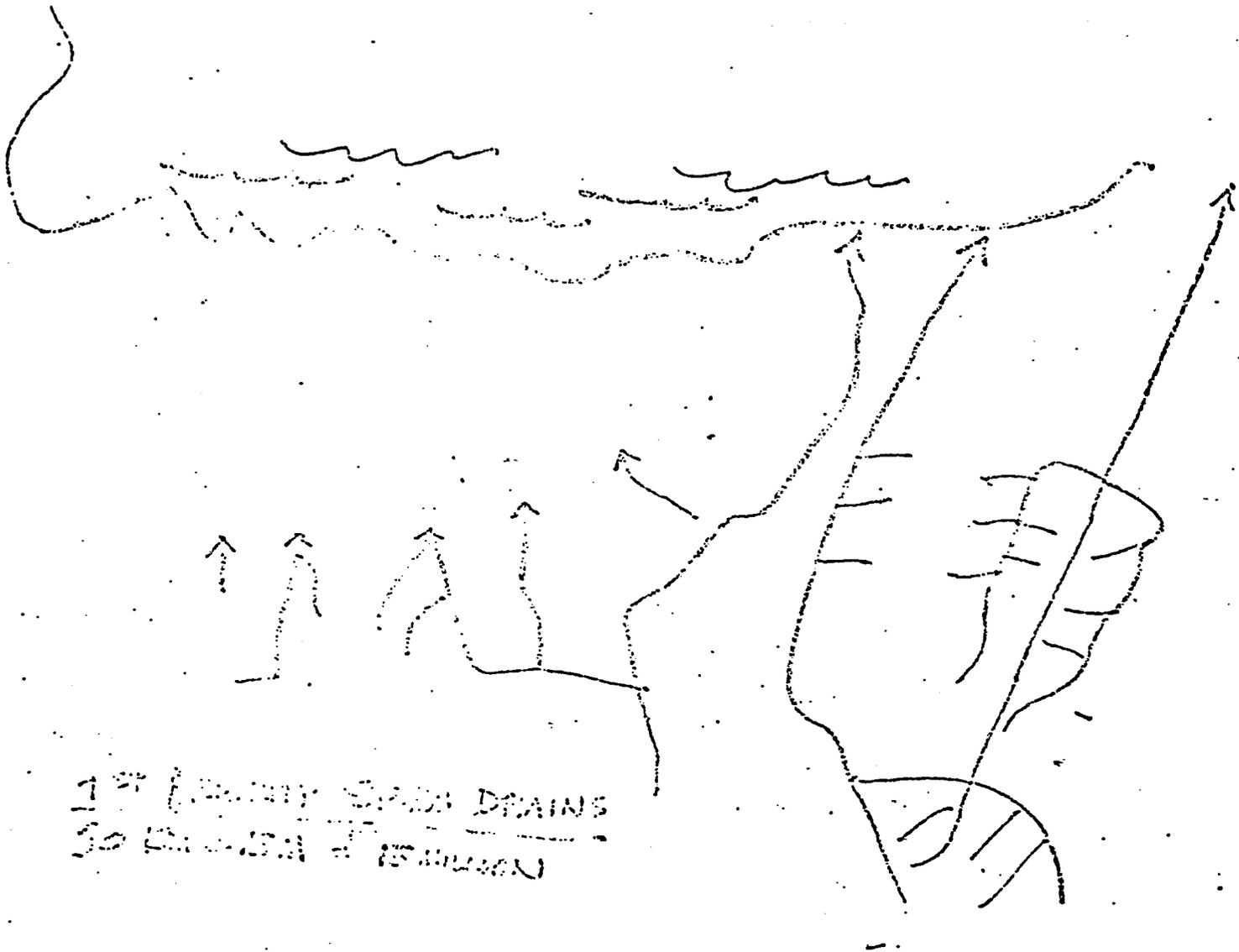
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STORM DRAINAGE (FOR 1985 - PERIPHERY)

40 KM L. @ € 75,000, MAIN CRUCES = 30 MILLION
30 KM L. @ € 300,000, SMALLER CAUSES = 9 MILLION

39 MILLION





1st Primary Sludge Drains
to the 2nd clarifier

AID-DLC/P-2049

June 14, 1974

ANNEX 3

The Nicaraguan Economy in 1973
and Outlook for 1974

Original Report:
April 15, 1974

Updated on May 29, 1974

By Clark Joel
Economic Advisor
ROCAP

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1. Introduction

The earthquake that destroyed Managua's commercial center and seriously damaged some of its residential areas had serious effects on the country's national income, employment, the government's fiscal situation and the living standard of Managua's population. Fortunately, the destructive impact of the earthquake on the economy was mitigated to a considerable extent by a strong demand and favorable prices for Nicaragua's primary exports, a substantial inflow of reinsurance payments from abroad, timely and substantial foreign assistance from AID and the international organizations, emergency tax measures taken by the government of Nicaragua to sustain its revenues and, after the first quarter, a significant increase in government expenditures. These developments were instrumental in inducing a sharp upsurge in construction activity in the latter part of the year, which together with favorable prices for the country's export products, helped cushion the impact of the earthquake on income and employment.

The year was not without its problems. Government expenditures declined sharply during the first quarter; very little construction activity took place during the first three months of the year, and another two to three months of work were lost in the summer through two crippling strikes. The country's national income in 1973 was still suffering from some of the after-effects of the 1972 drought. Most important of all, there occurred a sharp rise in the cost-of-living, which the Central Bank estimates at about 30%.

2. Government Revenues, 1973 - 75

The government expected a sharp decline in its current revenues as a result of the earthquake, particularly in the area of income and property taxes. It decided, therefore, to impose a number of emergency measures including a 10% tax on exports of primary products, a special withholding tax on the salary of public employees (equal to one month's earnings per year), the suspension of tax exemptions granted to all public agencies, and expansion of the tax base for the 5% general sales tax.

Contrary to all expectations, the decline in tax collections failed to materialize. As shown in Table 1, all traditional taxes, including income taxes, held their own. Import taxes increased substantially as the result of the sharp increase in imports that occurred in the latter part of the year, while the special export taxes and the payroll contribution of public employees contributed a substantial windfall. As a result, total central government current revenues increased from some \$644 million in 1972 to \$929 million in 1973, or by 44% (Table 1). Projections of current revenues for 1974 and 1975 are presented in Table 2. Note that total current revenues are projected to increase from C\$929 million in 1973 to C\$1155 million in 1974, or by 24%.

Some uncertainty with regard to revenues prevails for 1975 and 76 since no decree on official pronouncement has been issued with respect

Table 1

Nicaragua: Central Government Revenues

(Millions of Cordobas)

	<u>1972</u>	<u>1973</u>
<u>Direct Taxes</u>	<u>132.7</u>	<u>136.6</u>
Income	71.2	72.7
Personal Property	18.0	17.4
Real Property	35.7	33.1
Other	7.8	13.4
<u>Indirect Taxes</u>	<u>511.4</u>	<u>792.8</u>
Imports ^{1/}	163.5	227.3
Exports	4.7	131.3
Consumption and Production	305.9	337.1
Non Tax Revenue, Current Transfers Earmarked Taxes and Other Revenue	<u>37.3</u>	<u>97.1</u>
Total Ordinary Revenues	<u>644.1</u>	<u>929.4</u>

1/ Includes 30% tax on raw materials.

Source: For 1972, Banco Central de Nicaragua, Boletín Semestral, Enero-Junio, 1973.

For 1973, Ministerio de Hacienda y Crédito Público, Memorandum del Lic. Rubén García, Director General del Presupuesto, March 11, 1974.

Table 2

**Current Revenue Projections of Central Government, 1973 - 1976
(Millions of Cordobas)**

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Income Tax	71.2	72.7	86.5	92.5	98.9
2. Real Estate Tax	85.7	33.1	37.0	38.4	40.3
3. Personal Property Tax	18.0	17.4	20.4	21.8	23.4
4. Gift and Inheritance	7.8	2.0	2.3	2.5	2.8
5. Real Estate Transfers		5.6	6.2	6.7	7.2
6. Vehicle Registration	---	5.8	6.8	7.2	7.5
	<u>132.7</u>	<u>136.6</u>	<u>159.2</u>	<u>169.1</u>	<u>180.1</u>
7. Import Taxes	153.5	227.3	313.4	360.4	414.5
8. Export Taxes	4.7	131.3	151.6	152.0 ^{1/}	152.0 ^{1/}
9. Total Foreign Commerce	<u>168.2</u>	<u>358.6</u>	<u>465.0</u>	<u>512.4</u>	<u>566.5</u>
10. Taxes on Consumption, on ^{2/} Production and on Juridical Transacts.	<u>395.9</u>	<u>337.1</u>	<u>422.0</u>	<u>449.6</u>	<u>477.6</u>
11. Total Tax Revenues	<u>606.8</u>	<u>832.3</u>	<u>1046.2</u>	<u>1131.1</u>	<u>1224.2</u>
12. Non Tax Revenues	<u>32.5</u>	<u>37.4</u>	<u>76.7</u>	<u>38.1</u>	<u>41.7</u>
13. Earmarked Taxes	<u>4.8</u>	<u>4.3</u>	<u>4.8</u>	<u>5.4</u>	<u>5.6</u>
14. Special Receipts & Current Transf. ^{2/}	---	55.4	25.6	5.4	5.8
15. Current Revenues-Tot.	<u>644.1</u>	<u>929.4</u>	<u>1155.3</u>	<u>1180.0</u>	<u>1277.3</u>

1/ Assumes that export tax collections will not be permitted to drop. They will either be extended or other measures will be adopted to take their place.

2/ Represents grants (e.g. Las Americas) which will drop off sharply after 1974, and the emergency payroll tax which disappears in 1975.

Source: For 1972, see Table 1. For 1973-76 we used the projections of the Ministry (Memorandum by Lic. Ruben Garcia, Ministerio de Hacienda y Crédito Público, March 11, 1974, except for item No. 3 for 1975), for all items except import tax collections. This latter item was clearly underestimated. We have projected import tax collections on the assumption that they would increase in proportion to the total value of imports shown in Table 10.

to the emergency export taxes. These are scheduled to expire at the end of 1974. Our latest information is that the export tax will be extended through 1975, and that a tax reform program will be proposed before the end of 1974. In projecting revenues for 1975, and 1976 in Table 2, we have assumed that the Government will, as a minimum, continue to collect the 1974 yield of the export tax (estimated at C\$152 million) through 1976. On the basis of this assumption and the other projections made by the Budget Office, we have arrived at a revenue projection of C\$1180 million for 1975 and of C\$1277 million in 1976. It is clear that if the Government should permit the export tax to expire without any reform to take its place, revenues would decline sharply in 1975.

Pressures against the export tax have already forced the government to compromise. Instead of applying the 10% rate to the value of all primary exports, the government is in fact applying a 10% tax to the much lower prices of primary products that prevailed in mid 1973. Thus, in the case of cotton, the tax is based on the value of \$30 per quintal, which compares with an open market price of some \$70 at present. Similar conditions prevail for other commodities.

3. Central Government Expenditures in 1973 and Outlook for 1974

During the first quarter of 1973, the government followed a very cautious policy with respect to expenditures as it concentrated its attention on emergency measures to restore order and provide emergency food, shelter and medical attention to the earthquake victims. All other central government activities came to an almost complete standstill except for the continued payment of salaries of the permanent staff. This is reflected in the first quarter expenditure figures (Table 3) which show a 34% decline in comparison with the first quarter of 1972. In June, the central government transferred $\text{ø}91$ million to autonomous institutions and public enterprises to enable them to undertake a number of reconstruction projects authorized in the revised budget. From then on, central government expenditures were significantly higher than for the same period in 1972. For the year as a whole, total central government expenditures came to $\text{ø}1150$ million, compared with $\text{ø}906$ million in 1972, an increase of 27% (Table 3).

A projection of total central government expenditure (current plus capital) in accordance with the 1974 budget is presented in Table 4. Note the sharp increase scheduled for both real and financial investment in 1974. Total capital spending is budgeted to rise from $\text{ø}527$ million to $\text{ø}880$ million. The large 1974 capital budget will be financed from the projected surplus in the current budget ($\text{ø}325$ million), and from foreign borrowing ($\text{ø}592$ million)^{1/}.

^{1/} Of which $\text{ø}413$ million is to be borrowed abroad in 1974, and $\text{ø}179$ million was borrowed abroad (but not utilized) in 1973. See Table 4, Section G.

Table 3

**Total Expenditures of Central Government
(Current plus capital)**

(Millions of Cordobas)

	<u>1972</u>	<u>1973</u>	<u>% Change</u>
1st Quarter	168.2	111.5	-34%
2nd Quarter	171.9	298.0	+73%
3rd Quarter	174.9	221.5	+27%
4th Quarter	<u>391.1</u>	<u>519.0</u>	+33%
Total	906.1	1150.0	+27%

Source: Ministry of Finance and Central Bank.

Table 4

Nicaragua: Projection of Expenditures, Revenues and Surplus or Deficit in the Current Account of the Central Government, 1973 - 1975 (Millions of Cordobas)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>Projected</u>	
					<u>1975</u>	<u>1976</u>
A. <u>Current Revenues</u> ^{1/}	<u>644.1</u>	<u>644.1</u>	<u>929.4</u>	<u>1155.3</u>	<u>1180.0</u>	<u>1277</u>
B. <u>Current Expenditures</u>	<u>508.8</u>	<u>518.7</u>	<u>622.5</u>	<u>830.5</u>	<u>854.6</u>	<u>919</u>
<u>Consumption Expenditures</u>	<u>383.8</u>	<u>383.3</u>	<u>456.0</u>	<u>567.8</u>	<u>608.8</u>	<u>661</u>
Salaries	<u>278.7</u>	<u>279.2</u>	<u>329.7</u>	<u>380.6</u>	<u>415.8</u>	<u>449</u>
Purchase Goods & Services	<u>105.1</u>	<u>104.1</u>	<u>126.3</u>	<u>187.2</u>	<u>193.0</u>	<u>212</u>
Interest on Public Debt	<u>18.3</u>	<u>37.7</u>	<u>64.2</u>	<u>86.5</u>	<u>97.4</u>	<u>100</u>
Current Transfers	<u>106.7</u>	<u>97.7</u>	<u>102.3</u>	<u>176.2</u>	<u>148.4</u>	<u>158</u>
C. <u>A-B Balance in Current Budget</u>	<u>135.3</u>	<u>125.4</u>	<u>306.9</u>	<u>324.8</u>	<u>325.4</u>	<u>358</u>
D. <u>Capital Expenditures</u>	<u>317.3</u>	<u>387.4</u>	<u>527.5</u>	<u>879.9</u>		
<u>Real Investment</u> ^{2/}	<u>136.8</u>	<u>115.2</u>	<u>121.7</u>	<u>325.1</u>		
Machinery & Equipment	<u>5.5</u>	<u>10.1</u>	<u>33.8</u>	<u>32.1</u>		
Construction Public Works & Other ^{3/}	<u>131.3</u>	<u>105.1</u>	<u>87.9</u>	<u>293.0</u>		
<u>Financial Investment</u> ^{2/} Plus						
<u>Indirect Investment</u> ^{2/}	<u>141.9</u>	<u>225.4</u>	<u>329.8</u>	<u>471.4</u>		
Amortization on Public Debt	<u>38.6</u>	<u>46.8</u>	<u>76.0</u>	<u>83.4</u>		
E. <u>Total Expenditures (B+D)</u>	<u>826.1</u>	<u>906.1</u>	<u>1150.0</u>	<u>1710.4</u>		
F. <u>Total Loans & Resources to be Obtained by Government to Finance Investment Plan (C-D)</u>	<u>182.0(-)</u>	<u>262.0(-)</u>	<u>220.6(-)</u>	<u>555.1(-)</u>		
G. <u>Total Sources of Funds</u>	<u>170.3</u>	<u>263.6</u>	<u>437.6</u>	<u>622.7</u>		
Debt to INSS	<u>57.3</u>	<u>21.3</u>	<u>17.0</u> ^{4/}	<u>30.3</u>		
Internal Borrowing		<u>12.3</u>	<u>165.0</u>			
Borrowing from Abroad	<u>113.0</u>	<u>230.0</u>	<u>255.6</u>	<u>413.2</u>		
Other (External Borrowing Carried Over From Previous Year)				<u>179.2</u>		
H. <u>Surplus (+) Deficit (-) (G-F)</u>	<u>11.7(-)</u>	<u>1.6(+)</u>	<u>217.0(+)</u>	<u>67.6(+)</u>		

See footnotes on following page.

Footnotes and Source Table 4

1/ Includes earmarked taxes and special receipts for 1975-76. We assumed that the Government would maintain the export tax or replace it by a tax reform yielding the same revenues. For a detailed explanation of the basis for the Central Government revenue projections, see Table 2 of Joel's report (Annex ____).

2/ Real investment refers to investment undertaken directly by the Central Government; financial and indirect investment refers to loans to the private sector and to funds transferred by the Central Government to public enterprises or autonomous institutions to help them carry out their investment programs.

3/ "Other" refers to services connected with the investment program, such as the cost of feasibility studies.

4/ Includes C\$130 million in credits from the Central Bank to the Central Government to finance a number of reconstruction projects.

Source: For 1971-73, actual data; for 1974, approved budget for all items except the projection of import duties collections. The latter are running far ahead of the amount anticipated, and were raised to conform to the import projection in the balance of payments (Table 4); for 1975-76, current revenue projections are by the Ministry of Finance, except that we did assume maintenance of the export tax, an assumption not made in the Ministry of Finance projection; and we increased the projections of import duty collections. The current expenditure projections for 1975-76 are by the National Planning Office.

As far as the accounts of the Central Governments are concerned. Only the current budget could be projected at this stage. Projections of the capital budget are not available. At present, a Coordinating Committee consisting of representatives of the Ministries of Economy, Finance, Urban Planning, the National Planning Office and the Central Bank, are developing capital expenditure projections for the consolidated public sector over 1975-79, but the task will not be completed for some time. Very tentative projections of the capital budget and of the major sources of financing were provided in Table 4 of the Economic Analysis Section of the loan paper (see Section 4 part 7).

4. National Income

The year 1973 turned out to be much better than was expected in the aftermath of the earthquake. The original estimate of the Central Bank called for a drop of 4% in the current Gross Domestic Product in comparison with 1972 as a combined result of the 1972 drought and the earthquake. The Bank's current preliminary estimate indicates a 2.4% increase in the real 1973 GDP^{1/}. The breakdown of the Gross Domestic Product by sector of origin and final expenditures is presented in Tables 5 and 6. Declines occurred in livestock (down by 8% as a result of the drought), in housing (down by 26%) and utilities (down by 10%). The most important growth sectors

^{1/} All changes cited here are in real terms, i.e. in terms of constant 1958 Cordobas.

Table 5
Gross Domestic Product
(Millions of 1958 Cordobas)

	1970	1971	1972	1973 ^{1/}	Annual Growth Rates		
					71/70	72/71	73/72
Gross Domestic Product by Sector of Origin	4.800.8	5.077.8	5.278.6	5.404.8	5.8	4.0	2.4
Primary Sector	1.139.5	1.252.5	1.305.8	1.333.2	9.9	4.3	2.1
Agriculture	745.6	830.0	834.3	892.2	11.3	0.5	6.9
Livestock	358.3	383.3	425.8	391.2	7.0	11.1	-8.1
Forestry	19.0	22.2	23.8	30.0	16.8	7.2	26.1
Hunting & Fishing	16.6	17.0	21.9	19.8	2.4	28.8	-9.6
Secondary Sector	1.261.6	1.318.2	1.410.5	1.455.7	4.5	7.0	3.2
Industry	1.071.0	1.122.5	1.196.1	1.226.1	4.8	6.6	2.5
Construction	158.3	163.9	183.3	198.1	3.5	11.8	8.1
Mining	32.3	31.8	31.1	31.5	-1.5	-2.2	1.3
Tertiary Sector	2.399.7	2.507.1	2.562.3	2.615.9	4.5	2.2	2.1
Commerce	1.027.4	1.079.4	1.129.2	1.182.8	5.1	4.6	4.7
General Government	243.9	243.4	248.3	261.2	-0.2	2.0	5.2
Transport & Communication	261.1	274.4	287.5	323.2	5.1	4.8	12.4
Banking, Insurance and other Financial Institutions	123.4	139.5	107.0	148.6	13.0	-23.3	38.9
Electric Power & Potable Water	104.0	107.9	107.4	96.3	3.8	-0.5	-10.3
Housing	317.5	326.7	334.3	246.7	2.9	2.3	-26.2
Other Services	322.4	335.8	348.6	357.1	4.2	3.8	2.4

^{1/} Preliminary Figures.

Table 6
Gross Domestic Product by Final Expenditures, 1970 - 1973
(Millions of 1958 Cordobas)

	1970	1971	1972	1973 ^{1/}	Annual Growth Rate		
					71/70	72/71	73/72
Gross Domestic Product	4.800.8	5.077.8	5.278.6	5.404.8	5.8	4.0	2.4
Consumption	3.829.8	4.013.4	4.039.8	3.927.0	4.3	0.7	-2.8
Public	297.5	304.2	322.6	354.0	2.3	6.0	9.7
Private	3.532.3	3.709.2	3.717.2	3.573.0	5.0	0.2	-3.9
Investment	933.9	963.1	987.2	1.197.2	3.1	2.5	21.3
Public	203.4	269.8	289.2	302.5	29.5	7.2	4.6
Private	725.5	693.3	698.0	894.7	-4.4	0.7	28.2
Exports	1.377.4	1.443.8	1.687.3	2.015.4	4.8	16.9	19.4
Imports	1.340.3	1.342.5	1.435.7	1.734.8	0.2	6.9	20.8

^{1/} Preliminary figures.

Source: Central Bank

and
were banking and insurance (up by 39%),/transport and communications
(up 12%)^{1/}.

Construction is estimated to have increased by only 3%, most likely as a result of the lost first quarter and another 2½ months of inactivity resulting from the summer labor strikes. The strong pick-up in construction activity was limited to the second half of the year.

The data on final expenditures (Table 6) shows that the major positive factors were exports of goods and services (up by 19%) and private investment (up 23%). Public investment is estimated to have increased by only 5%, while the sharp increase in imports (21%) acted as a drag on growth.

Further data on the behavior of the crucial investment sector is provided in Table 7. The data illustrate the sharp increases that took place in inventory accumulation in the private sector to replace goods destroyed in the quake (up 33%), in the purchase of transportation and communication equipment (up 56%), in commercial construction (up 44%) and in the construction of public buildings (up 95%) and roads (up 18%). Residential construction increased only little but some of the repair work may have

^{1/} Up substantially as a result of need to overcome the longer commuting distances made necessary by the earthquake.

Table 7
Gross Domestic Investment
(Millions of 1958 Cordobas)

	1970	1971	1972	1973 ^{1/}	Annual Growth Rates		
					71/70	72/71	73/72
Total Gross Domestic Investment	933.9	963.1	987.2	1,197.2	3.1	2.5	21.3
Construction	324.1	335.1	375.8	405.1	3.4	12.1	7.8
Change in Inventory	105.0	111.8	116.6	213.5	6.5	4.3	83.1
Machinery & Equipment	504.8	516.2	494.8	576.6	2.3	-4.1	16.9
For Agriculture	38.3	39.9	62.8	49.7	4.2	57.4	-20.9
For Industry & Mining	376.7	381.7	331.0	371.0	3.1	-13.3	12.1
For Transportation & Commun.	96.4	94.6	101.0	157.9	-1.9	6.8	56.3
Private Investment	725.5	693.3	698.0	894.7	-4.4	0.7	28.2
Construction	125.5	118.1	119.6	132.4	-5.9	1.3	10.7
Residential	80.8	63.2	69.7	73.7	-21.8	10.3	5.7
Commercial	7.0	5.5	11.2	16.1	-21.4	103.6	43.8
Industrial	7.6	9.0	1.8	7.0	18.4	-80.0	-
Agricultural	18.0	32.1	21.8	19.7	72.3	-32.1	-9.6
Others	12.1	9.3	15.1	15.9	-31.4	81.9	5.3
Machinery & Equipment	495.0	463.4	461.8	548.8	-6.4	-0.3	18.8
Changes in Inventory	105.0	111.8	116.6	213.5	6.5	4.3	83.1
Public Investment	208.4	269.8	289.2	302.5	29.5	7.2	4.6
Construction	192.6	217.0	256.2	272.7	9.3	18.1	6.4
Buildings	23.1	23.3	27.7	54.1	0.9	18.9	95.3
Roads & Communications	60.7	61.3	72.5	85.3	1.0	18.3	17.7
Others	114.8	132.4	156.0	133.3	15.3	17.8	-14.6
Machinery & Equipment	9.8	52.8	33.0	29.8	-	-37.5	-9.7

-2-

^{1/} Preliminary Figures

Source: Central Bank

escaped recording. Total construction is estimated to have increased by 3%; private construction increased by 11% and public construction by only 6%.

The Central Bank anticipates an increase of 8 to 10% in the Gross Domestic Product (in real terms) in 1974. This projection is based on the excellent agricultural output obtained during the 1973-74 crop year (including both cotton and basic grains), a substantial increase in construction activity, as well as a good year for manufacturing production. The Central Bank is still in the process of developing its 1974 GDP projections. Even if the Bank finds it necessary to downgrade its preliminary projection somewhat, the outlook is still for vigorous growth in 1974.

5. Monetary - Credit Expansion and Prices

1973 was a year of substantial monetary and credit expansion. The money supply (currency plus demand deposits) increased from C\$776 million to C\$1,194 million or by 53%. Total internal credit of the banking system to the private sector increased from C\$1466 million in December 1972 to C\$1983 in December 1973 or by a 36%. A substantial increase was also recorded in the banking system's net international assets^{1/}. Thus, the substantial expansion in money supply can be attributed to sharp increases in both credit to the private sector

^{1/} Up from -C\$26.3 million in December 1972 to +C\$141.8 million in December, 1973.

and to increases in net international assets. The increase in international assets is due to higher prices and sales of primary export products, particularly coffee, as well as to the vast inflow of official loans and private insurance payments; while the expansion of private credit was mostly for short-term loans to provide essential working capital.^{1/} Short-term bank credit to the private sector increased from 800 million at the end of 1972 to 1,147 million on December 31, 1973, or by 43%.

Thus, for the second year in a row, Nicaragua's money supply has expanded substantially. The increase was 22% in 1972 and 54% in 1973. The public's willingness to build up cash balance cannot be expected to go on indefinitely, and both the IMF and the Nicaraguan authorities expect sharp increases in imports in 1974. In fact, according to preliminary data, imports during the first 3 months of 1974 totaled \$128 million compared with only \$49 million and \$50 million for the first quarters/ of 1972 and 1973, respectively. While we do not believe that this import behavior is representative of 1974 as a whole, there can be no doubt that sharp increases in imports will take place in 1974, and allowance for this was made in our balance-of-payments projection.

Prices have increased substantially in 1973. A study by the Central Bank indicates that the cost-of-living has increased by some 30% in 1973. It is clear that the central bank operates within serious constraints in its ability to control inflation. In the first place, much of the additional liquidity has been provided by the large inflow of official loans and insurance payments, and to a lesser

^{1/} For replacement of inventories and frozen accounts receivable, and to finance other operating expenditures of commercial, agricultural, livestock and manufacturing establishments.

extent, by the expansion in the value of commodity exports. In the second place the Central Bank must permit the banking system to finance the replacement of business inventories and equipment, and the making of essential repairs.

The IMF has advised the Central Bank to proceed with great caution in its credit expansion policy. The Central Bank is planning no credit expansion in 1974 other than a \$20 million credit to the INCEI for the purchase of grains to stabilize the prices of beans and corn; and about \$200 million in credit mostly to agriculture and livestock producers (for fertilizers, seeds and insecticides), to take the place of supplier credits that were previously obtained from abroad. Since foreign lines of credit have been cut abruptly, the Central Bank feels that it must step in to replace them. This is strictly short-term, non-inflationary^{1/} financing.

The central bank plans to permit an expansion of 20%-30% in internal bank credit to the private sector (financed by the commercial banks' own resources) to finance the short-term credit requirements of basic grains, coffee, cotton and livestock. The Bank feels that this credit expansion is essential to meet basic production requirements.

To prevent the generation of an excessive amount of liquidity, the Central Bank's monetary program provides that:

^{1/} Because it is used entirely to finance imported goods.

^{2/} The Central Bank is presently in the process of developing its 1974 monetary program, a task which it expects to complete by May 1.

(1) Credit for commercial purposes^{1/} cannot exceed 100% of the amount of a bank's capital plus reserves.

(2) Short-term credit to industrial users cannot grow by more than 25% above the balance of December 31, 1973.^{2/}

(3) Each bank must allocate at least 30% of the increase in its total deposits over the level attained on December 31, 1973, to medium and long-term credit to finance new investment or the expansion of existing facilities.

(4) Reserve requirements behind all bank-deposits were raised to 25%. They were 20% for demand deposits and 10% for saving deposits in 1973. The banks are permitted to adjust gradually to the increase in reserve requirements.

Thus, the authorities are seeking to divert some of the bank credit from short to medium and long-term, and from commercial to agricultural and export purposes. The intent is to curtail the availability of credit to finance non-essential imports. The authorities are also giving priority to the rehabilitation of

^{1/} Other than for exports, importation of essential agricultural supplies, rehabilitation of Managua's commerce and a few other privileged purposes.

^{2/} Again excepting certain purposes, such as production of fertilizers and insecticides and for pre-export financing.

commerce in Managua by exempting credit for such commerce from the limit established by the bank's capital and reserves; and by providing an especially low interest rate (5.5%) on Central Bank loans designed to assist in the rehabilitation of Managua's commerce.

Despite the expected exercise of caution by the Central Bank, the outlook is for continued strong inflationary pressures in 1974. A consultant for the Construction Chamber indicated he expected increases in construction costs of about 20%. The Central Bank hopes that the increase in the cost of living in 1974 can be held down to 15%.

6. Foreign Trade Projections Over 1973-75

Exports for 1973 and projections over 1974-76 are presented in Table 8. Total exports in 1973 increased by about \$26 million or 10%. The main increases were registered in coffee (sale of stocks carried over from previous years) and manufacturing exports to the CACM.

The years 1974-76 are expected to be even better. Total exports are expected to increase by 31%, 18% and 17% in 1974, 1975 and 1976 respectively (Table 8). The major growth factors are cotton and exports of manufactured products to the CACM. With respect to cotton, the Bank expects both a substantially larger crop in 1974 and 1975 than in 1973, and much more favorable cotton prices.^{1/}

^{1/} Nicaragua had to sell 70% of its 1973 cotton crop at \$36.64 per quintal owing to unfavorable future contracts.

Table 8
Export Projections
(Millions of US\$)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
<u>Agricultural Products</u>	115.3	123.5	186.7	228.0	266.4
Cotton	62.9	63.2	118.4	154.0 ^{1/}	180.0 ^{5/}
Coffee	32.9	44.2	42.9	45.0 ^{2/}	50.8 ^{6/}
Cotton Seed	1.6	2.9	4.5	4.0	4.6
Bananas	3.4	5.4	8.0	9.0	11.0
Tobacco	3.6	2.9	3.8	4.0	5.0
Others	10.9	4.9	9.1	12.0	15.0
<u>Manufacturing Industry</u>	127.5	143.8	165.4	187.7	222.2
Fresh Meat	38.3	44.6	48.0	56.0	67.2 ^{7/}
Sugar	15.2	13.5	15.2	16.0	18.0 ^{8/}
Shrimp and Lobster	8.7	7.1	8.7	9.2	12.0 ^{8/}
Saw-wood	5.4	6.9	7.2	7.5	8.0
Other Manufactured Products	59.9	71.7	86.3	99.0 ^{3/}	117.0
<u>Mineral Products</u>	7.1	8.3	9.5	10.5 ^{4/}	12.0
<u>Other (Non-Specified)</u>	0.2	0.1	0.2	.2	.2
TOTAL	250.1	275.7	361.8	426.4	500.8

1/ Assuming a 1975 exportable cotton output of 2.8 million quintales at a price of \$55 per quintal. In 1974, the exportable output was 3,135,000 quintales of this output, 2,075,000 quintales were sold at \$36.64 per quintal, and we assumed that the remaining 1,060,100 quintales will be sold (in 1974) at a price of \$40 per quintal.

2/ For coffee, the 1974 exportable output was estimated at 660,000 quintales at a price of \$65 per quintal. For 1975, coffee exports were projected at 692,000 quintales at the same price of \$65 per quintal.

3/ Other manufactured products were projected to increase by 15% in 1975, compared with increases of 18% in 1974 and 22% in 1973.

4/ Reflects the beginning of exploitation of the tin and lead mines.

Continued on next page.

Table 8 Continued

Page 2

5/ Assuming a price of \$60 per quintal and exported volume of 3 million quintales. The price is based on the assumption of a continuing increase in the price of raw materials in line with the general inflationary trend.

6/ Assuming a price of \$70 per quintal and a volume of 725,000 quintales.

7/ A 20% increase in fresh meat exports was projected owing to continued strong demand and anticipated price increases, as well as existing programs to expand pasture lands and livestock production.

8/ Technical assistance from Japan is being provided to expand the output of seafoods.

Source: For 1972-73, actual data. For 1974-76, preliminary and unofficial projections by Central Bank.

A nearly 40% increase in total imports is projected for 1974 in Table 9. The table projects each of the major categories of imports, and shows the sharpest increases in fuels and lubricants, raw materials and intermediate products for agriculture and manufacturing industry, and transport equipment. Total imports FOB are projected to increase from \$290 million in 1973 for \$400 in 1974, or by 38%. Of this, 10 to 15% may represent price increases. For 1975 and 1976, we have projected total imports to increase by 15% in each year, a conservative assumption.

It is interesting to note that our projected balance of trade deficit is not expected to increase over 1973-76 (Table 10) as exports are expected to roughly keep pace with imports. However, we are anticipating a substantial deterioration in the overall balance of payments in 1975 and 1976.

7. The Balance of Payments Outlook and Foreign Exchange Reserves

The balance of payments projection in Table 10 indicates that a further slight build-up in international reserves may occur in 1974, though a much smaller one than in 1973. The increase in international reserves was almost \$32 million in 1973 and is expected to be less than \$10 million in 1974. While the deficit on current account is projected to be much higher in 1974 (\$115 million as opposed to \$32 million in 1973), a substantial increase

Table 9

1974 Import Projections by Major Categories

(In Millions of Dollars CIF Prices)

	<u>1973</u>	<u>1974</u>	<u>Percent Increase Assumed</u>
1. Non-Durable Consumer Goods	63.6	76.3	20%
2. Durable Consumer Goods	24.0	30.0	25%
3. Fuels & Lubricants	6.5	13.0	100%
4. Raw Materials & Intermediate Products for Agriculture	19.9	35.8	80%
5. Raw Materials and Intermediate Products for Manufacturing Industry (includes POL)	111.9	168.8	51%
6. Construction Materials	19.2	24.0	25%
7. Capital Goods for Agriculture	5.9	7.4	25%
8. Capital Goods for Manufacturing Industry	44.1	55.1	25%
9. Transport Equipment	18.8	28.2	50%
10. Miscellaneous	<u>4.8</u>	<u>6.0</u>	25%
Total (CIF)	318.7	444.6	40%
Total (FOB)	290.1 ^{1/}	400.1 ^{2/}	38%

1/ Excludes donations. 2/ CIF price less 10%.

Source: Unofficial projections by Central Bank and ROCAP
Economic Advisor

Table 10
BALANCE OF PAYMENTS PROJECTION

(Millions of U.S.\$)

	1972	1973	1974	1975	1976
Exports of Goods FOB (+)	248.9	275.7	361.8 ^{1/}	426.4 ^{1/}	500.8 ^{1/}
Imports of Goods FOB (-)		319.3			
Commercial	195.2	290.1	400.1 ^{2/}	460.1 ^{2/}	529.1 ^{2/}
Earthquake-related gifts-in-kind		29.2			
Earnings for Services (+)		98.3	58.0		
Ordinary	41.3	37.0	46.0	51.0	57.1
Earthquake-related reinsurance		61.3	12.0		
Expenditures for Services (-)		141.4			
Ordinary	103.3	121.4	143.2	158.8	176.3
Earthquake-related expenditures		20.0			
Unilateral Transfers (net) (+)		54.5			
Ordinary	4.0	4.5	8.0	8.0	8.5
Earthquake related		50.0			
Balance on Current Account	-4.3	-32.2	-115.5	-133.5	-139.0
Private Capital Inflow, <u>Net</u>	6.4	-6.7	10.0	11.0	12.0
Direct Investment (+)	10.0	8.0			
Loan Drawdowns (+)	5.9	7.0			
Amortizations (-)	5.5	-6.0			
Commercial Credits and Others	-4.0	-15.7 ^{3/}			
Official Capital Inflow, <u>Net</u>	37.4	70.0	114.1	80.0 ^{4/}	53.0 ^{4/}
Allocation of SDR's	2.9				
Errors and Omissions	-7.3	0.5			
Surplus or Deficit in the Balance of Payments	+35.1	+31.6	+8.6	-42.5	-74.0

^{1/} Carried over from Table 8.

^{2/} For 1974, see Table 9 for breakdown by major imports and exports. For 1975-1976, the value of imports was projected to increase by 15% annually.

^{3/} Attributable to transfer of capital to foreign banks and to a reduction of foreign credit available to finance the production of export products.

^{4/} Includes allowance for disbursement of new loans under consideration by the international agencies but not yet contracted as of May, 1974. Note that the amount on this line is net, i.e. after deduction of debt amortization payments.

SOURCE: 1972-73 actual data. For 1974-75, unofficial projection of Central Bank and RCCAP Economic Advisor.

in the net official capital inflow (from \$70 million in 1973 to \$114 million in 1974) is expected to compensate. The Central Bank has projected this large official inflow on the basis of the fact that some funds that were borrowed at the end of 1973 will only be utilized in 1974.

The outlook is not as bright for 1975 and 76: significant declines in reserves of \$42 million and \$74 million respectively, were projected. It must be emphasized that all 75-76 projections at this point are largely speculative in view of the great uncertainty surrounding the size of official capital inflows, primary product prices and the behavior of imports. The deterioration in the balance-of-payments situation foreseen for both years is primarily attributed to the decline in the official capital inflow presently foreseen. This outlook could change.

Nicaragua's net international reserves increased from \$55 million at the end of 1972 to \$87 million at the end of 1973. I attribute the increase to a combination of circumstances, including a \$70 million net capital inflow on official capital account, some \$61 million in private insurance receipts, the disposal of coffee stocks at favorable prices, a significant increase in manufacturing exports to the CACM, and the willingness of the public to increase its cash balances.

On March 31, 1974, net internal reserves stood at \$159 million, up from \$87 million on December 31, 1973. The expansion

between December and March is a seasonal phenomenon, since cotton and coffee exports take place during these months. A drawdown in reserves is expected between April and the end of 1974. Imports have already expanded considerably during the first three months of this year^{1/}, and are expected to be much larger in 1974 than in prior years. Substantial balance of payments deficits are anticipated in 1975 and 1976.

1/ Preliminary Central Bank data are as follows:

Imports CIF During First Quarter of Year

(Millions of Dollars)

1972	48.7
1973	49.5
1974	127.5

8. Estimated Cost of Reconstructing Managua and Loans Contracted So Far

Estimates of the cost of reconstructing the capital city vary widely: INCAE places the damage at \$845 million; the World Bank at \$307 million; and Regional Planning Advisor George Nez at \$357 million. We shall use Nez's estimate here as it was done at a later date and benefited from the various estimates developed earlier.

Mr. Nez's estimate of \$357 million is based on an average replacement cost of $\text{C}100$ million per Km^2 (\$14.3 million) applied to some 20 Km^2 of destroyed and badly damaged area, plus the additional cost of much obsolete infrastructure in the rest of the city. This, however, is replacement only, without growth.

Mr. Nez assumes that Managua's population will increase by about 400,000 by 1985, and at a current average density of 8,500 persons per Km^2 , will require about 47 Km^2 of additional urbanization. At the same basic cost of $\text{C}100$ million per Km^2 , the cost of the expansion to accommodate the population growth comes to $\text{C}4.7$ billion, or \$671 million, at 1973 prices. This total cost estimate is recapitulated as follows:

Reconstruction and replacement of facilities for the pre-earthquake city of 400,000 population	\$357 million
Growth to 1985, distributed mainly into periphery	\$671 million
Total reconstruction and growth costs for a total 1985 population of 800,000	\$1,028 million

It may not be feasible for financial reasons to allocate as much as \$671 million for new growth. Even if we should allow no more than, say, \$350 million^{1/} for growth through 1985 (instead of the \$671 million he indicated), we would still come to a combined reconstruction and development cost of over \$700 million at 1973 prices.

How much reconstruction money has Nicaragua received in 1973 from AID and the international financial organizations? The Central Bank estimates foreign financial assistance received through official channels in 1973 as follows:

AID emergency loan (524-L-028)	\$15.0 million
BID emergency loan (357-SF)	\$16.7 million
IDA (IBRD)	\$20.0 million
Government of Canada	\$ 1.9 million
Total loans	<u>\$53.6 million</u>
Plus donations (mostly in-kind)	\$34.5 million

Thus, reconstruction loans approved so far clearly amount to only a fraction of the estimated requirement.^{2/}

^{1/} Allowing for the development of only an additional 25 Km² of new urbanization at a basic cost of C\$100 million per Km².

^{2/} A number of additional loans are being considered by AID and the international organizations over 1974-76. These may come to nearly \$200 million, but many are only at the preliminary planning stage and may never materialize.

9. Capacity of Construction Industry

Implementation of the Immediate Action Program, summarized in Table 1 of the Economic Analysis Section of the Urban Sector Reconstruction loan paper (Section IV part 7), is believed to be within the executing capability of the construction industry. The program calls for a total expenditure of \$169.5 million or C\$1186 million over a four-year period, which amounts to C\$297 million a year. The Central Bank estimates the average annual capacity of the construction industry over the four-year period 1975-79 to be about C\$1 billion. Allowing for the use of 60% of this capacity for the public sector, and half of this for the reconstruction of Managua, we are left with roughly C\$300 million a year for public sector reconstruction outlays, which is exactly what the Immediate Action Program calls for. Note also that not all of the C\$297 million annual outlay required by the Immediate Action Program is for construction activity. Some part will be used for the importation of machinery and intermediate goods. Thus, in the Central Bank's opinion, the proposed program is within the executing capability of the construction industry and will still leave sufficient capacity to meet the requirements of the private sector.

On the other hand, there is some doubt with regard to the ability of the construction industry to execute the ambitious GON overall

public sector capital expenditure program summarized in Table 4 of the Economic Analysis section (Section IV, part 7 of the loan paper). That program calls for a real investment of C\$900 million a year in 1975 and 1976. Such a program would tie up practically the whole capacity of the construction industry for public sector investment, leaving at most C\$100 million for the private sector. This seems quite unrealistic. It would appear that the public investment program would have to be cut back, both for financial reasons (noted in the Economic Analysis Section) and owing to capacity limitation in the construction industry.

An attempt was made by INCAE to quantify the demand and capacity of the construction industry in a study issued in May of 1973^{1/}. The study came to the conclusion that there appeared to be a shortage of C\$400 million in construction capacity over the bi-annum 1973-74. In view of delays and implementation, this conclusion may be applicable to the bi-annum 1974-75. A Central Bank's study published in July of 1973 anticipated serious bottlenecks in trained manpower, particularly trained foremen ("maestro de obra"), assistant foremen and special skilled categories such as carpenters, masons and welders. The Central Bank study also identified shortages of cement, bricks, cement blocks and tubes, though they noted that the supply of these products could

^{1/} INCAE is currently updating its study but no findings have been announced to date.

be expanded significantly without great difficulty.

Inquiries subsequently conducted by the Mission indicated that the list of materials in short supply was considerably larger than has been anticipated in these studies. Bottlenecks have occurred or are expected in metal structures, iron bars, reinforced steel, lumber and pochote wood, crushed rock, cement blocks and tubes, flat glass and asbestos sheets. Cement may be a sporadic bottleneck in 1974, though the problem should be resolved at the beginning of 1975 when a new kiln goes into production which would raise the plant's capacity by about 50%. The substantial increases in the prices of construction materials that occurred in 1973 and in the first quarter of 1974 confirms the impression that there have been at least temporary shortages in a number of lines. Substantial price increases occurred in the case of concrete cement blocks, wire & wire tubes, iron and metal structures, zinc, tiles, plywood and pochote wood.

Programs are under way to overcome some of these bottlenecks. A number of programs are being conducted to train construction workers.^{1/} The Mission estimates that these programs will train a combined number of 3,000 workers in 1974, and an equal number in 1975. If implemented,

^{1/} The main programs include: (1) a program conducted jointly by the Ministry of Labor, the Nicaraguan Construction Chamber and the Program of Urban development of the OAS to upgrade semi-skilled workers through three-month courses; (2) a 2½ year training program at the National University also in cooperation with the Cámara de Construcción to develop foremen (maestros de obra); (3) a technical seminar for architects and engineers; (4) a politechnic institute for industrial workers located in Granada planned by the Embassy of the Spanish Government (which has not yet begun operations); (5) and the Centro Juvenil Don Bosco de Managua, a charitable organization offering 2½ month courses in various specialities, endowed with good facilities but with frequent budgetary problems.

these programs would double the total number of skilled construction workers, and would probably eliminate the shortage in this area. The deficiency in cement production will probably be remedied in early 1975, as noted above. Additional equipment to produce crushed rock is on order, and in the meantime, a U.S. contractor to supply crushed rock for the construction of the north highway is selling its surplus to local builders.

In spite of these efforts, shortages may persist in a number of lines. Fortunately, loans from the Private Sector Credit Fund will be available to supplement the resources of firms producing key construction materials (with preferences to smaller and new firms). The regulations governing the operations of the Private Sector Credit Fund should be flexible enough to enable the Fund to help overcome any bottleneck that might arise in the construction industry, including, if necessary, loans to finance the training of additional foremen or workers in certain skilled categories.

10. Projection of Debt Service Charges

The Office of Planning has just completed a detailed projection of debt service charges on the external public debt through the year 2,000. The major results of their calculations are summarized in Table 11. Column 1 presents the debt service charges^{1/} on loans con-

^{1/} Interest plus amortization.

Table 11
Projected Debt Service Charges^{1/} on the External Public Debt as a
Percent of Projected Exports of Goods and Services

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	On Debt Con- tracted as of Dec. 31, 1973	On Loans Under Negotiation	Total of (1)+(2)	Projects Without Financing	Grand Total (3)+(4)	Exports of Goods & Services	Col (3) as % of (6)	Col (5) as % of (6)
1973	43.6	---	43.6	---	43.6	312.7	13.9	13.9
1974	46.1	0.2	46.3	---	46.3	407.8	11.4	11.4
1975	53.7	1.4	55.1	1.6	56.7	477.4	11.5	11.9
1976	63.1	3.2	66.3	4.8	71.1	557.9	11.9	12.7
1977	61.5	4.7	66.2	10.5	76.7	602.5	11.0	12.7
1978	56.3	6.8	63.1	16.1	79.2	650.7	9.7	12.2
1979	54.2	8.1	62.3	23.5	85.8	702.8	8.9	12.2
1980	52.2	10.1	62.3	30.3	92.6	759.0	8.2	12.2
1981	48.7	10.2	58.9	35.9	94.8	815.9	7.2	11.6
1982	46.0	10.2	56.2	36.5	92.7	877.1	6.4	10.6
1983	40.7	9.9	50.6	36.3	86.9	942.9	5.4	9.2
1984	32.6	10.3	42.9	35.3	78.2	1013.6	4.2	7.7
1985	29.9	10.5	40.4	34.1	74.5	1089.7	3.7	6.3
1986	27.2	10.2	37.4	34.8	72.2	1165.9	3.2	6.2
1987	25.6	9.9	35.5	33.5	69.0	1247.6	2.9	5.5
1988	23.5	9.7	33.2	32.4	65.6	1334.9	2.5	4.9
1989	21.3	9.4	30.7	31.2	61.9	1428.3	2.2	4.3
1990	18.9	8.9	27.8	30.0	57.8	1528.3	1.8	3.8
1991	17.5	8.4	25.9	29.1	55.0	1635.3	1.6	3.4
1992	16.9	8.2	25.1	27.1	52.2	1749.8	1.4	3.0
1993	15.6	8.0	23.6	25.5	49.1	1872.2	1.3	2.6

^{1/} Interest plus amortization.

Source: National Planning Office projections (columns 1 to 5). The figures for 1973-76 in column 6 were carried over from table 6; for subsequent years, exports were projected to increase at the following rates: 8% over 1977-80; 7.5% over 1981-85; and 7% over 1986-93.

tracted as of December 31, 1973. Column 3 includes debt service charges of loans presently under negotiation with the international agencies. Column 5 includes, in addition, the debt service charges on loans that would finance projects that have still no funding in sight. Most likely, many of these loans will never materialize. In Column 6, we have projected exports of goods and services through 1993 on the basis of assumptions noted in the footnote to the table. The ratios of debt service charges to exports were calculated in columns 7 and 8.

Column 7 shows the ratio of total debt service charges, including loans under negotiation but excluding unfinanced projects, to the total value of exports of goods and services. Column 8 includes such unfinanced projects in the numerator.

The ratios in column 8 indicate that even after making allowance for the debt service burden on projects still without financing, the projected debt service/export ratio will not exceed 13%, well below the 20% INCAE flagged as the danger level. Presumably, the Planning Office assumed that most of the loans to be contracted will be from the international agencies on concessionary terms. This is no doubt the main reason for the relatively low debt service/export ratio obtained in columns 7 and 8. Thus, the debt that has been contracted so far, plus that which is being envisaged, is not likely to occasion serious balance of payments difficulties provided it is contracted on concessionary terms.

We have estimated in a separate analysis the impact on the annual debt service charges of contracting a \$40 million loan package on hard terms from the commercial banks, as the GON has done in May of 1974. We found that in the peak repayment years (1980-84), such a loan package would add about \$10 million to the annual debt service charges, which constitutes 1% to 1.3% of the projected value of Nicaragua's exports of goods and services. Thus, while the negotiation of the \$40 million loan package on hard terms in May still leaves Nicaragua's debt service/exports ratio well below 20, a continuation of the policy could raise that ratio rapidly.^{1/} Given Nicaragua's great need for external financing of its reconstruction and development programs, its anticipated balance of payments deficits and the difficulty of expanding exports, a continuation of the policy of borrowing on hard terms appears most inadvisable.

^{1/} A \$40 million loan on AID's usual ^{concessionary} terms involves only a \$2.0 million annual debt service burden after the expiration of the grace period, compared with \$10 million for a \$40 million loan on hard terms. Thus, a hard loan entails about five times the debt service burden of a soft one.

11. Summary and Conclusions

The year 1973 turned out to be much better than was first expected. The Gross Domestic Product increased by 2.4% in real terms while a substantial surplus in the balance of payments materialized thanks largely to a substantial capital inflow on both official and private account (foreign assistance and insurance payments) and to the disposal of coffee stocks at favorable prices. The government's fiscal emergency measures, the decision by the authorities to make credit available to permit replacement of inventories, and the prompt response by AID and the international agencies, all played a role in the recovery.

The analysis of the Central Government's budget (Table 2) shows that the emergency tax measures combined with the GON's ability to keep up tax collections from traditional sources, resulted in a 44% increase and current revenue collections in 1973. Another increase of 24% in current revenues is projected for 1974. The surplus in the current budget of the Central Government increased by 146% in 1973 (from C\$125 million to C\$307 million). At the same time, capital expenditures also expanded very rapidly -- from C\$387 million in 1972 to a projected C\$680 million in 1974 -- reflecting the combined impact of reconstruction and normal development requirements. As a result, external loans had to expand considerably -- from C\$230 million in 1972 to C\$413 million in 1974. Thus, in spite of the GON's creditable fiscal performance, reliance on foreign financing has increased.

Nicaragua turned in an excellent balance-of-payments performance in 1973, with foreign exchange reserves rising by US\$32 million. The balance-of-payments outlook for 1974 looks reasonably encouraging in spite of spiraling fuel prices, though the build-up in foreign exchange reserves-- if it occurs at all -- will be much less than last year's. The picture for 1975-76 is far less promising. We projected an overall deficit of \$42 million in 1975 and \$74 million in 1976, both as a result of substantial current account deficits and a reduced net official capital inflow after 1974. However, all balance-of-payments projections beyond 1974 are clearly most tentative at this point. The balance-of-payments analysis also highlights the economy's substantial and growing dependence on official external loans.

Analysis of the capacity of the construction industry indicates that it is likely to be adequate to implement the Immediate Action Program envisaged in the AID Urban Sector Reconstruction loan paper. However, it will not be adequate to implement an annual real investment budget of some C\$900 million which the GON has tentatively programmed for the consolidated public sector in 1975 and 1976. A number of programs are under way to train construction workers. However, bottlenecks might appear for some key construction materials, and loans from the Private Sector Credit Fund may be needed to help reduce the shortages.

While AID and the international agencies have been generous in their response to requests for reconstruction assistance, the loans granted in 1973 -- and those likely to be signed in 1974 -- constitute only a fraction of the total cost of reconstructing Managua and of providing for the continued growth of the capital city over the next ten years.

The burden of servicing the external public debt, calculated on the basis of loans already contracted plus those under negotiation, is not excessive owing to the concessionary terms of the loans. The ratio of debt servicing to exports of goods and services is projected to reach a peak of 12 in 1976 and to decline thereafter (Column 7 of Table 11).

Nicaragua may well enter a period of difficult balance-of-payments problems after this year. The country will have to make a special effort to expand and diversify its exports and to attract more capital on both official and private accounts.

**Scenario: The Probable Development of Managua
According to The Plan for Reconstruction and
Development, and Some Probable Tasks**

John W. Dyckman
Consultant on the Reconstruction
and Development to the Government
of Nicaragua

On Saturday, September 29, 1973, nine months and one week after the substantial destruction of Managua by earthquakes, the consulting group assembled by the Ministry of Public Works of the Federal Government of Mexico presented its plan for the reconstruction and development of the city of Managua. This plan is taken as the setting and point of departure for subsequent work on the reconstruction and development.

Setting: The planning Work to Date

The Mexican Plan divides the tasks into two parts: Reconstruction and the "remodling of the urban tissue." The first part calls for the reconstruction of Managua in place, at a reconstruction target population of 450,000, with about 50% of national industry and commerce, and a role as a national growth pole. The reconstruction in place is defended largely on the ground of the substantial sunk costs in infrastructure. The major theme of these recommendations are: how to live in a hostile environment, in the manner of Tokyo or San Francisco. The emphasis of the reconstruction is thus placed on building to levels of earthquake security.

The second set of tasks call for: a) building a new Managua at a "Nicaraguan scale," at desirable levels for local living; b) building and developing through the use of cellular units, "correctly dimensioned and densified, reasonably self-sufficient and comfortable, with sub-centers and their own services: schools, daily shopping, meeting places, etc., to

ANNEX D

Scenario: p. 2 of 18

stimulate community identification and to minimize daily travel"; and
c) for security reasons, to respect the "graben" between Tizcapa and Chicopelen, and to leave it in green space.

The city center is singled out for special treatment, both by reason of its functional importance in the infrastructure system and for its present condition, that of being virtually leveled. The main objective of the city center treatment is to "free up" the center by widening the streets and by a set of development alignments designed to maximize earthquake security. This entails: a) the movement of much of the housing to new urban zones on the periphery; b) decentralizing of markets and commerce to new housing zones; relieving the pressures of concentrations of schools, hospitals, and other services by moving them towards their user populations; and d) the transforming of the central area into a "Grand Forum" of civic, cultural and administrative activities, with some commercial uses. This area would have the museums, art galleries, exposition and exhibit halls. The lines of development are at right angles to the lake.

The proposed new urban zone would be formed by cells, each at the neighborhood scale, grouped in clusters. The cells are to be separated with green spaces which are considered by planners to be the "lungs" of the city. They proposed also to make gardens of the faults which are found below 50 meters elevation. Housing is intended to be near work places and so to reduce journeys-to-work, but detailed relations to specific work places are not described.

In sum, the proposals for the "new, tree-covered Minagua" are these:

- 1) Rebuild on the present site with strict seismic building controls;
- 2) Create an efficient urban structure, minding seismic risks;
- 3) Localize the civic center with its cultural, administrative and related commercial activities, in the destroyed zone;
- 4) Develop urban cells, largely self-sufficient and supplied with services, to minimize daily travel and to foster a sense of community;
- 5) Locate cells and work opportunities in proximate situations to minimize work journeys. (Note that as industry is largely in its pre-quake locations, or is scheduled for extensive decentralization, the cells will have to follow it.)

The plan for the central city is accompanied by some analysis of regional development. This is based on analysis of existing "natural resources" and of "human factors." Natural resources include soil conditions, water distribution, relief, and soil conditions for building. The regional development pattern observes present cultivation practices, infrastructure levels and capacities, and some administrative and socioeconomic factors. The region itself is bounded in the following manner. There are three levels of regional activity, defined by: 1) the 30 minute isochron; the 1 hr. 20 min. isochron; and 3) the four adjacent departmental boundaries. Isochron data is obtained from a 1972 origin-destination study. The zone of most intense activity, or "zona polarizada," is the inner isochron area. The 1 hr. 20 min. isochron does not include all of the territory of the four departments of Managua, Masaya, Granada and Corazo. A large zone of irrigation is identified between lakes Managua and Nicaragua on both sides of the Tipitapa River, and is kept out of urban use for reasons of its agricultural value and because of the presence of nearby volcanoes.

The proposed regional development pattern follows main roads which form the axes of development--toward Masaya-Granada, Jinotepe, Leon, Puerto Somoza, and the Pan-Am Highway to the north, via Tipitapa. These routes are the lines of the main infrastructure (roads, railroads, and power lines). The pattern extends most strongly from Managua towards the southeast, towards Masaya. A review of trends in population growth and migration suggests that there will be a transfer over time of the young population to the departments around Managua and a weakening of the base of the population pyramid elsewhere in the country.

For the city of Managua, a Plan Regulador is presented. The methodology of the plan is described in four steps. These are:

- 1) Collect historically available data on characteristics of the city up to the 1972 earthquake.
- 2) Supplement this data with direct investigation where necessary to estimate the city-forming influences at work.
- 3) Define the 1972 urban complex, with assessment of the assets and deficits in urban functions, and project the tendencies of urban development.
- 4) Based on projections of demographic growth and urban structure, with priority areas in urban functioning identified, project conditions of future growth in the city and make concrete suggestions on future growth and development.

The exercise has been reported in a general way, and the methodology of the respective steps must be inferred from the data presented and other clues. The "concrete suggestions" of the fourth step are predictable from the main principles of the proposed plan. They include: preservation of the historic

areas, virgin green spaces, and certain unbuilt lands; rationalization of the localization of population and activities; minimizing of investment by rationalizing the infrastructure pattern; expansion of the urban area without loss of access; homogeneous groupings and reasonable densities; deconcentration of the center; adaptation to the faults; reduction of damage risk by structural precautions; development of local service centers, and reclamation of the lake for urban use. The plan projects populations of: 1974) 470,000; 1979) 630,000; and 1985) 890,000.

No specific cost figures for land acquisition and development are presented in the plan publications. Cost considerations appear to have entered into the planning, but in a general strategic way, and not, as is commonly the case, to set the size of the task. It appears that some relative costs of development for different building strategies were considered, and that these were based upon: compaction of the soil relief features, water availability, drainage conditions, and the presence of roads and transport. These considerations were weighted in the following way. 1) No significant differences were found in soil compaction, and so this factor got low weight. 2) Terrain was given a higher value on the assumption (based on Mexican experience) that building on grades would cost 1.15 times as much as building on level ground. 3) Water was taken to be plentiful, with differences largely between the areas serviced by the existing network and those outside it. Costs of extending the network, and distribution costs were also based on Mexican data. As a result, terrain, and elevation in general, constrained by the presence of utility network, was the major determinant of presumed development cost differentials. Mexican experience formed the basis for utility cost estimates, including water, storm and sanitary drains, and related improvements.

The development strategy is based on four major considerations, 1) keep the airport in its present site but keep urban zones from growing up around it; 2) look for level land with good drainage below 50 meters for the large zones (100 hectare units) of higher density housing; 3) keep all dense uses under 200 meters elevation and all urban uses under 300 meters; 4) use the terrain, especially faults, ditches, and relief features to divide urban areas with strips of green spaces.

There is little detail on the proposed staging of development. One map shows the three stages, but this is not discussed. These are the three stages of 1974, 1979, and 1985, with an urban reserve whose detailed planning is deferred. For the essential "building blocks" of the development the plan uses "cellular units," or neighborhood units of 2,400 families (14,400 inhabitants) each with a kindergarten, primary school, community center, sports area, and small convenience shopping with a density of development of 360 inhabitants/ha., in 36 hectare sites. These would be assembled in groups of four to make a basic urban cell. These larger units of 9,600 families (57,600 inhabitants) with their service centers and green spaces would cover 190 hectares at a gross density of just over 300 inhabitants/ha. The plan calls for 10 cells of this type in its "zone of urban extension," housing 576,000 inhabitants by 1985.

In its statement of housing policy, the plan estimates that 82% of the housing will be in zones of "Habitacion Popular," or low-income housing, 15% in zones of "Habitacion Media," and 3% in "zonas Residenciales." The mapping of the Plano Regulador shows the area of Habitaciones Populares would be far out to the southeast. This gives the plan a heavy weighting in this direction.

But it also raises questions of timing, work journeys, and transport. If carried out, it would result in "deconcentration" of an order at least as strong as that recommended in the "Experts" report, and endorsed in the Von Moltke part of the INCAE review as lincalizing the city.

Implementation of the Plan

The planning documents say very little about implementation, beyond the assertion that this task is the responsibility of Nicaraguan authorities. The plan is a coherent picture of future development of the city of Managua and its region, but the feasibility and acceptability of either the whole or its parts have not been tested against resource constraints, organizational capacities, or the market place of local values and incentives. The attention to costs is superficial, and institutional arrangements are largely ignored. The actual situation, however, is highly dynamic. Many actors, public and private, are involved in the implementation of development plans. These actors incur high opportunity costs by waiting; they may be expected to respond as quickly as possible to opportunities, incentives, and pressures. What, then, is likely to happen in the course of trying to implement this plan?

Let us speculate in scenario form. First, let us assume that the government wishes to mobilize its efforts to carry out the main lines of the plan. Its first task is to embark on the orderly programming of its efforts. This requires an accurate perception of budget constraints in respect to money, physical resources, and manpower, as well as clear statements of targets and desirable rates of expenditure of resources. The plan does not contain such budgets and does not indicate such levels of effort, so that these must be prepared. The broadly indicated physical objectives of the plan will have to be converted into concrete programs, and the responsibility for program actions

assigned. Simple "critical path" analysis of public actions will reveal where bottlenecks are likely to be encountered, and steps can be taken to overcome these bottlenecks or to modify the targets.

At the same time, the public authorities will need to employ a variety of programs, controls and incentives to secure complementary private action. For in the Nicaraguan situation, with its heavy reliance on private initiatives and investment, it will not be enough to attempt to secure compliance through public controls. Positive incentives as well as negative controls will be needed, and these must attempt to obtain the correct timing of private actions. These conditions imply delicacy and sophistication in program design, and sophistication in administration.

For planning to be effective, then, a number of preconditions must be met. There must be a clear view of goals, objectives, and targets. In public planning setting, there must be some consensus on these aims, or at least the assent of delegation of power. The planners must beand must be competent. The initial test of their competence will go to their ability to convert broadly stated plans into workable programs. For this task they will need the economic competence to accurately estimate costs, to calculate program requirements, and to schedule investments. In addition, they will need the administrative competence to design controls and incentives, and to administer these wisely. And finally, they will need the political competence to achieve a broad mobilization of energies and enthusiasm for the undertaking. To do this the planners must have at their disposal certain minimal powers, and they must be able to deploy reasonable incentives. To maintain these powers, they will need to be able to test and demonstrate the effectiveness of particular actions and programs.

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There is presently a substantial deficit in planning resources in Nicaragua. Basic data of all kinds, but particularly cost data, must be constructed de novo. Staffs are undermanned, and organizations and institutions must compete for scarce human resources. Building materials and the construction industry skills will be in short supply in any large-scale building program. The start-up period for large-scale public actions, then, is likely to be longer than normal.

At the same time, any delay in getting underway with program actions will make the ultimate realization of the plan more difficult. For individual actors may be expected to fill any vacuum in development with their own decisions. To appreciate the nature of this problem one needs only speculate on the probable sequence of events that will take place in Managua.

For the purposes of this speculation, let us divide the development time into the three periods of plan "staging" suggested in the Mexican plan. The first period is the present till 1974, the second is the period from 1974 to 1979, and the third is the period from 1979 to 1985. In the first period (to the end of 1974) the government will be engaged in these tasks: assembly of data on land ownership, land costs, building costs, site conditions, utility distributions, and similar physical and economic features; staffing of public agencies; assignment of development responsibilities to agencies; conduct of engineering feasibility studies; preliminary land acquisition; contracting with building enterprises; and making necessary budgetary allocations. Government construction, if it can get underway, is likely to be confined to certain infrastructure projects, particularly to road and street building and utility extensions.

At the same time, private parties will be under great pressure to make improvements of all kinds, including new construction. Given the fact of existing private ownership of land, and given the possibilities for further private land acquisition, regular and irregular, and given the great pressures of demand, it may be expected that many private actions will anticipate government development action. A certain amount of housing and commercial facility building is presently underway, and the pace of such construction may be expected to increase rapidly. The existing large demand for housing from parties presently overcrowded or under-housed will be swollen by the rapid rate of return of former residents of Managua, and by the increased incentive to migration to Managua resulting from the creation of large numbers of construction jobs.

This pressure can only result in substantial levels of private activity. That activity, if unguided, can alter the distribution of activities in space envisaged by the plan. For private actors will follow lines opportunity--in this case following the pattern of private land ownership and the possibilities for finding vacant land for self-help housing. In the actual process of development by private parties, the areas developed first, by concentrating demand, will exert pulls on shopping and commercial building of all kinds. These "following" actions will in turn affect the relative distribution of service jobs, and so subsequent residential decisions. If a sizable number of such actions take place in the first phase, the dynamic of attractiveness of different sites will be affected, and the plan--seen as a stream of development actions--may be modified.

Therefore, both positive incentives and negative controls will need to be used to implement the plan. For the area considered in the plan is large, and if for example the residential areas in the older inner city are developed at higher densities than those assumed in the plan, and if the proposed green spaces and "sterilized" areas of the plan are built upon, the population projected for 1985 could be substantially housed in the inner areas. So the "hollowing out" called for by the plan will require strong controls over building, building types, and occupancy conditions. And there will be an urgent need for strong incentive-creating developments of roads, utilities, and site preparation, and a policy of strategic location of employment places.

The "green city" depicted by the plan may be achievable only if the "popular housing" (shown at some distance from the center) is built first, and then only if there are suitable places of employment nearby. Thus, a number of strong public actions are needed at the earliest moment. The above-mentioned infrastructure actions have to be undertaken as quickly as possible. A general building code, which can be applied to ordinary building and which can be enforced, must be put into action. The public authorities should institute a system of effective controls for the location of industry and commercial activities. And the public agencies must move swiftly on critical land acquisitions to preserve rights-of-way for public infrastructure and to safeguard critical sites and proposed open areas.

The government cannot assume that the publication of the plan will act as an adequate guide to private action by itself. It must be supported by effective complementary actions. The publication of plans, moreover, will

serve to stimulate certain private actions designed to take advantage of presumed future public actions. But these private actions will not necessarily be in full conformity with the plans. The somewhat hypothetical nature of cost estimation in the plan may actually be misleading in some instances. For example, the policy of building largely on the plain, on lower ground, means building away from some of the amenity factors in Nicaragua, such as micro-climate. The main reasons for this choice seem to be cost of utilities, some building cost differentials, regional location factors, and the conclusion that there are not any appreciable differences in soil conditions for building. But as the differences are not really costed in actual situation, the trade-offs are hard to establish. As private parties do not bear full utility costs, as building cost differentials vary with construction type and method, and as soil conditions are very localized, private parties might actually find these trade-offs favorable to construction of sites on some parcels of higher ground. And, of course, a long list of studies of behavior of individuals in disaster areas (notably those of Tobert Kates and Gilbert White) show that individuals do not have the same perception of risk as the "experts" and in any event cannot fully internalize the public costs involved. If this proves to be the case in Managua, it will take a great public effort to keep individuals from building on the "high risk" area marked for open space. The best method for insuring that these areas are not built upon is early public acquisition.

The most serious danger to the plan, however, is found in the possibility that the public capacity for "start up" is too limited, and that the public actions will lag behind the private response. Public and acquisition procedures are slow, even when condemnation is employed. And the capacity of the

existing staffs, for budgeting, programming, and contracting is currently well below that called for in the implementation of this plan. Such capacities will need to be greatly strengthened at an early moment, and initial public interventions will need to be dramatic and well-publicized in order to give a clear view of the public intentions. The mobilization of private incentives is critical, for the greater flexibility of action of private parties, and the existing pattern of land ownership, will enable private actors to move more quickly than public agencies. This private action is essential to the success of reconstruction, and private initiatives should not be discouraged, but the public responsibility for the guidance of private action is heavy if the plan is to be realized.

If the plan is to be useful in reconstruction and development, it must be more than a snapshot view of an attractive future. It must be an active and living guide to action, a set of directions for the continuous action of development and change. As a practical matter, this particular planning document will need much supplementary work if it is to actually influence the processes of development. This additional work includes the budgeting, programming, detailed project design, contracting and management mentioned earlier in this memo, plus the host of feedbacks resulting from decisions in each of the above areas. To do this work the Nicaraguan government will need the assistance of additional economists, engineers, planners, architects, and project managers. At this point, the most acute need is for development economists and development programming specialists. There are more than enough architects and engineers in Managua at this moment to handle the amount of projects that the planners and programmers are able to generate.

Indeed, if the public planners are not able to identify, program and prepare sufficient publicly-inspired projects, the local architects and engineers will probably be fully engaged on work initiated by private individuals.

At the present rate of program and project development, it will be difficult to begin construction work on major elements of the Mexican Plan before the end of the second time period, that is, before 1979. For even with beefing-up of staffs, the processes of project description, budgetary allocation, staff commitment, land acquisition, site preparation, negotiation with private developers, and contracting can consume the entire five years. In the meantime, these private parties who presently own land and have access to capital will follow their own site and building improvement strategies, and those individuals who do not own land or building sites will actively seek places to build their houses--perhaps on the partially processed plan sites.

There are several difficulties which arise from the timing of the development. Perhaps the most important of these arises from the proper strategy of development of the "habitaciones populares," or large-scale, low-income communities. The development of these planned neighborhood units not only involved a strong planning and administrative commitment, with heavy start-up costs, but also will require either an unpromising and probably lengthy search for private developer participation or the creation of special public housing legislation. There is no precedent in Nicaragua for large-scale, integrated community building for the low-income groups. But the low-income group is just that portion of the population which has the least capacity to defer some housing solution. So this segment of the population will build some kinds of shelter, occupying "locations of opportunity"

whether or not these locations are in agreement with the plan, and in so doing, will establish settlement patterns that will tend to persist.

There is strong incentive, therefore, to address the problem of low-income housing and locational patterns at the earliest stage of planning. There are two main tools for affecting this settlement: 1) early development of key infrastructures, especially water and sewers; and 2) prompt intervention in the pattern of industrial and commercial location, and in the transportation facilities that connect these locations to housing sites. The public planners will scarcely have time to construct the somewhat idealized integrated communities called for in the plan, and so are well-advised to devote their immediate efforts to influencing the choices of the thousands of individuals by early provision of sites and services. Such positive actions are greatly to be preferred to reliance on negative controls. The task of policing strict land use controls is difficult at best, and would be a heavy drain on scarce administrative resources at a time when these are solely needed for development tasks. There is some doubt in my mind that such controls could be effectively enforced for long in the absence of strong positive locational factors which "induce" development at the desired places. In my judgment, the best way to insure that certain alignments are not built-upon is to attract the development to other sites, not to struggle to maintain their insulation from development in a situation in which development pressures are intense. At the least, the planners must siphon off some of that pressure.

It is therefore important to move quickly to create new "poles" of attraction, particularly toward the southeast. The mapping of the Plan Regulator section of the Plan document shows the areas of Habitaciones Populares

largely outside the ring roads. In this plan about 2/3 of the 1985 population would be far out to the southeast of the city. A number of factors will influence the prospects for such a policy. First, sites and services in this location will have to be prepared very quickly, so that these areas offer as much opportunity for building as older, closer-in areas. At the same time, farther-out locations economically viable for large numbers. Presumably the low-income people would work in industry and large commerce for that is the main locational principle of the plans as it is presented. The government is trying to put as much industry as possible even further away, in Masaya, Granada, and Jinotepa. This policy would help to "weight" the spatial distribution in the southeasterly direction, but unless transportation improvements accompany the locations of industry and jobs, people in the zone marked for low-income housing will move along the lines of greater accessibility toward the center of Managua. Put simply, differential access is an important element in differential opportunity, and the poorer persons are under stronger relative pressure to rationalize their location. As they cannot buy much space in any event, they may very well find ways to fill in the interstices in the inner city development if the advantage in access to jobs is appreciable.

If the Nicaraguan government begins its development effort with the construction of the broad central avenues proposed in the plan, a set of consequences will rapidly be set in motion. These avenues will provide superior access; the access will raise the value of abutting land; the higher land values, in a speculative development situation, will lead to higher levels of improvement (bigger buildings) on these sites. In general, the lesson of the growth of cities is that initial lines of access have strong influence in shaping the direction of urban growth. If the intention of the planners is to stimulate

deconcentration of activities, the earliest attention should be given to strengthening the peripheral system of roads and transportation facilities. This could be done by strengthening some of the lateral branches of the present road axes.

Because the present system of infrastructure improvements is somewhat centered on the downtown of Managua, and because that downtown could continue to be the central place of a more decentralized system, the central area of Managua will continue to have the heaviest volumes of traffic. As the plan proposes to conserve all usable existing infrastructure, and as the volume of new construction of infrastructure is not likely to be large relative to that already in place for a long time to come, the old city alignments will be the most attractive foci of development throughout the plan period (to 1985). The planners must take into account this existing distribution of opportunities.

In summary, what is needed most acutely is the capacity to intervene in a dynamic situation with a variety of direct and indirect programs, timed and located so as to guide behavior and to alter, in a planned direction, the effective prices and terms on which decisions are made. To do this requires adequate and early staffing and resource allocation for the tasks of program design, program budgeting, project development, and the management of controls and incentives. Only the input of numbers of experienced specialists, at the first possible moment, can give any reasonable prospect of success in this ambitious undertaking. (An immediate result of the application of these program tasks would be the scaling-down and refinement of these objectives.)

In particular, the planning effort needs the assistance of innovative program designers, economists capable of carrying out the programming and

budgeting functions, large-scale project planners, and experts in financing and scheduling of projects (so as to smooth out the ubiquitous problems of "front end load" and subsequent cash-flow pinch. To supplement these specialists, there should be strategic inputs from experienced professionals in the planning of highways, in this case buses, and in the community relations problems posed by the relocation of so many residents.

It is not possible to overstate the importance of timing. If present resources are not strengthened, the pattern of private settlement will have been fixed before the public can set a sites-and-services strategy, no public projects will be implemented until the end of the planned third stage (1985), and land acquisition will not be completed in any orderly way, because private actions will have pre-empted strategic locations, so at the least, will have bid up prices to a level which will require alteration of development plans. Under the best of planning circumstances, the present plan will be altered by the flow of events. In this circumstance, it is most useful to convert the planned objectives into effective and realizable development strategies. But more "strategic" approach also places a heavy burden on the planning process. The capacity for such planning must be largely "created" in Nicaragua. Given the shortness of time, this can be done more effectively by focusing responsibility on a single development agency, and by supplementing that agency staff with a variety of needed skills and with special "task forces." This is a suitable and important point of engagement for international funding agencies.

Summary of the objectives and recommendations contained in the INCAE paper An Agenda for Reconstruction and Development -- Targets and Objectives 1974-1978. 1/

Summary of Objectives

1. Strive for an average annual growth rate in Gross National Product in constant prices of 9% during the period 1974-1978 so as to reach a per capita income in 1978 of US\$ 660. This is equivalent to an average growth rate of 7% annual if 1972 is used as the base year.
2. Reduce unemployment to not more than 5% of the potential work force by creating 144,000 new jobs by 1978.
3. Design a special strategy for rebuilding the city of Managua which will not involve more than C\$ 1,000 million in national construction per year.
4. Follow a strategy for increasing and diversifying national exports principally in the agricultural and agro-industry sectors. A strong and growing export sector will be needed to avoid balance of payment problems especially in the medium term, because of the large volumes of imports and foreign exchange which will be needed by the reconstruction. Diversification, on the other hand, is considered fundamental to reduce the vulnerability of the national economy to sharp fluctuations in prices of a few export products.
5. Make or stimulate investments of C\$ 10,100 million in the period 1974-1978 - \$ 2,425 million in public investments, and the rest in the private sector.
6. Increase the average national saving rate from 13.8% to 15.5% of Gross National Product.
7. Stimulate at least two alternative secondary growth poles in Nicaragua and take conscious steps to reduce the

1/ Centro de Asesoramiento Doc. No. NI/PL-009 (Original in Spanish) September 1973.

strong tendency of Managua to concentrate all economic and population growth in itself.

8. Achieve national self-sufficiency in the production of basic grains by 1978.

Summary of Recommendations

1. Develop before December, 1973 some specific national goals in the area of education, health and culture.

2. Reform both the tax laws and fiscal administration so as to increase government revenues from 8.7 to 10.6% of GNP and at the same time make the impact of tax collection more just and economically neutral.

3. Adopt a national debt policy which limits the servicing of foreign public debt to no more than 20% of exports. At the same time consolidate the administration of external public debt with the objective of reducing interest rates and increasing the repayment period through a shift, where possible, from short-term private sources of credit to long-term financing from the international lending agencies.

4. Allocate government revenues in the period 1974-1978 so that primary emphasis is given to infrastructure investments, to support economic activity, social services and human resource development.

5. Follow a process of urban planning which includes:

- a) The immediate development and implementation of a transitory operational program to improve the efficiency of the city.
- b) The analysis of alternative urban concepts for the future Managua. The principal criteria in evaluating these alternatives should be minimization of costs and seismic risk.
- c) A project of pre-investment studies designed to reveal the necessities of the city of Managua in

1978 including the areas needed for industry, commerce, and housing and the services and various infrastructure needed to support projected city activity.

- d) The development before the end of 1974 of a complete urban plan which would include zoning regulation, and a detailed calendar of infrastructure to be built in 1974-1978.

6. Follow a process of national economic planning which would require that:

- a) By the end of October, 1973, the Junta de Gobierno and President of the National Emergency Committee a) adopt a series of national objectives such as those suggested in this document; b) assign areas of responsibility for planning and implementation to the different government agencies; and c) give each government agency a tentative estimate of the resources which they will have during 1974.
- b) By mid-December, 1973, each government agency would be asked to prepare a plan of action for 1974 and a strategy for the period 1974-1978. This plan should include specific objectives and priorities, an estimate of costs, and a calendar of action all of which are consistent with the overall strategy adopted by the Government.
- c) The Central Government should analyze and, if necessary, modify and then approve these plans by January, 1974 so that implementation for 1974 can begin right away.

7. To implement the planning process recommendations above (points 5 and 6) we consider that it will probably be necessary to make the following organizational modifications:

- a) Consolidate the work of urban planning in a metropolitan entity which will have both the legal powers and capacity of staff to coordinate all the elements

- involved in the reconstruction of the city.
- b) Establish or reinforce regional entities capable of developing and implementing the strategy which will be necessary to create viable secondary growth poles.
 - c) Establish a staff or technical group to work directly with the Central Government 1) to elaborate objectives and tentative resource allocations for each of the different government agencies; 2) to review and evaluate the plans for 1974 of these entities; and 3) to design and implement an executive information system which will serve the needs of the Central Government during the Reconstruction period.

UNITED STATES GOVERNMENT

Memorandum

TO : THE FILES

DATE: September 7, 1973

FROM : Robert E. Culbertson, Director

SUBJECT: Dr. Adolph Ciberowski's Prescription for Managua Reconstruction Planning

On September 5, Dr. Adolph Ciberowski, Director of Urban Planning of the United Nations, gave us the following outline of his recommendations for proceeding with reconstruction planning in Managua. He indicated that his recommendations have already received the approval in principle of the GON, specifically of General Somoza, Minister Valle Olivares and Urbanismo Director Lopez.

THE FIRST STEP. SYNTHESIS OF EXISTING STUDIES

THE FIRST STEP, Ciberowski said should be taken by Urbanismo which must pool together, analyse and sort out all of the recommendations that have been made by various groups up to this point for reconstructing Managua. There have been a number of studies made resulting in recommendations many of which are excellent and should be adopted. In addition, there are a number of recommendations that are common to all of the groups that have studied the problem. These suggest a consensus and consequently a sound basis for adoption and action by Nicaragua.

The reports to be collated would include the INCAE-sponsored report of Drs. Mann and VonMoltke, the Mexican proposals, both those already made and those to be made available on September 11, George Nez's reports, the report of the International Panel of experts sponsored by IBRD, and the related reports of geologists and seismologists such as those of the U. S. Geological Survey.

Urbanismo would be allowed six weeks to make this collation and analysis and to complete THE SECOND STEP, as defined below.

THE SECOND STEP. BASIC GUIDELINES

On the basis of the analysis Urbanismo should draft and the Government should promulgate a statement of the basic guidelines that will be followed in the reconstruction of Managua. These basic guidelines, taken from the analysis, would be concise, would define a policy (not a detailed strategy), and would reflect a selection from among the recommendations made by the various groups of three key points, consistent with each other, that best reflect the decisions of the Nicaraguans as to the principles they want to follow in rebuilding Managua.



Dr. Ciberowski indicated that there are five basic points that he believes should be included in the above mentioned guidelines:

1. Provision should be made for the reconstruction of some of the facilities lost in the Managua earthquake outside of Managua, in the secondary cities.
2. Improved building standards is an intrinsic, top priority part of whatever scheme for reconstruction is adopted.
3. Although provision for the reconstruction of productive facilities should be made outside of Managua, Managua should be recognized in the plan, as a matter of principle and policy, as the continuing cultural and political center of Nicaragua.
4. The Ministry of the National District, Department of Urbanismo, must unequivocally be designated the responsible agency for implementing the master plan for Managua reconstruction.
5. All of the population, of Managua in particular, and of Nicaragua in general, should be involved as participants in the planning and implementation of reconstruction. Urbanismo should formally and continuously invite the participation of professional groups, and the citizenry in general, including school children.

THE THIRD STEP. THE MASTER PLAN

As the development of the master plan follows upon the adoption of the basic guidelines referred to above, the decision must be made as to whether the plan will be enforced flexibly or rigidly. This has to do with the assignment of and limitations on the uses of land, by location--or the zoning plan. It is Ciberowski's opinion that the Managua plan should be rigidly maintained for the first five years. While this is not consistent with normal urban planning doctrine, it is essential that the scheme devised for Managua have five years of protected life before flexibility sets in, in order to avoid total early chaos.

Ciberowski believes that the preparation of a complete and adequate master plan, ready for Urbanismo to implement, down to guides for location and building permits and building inspection will require one and a half years. Short-cutting this process should not be attempted.

THE FOURTH STEP. THE CENTRAL AREA

The central area is of very special importance and the planning for its reconstruction must be done with great care, with full

regard to the complex and sensitive issues and interests involved. The basis for the carrying out of this planning, which amounts to a special project within the master plan, should be an open, public competition for land use and architectural design of the central area. The importance of competition is, first as a safety valve for pent up emotions held by so many who have such vital vested interests in the center. Secondly, the choices to be made are so important, difficult and complex that maximum competition is necessary in order to get the best possible plan that is objectively defensible and, at the same time, most adequately achieves the proper balance between individual interests and the public interest. Central to this is the assumption that no matter what plan is devised for the center, public use of the land will be very substantially emphasized at the expense of the degree of private use that was in effect before the earthquake.

Competition could be open only to Nicaraguans, or the geographic area could be extended, or the competition could be made fully international. Joint-venture competitors could be permitted. International competition would be the optimum choice.

As to timing, the competition might best be announced in March of 1974 when the chosen guidelines of the GON for the center would become firm. Six months should be allowed for the competition with the winning design selected in October, just a little over a year from now. This would fit in well with the demolition and clean-up efforts which should be in their concluding days by October 1974.

With respect to guidelines for the center that appear now to be desirable, Ciberowski had the following suggestions:

1. In order for implementation of any plan to be effective, the Government should in the first instance acquire all of the land involved in the central city at the prices actually in effect before the earthquake.
2. The Government should pay the former owners for their property in government bonds.
3. These bonds would be used by former owners either to buy back the land so long as it were to be used in accordance with the new land-use plan for the center; or the bonds could be used to buy new land outside the central area.
4. In the GON's allocation of the land within the center, former owners would have priority in re-acquiring their land, to be used within the newly established land-use rules. (Again, it is clear that with the policy of converting the center to essentially public uses, this priority will, in fact, be available only to a limited number of former owners.)

THE FIFTH STEP. INTERIM PLAN

Since the reconstruction of all facilities destroyed by the earthquake cannot await the availability of a master plan that is going to take one and a half years to prepare, there must be an interim plan for the construction of essential buildings, including schools, hospitals and homes. This interim plan should be developed and promulgated rapidly by Urbanismo.

THE SIXTH STEP. ORGANIZING THE MINISTRY AND URBANISMO

The Ministry of the National District and its Department of Urbanismo must be carefully organized to carry out and implement the master plan for Managua's reconstruction. Basically, Urbanismo should be organized into three major units: (a) Urban Development Planning; (b) Urban Development Implementation; and (c) Special Studies. The Urban Development Planning unit would be responsible for developing both the overall and the detailed plans for Managua's reconstruction and development. The Urban Development Implementation unit would include the stages concerned with legal affairs, locational authorizations, building permits and building inspections. The Special Studies unit would be concerned with the relationship between zoning and locational authorization decisions and the seismological facts about Managua.

Ciberowski has made available to us his draft organization plan and a detailed functional statement of the proposed operations of the Department of Urbanismo.

THE SEVENTH STEP. EXTERNAL ASSISTANCE

In order for the reorganized and strengthened Department of Urbanismo to function effectively and to carry out the program outlined above, external technical assistance will be required. The GON has recognized this and has requested the United Nations to supply this technical assistance. The United Nations and the GON are in substantial agreement with Ciberowski's proposal that such technical assistance should consist of a total of 23 experts covering a total of 27½ man-years at a cost of between \$800,000 and \$900,000. The experts from abroad would be provided to Urbanismo at the Director level, at the principal unit level (three basic units), and also at the next level below which consists of nine units. Some experts would remain as long as 24 months. This would include the counterpart to the Director of Urbanismo. Other experts would serve for as short a time as three months. As indicated, the total man-years would be 27½, the total man-months, 330, and the number of different experts, 23, for an average per expert of 1.2 man-years.

In addition to the experts, the budget for external assistance would require funds for fellowships and for equipment. It is estimated that these would cost \$200,000, making the total budget for external assistance approximately \$1 million.

Ciberowski indicated that the United Nations could supply one-third of this amount. He would be most gratified if A.I.D. could contribute one-third, with the balance to be sought from among the OAS, IDB, IBRD and through bilateral assistance from Japan and Canada.

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SPEECH BY GENERAL SOMOZA

In the name of the Nicaraguan people, their government, and on my behalf, I wish to thank the organizers of this Conference for giving me the opportunity to address you and the American people with whom we have had such close relations.

As you probably know, Nicaragua is often called the "Land of Lakes and Volcanoes". Our volcanic eruptions are famous, and earthquakes have been with us since time immemorial.

The city of Managua, located on the shores of Lake Managua and ringed by four lagoons, covers an area of about thirty-five square miles. As well as being the capital, it is the center of all the commercial, industrial, financial, and cultural activities of the country.

I was at home with my family when we were hit by one of the greatest tragedies in the history of Nicaragua - the Managua earthquake. It was twelve-thirty in the morning of December 23, 1972 when the city of Managua was rocked by the quake. Within six or seven seconds the following had taken place:

- Over ten thousand had been killed;
- Some twenty thousand injured;
- Fifteen hundred city blocks had been flattened;
- Over fifty thousand homes had been totally destroyed;
- Four hospitals had been reduced to rubble;
- The facilities of the Red Cross and Fire Department had been demolished;
- Over twelve hundred classrooms had been wiped out;
- The water, light and sewage systems in the fault areas had suffered eighty per cent to ninety per cent destruction;
- The four public markets had been destroyed;
- Telephone, telegraph, radio and television facilities had been knocked out;
- The police and armed forces had been rendered inactive;
- Small business had suffered 90% losses;
- Industry had lost 25% of its facilities;
- The banking, commercial and governmental services had been paralyzed;

And amidst all this death and destruction, Nicaraguans were forced to suffer hours of terror, pain and shock. Over half a million anguished inhabitants knew not where to turn that dark and tragic night.

However, all this was not immediately obvious. With only rudimentary facilities at my disposal, I initiated the first investigation into the situation existing in what remained of the command posts under my direction as Commander-in-Chief of the Armed Forces. As the messengers I sent returned with their information, I gradually came to the realization and understanding of the magnitude of the tragedy that had befallen our people. Then came the confirmation that all centers which allowed the carrying on daily activities had also been destroyed. Fire was finishing off the devastation caused by the earthquake, while we stood by impotent, unable to fight the fires without equipment or water.

Two, three and four o'clock in the morning government and military officials, as well as personal friends came to offer the assistance they knew would be required in the emergency. At perhaps six in the morning, I surveyed the city from a helicopter and could only confirm the information given me, Managua was no more.

I must express my gratitude to your Ambassador, Mister Turner B. Shelton, who had put at my disposal the only available means of emergency communication with the outside world, the radio equipment still operating in the ruins of the American Embassy.

Our call for help was answered immediately, and in the early hours of the morning of December 23, the first assistance from your great country arrived by express orders from President Richard M. Nixon, Central American countries sent fire fighting equipment and ambulances to replace our equipment which was buried in the rubble. You sent us doctors, nurses, technicians, medicines, food, clothes, and equipment. Latin America and the rest of the world also contributed generously to the praiseworthy rescue work which alleviated the suffering of my people.

Later in the day, the Government Council, the Cabinet and I held our first work session. At that time, it was decided to form a non-profit National Emergency Committee, of which I had the honor of being named President. With this great responsibility on my shoulders, I asked those who had offered me their assistance to continue with the rescue of the injured and the removal of the bodies of those who had lost their lives. To facilitate an orderly exodus, avoid panic, prevent and epidemic, and control and protect the population from further loss, Managua was declared an open city.

After we had given the dead a christian burial, we proceeded to take the strictest sanitary measures possible to prevent an epidemic. One radio station was put into operation so that we could communicate with the people, giving them orientation and instruction.

Once the injured were rescued, and the dead buried, I ordered the evacuation of the city. Seventy-two hours were sufficient to evacuate three hundred thousand persons. Each family took its belongings thus avoiding looting. I must pay tribute to the Nicaragua people who showed on that day they could bear up under such harsh and painful circumstances.

After the downtown area of Managua was evacuated, an area of approximately six hundred city blocks was fenced in to protect the merchandise still stored there, as well as valuable personal belongings which had been left behind. Three control gates were left, through which, as the months passed, the goods from the warehouses, as well as from private homes, passed in an orderly fashion with no further riots after the immediate post earthquake ones.

After the three days of evacuation operations, we were able to organize the activities of volunteer groups sent by international organizations who dedicated themselves to the distribution of water and food among the earthquake victims. Since our country is used to elections, we decided that the most organized form of food distribution was through the polling precincts in the areas of the capital, least affected by the earthquake. This was an efficient way of carrying out the distribution of food, water, clothes, and medicine to the distressed citizens of Managua.

Everybody knew where their precinct was and went there. These precincts served throughout the country wherever quake victims sought refuge. Through them, six hundred thousand food rations were distributed daily during the first week, and in this manner, desperation and looting were prevented.

The Armed Forces never had to use their weapons to keep the citizens under control.

Meanwhile, the International institutions such as the organization of American States, the Agency for International Development, the Inter-American Development Bank, the World Bank, the International Monetary Fund and the Central American Bank for Economic Integration and our Government initiated the exchange of views which put us on the road to reconstruction.

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We not only received donations from the International Agencies, but also low interest, long term loans for the emergency program. The United States donated eleven thousand provisional homes. The three tent cities erected in the Managua area were also donated by the United States Government.

Within two weeks, potable water, electric power and communications had been reestablished, outside the downtown area of the city. Now, eleven months later, all the services interrupted by the earthquake are functioning satisfactorily. Those which needed only repair were reestablished within a short time and those which needed reconstruction are nearing completion. In this area, I can mention hospitals, schools, and business facilities.

Although we can say with all certainty that the energy loosed on Managua was equivalent to six atomic bombs, of World War II strenght, with the assistance of International aid and the socio-economic emergency measures carried out on a national level, Nicaragua has recovered one hundred per cent of its gross national product and unemployment has been abolished.

To achieve these ends, agricultural exports were taxed 10%, laborers contributed with more work for the same salary, and the great majority worked for food alone. And Government employees, as well as the armed forces, agreed to donate one month's salary for two consecutive years. I wish to give special mention to the generosity of the stevedors who unloaded sea and air shipments for sixty days without pay.

After lengthy discussions with international experts and extensive studies, it was decided to rebuild Managua on the same site. The Mexican government then offered the Nicaragua people technical assistance in drawing up detailed plans for the development and reconstruction of the new Managua. The National Emergency Committee held public meetings every night, where the steps to be taken were discussed with the international agencies and private enterprise. A group of international experts, specialists in different fields, coordinated by the organization of American States, gave its first report which contained the basic outlines of the new city.

The Central American Institute of business administration was organized as consultant to the Government and the National Emergency Committee. A national panel on which all the public and private activities of the country were represented was organized to give their views on the planning of the new city. Famous urban experts have studied our problems. Only magnificent coordination and good will made it possible to produce a document of such great importance, in such a short time, as the Mexican

Plan for the new Managua, which was presented to us by the Mexican government, on the 29 of September. For this we are deeply grateful to His Excellency, President Luis Echeverría.

It will be necessary to undertake extensive investigations in order to arrive at the final conclusions as to the most desirable size and type of construction for intensive housing in the Managua area. However, our private enterprise system, which is what our country believes in, has adopted the overall plan of the Mexican government, in which areas will be developed which will have all the services necessary to a small community, and where both high and low income families will reside. The downtown area is the only one with two alternatives. Alternative "A" was adopted since it would make maximum use of the already existing infra-structure of the ruined city.

The cost of the reconstruction will be no less than five hundred million dollars. However, before the earthquake, we estimated that there was an annual loss of thirty-two million dollars because of the inefficient manner in which Managua was distributed. To avoid this expense, it would have taken about twenty-five years to remodel the city. But the Nicaraguan people have come to understand that with the proper financing, the reconstruction of Managua can be paid by correcting the transit and service patterns of the city.

The burden will be a heavy one for Nicaragua, however, we trust that we will be able to shoulder it with intelligence and integrity. We must plan our investments, both in time and priority, so that our decisions will be approved by future generations, and we can then well say that the victims of the twenty-third of December and tragic destruction of our capital city will not have been in vain.

The fact that since seventy-two hours after the earthquake there have been no riots for food, medicine, or medical care, is the best indication to the world, of the equitable and honest distribution of the goods sent to the earthquake victims. Despite this admirable record, Nicaragua still needs aid and donations, which, together with the willing spirit of the Nicaraguan people, and by the grace of God, will result in the total reconstruction of Managua.

Development, will install one of the most complete and modern seismological network in the world, which will be a valuable contribution to scientific research benefiting humanity.

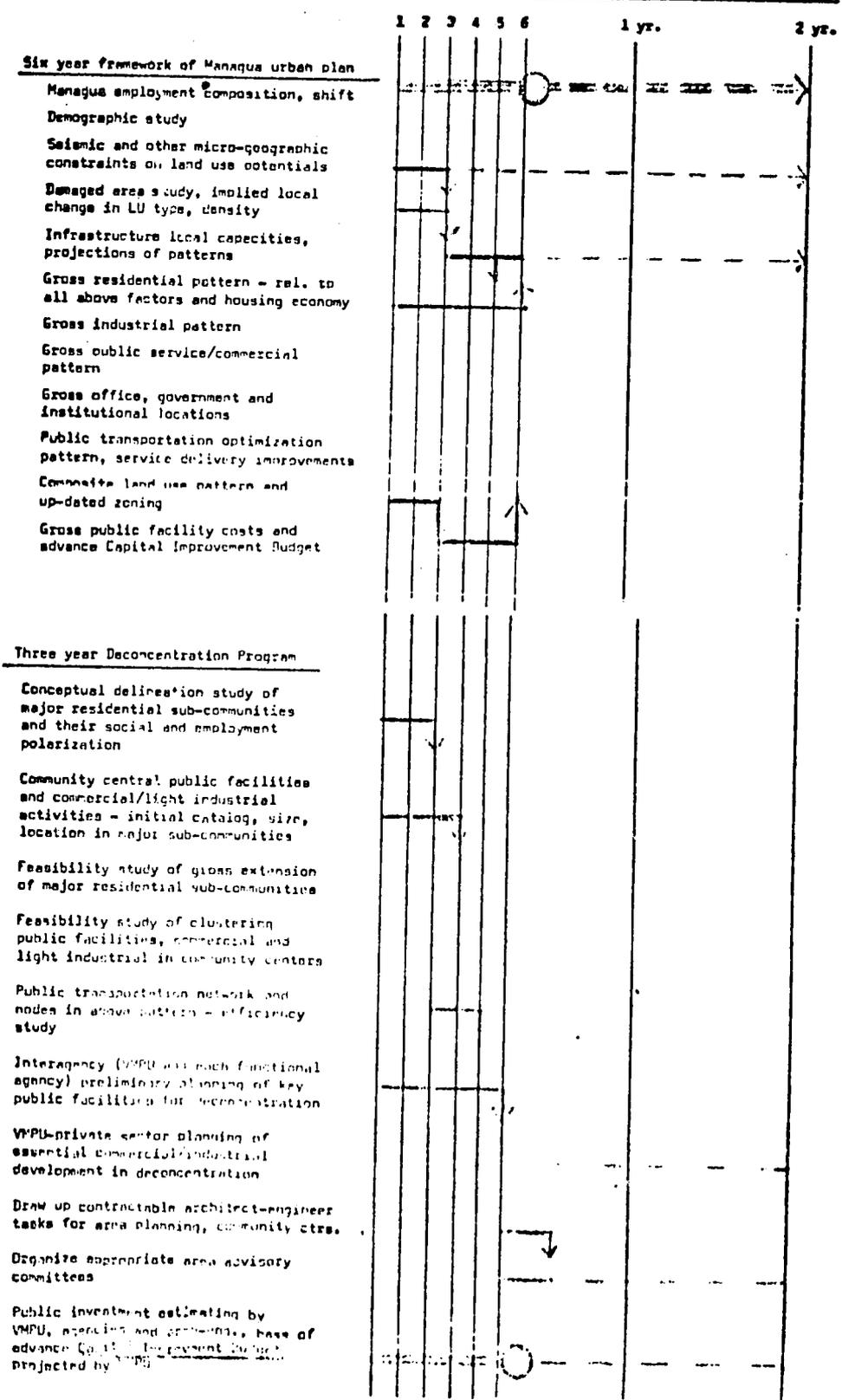
In the name of the Nicaraguan people, I wish to express our heartfelt gratitude to those of you who have dedicated your professional and personal time on behalf of Nicaragua, as well as to those institutions which have so willingly given us their assistance. I would also like to thank the Nicaraguan communities of Los Angeles and San Francisco who responded so generously to their country's call for help. Finally, allow me to extend an invitation to everyone present to visit our capital, a visit which would be one more indication of your interest in the success of the reconstruction of Managua.

Thank you.

Friday, November 30, 1974
San Francisco, California

**Illustrative List of Reconstruction Planning and Special Studies
To be Undertaken by the VMUP as part of the Immediate Action
Program**

PLANNING REPORT PERIOD - after project loan



Outlining the new use composition of destroyed area

Analyze future basic separation between national land uses for center and local community services and commerce for sub-community centers

Develop timing plan of appropriate studies and steps in central redevelopment - separate phases for seismic microzoning, foundation work, major utility work, major grouping of land uses, landscape and tree work, major transport elements

City-wide seismic microzoning and permitted types construction/land use

Plan logical succession of micro-zoning study areas - according to reconstruction and deconcentration timing objectives

Integrate seismic studies with public utility and transportation improvement locations, timing

Adapt building code to seismic and foundation studies, area by area as completed

Provide adequate public information, education, area specific meetings, simplified instructions on building safely in certain seismic/foundation zones

Organize flow of Plans through VMPU

Chart the early flow of preliminary plans, projects and capital estimates through VMPU, OCI and line agencies

Specify VMPU role in advance Capital Improvement Budgeting - period of lead time, budget categories, form and timing of CIB report, further steps in review and adoption

Work out corresponding role of MDF Office of Coordination of Investments (OCI), in current year project financial packaging from component sources, processing of projects, accounting control

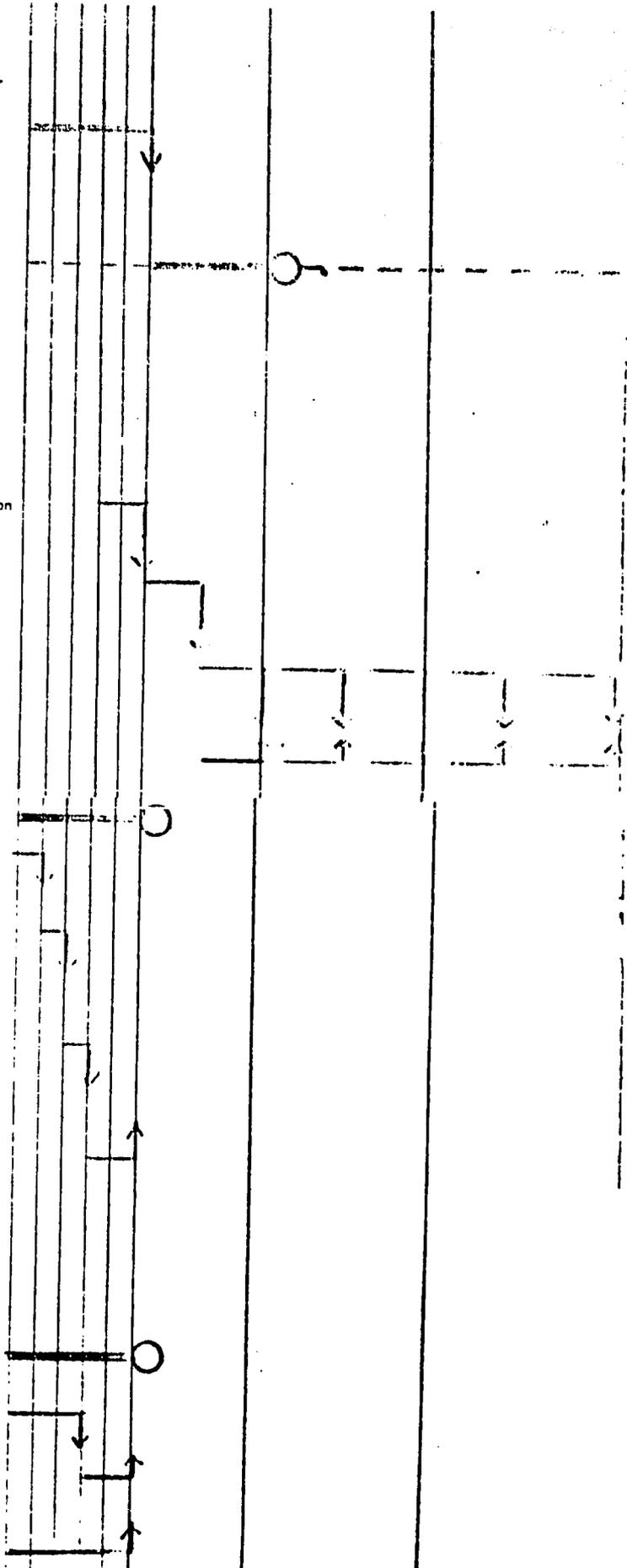
Work out the roles of line agencies corresponding with the preliminary planning and CIB process - and with final execution

Analyze project development capabilities of line agencies (by VMPU and OCI)

Agency-by-agency status review of programs and projects (project inventory and degree of specification)

Evaluate future project preparation and execution capability of line agencies - constraints in technical information, staff, policy

Analyze specific type constraints in basic materials, labor, construction



ILLUSTRATIVE TIME PHASED IMPLEMENTATION PLAN OUTLINE

ACTIVITY	IMMEDIATE ACTION 6 MONTHS						CONSTRUCTION PERIOD - 5 YEARS - 9 MONTHS					
	1	2	3	4	5	6	TERM OF AID COMMITMENT PERIOD 1 ST YEAR	TERM OF AID DISBURSEMENT PERIOD 2 ND YEAR	TERM OF AID DISBURSEMENT PERIOD 3 RD YEAR	TERM OF AID DISBURSEMENT PERIOD 4 TH YEAR	TERM OF FINANCE BY OTHER DONOR AGENCIES 5 TH YEAR	6 TH YEAR
I. REFINE METROPOLITAN LAND USE PROJECTIONS TRANSPORTATION, HOUSING, INFRASTRUCTURE - ETC.												
IIa. DECONCENTRATION PLAN - BROAD STRATEGY AND PATTERN												
b. DECONCENTRATION PRIORITY LOCATIONS AND PRELIMINARY PROJECTS-WITH GON AGENCIES												
c. RECONSTRUCTION CAPITAL BUDGET REQUIREMENTS IN FIRST 2-4 YEARS												
III. PREPLANNING AND PROGRAMMING FOR CITY CENTRAL AREA DEVELOPMENT												
IVa. SEISMIC AND FOUNDATION MICROZONING IN DECONCENTRATION AREAS												
b. BUILDING CODE DEVELOPMENT												
V. RECONSTRUCTION - NATIONAL DEVELOPMENT LINKAGE												
VI. PRIVATE SECTOR PARTICIPATION IN DECONCENTRATION AREA PLANNING												
VIIa. INFRASTRUCTURE CAPACITY AND DEVELOPMENT PROGRAM												
b. ORGANIZATION STUDIES FOR A REDEVELOPMENT CORPORATION AND TRANSPORTATION AUTHORITY												
c. ANALYSIS OF IMPLEMENTATION AND PLANNING CAPABILITY OF GON AGENCIES												
d. OTHER STUDIES												

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HOME IMPROVEMENT CREDIT FOR LOWEST INCOME GROUPS

(A USAID/Nicaragua Staff Paper)

- I. General: The Mission recognizes that physical improvements to Managua's infrastructure, financed under the Reconstruction and Deconcentration Loan may have a profound effect upon the lives of the very lowest income families who comprise 55% to 60% of the population. Some families will encounter new economic opportunities and others may encounter opportunities to improve their standard of living, though direct economic effects are minimal. The condition of these poor people is always precarious, however, and an equal prospect exists that benefits may not pass to the extent desired to this group. It is considered of utmost importance that provision for supplementary credit be developed for small business loans and loans for domestic purposes; specifically, for the population group earning less than US \$20 per capita per month. Home improvement credit is defined as credit for purposes not allowed under present loan programs, including housing, land, furnishings, public utilities connections, and education and training.
- II. Need: A number of specific needs for such credit will be generated as a direct effect of the extension of municipal infrastructure and planning policies into and adjacent to low-income communities.
- A. The extension of water and sewer lines will motivate low-income families to seek to secure full plumbing installation in their houses. A basic plumbing installation may cost \$115 in materials plus \$57 for an initial sewer fee and \$85 for an initial water fee including meter and necessary piping. A minimum electric wiring installation may cost about \$37 in materials and \$17 for an electric meter, exterior supply wiring and fee. The cost for materials and essential fees will total a minimum of \$311 plus perhaps 30% to 50% for skilled labor.
- B. Many persons living in the low-income communities to be improved under the proposed loan are living on land which may have been passed down through their families or purchased over many years but not titled legally to them. It is estimated that legal titling costs for a lot valued up to \$950 would cost \$19 for titling alone and a total legal and tax charge of \$50 if titling is combined with a mortgage loan for the lot.

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- C. While properties valued at less than \$4,300 are exempt from ordinary real estate taxes, infrastructure extension costs into very poor neighborhoods may be partially repaid by means of a one-time special assessment fee. Infrastructure costs per lot may cost from \$400 to \$1000. A special assessment tax at 50% of value which may be considered equitable for a middle income neighborhood would result, however, in an extraordinary credit charge on very low incomes. The tax can be paid by extending the appropriate deferred payment and credit services.
- D. Persons who were formerly renters, borrowers, or squatters on property in the improved neighborhoods, may be displaced by events associated with the appreciation of property values. Landlords may repossess the improved property for sale or rent to higher bidders. Land "banked" by the GON to clear fault areas for parks or for consolidation of commercial or institutional uses will displace others. Median cost to these displaced families to purchase a lot in the outer zone of Managua is currently averaged at \$730, or about \$2.90 per square meter for an average lot of 250 square meters in area.
- E. In most instances it is anticipated that displaced families who were squatters or borrowers of land will be able to salvage most of the material of their former shack and reconstruct the shack on a new site. Some 12.04% of low income families in the inner and outer zones of Managua are squatters or borrowers of land (about 14,500 families). Most of these dwellings cost their owners between \$30 and \$70. Additional credit is required to provide a minimum sanitary standard represented by a concrete floor (\$200) and an additional room to lower the current very high densities found in these accommodations. New standard dwellings are also needed in groups of 5 to 20 on subdivided larger lots as the traditional older neighborhoods are filled in. The average unit cost should be held between \$400 and \$2,000.
- F. The improvement of infrastructure and services in low-income neighborhoods will lead to a heightening of real estate values and a more efficient use of land. Large lots will be subdivided. Marginal land will be brought into use. More low-income people will be attracted. Projections of the Vice Ministry of Urban Planning indicate that the population with family incomes below \$140.00 will increase by more than 86% between 1974 and 1979.

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primarily in the established low-income neighborhoods. These families will tend to mix on an odd lot basis into the existing community and will also require credit to purchase land and build their dwellings. Other families will desire to move to alternate locations as their circumstances and jobs require.

To these direct effects of the improved community infrastructure should be added several indirect effects.

- G. The community as a unit will be and should be stimulated to carry out improvements consistent with its upgraded physical status. Tree planting programs, community parks and meeting rooms may be constructed. The paving of walkways would be a particularly useful candidate for the use of credit to local associations.
- H. For some families, closer contact with the regular services and standard infrastructure of the municipality, as a result of investments made by the Proposed Reconstruction Loan, will result in a powerful personal stimulus to their lives; better transportation on paved roads means access to education and a larger job market.

Increased status resulting from the upgrading of an individual's premises can reinforce his natural tendency toward upward socio-economic mobility--generating further needs. Vocational education purposes are outstanding examples of the contribution which domestic purpose credit can make. Credit and technical assistance to establish neighborhood cooperatives selling basic foodstuffs, utensils and hardware at bargain prices is another example. Savings and new earning capacity realized by such programs can be important to habilitating capable families up into the economic mainstream. Reliable sources for personal credit for home improvement at reasonable rates for families with monthly income below \$20 per capita are non-existent in Managua.

- I. Because reasonable sources of domestic credit are nil and because the need is often acute, families which may qualify for business credit often use portions of funds borrowed for that purpose for personal use. In Managua there are four or five institutions with favorable lending programs for business purposes. A survey conducted by one of these institutions

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has revealed that at least 20% of the borrowed business credit is typically rechannelled for domestic needs. Such practices add to the risk of business loans and to the tendency to delinquency while failing to satisfy borrowers' needs for domestic purpose credit. A regular source for domestic purpose credit will make more efficient use of new and existing funds for both home improvements and small business credit.

- J. Current surveys carried out in peripheral and inner city low income neighborhoods indicate that 70% to 80% of the residents have never heard of a community group in their area which is trying to improve conditions for them. This is not, of course, surprising because there is very little visible evidence of such activity. The result, however, is to effectively isolate the predominant low-income sector of the population from participation in decisions made for their communities by government. See Table 1.

At present in Managua there is a need to upgrade community group action so as to represent residents in decisions to improve their communities and prepare alternative programs of mutual action to help residents cope with and add to their improved environment.

III. Demand:

- A. The Lowest Income Population - Every income group will experience some adjustment in coping with events brought about by a change in their upgraded neighborhood as a result of the Proposed Reconstruction and Deconcentration Loan. The group to which adjustments may become problems is the lowest income group without savings or other personal resources and for which the available sources of home improvement credit are closed.

The critical group is composed of those families earning less than \$35 to \$42 which could not even qualify for alternative housing in the "Las Americas" communities under the Mission's Low Cost Housing Loan Project. The lowest income group for which access to a regular system of domestic purpose credit is available is that group earning at least the legal minimum wage (\$62 per month), paid by employees affiliated with the Banco de Credito Popular. It is estimated that a maximum of 10% of the group earning from \$62 to \$100 per month enjoys such stable employment.

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There is a scarcity of information on the present population. The Vice Ministry of Urban Planning quotes August 1973 figures of a Managua population of 288,000. This omits many important outlying neighborhoods to be included in projects of the Proposed Reconstruction Loan. Increasing this figure by 37,200 (estimate by the Office of Census for early 1974) to account for these neighborhoods, and then assuming a constant function in the estimate of growth to 600,000 by 1969, give an approximate present population of 380,000 persons.

Average family size in Managua before the earthquake was officially placed at 5.4 persons. This would mean that there are 70,000 families in the city. Among low income families the average family size since the earthquake has been tabulated at 6.15 persons and special low average family size figures of 4.5 persons in the crowded cuarterias (one story tenements).

On the basis of income data shown in Table 2, it is estimated that about 12% of the population earns less than \$35, another 14% earn between \$35 and \$62 while 29% earn more than the legal minimum wage but less than \$100 per month. While these figures can only be the roughest interpretation, the best estimate is that 28,000 to 30,000 families are without access to a controlled and reasonable system of domestic purpose credit. The number of families will increase to almost 50,000 families by 1979 according to current population projections.

Exhibit A based on projections made by the Vice Ministry of Urban Planning shows the present distribution of families earning less than \$100 per month. By zone the distribution is as follows:

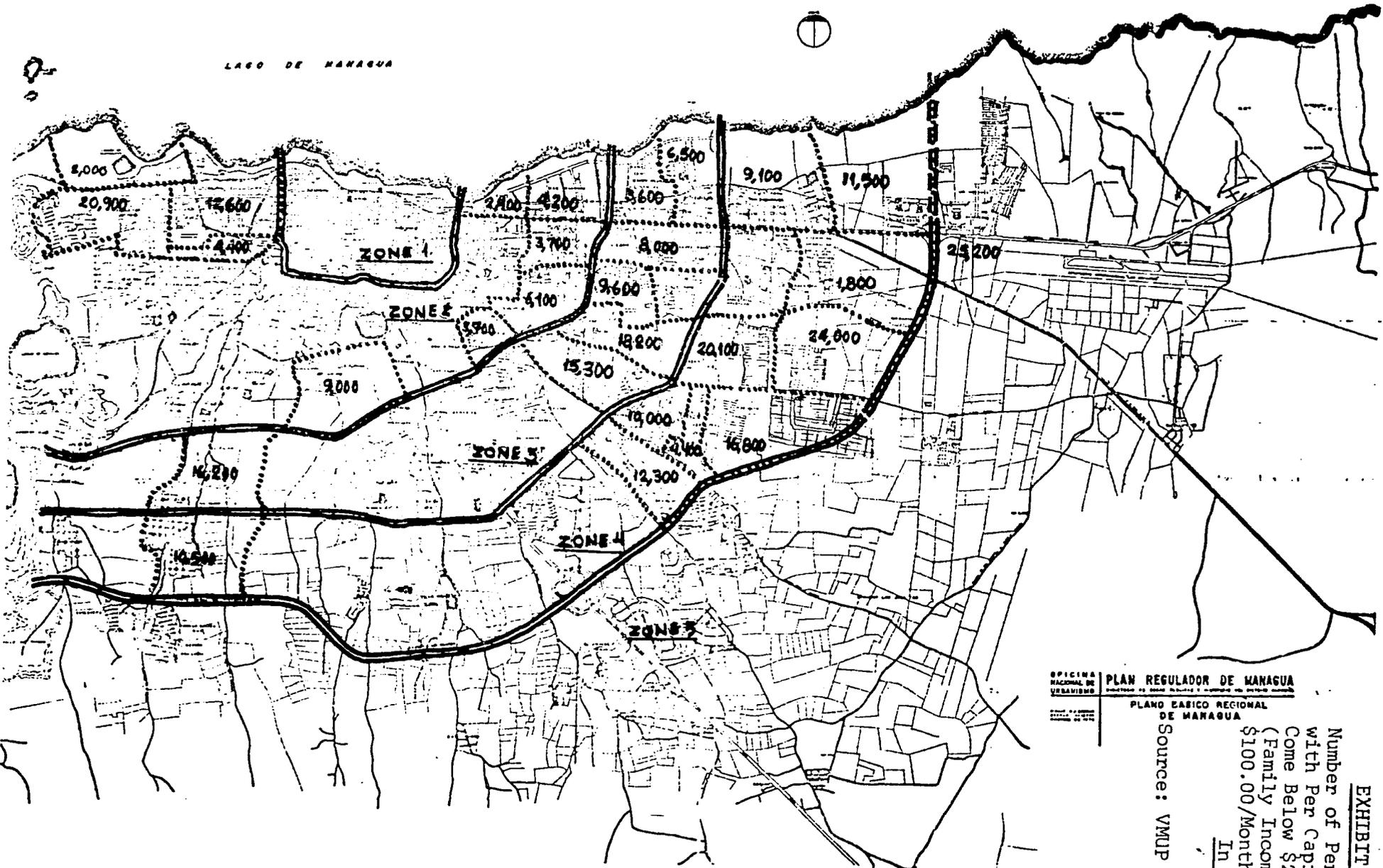
Zone 4-5 (low density 6.15 pers/fam)	=	72,000 persons	11,700 families
Zone 3 (moderate dens. 5.4 pers/fam)	=	41,900 persons	7,800 families
Zone 2 (high density 4.5 pers/fam)	=	<u>37,800</u> persons	<u>8,500</u> families
		152,000 persons	28,000 families

By 1979 the Vice Ministry projections indicate that perhaps as many as 140,000 new very low income inhabitants will be distributed throughout the urban structure as follows: See Exhibit B.

Zone 4/5	=	145,700 persons (+100% of 1974 population)
Zone 3	=	77,400 persons (+ 85% of 1974 population)
Zone 2	=	<u>69,000</u> persons (+ 83% of 1974 population)
		292,100 persons

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LAGO DE MANAGUA



OFICINA NACIONAL DE URBANISMO
 PLAN REGULADOR DE MANAGUA
 PLANO BASICO REGIONAL DE MANAGUA

Source: VMUP

EXHIBIT B
 Number of Persons with Per Capita Income Below \$20.00 (Family Income Below \$100.00/Month) - In 1979

Most of the increase of the very low income population is expected to take place in the path of the first priority improvements proposed under the Reconstruction and Decentralization Loan.

- B. Savings Capacity - The ability to make use of home improvement loans is directly related to the ability of lowest income families to save regularly each month the repayment charge. Individual savings for families earning less than \$35 in cash per month and less than \$100 per month have been published for Tegucigalpa, Honduras, and Bogota, Colombia. They are remarkably similar. See Table 3.

Clearly the bulk of family savings must come from economies in food expenditures with lesser savings realized in the cost of drinks and tobacco, entertainment, personal expenditures and clothing. More may be proposed to be spent on health care and rent to assure more attendance to income generation and an improved living environment.

The Banco Credito Popular is currently carrying out a family budget survey in "Las Americas" No. 2. The survey shows that families living in this community pay 60% monthly wages on average for food purchased principally at the central market rather than at retail outlets in the community. Transportation costs on average per family total \$1.50 per month and the retail margin of sellers in the market over wholesale prices of an average monthly purchase of \$43.00 are \$8.50 or 20%. At least \$7 per family could be saved by a non-profit cooperative sales outlet located in the community. The consumer cooperative operating in the "El Porvenir-Ciudad Jardin" community has prospered while returning a 15% patronage refund to its membership. Average income of families in "Las Americas" No. 2 is about \$100 per month.

A thorough nutrition training program and consumer cooperative for wholesale purchase and resale of foodstuffs and other basic goods may be established to increase savings potential. It is unlikely, however, that savings greater than 12% per month of income may be realized.

Several formulae are successfully in use for higher income families to relate their financial resources to borrowing

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TABLE 1

AWARENESS OF COMMUNITY BASED ACTIVITIES

Answers to the question, "Are there any community groups in this barrio trying to improve conditions here?"

Unit: % Families in each category

<u>Category</u>	<u>Yes</u>	<u>No</u>	<u>Don't Know</u>	<u>No Answer</u>
Managua	21.90	52.50	23.50	(1.12)
Inner Managua (Zones 2 and 3)	14.15	61.44	21.98	(1.20)
Outer Managua (Zones 4 and 5)	25.89	47.90	24.34	(1.08)

Source: INCAE Centro Survey

Membership of community groups.

The following table shows the percentage of all families interviewed who have one or more members of the family participating as members of a community group.

	% of families containing member of group(s)
Managua	3.88
Inner Managua	2.10
Outer Managua	4.80

Source: INCAE Centro de Asesoramiento survey of 1000 very low income families in Managua, March-April 1974.

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TABLE 2

INCOME DISTRIBUTION DATA FOR MANAGUA
AND 7 OTHER CITIES

Percent of Population Surveyed

Cordobas	<u>For Managua</u>		<u>In 7 other cities</u>
	Housing Bank Survey of July 1973	University of Colorado Survey of July-August 1973	Housing Bank Survey of July 1973
0 - 300	10.6)	40.2%	13.5)
301 - 500	29.1)		24.1)
	39.7%		37.6%
501 - 1,000	40.0)	46.6	35.4)
1,001 - 1,500	10.1)		11.1)
	50.1		46.5
1,501 - 2,000	4.0)	6.6	6.6)
2,001 - 2,500	1.7)		2.3)
	5.7		8.9
2,501 - 3,000	1.5)	6.6	2.9)
3,001 and over	3.0)		4.1)
	4.5	100.0%	7.0
	100%		100%

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TABLE 3

COMPARATIVE BUDGET ANALYSIS
ANNUAL FAMILY INCOME US \$750.00

<u>BUDGET EXPENDITURES</u>	<u>A</u>	<u>B</u>	<u>C</u>
	Central Tegucigalpa ^{3/}	Bogotá ^{4/}	Projected Family Budget Improvement From Integrated Consumer Services as Part of the Proposed Home Improvement Credit
FOOD	55.8%	58.2%	45.0%
RENT	16.3%	24.5%	25.0% ^{2/}
CLOTHING	10.9%	5.4%	7.0%
HEALTH	1.5%	1.4%	2.0%
PERSONAL ^{1/}	2.4%	4.7%	2.0%
ENTERTAINMENT	3.6%	0.6%	2.0%
DRINKS/TOBACCO	4.5%	0.5%	0.5%
TRANSPORT	3.3%	3.7%	3.5%
OTHERS	<u>1.6%</u>	<u>0.9%</u>	<u>1.0%</u>
TOTAL	100.0%	100.0%	88.0%
			SAVINGS <u>12.0%</u> = \$90.00 100.0%

^{1/} PERSONAL includes cleaning, haircuts, education

^{2/} RENT and Cooperatives dues equals US\$190.00 per year or US\$16.00/mo.

^{3/} Dirección General de Estadísticas y Censos. "Encuesta de Ingresos y Familiares 1967-1968" - Tegucigalpa, Honduras, April 1970.pp.

^{4/} Centro de Estudios sobre Desarrollo Económico CEDE. "Encuesta de Presupuestos Familiares. May 1967-1968." Univ. de Los Andes, Bogotá, Col., July 1969.

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capacity. The most conservative of these is the credit union which allows credit on the basis of up to twice the value of savings deposits. Assuming that a lowest income family can save \$3 per month or \$36 a year, the family is eligible to borrow up to \$72.* Typically, commercial banks will allow credit up to five times savings or a loan of \$180. Our poorest family would not qualify for a bank loan, however, since commercial banks allow personal loans to persons earning a minimum of \$214 per month. The Banco de Credito Popular which is the only other established institution with a Domestic Purpose loan program provides credit up to three times monthly income. A family with earning of \$30 per month (saving at least \$3) can qualify for credit up to \$90. For this loan credit terms would have to be extended for over 2½ years to allow for repayment of principal and interest. Such a loan would be sufficient, however, to enable the low income family to title their lot or bring water service to their house.

C. DEMAND FOR HOME IMPROVEMENT CREDIT

Home improvement credit and credit for home or land downpayments and debts were even before the earthquake the first or second most numerous use of borrowers in the higher-income lending programs. Only education needs were greater among members of credit unions. Since the earthquake, home repairs, essential furnishing and related costs are overwhelmingly dominant. During 1973 the Banco de Crédito Popular devoted 63% of all its 18,600 loans or \$1,750,000 U.S. worth of funds for its first priority program for use for home improvement, repairs, debts to the Housing Bank of Nicaragua, health, education and tools. It may be estimated that the first three items on the list absorbed more than \$1,500,000 U.S. for the use of higher income and skilled workers.

The Credit Union System with 55 cooperatives and 8,750 members in Managua similarly used more than half of its \$1,375,000 U.S.

* Credit unions affiliated with industries and with access to a payroll deduction system for debt repayments may authorize credit up to more than 8X savings. After six months of affiliation and savings of \$18, a low income can receive credit up to \$107.

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of lending capacity for home improvement uses. Workers affiliated with these organizations earning an average \$100.00 to \$200.00 per month utilized perhaps \$2,000,000 U.S. during 1973. Regular borrowing institutions such as these accounts for less than 6% of the source of credit for lower income people as discussed in Section IV.

Among the lowest income families the most urgent credit demanders will be those with secure tenure of land and dwelling in the path of infrastructure improvements. Currently there are 11,700 families with incomes below \$100.00 per month in zones 4 and 5 to receive the proposed loans first priority investments. Table 4 shows that over 64% of these or 7,500 families are both house owners and owners of their own lot. Table 5 shows that only a little over one-quarter has full municipal utilities and that one-quarter access to no utilities whatsoever.

It is estimated that the totally disadvantaged quarter of this group will have need for credit totaling about \$350.00 to make use of new infrastructure to be installed in streets in front of their houses. The value of this credit is over \$600,000. For the 50% of secure tenure lowest income families in the outer Managua zone with partial utilities it is estimated home installation and connection costs will be valued at, an average, \$175.00. If at least half of these families are also without property titles to their land to qualify for utility connections, the total credit bill would be about \$1.5 million. To install utilities in all dwellings of the outer zone would require \$2.3 million, of credit.

Housing of the very poor in the outer zone is in poorer condition than in the inner zones as shown in Table 6. It would require \$160,000 in credit to put durable floors in the 70% of all the units now sitting directly on the earth.

The very poor live predominantly in one-room houses as shown in Table 7. Over 4/5ths live in one room or two room shelters-- the second room usually devoted to a cooking and dining space. To add an additional room for the purpose of separating the sexes or reducing in general the density will require in most cases a doubling of the house size. Since the materials cost of their current units has been placed by them at a value of \$70.00, a new room for at least half of the families with secure tenure in the outer zones represents a credit value of

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TABLE 4TENURE

The table below shows land tenure and shelter-unit tenure in Managua, Inner and Outer Managua, by % of families in those categories:

Unit: % Families in Category

MANAGUA	<u>HOUSE TENURE</u>	<u>LAND TENURE</u>
Owned	68.36	57.50
Rented	20.77	21.59
Other	10.84	22.00
INNER MANAGUA (Zone 2-3)		
Owned	48.48	44.57
Rented	36.74	37.95
Other	14.75	17.46
OUTER MANAGUA (Zone 4-5)		
Owned	78.60	64.01
Rented	12.55	13.17
Other	8.83	22.62

SECURITY OF TENURE

Strategy:	<u>No Reply</u>	<u>Without Contract or Title</u>	<u>With Contract or Title</u>	<u>% With Title or Contract</u>
Cuarteria	13	65	3	3.70
Other Renting	12	104	13	10.00
INVI	1	0	104	99.04
Other Owners	3	87	278	75.54

Source: INCAE Centro Survey

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AVAILABILITY OF SERVICES
IN LOWEST INCOME COMMUNITIES

Category:

Unit: % Families in each category

	<u>Water + Electri- city + Drains</u>	<u>Water + Electri- city Only</u>	<u>Water Only</u>	<u>Electri- city Only</u>	<u>None</u>	<u>Paved Road+ Side- walk</u>	<u>Paved Road Only</u>	<u>Side- walk Only</u>	<u>No Paved Road nor Sidewalk</u>	<u>No Answer</u>
MANAGUA	51.27	17.50	2.96	11.56	15.96	9.31	2.25	1.43	86.48	(0.40)
INNER MANAGUA Zone 2-3	97.28	1.50	0.0	0.0	0.0	11.74	3.61	2.10	81.62	(0.66)
OUTER MANAGUA Zone 4-5	27.59	25.73	4.49	17.51	24.18	8.06	1.55	1.08	88.99	(0.31)
SQUATTING	13.46	26.92	36.53	1.92	21.15	0.0	13.46	0.0	86.53	(0.00)
CUARTERIA	95.06	4.93	0.0	0.0	0.0	20.98	1.23	3.73	74.07	(0.00)
OTHER RENTING	60.00	16.50	3.07	13.07	6.15	6.92	3.84	1.53	86.15	(0.76)
INVI	99.04	0.0	0.0	0.0	0.0	44.76	0.0	0.0	54.28	(0.95)
OTHER OWNERS	34.13	20.13	0.65	18.81	25.82	1.75	0.87	1.09	96.09	(0.21)

Source: INCAE Centro Survey

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TABLE 5

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TABLE 6

LEVEL OF DWELLING IMPROVEMENT

<u>CATEGORY:</u>	<u>MATERIAL PREDOMINATING IN FLOOR- Unit: % FAM/CAT.</u>			
	<u>TILES</u>	<u>'EMBALDOZADO'</u>	<u>EARTH</u>	<u>OTHER/NO ANSWER</u>
Managua	39.20	3.17	56.09	(1.22)
Inner Managua	62.12	3.33	33.03	(1.09)
Outer Managua	27.63	3.11	68.17	(1.09)
Squatters	11.53	9.61	76.92	(3.84)
Cuarterfias	55.55	9.87	32.09	(2.46)
Other Renting	41.53	3.07	53.07	(2.29)
INVI (Not Las Americas)	93.33	0.00	4.76	(1.90)
Other Owners	27.57	2.62	68.49	(1.30)

Source: INCAE Centro Survey

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TABLE 7

DWELLING SIZE

Unit: % families by dwelling size

	<u>% with 1 room</u>	<u>% with 2 rooms</u>	<u>% with 3 rooms</u>	<u>%with 4 rooms</u>	<u>% with 5 rooms</u>
Managua	57.62	30.70	8.29	1.43	1.33
Inner Managua	58.13	30.12	8.43	0.90	1.80
Outer Managua	57.36	31.00	8.21	1.70	1.08
Squatting	65.38	23.07	7.69	1.92	0.00
Cuarterías *	83.95	16.04	0.00	0.00	0.00
Other renting	54.61	37.69	4.61	2.30	0.76
INVI (Not Las Americas)	46.66	36.19	11.42	2.85	0.95
Owner-Occupying	53.61	33.26	8.97	1.53	1.56

* Average family size 4.5

Source: INCAE Centro Survey

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\$300,000.00. Obviously the labor input for all this projected construction must be provided through self-help.

D. DEMAND FOR NEW HOUSING

More than 35% of lowest income residents in Zone 4 and 5 are renters, borrowers or squatters of property (Table 4). This is the most vulnerable to suffer as a result of the change of real estate values. Credit requirements to house these people in dwellings or lots of their own are estimated at least \$1,000.00 per family (\$750.00 per lot plus \$250.00 for a wood frame basic dwelling). The total bill for resettlement in the outer priority zones alone is \$4.1 million. It may be estimated that no fewer than 25% of these renters would elect for this alternative as both practical in terms of their resources and desirable. Credit needs for the first priority renter group for new housing is at least \$1 million representing improvements for 1,000 families.

E. DEMAND FOR AUXILIARY CONSUMER SERVICES

Demand for these services do not draw upon the credit repayment capability of lowest income families but rather support credit capability by generating free and forced savings for these families. In a community of 100 associated family members a cooperative selling basic foods and other goods may realize monthly sales in excess of \$3,000.00. Assuming expenses of from 8% to 10% sales would be adequate to support the necessary staff and expenses. Capitalization costs per project would be less than \$20,000 and may include an employment referral service, health and dental facilities. Five consumer services centers in the principal low-income neighborhoods located in Zone 3 and 4 would require an investment of \$100,000.00

F. PROJECTION OF DEMAND TO 1973

Based on the present lowest income population it has been determined that credit demand totaling \$3,000,000 exists to assist perhaps 9,000 families:

1. Utilities installation and connection and titling \$1,500,000
2. Installation of floors 160,000

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3. Addition of one room to dwelling	\$1,000,000
4. Auxiliary consumer services	<u>100,000</u>
	\$3,060,000

It has been determined that the demand for general purpose credit of the Banco de Crédito Popular has totaled more than 30% of the loans issued in 1973.

At present the National Social Welfare Board (JNAPS) working in the "Las Americas" project site of the AID-financed Low Cost Housing Loan receives requests and seeks assistance for credit at a rate of 1.8 per 100 families per month. The San Pablo Apostol Credit Union has a loan rate of 3.9 requests per month per 100 families. Middle income credit unions and the Banco de Crédito Popular receive requests at the rate of about 8/100 per month. The income range of the "Las Americas" community is closest to the lowest-income sector. The demand rate of about 1.8/100 may be considered the normal rate, without Government intervention to upgrade infrastructure stimulating borrowing. Domestic purpose loan needs may be one-half the monthly rate for a total lowest income population of 28,000 families. If the average loan need is as low as \$50.00, the total annual normal credit needs of the group are about \$1.5 million per year.

5. General purposes, education, furnishings, medical	<u>\$1,500,000</u>
Total	\$4,560,000

IV. PROBLEMS OF THE SUPPLY OF CREDIT

The INCAE survey of lowest income residents in Managua reveals that only 6% of those families have recourse to reasonable loans through regular credit institutions--a total of about 1,700 families. Family and friends may provide credit at no cost, but the family and friends of the very poor are also of very scarce resources. This resource provides credit of the smallest value, most unreliable availability and for the shortest possible period.

Banking and even charitable institutions with few exceptions specifically avoid providing credit for domestic purposes to families earning less than \$100.00 per month, except for mortgage

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TABLE 8SOURCE OF FINANCING (In % of Families Interviewed)

<u>Response</u>	<u>Squatters</u>	<u>Renters in Tenements</u>	<u>Other Renters</u>	<u>INVI Colonies</u>	<u>Other Owners</u>	<u>Average Managua Low Income Families</u>
Personal Savings	0.00	4.00	18.46	14.28	17.54	13.61
Employer	3.84	23.45	24.62	22.85	16.46	18.11
Money Lender	17.30	16.04	13.08	15.23	17.76	16.47
Family or Friends	36.53	34.56	22.31	26.66	23.46	27.73
Bank Loan	3.84	6.17	2.31	13.43	5.92	5.83
'Never Need Money'	28.84	6.17	12.31	4.76	12.28	11.77
Other	3.84	1.23	1.54	0.95	1.54	1.53
No Answer	5.76	7.40	5.34	0.95	3.96	4.40

Source: INCAE Survey March-April 1974

The three important sources of money available to lowest income families are the money lender, the employer, the family and friends. The money lender may be the most convenient source of funds but his interest rate, if computed on an annual basis would equal more than 100%. Most of the money lenders' loans, however, are for small sums --under \$70.00--for terms ranging from days to weeks.

Employers can be counted on as an institutionalized and reliable source of credit at reasonable rates. The lowest income group seldom enjoy stable employment with reliable employers as they are unskilled and of only marginal productivity as labor.

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credit for emergency housing passed directly to small builders as a business loan to them.

- A. Commercial banks make personal loans only to people earning more than \$215.00 per month. There is no special home buying or improvement credit program.
- B. Savings and Loan Associations will issue housing and home improvement loans to savers with incomes of at least \$140.00 per month. One of the requirements for this program is that the house not be of low-cost wooden construction.
- C. INFONAC - The National Industrial Credit Corporation will also make loans to persons earning at least \$140.00 per month. There are no special programs for housing or other domestic purposes.
- D. Banco de Crédito Popular is a Government-directed special institution patterned as a "Workers Bank." Domestic purpose loans are available to families earning less than \$100.00 per month but probably do not reach families earning less than \$63.00 per month represented by the level of the legal minimum wage. The reason is that loan management is carried out through employers who voluntarily affiliate themselves with the Bank and the Social Security System and make automatic payroll deductions of loan repayment charges.

It is estimated that, at most, only 10% of the families earning below \$100.00 per month have affiliation with the Bank because of their inherent marginal labor productivity to established employers. The average income of borrowers of the Bank is \$193 per month. In 1973 the Bank issued about 15,000 domestic purpose loans. All loans in that year had an average value of \$188.00. Loans for domestic purposes in Managua may be valued at more than \$2,500,000 during 1973.

The effective annual interest rate for these loans for lowest income borrowers is 12% for a maximum term of 1½ years (18 monthly payments). The minimum loan is \$34.00 based on a minimum repayment charge of 1/12 of the monthly wage and a 10% required savings deposit (\$3.40 earning 7% interest for the borrower). As mentioned previously, the maximum loan for the lowest income borrower is \$126.00 obliging the borrower's employer to deduct \$8.00 per month from a salary of \$63.00. Eight to 10% of the

eight dollar repayment fee is returned as forced savings to the borrower's savings account. The delinquency rate as of April 30 is 16.8% calculated on the value of loans to families with monthly earnings of less than \$140.00. Delinquency for all of the Bank's credit programs, however, is only 4.7%.

E. Credit Union Movement

There are 55 active credit unions in Managua serving 8,750 families with a total capital of \$1,380,000.

Fifty-three of the credit unions of the city are affiliated with employers and make use of automatic payroll deductions for collection purposes. In Managua more than 8,300 members are affiliated in their place of employment and only about 450 members are members of two neighborhood credit unions relying upon an 'honor' repayment system. For the reason that credit unions are principally affiliated with established employers, they have the same difficulty as does the Banco de Crédito Popular in reaching down to help the lowest (and unstable) income family.

Only one of the two neighborhood credit unions in Managua is active. The San Pablo Apostol Cooperative in the low income neighborhood of Meneses (in Zone 3 of southeast Managua) is five years old. Since 1972 the cooperative has nearly doubled its membership and multiplied its capital at better than 35% per year. There are now 300 members each with average savings of \$415.00. About half of the members have active loans with an average value in the first quarter of 1974 of \$310.00. The average income today of the membership in the San Pedro Apostol Cooperative is \$150.00 per month.

A survey of incomes reported of the member of the cooperative reveals that they were not always in the 'middle' lower class. See Table 9.

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TABLE 9

INCOME OF MEMBERS ENTERING SAN PEDRO
APOSTOL COOPERATIVE 1969-1974

Cordobas per month:

C\$	101 - 200	201 - 300	301 - 400	401 - 500	501 - 600	601 - 700	701 - 800	801 - 900	901 - 1000	1001 - 1250	1251 - 1500	1501 - 2000	2001 - 3000
Nº.	11	20	34	42	30	20	23	13	18	9	8	2	1

Number of Members:

Average Income at Entry About C\$550= \$79.00

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It is evident that families earning less than \$100.00 per month will join neighborhood credit institutions and make them prosper if the proper ingredients of education and convenience are present. The San Pedro Apostol Credit union finds itself in the happy position of being at a point of equilibrium between its credit needs and capital resources. It has reached the size which allows it to maintain a permanent staff of one and a public office open to the main thoroughfare of its community. Over 80% of its 300 members live in the surrounding areas of "Nicarao, Meneses, and 14th of September," however, the membership is also attracted from as far away as Reparto Schick, Las Americas, 1° de Mayo, La Fuente, Loucuale, Luis Somoza and Camino Solo.

A delinquency rate of 12% is experienced by this co-op versus an 8% rate for credit unions affiliated with places of employment. Interest rates and terms of loans of credit unions are tied to the amount of funds borrowed. For the lowest value of loans (below \$850.00) the interest rate is 12% per year. However, the loan is discounted at various rates up to 50% by a required interest earning savings deposit. Effective interest is about 18% annually. Terms vary from six months to three years four months. The average term is 10 to 14 months. There are almost no loan requests for credit of less than \$70.00.

- F. FUNDE (The Fundación Nicaraguense de Desarrollo) is a private non-profit development foundation. Begun in 1970, FUNDE has developed capital resources by 1973 of more than \$1,700,000. The Foundation does not have a home improvement credit program aside from the finance mortgages for wooden dwellings fabricated by small carpentry enterprises in Managua. By March 1974 seven of these units costing \$310.00 were financed through the Banco de Crédito Popular and another 100 to 150 were directly financed. Other units are being financed outside Managua making a total of 500 units. The Managua component of the program is valued at less than \$100,000. There are no delinquency statistics available.

FUNDE conducted a survey of its market vendors credit program (for small business loans) and determined that about 20% of the proceeds of these loans were utilized for unauthorized domestic purposes. We may estimate the demand at a little less than \$50,000 on a lending volume of \$290,000 since February 1973. Approximately 1,000 market vendors were associated with the program in this period. The delinquency rate

is 8% to 9% on loans averaging \$200.00 and collections made daily. The effective annual interest rate is 18% plus a 4% per month forced savings deposit.

- G. CEPAD (Comité Evangélico pro Ayuda al Desarrollo). The Committee is an association of eight U. S. protestant missionary groups in Nicaragua and 27 local protestant evangelical churches. Technical assistance and fund raising services are provided by Church World Services of the U. S. National Council of Churches. CEPAD is not allowed to accept savings, but it does make loans from its grant funds for home repair and reconstruction purposes. Two of these programs are functioning in Managua.
1. 17 loans for reconstruction and home repair were made during 1973. Average value of these loans was \$430.00 for a total credit value of \$7,250.00. The interest rate annually is 6% with varied terms up to 2 years 6 months. Loans for land purchase are excluded on the principle that potential credit needs are too large for the credit capital available.
 2. A wood house credit program is also in progress operating as mortgage financing directly to a small carpentry fabricating shop which CEPAD also operates in Las Americas No. 1 as a vocational training school. About 300 loans averaging \$285.00 have been granted at 6% annual interest. The delinquency rate is very high--about 80%.
 3. An education credit program is being planned with capitalization of \$10,000 to \$20,000. Interest will be from 6% to 9%.
- H. CARITAS Nicaragua - The welfare agency of the Catholic Archdiocese of Nicaragua does not have a loan program for home improvement credit other than a wood house credit program initiated after the earthquake. About 300 of these units have been erected in Managua with an average value of \$360.00. The loans are interest free to be repaid over 4 years and 2 months. No funds are exchanged in the program so there is no credit for land.

CARITAS also manages a Rotating Credit Fund for small business borrowing. There is evidence that a portion of these loans are used in an unauthorized manner for domestic purposes. At present 194 loans have been granted--35 in the Las Americas

projects. Average loan value is \$200.00 at an interest rate of 6% and terms average 14 months.

I. SUMMARY

Three institutions in Managua provide cash credit for home improvement purposes which may be available to lowest income families: Banco de Crédito Popular, Credit Union Movement, and CEPAD. CARITAS, CEPAD and FUNDE also provide mortgage credit "in-kind" indirectly in the form of a wooden dwelling produced by an affiliated small business enterprise.

There is no easy way of knowing how much credit for domestic purposes has filtered down to the families earning less than \$100.00 per month. Average loans range from \$200 to \$300. If only 6% of the lowest income group has made use of institutional facilities, it may be estimated that one-half million dollars is already reaching this population. Credit siphoned from small business lending for domestic purposes probably totals less than \$100,000. Home credit granted in the form of structures probably totals in value \$100,000. It can be conservatively estimated that reasonable credit extended from regular credit institutions to the lowest income families of Managua probably total about one-half million dollars in 1973. The remaining credit needs of these families was attended by money lenders, employers, family and friends, and a portion by personal savings.

If the total project demand for home improvement credit generated by lowest income families only in priority Zones 4 and 5 in the first years of the proposed loan is discounted by the institutional supply of credit provided to this group in 1973, the net credit demand is \$4,560,000 less \$500,000 or \$4,060,000.

V. DESCRIPTION OF THE PROJECT

The principal ingredient for a successful program of home improvement borrowing for lowest income families is the development of credit guarantees. The capacity for only very low-income generation close to the limits for survival is symptomatic of a sense of desperation and social disorientation on the part of many in this group which contributes to very high risk. Assurance of repayment capacity and the effective use of loan funds to increase welfare and income is considered by the Mission achievable by grouping the

most highly motivated families of this income sector into community based associations. Here, they may receive technical assistance, set aside mutual savings and reserve funds and promote self-compliance with credit terms by social sanctions.

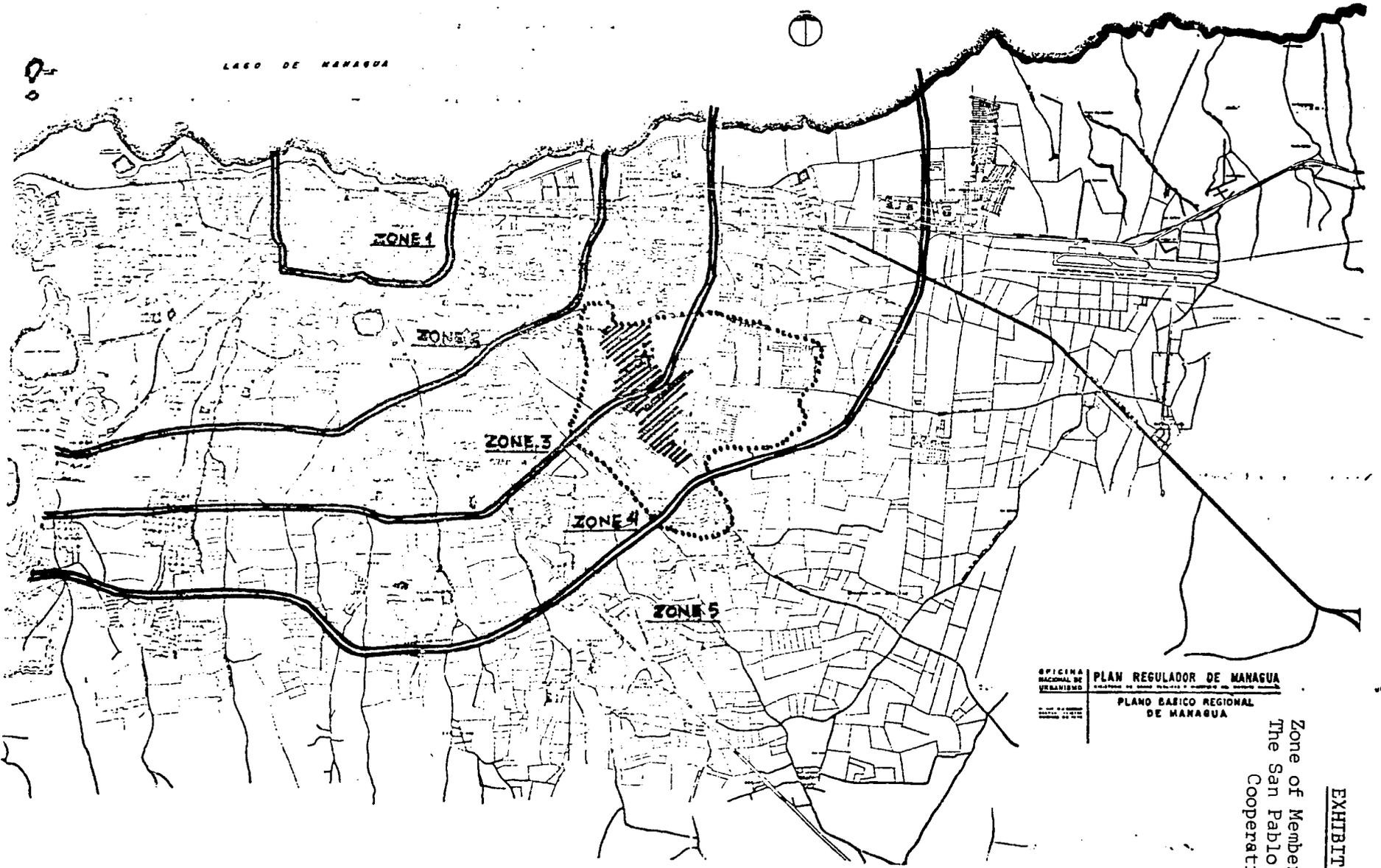
An organization comprised of many related community associations provides a third person guarantee for credit, unavailable individually to most lowest income families. The central organization promotes, develops and carries out most of the administrative functions for community based credit associations, working together with a regular banking organization. In Nicaragua, the Central Organization or cooperative must be created. Appropriate and specialized banking facilities, however, are well established in the Banco de Crédito Popular.

The basic idea is to find the ways to accelerate the process of savings and social change for the poorest urban families by means of secured access to credit. A powerful stimulus is required to generate a high sense of discipline and consistency in the use of money. The promise of a greatly improved standard of living represented by the new construction of basic infrastructure under the Proposed Reconstruction and Deconcentration Loan can have a powerful effect. Improved housing to make use of the installed infrastructure is another forceful motivator. Housing is one of the most costly investments relative to income of this group and therefore the most remote and highly prized goal.

Shelter is just one of many problems facing these families and proposes the development of a cooperative community to provide the setting for attacking a wide-range of physical and economic problems. All community based associations will be linked with other types of cooperatives and systems of finance and savings which impel the members toward an improvement of their condition.

As soon as the occupant of a new dwelling place can buy a few sheets of metal roofing, a bag of cement or a few concrete blocks, he improves and expands his shack into a better place to live. A floor is added, furnishing are constructed or purchased; there is a new concern about street paving, water and lights. The community association concept seeks to organize and encourage this process so that over a period of time these "shanty towns" can be transformed into attractive neighborhoods.

In several countries, governments are now realizing the answer is not slum eradication. Instead they are trying to legalize and



OFICINA NACIONAL DE URBANISMO
PLAN REGULADOR DE MANAGUA
 PLANO BASICO REGIONAL DE MANAGUA

Zone of Membership of
 The San Pablo Apostol
 Cooperative

EXHIBIT C

improve these areas. There are, however, chronic problems with government-sponsored programs at this level. Politics, red tape, rapid turnover in personnel and the patron attitude all contribute to limiting the success of this type of direct government program. The community association concept provides a delivery system for governments to use in reaching these people.

The Finance Mechanism:

Based on their experience, the Banco Popular de Crédito has estimated that three years would provide a period of time adequate to reasonably anticipate the disbursement of \$3.9 million at an estimated repayment rate of \$100 per family member per year. This is approximately 1/3 of the rate experienced by the San Pablo Apostol community cooperative and is consistent with the lower average family income of the priority population group.

Funds of the Proposed Reconstruction and Deconcentration Loan shall be deposited in the Banco de Crédito Popular as an investment fund for home improvement credit with the full faith and credit of the Bank. An additional fund will be deposited in the Bank from proceeds of the Loan as a reserve fund carrying the guarantee of the Government of Nicaragua. The reserve fund of 20% will be apportioned with each credit request approved by the Bank to assure against loss from delinquent loans. GON counterpart funds totaling up to 50% of loan-funded capital shall be deposited in the Bank for the purpose of credit for the purchase of lots for squatters uprooted in the process of bringing in infrastructure, clearing green areas and regularizing neighborhood urbanization patterns.

Requests for loan credit will be generated as a result of surveys by a central promotion, development and collection agency affiliated with a central grange of neighborhood home improvement associations. Community residents who have similar credit needs will be encouraged to form a neighborhood association specializing in resolving their needs such as housing, repairs and improvements, special credit, neighborhood services, etc. All the permanent technical staff required of a large community association and necessary to serve small local associations as well will be centralized in the central unit.

Funds for organization, equipment and working capital of the central grange, its technical service agency and technical assistance to establish the association or cooperative system will be drawn from proceeds of the Reconstruction and Deconcentration Loan and deposited in the Bank guaranteed by the Government of Nicaragua. Savings of

members, capitalization on operations and amortization will be deposited in the reserve fund to repay interest on the Reserve Fund on behalf of the GON, to repay initial organization and technical assistance debt to the Fund and build capital in the name of the grange.

The central grange will monthly return loan collections to the Bank with the initial accounting tabulations. The Association Credit Department of the Bank, established under Article 31 of the Bank's bylaws, will be in charge of all finance and accounting activities related to the program. Data processing of accounting records to be carried out by computerized equipment will be provided to the central association by the Department for a fixed fee in the same manner that the Bank's other credit programs are managed.

Several non-profit agencies with established community organizations have expressed interest in participating in the program. CARITAS, CEPAD, FUNDE, and FECACNIC represent many thousands of Managuans with incomes within the limits established for home improvement credit and have received personal or small business loans. The non-profit agencies may wish to participate with an investment of their own to expand the credit resources available to their associates.

Conserving the association identity of these people and borrowing upon the credit history and organization work already carried out can have a positive effect in assuring low delinquency as the home improvement credit program is begun. A close relationship should be encouraged by granting premium interest returns to counterpart investments. When mixed with low interest charges as a result of AID concessional terms, the individual beneficiaries of credit are not penalized. Credit resources of the central grange will be increased and the participating non-profit agencies will share in the security of the Reserve Fund.

Terms of Credit to Members

According to projections made by the Banco de Crédito Popular concessional AID loan funds for domestic credit deposited with an interest rate of 3% per annum may be re-lent by the Bank at 4% over the principal of the loan. An additional 2% fee may be charged by the Department of Association Credit to provide data processing service to the central association organization. The central grange may in turn charge 4% for its service of promotion of technical services and collection, and assign 2% of the principal as forced savings to accrue in favor of the borrower.

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The average annual interest of 12% is equal to terms offered by credit unions and most favorable mortgage terms for cooperative housing finance with the Central American Bank for Economic Integration (CABEI). The terms are lower than conventional commercial banks and much lower than terms offered by money lenders

HOME IMPROVEMENT ASSOCIATIONS
CREDIT PROGRAM

Banco de Crédito Popular Outline of Main Points as Bank Sees Them.

- 1) The objective of the Program would be to make loans available for home improvement to people with incomes lower than US\$100 or US\$150 per month, in cases when they do not meet the norms of the Bank's other programs and are not covered either by programs of other lending institutions or when they need the loan for investments not included in the Bank's present programs, for example the purchase of land.
- 2) The Bank would channel the funds, through some type of a line of credit, to associations of residents of the same suburb or maybe to a mother entity of such associations.
- 3) Some of the objectives of the open type mother entity would be as follows:
 - a) To promote, to develop and to assist the associations mentioned in point 2.
 - b) To supervise and to guide the associations.
 - c) To provide them some administrative services for reducing their costs. The associations' accounting could be done by the entity as well as other services, such as: legal; hiring employees and payroll; purchasing; auditing; etc. It is important to mention also that a centralized accounting system would probably be more reliable.
- 4) The Entity would have a Board of Directors. Banco Popular is willing to participate in the Board of Directors meetings. The Bank would have voice but would not have vote. The Bank is willing to act as advisor when requested by the Entity.
- 5) The Entity would deposit its funds in a savings account at the Bank, as well as the funds of each association. These funds would be part of the guarantee of the loans disbursed by the Bank.

- 6) The Entity or the associations could borrow from the Bank up to an amount equivalent to several times the balance of their deposits.
- 7) It has to be given thought as to how the starting guarantee deposit fund would be financed.
- 8) The Bank loans would also be guaranteed by all the other assets of the Entity and the associations, including the promissory notes and any guarantees of the individual borrowers of the associations.
- 9) The Bank thinks that the association members would benefit by a Bank Plan for trying to reduce the cost of living of lower income groups. In fact, with the funds from the AID Loan, the Bank would provide loans to the associations for establishing grocery stores. The grocery stores would sell to the association members with a discount. Each association member, however, would disburse for his purchase as much money, as if he were purchasing at the regular price. The amount of money, equivalent to the discount, would be credited by the association to the savings account of the purchaser in the association. This system might motivate other members of the community to join the associations.

The stores would then meet three objectives:

- a) Reducing the cost of living.
- b) Promoting saving and increasing the funds of the association.
- c) Motivating other residents of the community to join the associations.

The mother Entity might want to purchase all the items for the inventories of these stores for getting the price benefit of large quantity purchases.

Another important Bank Plan, which could also be carried out by the associations for the benefit of their members, is to provide loans for growing vegetables or other products in the yards of the homes. The Bank estimated such a program might

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ANNEX 15
Attachment

Page 3 of 3

mean from 300 to 500 cordobas of additional income and/or saving for each home per year. This is equivalent to about what each of these people earn, on the average, in one month.

The growers could also sell to the grocery stores, mentioned above, that portion of their crop that they do not want to keep for their own consumption.

- 10) It could be expected that at least 20 suburb or community associations or cooperatives could be developed by the Entity the first year. The second year could be development around 50 or more. The associations could be expected to have, on the average, 100 members each. So, in approximately two-year period, around 7,000 people would be in the program.
- 11) The funds required, for meeting loan demands of 120 to 170 associations with a membership of 12,000 to 17,000 families, would be five million dollars in a period of five years. At this point, yearly cash repayment from the associations would be equal to the disbursements made by the Bank for new loans. See Exhibit I. The number of associations organized, in each period, would depend upon the Entity's ability to develop them and to keep them well organized and with membership loyalty.

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Attachment

EXHIBIT 1

LOAN FUNDS NEEDED BY THE BANK
FOR THE NEW PROGRAM

(Thousand Dollars)

<u>YEAR</u>	<u>DISBURSEMENT TO CLIENTS</u>	<u>REPAYMENT FROM CLIENTS</u>	<u>ENDING * PORTFOLIO</u>
1	1,000	200	800
2	2,500	700	2,600
3	2,500	1,200	3,900
4	2,500	1,700	4,700
5	2,500	2,200	5,000

* Funds needed equal to ending portfolio at the end of the fifth year = 5.0 million dollars.

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ANNEX 16

- EXHIBIT A Institutional Analysis - FED and PFI 's
- " B Operation, Implementation and Disposition of the Small Enterprise Reconstruction Credit Fund.
- " C Illustrative List of Polar Development Credit Requirements. *
- " D CABEI Study - Small Business Development credit* requirements.
- " E Transportation Sector Credit Requirements. *
- " F Corporate Organization Structure. *
- " G Illustrative List of Bottleneck Area Credit Requirements.
- " H Decree *
- " I Financial Statements FED *
- " J Interest Tables *
- " K Interest Rates Charged by Loan Sharks *
- " L BCN Letter of Application *

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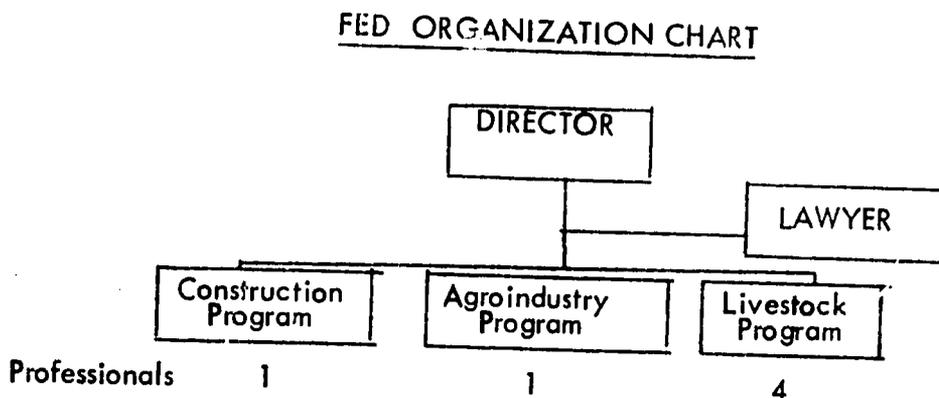
*See LA/DR Bulk File

L. Special Development Fund (FED): The Special Development Fund, FED, was created by Decree No. 323 of April 12, 1972, (Annex 16H) as a public agency represented and administrated by the Central Bank of Nicaragua, CBN, with the purpose of developing the growth and diversification of exports and the productive activities of the country, through the orientation of financial and technical resources towards key sectors of the economy.

The FED is governed by the Board of Directors of the Central Bank of Nicaragua, which duties according to the Decree, are summarized as follows:

1. Approve the Programs to be financed by the fund.
2. Approve the contracting of financial resources.
3. Approve the loans to be granted to intermediate financial institutions, and the procedures to be followed for these loans.
4. Approve the general and special conditions that will rule each of these programs.
5. Approve the organization, operative procedures and activities of the FED.
6. Approve any other measures necessary to achieve the goals of the FED.

The internal organization of the FED is shown in the following chart:



The policy and rules established by the Board of Directors are carried out by the President of the Central Bank of Nicaragua and the Director of the FED.

The specific duties of the Director of the FED are the planning, organization, direction and control of all the FED's activities. The Directors of each of the Programs, follow the general policy established by the Board of Directors and/or by the Director of the FED.

The FED's accounting and internal auditing are done by the Central Bank. The FED also employs the use of external auditors.

The equity of the FED originates from contributions from the Central Government and a percentage of the profits of the Central Bank, interest margins on its operations and from public or private donations of other nature. Through March 31, 1974, the FED has received \$3,500,000 from the GON and \$1,347,000 from the Central Bank. A clear historical picture of operating results is not available as the FED's first loans were not placed until the first quarter of 1974. Accumulated deficits, including start up costs, amounted to \$230,000 as of March 31, 1974.

Sources of debt include two concessionary loans from IDB (\$64.4 million) for the Construction industry (\$35.0 million) and the Agro-industries (\$29.4 million) and a loan from the IBRD (\$59.5 million) for the livestock program. Drawdown of loans equalled \$9,940,000 as of March 31, 1974. No loan funds have been disbursed under the IBRD program. (Financial Statements are shown in Annex 16 I.

The Programs of the FED

To date, the FED has two loan programs in operation, partially financed by IDB, for a total amount of \$91.7 million: one aimed at the Development of the Construction Industry and of Construction Materials, and the second one at the Development of Agro-Industrial Enterprises.

The financial resources for these two programs are channeled through the banking system with a double purpose: first, to open a greater number of credit sources to the final users, and second, to lead the private banking resources to the financing of the key productive sectors of the development of the

Nicaraguan economy.

To achieve these goals, the FED and the Central Bank have adopted a sufficiently attractive financial incentives policy to attract the participation of the private banking sector. These financial incentives consist in offering the banks competitive interest margins for the channeling of loans under the program.

Chart No. 1, following, shows the variations of the margins of interest available to the participant financial institutions, (intermediate banks) depending on the size of the enterprises and on the percentage of participation of the banks in the projects. The figures of Chart No. 1 apply to the two programs financed by the IDB.

CHART NO. 1
SMALL ENTERPRISES (3)

Percentage of Participation		Final Interest Rate	Differential of Interest on the Participation of		Return on the Participation of the
FI	FED	Annual %	FI	FED	FI
					%
30 (1)	70	8.00	4.75	3.25	19.08
25	75	8.00	3.50	4.50	18.50
20	80	9.00	2.50	5.50	18.00
15	85	8.00	1.75	6.25	17.91

LARGE ENTERPRISES (3)

35 (2)	65	9.00	4.75	4.25	17.82
30	70	9.00	3.75	5.25	17.75
25	75	9.00	2.75	6.25	17.25
20	80	9.00	2.00	7.00	17.00
15	85	9.00	1.40	7.60	16.93

(1) The participation of the FI of over 30% will have the same differential as established for 30%.

(2) The participation of the FI of over 35% will have the same differential as established for 35%.

(3) The definitions of small enterprise and large of each program, are given further ahead in this text.

FI = Financial Institutions.

A. Development of the Construction and Construction Materials Industries Program

This program is aimed at strengthening and increasing the production capacity of the Construction and Construction Materials Industries, with the purpose of supplying the increasing demand for construction services and materials, as a result of the earthquake of December 1972, in Managua.

This program has nation-wide scope and is designed for the financing of investment for the installation, expansion and/or modernization of the activities of small, medium and large construction enterprises and construction materials producers.

The term for sub-borrowers fluctuates between 5 and 15 years for fixed assets, with grace periods of up to three (3) years, depending of the payment capacity of each project. Loans for working capital are granted from the resources obtained from local contributions, at a maximum term of eighteen (18) months. The minimum amount of a loan under this program is \$35,000 and the maximum \$7.0 million.

Loans for fixed assets have an effective interest rate of 8% per year, in the case of small enterprises, (those with total assets not exceeding \$420,000) and 9% for medium and large industries (assets exceeding the above figure). Loans for working capital are granted at a rate of interest of 14% per year.

The table below shows the status of the program at 5/15/74.

FED CONSTRUCTION PROGRAM

STATUS REPORT 5/15/74
(€000's)

	<u>No. of Projects</u>	<u>Total Amount</u>	<u>FED</u>	<u>PARTICIPATION</u>	
				<u>IF</u>	<u>Borrower</u>
1) Projects submitted to FED	23	43,137.3	24,870.2	11,361.7	6,905.4
2) Projects declared eligible by FED	20	38,816.0	21,877.2	10,504.7	6,434.1
3) Projects submitted to FED for financing	11	25,945.7	14,330.8	6,677.7	4,937.2
4) Projects which financing approved by FED	8	15,373.4	9,574.0	4,116.7	1,682.7
5) Disbursements		7,999.4	5,513.9	2,485.5	
6) Project Inventory (not yet submitted to FED)	11	20,000.0	10,554.0	4,421.0	5,025.0

Additional statistics on the 20 projects, valued at €38.8 million, declared eligible by the FED, indicate an average project cost of €1,940,000 with a range of project cost running from €252,000 to €7,817,000. The average loan for these projects including participation by commercial banks is €1,620,000 with a range of loans running from €252,000 to €5,250,000. The participation on the part of the private commercial banks and borrower is 44% which is well above the 29% anticipated at the inception of the program.

The FED Director has stated that the BID funds will be fully committed by mid-year, 1974. This is borne out by adding the project inventory of ₡10,554,000 to the projects declared eligible by FED ₡21,877,000 (Total is ₡32,431,000 leaving only a small balance of ₡2,569,000.)

B. Agro-Industrial Development Program

This Program is aimed at financing investments for the installation, expansion and/or modernization of the activities of small, medium and large agro-industrial enterprises and of cooperatives related to the production and agro-industrialization process.

The Program has a national scope, giving preference to the financing of projects located in sectors near the raw material production centers and/or zones with a low level of economic development.

The resources from the program give preference to financing projects of greater economic impact and which are included in at least one of the following activities:

- i. Activities related to the harvesting, quality improvement, storing, elementary processing, packing and distribution of agricultural and cattle, forestal, game and fishing products, all of national origin; and
- ii. Activities for the processing and distribution of agro-industrial origin raw materials, based on organic and national raw materials.

The term for sub-borrowers fluctuates between 5 and 15 years, and the grace period between 3 and 5 years, depending on the payment capacity of the project.

The rate of interest is 8% for small and medium enterprises (those with fixed assets, excluding land and building, not exceeding the equivalent in local currency of ₡420,000 and 9% for enterprises exceeding the above mentioned asset figure. The minimum loan permissible is ₡35,000 and the maximum ₡8.4 million.

The following table shows the status of the program at 5/15/74.

<u>FED Agro-Industrial Program</u>					
<u>Status Report 5/15/74</u>					
€000's					
	<u>No. of Projects</u>	<u>Total Amount</u>	<u>FED</u>	<u>PARTICIPATION</u>	
				<u>IF</u>	<u>Borrower</u>
1) Projects submitted to FED	5	21,661.7	15,163.2	4,332.3	2,166.1
2) Projects declared eligible by FED	3	17,026.6	6,824.9	2,889.5	9,714.5
3) Projects submitted to FED for financing	2	12,781.3	4,425.4	5,278.0	3,077.9
4) Projects which financing approved by FED	1	6,310.0	2,925.0	1,575.0	1,810.0
5) Disbursements	1	6,310.0	2,925.0	1,575.0	1,810.0
6) Project Inventory (not yet submitted to FED)	9	40,500.0	26,950.0	9,800.0	3,750.0

The main Technical Assistance component of the program is being carried out by INCAE.

The operating procedures of the FED are similar for both of these programs. The beneficiaries present their loan requests to the intermediate

institutions, which in turn present to the FED a brief history of the project that is intended to be financed with funds from one of the programs, in order to obtain from the FED a certificate of eligibility for the project. The basic information that is presented at this stage of the process, is the following:

- a) Purpose, location and stage of preparation of the Project.
- b) Investments.
- c) Percentage of participation of the FED, the intermediate entity and the borrower in the total financing of the project.
- d) Approximate costs of the project, divided into external costs (direct or indirect) and local costs.
- e) Probable origin of the goods and services to be acquired with FED resources.
- f) Profitability and social-economic impact.
- g) Collateral and financial statements in the case of an existing enterprise.
- h) Information on the demand and the distribution channels.

Once the project is declared eligible by the FED, the intermediate entity may lend to the borrower, without commitment from the FED, the necessary funds for the preparation of the studies required for the project.

Depending on the results of the study, the intermediate entity may approve the corresponding loan and present the request to the FED for its financing, attaching a copy of the project and the corresponding evaluation.

The request must contain, among other things, the following information:

- a) Identification of the project and date in which the eligibility

was granted.

- b) Conditions under which the loan was granted.
- c) Total cost of the project, with a breakdown of local and external costs.
- d) Sources of funds to be used in the financing of the different headings, indicating the percentages of participation of each source (FED, FI, Borrower, Others).
- e) Origin of the goods and services to be financed with FED resources.
- f) Financial profitability of the project.

The project feasibility study, which is presented with the loan request should include the following information:

- a) Purpose of the project, indicating specifications and amounts of the goods that will be stored, handled, manufactured or distributed.
- b) National and local production of these goods and possibilities of selling in the local or foreign market.
- c) Technology to be used, indicating the compatibility of the equipment and installation in relation to the processing system adopted.
- d) Summary of all existing fixed assets, their historical cost and estimated present value.
- e) Total budget of the projected investments, resources mobilization plan and estimated schedule for purchase of the equipment and execution of the work.
- f) Estimate of the permanent financial resources necessary to insure the normal functioning of the project and cash flow.

g) Estimate of the profitability of the project and proof of the payment capacity of the borrower in relation to the commitment he intends to undertake.

h) Technical and administrative capacity and background of the borrower.

i) Laws and by-laws, financial statements, catalogues, photographs and any other documents necessary to prove and demonstrate the information provided.

Prior to the FED disbursement of a loan, the intermediate Financial Institution executes a loan contract with the borrower. Both the disbursements from the FI to the borrower and the reimbursements from the FED to the FI, are made on the basis of an anticipated execution schedule and of the procurement of goods and services for the project.

All expenses incurred by the borrowers must be backed by certificates or documents signed by the supplier or in their names, attesting that the payment was made. The FED sets up proper criteria in the case of merchandise and minor services that are difficult to document properly. All the documentation remains in the hands of the intermediate institution and at the disposal of the FED and the CBN when they request it.

2. Participating Financial Institution

Private financial intermediaries expected to be used by the FED in its conduit lending operations are distinguished by the sub-lending program to be serviced. The first type, consisting of government banks and private organizations (Banco Popular, Banco Nacional and FUNDE) will reloan funds in the small business program. The second type, consisting of private commercial banks (Banco de America, Banco Nicaraguense, Banco de Centroamerica) will handle the sub-lending in the construction bottleneck program. Distinctions may be blurred to the extent that small industries in the construction bottleneck area could be serviced in the small business program and commercial banks could possibly pick up some small business loans.

The following consists of a brief description of each of these institutions:

	<u>Banco Popular</u> ⁽¹⁾	<u>Banco Nacional</u> ⁽³⁾	<u>FUNDE</u> ⁽⁵⁾
Total Assets	€ 33,600,000	€ 1,310,000,000	€ 5,075,000
Total Liabilities	10,000,000	1,118,000,000	1,945,000
Total Capital	23,600,000	192,000,000	3,130,000
Total Loan Portfolio	22,000,000	985,000,000	3,357,000
Delinquency	4.7%	10.8%	12.8%
Small Business Portfolio	5,400,000	36,600,000	3,321,000
Delinquency	N.A.	9.3%	12.8%
Net Income	(2,100,000) ⁽²⁾	- 0 - ⁽⁴⁾	- 0 - ⁽⁶⁾
Technical Assistance Staff	3	6	8

(1) As of 3/31/74

(2) Accumulated losses since inception of operations to 3/31/74

(3) As of 12/31/73

(4) For year ended 12/31/73. Income of €922,000 applied to increase bad debt reserve.

(5) As of 4/30/74.

(6) Non Profit Organization
N.A. not available

Banco Popular

The Banco Popular was organized in April, 1972, as a successor of three state run worker oriented savings and credit institutions. The objectives of the bank are to develop workers' savings and to meet workers' credit needs. The Bank is head-quartered in Managua. It opened a branch in Corinto in August, 1973, and has plans to open another branch in Leon in 1974. Sources of the bank's funds come from savings (Pass book savings are the highest in the country at 7% p.a. Interest on time deposits held over one year for less than ₡100,000 are tax free) and capital donated to the bank by the GON. (The GON has recently converted a ₡14 million loan from its reconstruction fund to a grant to the bank to strengthen its capitalization). Bank's accumulated losses to date of ₡2.1 million reflect high general operating expenses in relation to volume of operations. Losses have gradually narrowed to a low of ₡44,000 in March, 1974. At present, composite interest rate spread is a substantial 6.9%; however, this will shrink over time as savings become a greater percentage of the Bank's capitalization. Continued government support will be necessary. The bank is involved in two kinds of lending operations: personal credit and small business credit. The original intent of the bank was to finance only personal credit and this financing presently accounts for 75% of the total loan portfolio. As a result of the earthquake and its devastating effects on small businesses, the bank instituted a program of industrial-commercial credit in March, 1973.

The small business program during the nine months of 1973, placed ₡5.5 million in loans to 1,900 borrowers. The Managua branch placed nearly all of these loans, accounting for ₡4.8 million in loans to 1,760 borrowers. Terms of these loans were as follows:

Loan Limits	-	₡500 minimum	-	₡10,000 maximum
Loan Term	-	Maximum 5 years.	(Ability to repay determines term). Monthly payments.	
Interest	-	8% p.a. (lower than personal credit which runs from 10% - 13%).		
Collateral	-	Cosignatures of one family member and one businessman		
Average Loan	-	₡2,900		

Technical assistance to applicants and borrowers is minimal. Two employees are assigned to help applicants in both credit programs to fill out credit request forms. Two bank inspectors, assigned to small business credit program, make limited reviews and field visits averaging 10 visits/day, mainly to verify information on application.

FUNDE

The Nicaraguan Foundation for Development (FUNDE) is a private sector non-profit institution formed in July, 1969. Its principal objective is the financing of development projects of low income groups in order to increase their income, productivity and better their living conditions. FUNDE is headquartered in Managua with lending operations in nine departments. Sources of the institution's funds are generated by local private sector contributions and international foundation grants which form FUNDE's capital base of \$3,130,000. In addition, loans outstanding from the local private commercial banks at concessional rates (8%) account for the principal remainder of the institutions capital structure. FUNDE has three types of active lending operations in the areas of small industry, small commerce and small infrastructure projects. A breakdown of the loan portfolio at 4/30/74 shows the following:

<u>Loan Type</u>	<u>Amount</u>	<u># of Loans</u>	<u>Average Loan</u>	<u>Max. Term</u>	<u>Interest Rate</u>	<u>Delinquency</u>
Small Industry	\$2,460,000	226	\$ 10,800	3 yrs.	12%	
Small Commerce	835,000	61	13,700	5 yrs.	12%	
Infrastructure	194,000	15	12,400	N.A.	9%	
	<u>\$3,489,000</u>	<u>302</u>				12.8%

The small industry program placed \$416,000 in loans to 51 borrowers in 1972, and \$2,177,000 in loans to 138 borrowers in 1973. Loans to businesses in Managua accounted for 40% of total activity. These loans are made on an individual basis.

The small commerce lending program, initiated in March, 1973, has placed \$1,804,000 in loans to 11 cooperative borrowers in the 13 months of the program. These loans are placed directly with the market cooperatives, organized and initially financed by FUNDE. Cooperatives in turn lend to sub-borrowers.

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Over the thirteen months, 4,106 loans were made to sub-borrowers. FUNDE has started to expand the cooperative concept from the markets to lower income districts of the city. These cooperatives (Bancos de Barrio) will operate on the model developed for the market cooperatives. FUNDE now has two of these "banks" in the implementation stage.

FUNDE has an eight man staff supplying technical assistance and training. Heavy technical assistance and training inputs are made with each small industry loan. FUNDE calculates that roughly 12-13 man days of staff technical assistance and training are needed for each acceptable loan applicant. In the small commerce area FUNDE has already developed a proven working model with eleven market cooperatives in various cities. Results to date have been impressive. The market cooperative program now encompasses 1,372 members with C\$338,000 in savings (forced savings is an integral part of program) and loans outstanding of C\$789,000.

Banco Nacional

The Banco Nacional de Nicaragua (BNN) is a government owned credit institution (largest in Nicaragua) established in 1912. The primary objective of the BNN is to stimulate the development of agriculture, livestock, commerce and industry. The bank is headquartered in Managua with 15 branches and 34 rural agencies located throughout the country. Sources of the Bank's funds include deposits from the public (C\$382,000,000 at 12/31/73); loans from the government, international institutions, foreign banks and the Banco Central (C\$648,000,000 at 12/31/73); and equity (C\$192,000,000) represented primarily by the GON contributions to the Bank over the years. The C\$0 net income figure has been the same for at least the last four years as the BNN has used all of its operating profits to increase allowances for doubtful accounts. (Independent auditors qualified their 12/31/73 opinion on the BNN's financial statements, stating that reserves for doubtful accounts are inadequate in the amount of C\$70,000,000.) The BNN's loan portfolio is divided into six groups as follows:

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<u>Type</u>	<u>Amount</u>
Commercial	C\$ 52,300,000
Agriculture	387,000,000
Livestock	99,000,000
Industry	137,000,000
Rural Credit	212,000,000
Small Business	37,000,000

The Small Business loan program, comprising the smallest BNN portfolio division, placed 3,921 loans for C\$21,533,000 in the first nine months of 1973. Average loan size was C\$5,500. Delinquencies amounted to 9% of small business portfolio. Businesses in the city of Managua received 1,451 of these loans in the amount of C\$8,108,000.

The BNN made significant changes in lending criteria and terms in 1973 by (1) increasing the size of firms classified as small industry (assets of less than C\$420,000) and small commerce (assets of less than C\$105,000), (2) increasing maximum loan amounts to C\$280,000 for small industries and C\$100,000 for small commerce, (3) extending loan terms for working capital from 1-1/2 years to 3 years and for fixed investments from 5 to 15 years. Interest rates remained in the 8% to 9% range.

The two principal sources of funds for relending to small business originated from rollover of the AID-BNN financed small business project (A.I.D. Loan 524-L-022) and an IDB loan of C\$28,000,000 for country-wide use granted in April, 1973, for small and medium enterprises. The BNN country-wide small business portfolio increased by C\$13.6 million in 1973. This increment is attributable to the BID input.

Previous A.I.D. assistance to small enterprises was considered less than satisfactorily managed by the BNN in that total loan portfolio growth fell considerably short of A.I.D. targets as the A.I.D. funds were used partially as a substitution for the Bank's own resources.

Monitoring mechanisms will be built in by the FED in the agreement with the BNN to sustain portfolio levels.

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Technical assistance in the small enterprise division is handled by a staff of six professionals. In addition two Peace Corps Volunteers have supplied accounting assistance to small enterprises.

Brief comments on the Nicaraguan private commercial bank sector are made below:

	<u>Banco de America (1)</u>	<u>Banco Nicaraguense (1)</u>	<u>Banco de Centroamerica (2)</u>
Total Assets	C\$ 676, 000, 000	C\$ 564, 200, 000	C\$ 23, 500, 000
Total Liabilities	608, 200, 000	495, 600, 000	20, 500, 000
Total Capital	67, 800, 000	68, 600, 000	3, 000, 000
Total Loan Portfolio	444, 800, 000	306, 900, 000	1, 200, 000
Delinquency	5.7%	4.0%	N.A.
*Construction Industry Portfolio	13, 000, 000	12, 000, 000	N.A.
Net Income	13, 100, 000	10, 200, 000	N.A.

(1) As of 12/31/73

(2) As of 6/30/73

* Refers only to contractors. Construction materials suppliers and producers are not separated in banks' portfolios.
N.A. not available.

Banco de America, Banco Nicaraguense and Banco de Centroamerica are the three private Nicaraguan commercial banks. The first two banks have long established track records and have been administered in a financially sound manner. The Banco de Centroamerica is a relatively new commercial bank, organized in early 1973. All banks will need additional staff, financed out of interest spread, to provide proper technical assistance and monitoring.

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1. OPERATION OF THE CREDIT FUND

The Government of Nicaragua and the Central Bank, will establish within the Special Development Fund (FED) in the Central Bank, a Small Enterprises Reconstruction Credit Fund to provide credit and technical assistance, through the private and public institutions of the financial system. The resources of this Credit Fund will be channeled through two credit "windows":

- a) one for smaller firms that would help to relieve critical construction related bottlenecks, and
- b) a second one for the small enterprise sector in Managua to aid in its recovery from the near total destruction during the earthquake.

Through these two credit windows, the FED will provide the VMUP with a credit incentive tool for the implementation of its reconstruction-deconcentration policies within the private sector.

2. OPERATING UNIT OF THE FED

The FED will establish an Operating Unit responsible for the management, promotion and coordination of the program, the supervision and control of the credit and technical assistance activities performed by the participating banks and coordination with the VMUP. As part of the PASP requesting financing for the credit fund, FED documentation submitted to the Mission will include a Manual of Operations setting forth procedures and regulations for each one of the functions and activities that the Operating Unit will perform in the implementation of the two credit components of the Fund.

The Operating Unit will consist of a Director and three to five technicians with additional administrative support personnel and will perform the following functions:

A. Subprogram for the Financing of Smaller Construction and Construction Materials Enterprises.

- (a) Coordination with the VMUP in the identification of the critical areas for priority financing.

(b) Promotion of the Program at the financial institution level to secure the participation of an optimal number of banks in this program.

(c) Coordination with the participating bank loan officers in charge of this program, for the pre-selection of potential clients in order to accelerate the processing of loan applications.

(d) Assistance and supervision to the participating banks' loan officers in the provision of the basic technical assistance required by potential clients during the preparation of their loan application.

(e) Assistance and supervision of the participating banks' loan officers in the identification and contracting of the specialized technical assistance needs of the client.

(f) Identification of specific areas where short term specialized consulting services might be needed by the sector, and make the necessary arrangements to provide these services.

(g) Overall promotion of the program activities as a way to generate sufficient loan applications for the banks.

(h) Overall supervision and control in order to insure that the credit resources are invested in accordance with the plan proposed in the loan application.

(i) Review and approval of the credit application forms as well as the procedures for evaluating and disbursing a loan request.

B. Subprogram for the Financing of Small Business Enterprises in the De-concentration Pole Areas.

For this subprogram, the Operating Unit will develop a more detailed section in the Manual of Operations that will outline the procedures and regulations to be applied to the credit and technical assistance operations of the institutions participating in this subprogram. For the management and coordination of this Section, the Operating Unit will be responsible for:

(a) Coordination with the VMUP in the identification of the areas to be selected as deconcentration/development poles so that financing may be directed to small enterprises in these areas.

- (b) Monitoring of the promotion, technical assistance, supervision and control activities of the Banco Nacional, FUNDE and Banco Popular small enterprises programs.
- (c) Identification of technical assistance needs within the participating financial institutions which may arise during the implementation of the programs. This assistance will be provided by the FED to the institutions.
- (d) Evaluation and approval of the disbursement applications submitted by the three participating institutions.
- (e) Determination of the technical assistance costs of each program and semi-annual adjustment of the technical assistance budget.
- (f) Reallocation of funds in accordance with the performance and operating capacity of each one of the programs of these institutions.
- (g) Preparation of a specialized credit and technical assistance loan application format, to be adapted to the Nicaraguan situation, with the assistance of the program directors of the Banco Nacional, FUNDE and Banco Popular.
- (h) Overall publicity of the Program in order to ensure that the availability of funds in each of the participating institutions is known to the potential borrowers.
- (i) Overall supervision of the subprograms to ensure that the credit and technical assistance activities services are provided in accordance with the procedures and policies established in the Manual of Operations.

C. Other Responsibilities

The Operating Unit of FED will also be responsible for the preparation of the reports required by A.I.D. as well as progress reports to be submitted to the Central Bank and the Government of Nicaragua. It will also identify the technical assistance needs for its own operation and select the most suitable arrangement for consulting services. The FED's administrative and operating costs will be financed by the Banco Central and included as local counterpart contribution.

3. OPERATING MECHANISM OF THE FED WITH THE PARTICIPATING INSTITUTIONS

The Special Development Fund (FED) will develop policies procedures and regulations, acceptable to A.I.D., that will be applied in the channeling of the A.I.D. loan and local counterpart resources.

These regulations will be prepared by the Operating Unit in FED as part of the PASP submission within the context of the following guidelines for each one of the components of the Program.

A. Construction Industry Bottleneck Program

This Section of the A.I.D. Loan financed program, will be directed to the financing of the smaller enterprises in the construction and construction materials supply industries. Construction firms (contractors and subcontractors), with gross revenues of no more than US\$200,000 per year will be eligible for financing.* Construction material supply firms with fixed assets of up to US\$100,000 will also be eligible for financing. The maximum loan granted to these enterprises will not exceed US\$100,000.

Smaller firms engaged in construction, construction material manufacture, or construction material retail and wholesale suppliers (locally or foreign-made products) will be eligible for financing.

FED will operate through direct credit, discount or rediscount operations with eligible intermediate financial institutions, expected to include the three major local banks, Banco de America, Banco Nicaraguense and Banco de Centroamerica, together with the foreign banks, Bank of America and First National City Bank.

* Based on analysis of contracts awarded in 1972. Smaller firms, after the top 13 firms which receive commercial bank financing, were awarded C\$1.0 million and less in contracts. An inflation factor of 40% was added to the C\$1.0 million to arrive at C\$1.4 million (US\$200,000).

The financial institutions operating within this program will be required to provide basic technical assistance to their potential clients, specifically in the assistance of the preparation of loan applications. The cost of this basic technical assistance will be covered by the interest spread provided by FED to the participating financial institutions, PFIs.

During the preparation and evaluation of the loan application, the PFI loan officers will identify the needs for a more specialized type of technical assistance, and make recommendations for the contracting of these services with local or foreign consultants. The cost of this type of technical assistance will be included as part of the sub-loan.

Supervision in the operating unit at the FED will assure that both types of technical assistance services are provided in accordance with the procedures and regulations to be issued by FED as part of the PASP submission.

It is expected that through the manipulation of variables such as the final interest rate and interest spread as well as the percentage participation, the FED will be able to provide a financial incentive to attract the banks to participate in this program. (See Tables of Annex 16-J).

The Operating Unit at FED will ensure that the participating bank allocates some points of the interest spread to the hiring of specialized personnel to provide basic technical assistance and to evaluate sub-loan applications. Each bank interested in participating in the program will be required to submit the names and qualifications of the specialized personnel assigned to the program, as a pre-condition to their participation.

The Operating Unit at FED will be provided with a US\$140,000 fund (\$100,000 from AID and \$40,000 from counterpart) to finance technical assistance services for the construction and construction material credit activities of this program. This fund will cover the costs of:

- i. Studies of construction bottleneck priority areas;
- ii. Training programs for loan officers, actual and potential subborrowers;
- iii. Small prefeasibility studies for critical potential projects;
- iv. Vehicles;
- v. Training equipment; and
- vi. Short term specialists in identified critical areas.

B. Small Business Enterprises Credit and Technical Assistance Program

This component of the Program will be directed to the establishment of a small business credit and technical assistance fund to finance small industry and business enterprises through three specific intermediate financial institutions: Banco Nacional de Nicaragua (BNN), Banco Popular and the Nicaraguan Development Foundation (FUNDE). Other qualified institutions may participate in this program.

The Director of the FED Operating Unit responsible for this program will authorize the disbursement of the AID loan and government resources, in tranches that should not exceed the equivalent of US\$100,000, to each one of the three participating financial institutions, in order to establish a revolving fund mechanism for their credit and technical assistance operations.

The Operating Unit will review each subsequent disbursement application and determine, according to the information presented, the total amount for the disbursement, including both the credit and technical assistance components. After the first disbursement, the Operating Unit will authorize, for each subsequent tranche, an amount that should not exceed the amount utilized during the immediately preceding period.

Each disbursement will be made against a disbursement application presented by the participating financial institutions, supported by an estimated operating schedule and by a training and technical assistance budget.

The technical assistance element of the disbursement will be calculated taking into account the average size of the loans, the number of loans handled per loan officer, the average maturity of the loans and the estimated revenues generated by the interest spread of the loans.

In order to assure the success of the program, the three participating financial institutions will perform the complete range of promotion, technical assistance, supervision, and control functions as an integral part of the credit program. It will be recommended that the loan officers of these institutions utilize a "loan application-training-technical assistance" format to be developed for the Nicaraguan situation as the instrument to evaluate loan applications and provide

the training and technical assistance required by the client in the evaluation process.*

It has been estimated that these credit sub-programs will have to provide an average of 15 to 20 man-days per loan in order to make available the minimum technical assistance and control required by a high quality credit operation. Assuming the estimated optimal amount of man-days per loan, consistent with technical assistance and control responsibilities, the general tendency in this type of program has been to increase the average loan size and thus reduce the cost of technical assistance as a percentage of the loans. However, it is precisely the objective of this program to provide credit and technical assistance to the lower strata of the sector. Therefore, the Operating Unit will use a control mechanism whereby technical assistance funds will be made available to the institutions on a grant basis. The amount of the grant is a function of the loan elements mentioned in the preceding paragraphs.

As an overall strategy, the Operating Unit at FED will stratify the target groups for each one of the three institutions participating in this project. It will also define the types, terms and conditions of loans that each one of these institutions will be granting with the resources of the program.

It will be recommended that the FED transfers to the BNN, Banco Popular and FUNDE will be at the same interest rates at which the FED receives the proceeds of the A.I.D. Loan and counterpart resources from the GON. It is also expected that FED will grant concessionary maturity and grace period terms to these institutions, for the repayment of the loans made with the resources of the fund.

In the case of the Nicaraguan Development Foundation, FUNDE, the GON and the Central Bank will explore the possibility of transferring to FUNDE, the allocated amount from the fund on a grant basis, in order to capitalize the credit activities of this institution.

The Operating Unit at FED will ensure that the terms and conditions of the sub-loans, are compatible with the existing financial climate. Although

* This format is to be based on similar techniques used successfully in other Latin American countries.

the present annual interest rates charged by these institutions range from 8% to 12%, the calculations shown in Tables I, II, III have been made using a 10% average rate of interest.

In order to facilitate the supervision and technical assistance activities of the FED, the Operating Unit will be provided with up to US\$50,000 for technical assistance in the AID Loan. These resources will be utilized for the purchasing of vehicles and equipment for the technical assistance operations. These funds will also cover short training programs organized or subcontracted by FED for the loan officers of the participating institutions. It will also include the contracting of short-term consulting services for the FED Operating Unit. The proposed operating rules for each of these subprograms are the following:

(1) Banco Nacional de Nicaragua, BNN

FED will disburse to the Banco Nacional the equivalent of approximately US\$2,900,000 to finance credit and technical assistance operations for small industries, artisans, and small commerce located or to be established in the new deconcentration development poles as determined by the Vice Ministry of Urban Planning, VMUP. The Banco Nacional sub-program will finance small industries with fixed assets not exceeding the equivalent of up to \$60,000 excluding land and buildings, of a recognizable owner operated enterprise, requiring loans of up to US\$40,000.

It will also finance small size commercial businesses with fixed assets up to US\$25,000 excluding land and buildings and requiring loans of up to US\$15,000. It is estimated that the Banco Nacional sub-program will mobilize approximately 790 average loans of US\$3,500 for small size industrial-commercial operations during the Immediate Action Plan for reconstruction and deconcentration.

(2) Banco Popular, BP

The Operating Unit at the Special Development Fund(FED) in the Central Bank, will authorize the disbursement of the equivalent of approximately US\$500,000 for the financing of credit and technical assistance for 270 small scale

industries and small business enterprises located or to be established in the deconcentration development poles. (See Table II).

The Banco Popular sub-program will finance small industries with fixed assets not exceeding the equivalent of US\$25,000 excluding land and buildings requiring loan ranging up to US\$5,000^{1/} during the first two years of the program.

The sub-program will also finance small size commercial operations with fixed assets not exceeding the equivalent of US\$15,000 and requiring loans up to \$3,000. It is anticipated that no more than 30% of the loans granted in this sub-program will be utilized for working capital.

(3) Nicaraguan Development Foundation, FUNDE

The FED Operating Unit will authorize the disbursement of approximately US\$1,650,000 for the FUNDE sub-program that will consist of three specific components:

i. A small industry credit and technical assistance project for the financing of small manufacturing enterprises with fixed assets of no more than the equivalent of US\$25,000 excluding land and buildings, and requiring loans not to exceed the equivalent of US\$10,000. It is estimated that the financing of working capital will not exceed 40% of the total amount utilized in this type of operation.

ii. A pilot project, Banco de Barrios, for the financing of fixed assets, working capital, and technical assistance for small commercial enterprises with fixed assets of no more than the equivalent of US\$15,000, requiring loans not to exceed the equivalent of US\$10,000, with an estimated maximum working capital component of 30%.

iii. A transportation cooperative credit and technical assistance project, for the financing of taxi and bus driver/owner cooperatives, as an

^{1/} The maximum limit allowed by the Banco Popular is now \$10,000. Bank officials have anticipated an increment of this figure to \$35,000. This change can be effected internally by the Banco Popular.

attempt to alleviate the transportation industry bottleneck problem. Approximately US\$280,000 including \$30,000 in technical assistance will be made available to FUNDE for the promotion, organization and credit and technical assistance financing of 4 to 6 taxi and bus driver/owner cooperatives.

FUNDE will finance the vehicle and taxi/bus franchise costs as well as the technical assistance required by this project.

It is expected that the Ministry of Finance Implementation Office and the FED authorities will assure that the coops financed by the FUNDE project will have access to the franchise required.

This project will be financed on an experimental basis for two years in an attempt to explore alternative solutions to the transportation problem in Managua. The size of this project will represent 2% of the potential demand for new taxis and buses in the Managua area. (See Annex 16-E).

4. TECHNICAL ASSISTANCE CAPACITY TO MOBILIZE CREDIT

A fundamental part of this credit program will be the technical assistance element, included as a complement to credit, with the purpose of providing TA services to small businesses during the processing of the loan applications and supervision and control periods. This program is based on the premise that the ability to move development credit to small business enterprises is restricted by the technical assistance capacity of the institutions. Thus the credit input should not be utilized as an end in itself but as a vehicle to improve the managerial and entrepreneurial abilities of the small businessman, as well as to control the level of credit losses for this type of program and for the participating institutions.

In this program the technical assistance element will be an imperative in each one of the sub-programs. The capacity to provide these services is the limiting factor to the size of the sub-programs for each of the participating institutions.

An attempt has been made to estimate the operating technical assistance capacity and new requirements for the Banco Nacional (BNN), Banco Popular (BP), and FUNDE in the following section.

A. Banco Nacional de Nicaragua (BNN)

The small business enterprises development program of the Banco Nacional was the only source of financing for this sector until the FUNDE and Banco Popular programs were initiated in 1972-73. At the end of 1972, the BNN program accounted for nearly all the financing of the sector, with 33% of its portfolio located in the Managua area. * By December, 1973, the percentage of BNN's small business portfolio in Managua had increased to 40%, primarily as a result of the earthquake. The expansion in the Managua small business program of the Banco Nacional forced the small business credit specialists of the BNN to attend only to the spontaneous demand generated in the Sector, neutralizing the technical assistance capacity of the Bank credit specialists and thus limiting their credit functions to a superficial evaluation of loan applications without any further control or supervision. These credit practices could lead to a high rate of defaults in the next few years. The excess demand on the Banco Nacional is also forcing the Bank loan officers to approve "collateral" loans on those projects with an "entrepreneurial" potential, because of the reduced time allocated for the evaluation of loan applications.

The Banco Nacional will serve the upper strata of the small enterprises sector in order to utilize more efficiently its base capacity developed over the years. It is also intended that special types of businesses in this sector such as clinics, cement block production, sausage manufacturing, restaurants, auto repair shops, etc., that will be necessary to attract population and other businesses to the decentralization/Development poles, and which will require a relatively higher investment, will be financed by the Banco Nacional, in order to provide an anchor for the other two smaller sub-programs at FUNDE and Banco Popular.

The estimated amount of credit and technical assistance required by the Banco Nacional for a two year period of operation under the Program is shown below:

* FUNDE - INCAE Study of market financing.

TABLE I

Banco Nacional de Nicaragua
BNN

1.	Expected average loan	US\$ 3,500
2.	Actual Credit and Technical Assistance Capacity *	320 loans per year
3.	Increased Capacity to be added during the first year of the Program	100 loans per year
4.	Total Capacity by the end of the first year	420 loans per year
5.	Estimated total number of loans to be granted in two years	790 loans
	1 yr. 370 loans	
	2 yr. 420 loans	
6.	Estimated total credit requirements for two years	US\$ 2,765,000
	1 yr. $370 \times 3,500 = 1,295,000$	
	2 yr. $420 \times 3,500 = 1,470,000$	
7.	Revenues generated by total loans with an 8% spread with a linear disbursement of the loans	US\$ 214,200
	$\frac{.08}{2} [3 (1,295,000) + 1,470,000]$	
8.	Estimated operating technical assistance and supervision cost for total loans **	US\$ 256,750
	$\frac{790}{20} \times 6,500$	
9.	Estimated operating deficit for technical assistance and supervision operations	US\$ 42,550
	$(256,750 - 214,200)$	
10.	Technical Assistance equipment (Vehicles, Office and Training Equipment)	US\$ 40,000
11.	Consultant Services through FED (3-6 months Advisor)	US\$ 15,000
12.	Total Technical Assistance Cost for two years (9+10+11)	US\$ 97,550
13.	SUMMARY: 1. Total Credit Capacity for two years	US\$ 2,765,000
	2. Technical Assistance	US\$ 97,550
	T O T A L	US\$ 2,862,550

* Based on BNN projections.

** Based on the recommended loan load per technicians of 20 loans per year.

B. Banco Popular (BP)

The Banco Popular, despite the 1900 small business loans made during the last nine months of 1973, does not have an organized credit-technical assistance program to enable the institution to substantially increase its small business portfolio without risking a high percentage of defaults.

The lack of specialized personnel and the lack of a structured program for this type of lending activity will seriously restrict the bank participation at the start of the FED program.

It is expected that the Operating Unit at FED will allocate sufficient technical assistance services to the bank, in order to organize and finance a small business credit and technical assistance program to enable the bank to have a substantial participation in the overall FED program.

Table II shows the estimated amount of credit and technical assistance required by the Banco Popular in order to mobilize 320 US\$1,500 average loans in a two year period.

(See Table II overleaf)

TABLE II
Banco Popular
Credit and Technical Assistance Requirements
(Two Year Period)

1.	Expected average loan;	
2.	Actual Credit & Technical Assistance Capacity	US\$ 1,500 60 loans per year (3 technicians)
3.	Increased capacity to be added during the first year of the program	100 loans per year (5 technicians)
4.	Total Capacity by the end of the first year	160 loans per year (8 technicians)
5.	Estimated total number of loans to be granted in 2yrs.	270 loans
	1 yr. 110 loans	
	2 yr. 160 loans	
6.	Estimated total Credit requirements for two years	US\$ 405,000
	1 yr. 110 x 1,500 = 165,000	
	2 yr. 160 x 1,500 = 240,000	
7.	Revenues generated by total loans with an 8% spread and with a linear disbursement of the loans	US\$ 29,400
	$\frac{0.08}{2} [(3 \times 165,000) + 240,000]$	
8.	Estimated operating technical assistance and supervision costs for total loans	US\$ 81,000
	$\frac{270}{20} \times 6,000$	
9.	Estimated operating deficit for technical assistance and supervision operations	US\$ 51,600
	$(81,000 - 29,400)$	
10.	Technical Assistance Equipment (Vehicles, Office and Training Equipment)	US\$ 20,000
11.	Consultant Services through FED (3-6 months advisor)	US\$ 15,000
12.	Total Technical Assistance Cost for 2 years (9+10+11)	US\$ 86,600
13.	SUMMARY: 1. Total Credit Capacity for 2 years	US\$ 405,000
	2. Technical Assistance	US\$ 86,600
	TOTAL	US\$ 491,600

C. Nicaraguan Development Foundation (FUNDE)

The small business program in FUNDE is probably the only one in Nicaragua in which a conscientious effort is being made to provide technical assistance services to the borrowers.

FUNDE has been responding to a spontaneous demand that has virtually eliminated the need for promotion of its program. FUNDE loan officers apply an integrated program of technical assistance activities at the time of preparation of loan applications coupled with supervision and control of loans granted. Training programs for small businessmen have also been designed and implemented by the institution.

FUNDE directors and the Mission are of the opinion that this institution could easily expand its technical operating base for the small industry and small commerce sector programs. Such an expansion will require a resumption of promotion activities.

FUNDE projections for US\$1,000,000 portfolio by the end of 1974, had to be reduced to approximately US\$715,000, because of the lack of sufficient resources to meet this goal. Table III provides a conservative estimate of the total amount of credit and technical assistance that will be required by FUNDE for a two year period. However, since the operating unit at FED will be adjusting the amount of funds allocated to each one of the participating institutions, in accordance with their performance, it is expected that FUNDE, having a technical assistance base already in place, may increase its projected share of the program after the first year of operation.

(See Table III overleaf)

TABLE III

FUNDE

Nicaraguan Credit Development Foundation

1.	Expected average loan;	US\$ 3,000
2.	Actual Credit & Technical Assistance Capacity	120 loans per year (6 technicians)
3.	Increased Capacity to be added during the first year of the program	120 loans per year (6 technicians)
4.	Total Capacity by the end of the first year	240 loans per year (12 technicians)
5.	Estimated total number of loans to be granted in 2 yrs.	420 loans
	1 yr. 180 loans	
	2 yr. 240 loans	
6.	Estimated total Credit requirements for two years	US\$ 1,260,000
	1 yr. 180 x 3,000 = 540,000	
	2 yr. 240 x 3,000 = 720,000	
7.	Revenues generated by total loans with an 8% spread and with a linear disbursement of the loans	US\$ 93,600
	$\frac{0.08}{2} \left[(3 \times 540,000) + 720,000 \right]$	
8.	Estimated operating technical assistance and supervision costs for total loans	US\$ 136,500
	$\frac{420}{20} \times 6,500$	
9.	Estimated operating deficit for technical assistance and supervision operations	US\$ 42,900
	(136,500 - 93,600)	
10.	Technical Assistance Equipment (Vehicles, Office and Training Equipment)	US\$ 30,000
11.	Consultant Services through FED (3-6 months advisor)	US\$ 15,000
12.	Total Technical Assistance Cost for 2 years (9+10+11)	US\$ 87,900
13.	Transportation Cooperative - Experimental Project	US\$ 280,000
	1. Credit US\$250,000	
	2. Technical Assistance	US\$30,000
14.	SUMMARY: 1. Total Credit Capacity for 2 years	US\$ 1,260,000
	2. Technical Assistance	US\$ 87,900
	3. Transportation Cooperative Project	US\$ 280,000
	T O T A L	<u>US\$ 1,627,900</u>

The expected high quality of sub-loans to be made under the small enterprises credit program has a high basic technical assistance cost (an estimated 20 man-days per loan) at the PFI level. It is estimated that this technical assistance will cost out at \$137,000 to move the initial \$4,430,000 * of sub-loans or 3.0% of loan activity. Estimates of cost are net of revenues generated by an interest spread of 8% to the participating institutions. This spread is based on a 10% interest charge to the subborrowers. If the interest charge were raised to a going rate of 12% leaving a 10% spread, this would reduce net technical assistance costs at the PFI level of the small enterprise component of the program to \$60,000, or 1.3% of loan activity.

The Table below shows the net revenues effects of 8% and 10% spreads to PFIs assuming attainment of full maximum portfolios.

INSTITUTION	SPREAD	
	8%	10%
BANCO NACIONAL		
Portfolio	\$ 2,765,000	\$ 2,765,000
Revenue (Interest Spread)	221,200	276,500
Technical Assistance Costs	(136,500)	(136,500)
Net Revenue	\$ 84,700	\$ 140,000
BANCO POPULAR		
Portfolio	\$ 405,000	\$ 405,000
Revenue (Interest Spread)	32,400	40,500
Technical Assistance Costs	(48,000)	(48,000)
Net Deficit	\$ (15,600)	\$ (7,500)
FUNDE		
Portfolio	\$ 1,260,000	\$ 1,260,000
Revenue (Interest Spread)	100,800	126,000
Technical Assistance Costs	(78,000)	(78,000)
Net Revenue	\$ 22,800	\$ 48,000

 * \$ 4,680,000 Total Credit
 250,000 Transportation Credit
 \$ 4,430,000

Banco Nacional and FUNDE have self-sustaining programs at either 8% or 10% spread based on the above, while Banco Popular sustains losses at either spread. Banco Popular will thus need additional financing for its program on a continuing basis. This is due to the relatively smaller average loan to be made by the Banco Popular.

During negotiations the USAID will opt for the higher spread to assist in covering the BP's estimated deficits and enable the BNN and FUNDE to apply a portion of net revenues to establish a reserve against bad debts.

The Mission anticipates that bad debt losses would be much lower in this program than in other small enterprise lending programs because of the "front loading" of heavy technical assistance to borrowers.

The following Tables summarize the estimated costs of the small enterprise component of the program.

(See Tables overleaf)

	<u>BANCO NACIONAL</u>	<u>BANCO POPULAR</u>	<u>FUNDE</u>	<u>TOTAL</u>
Number of Loans (Two Years)	790	270	480	1,540
Average Loan (US\$)	3,500	1,500	3,000	
TOTAL CREDIT (US\$)	2,765,000	405,000	1,510,000*	4,680,000
T.A. Cost (US\$)	42,550	51,600	42,900	137,050
Other T.A. (US\$)	55,000	35,000	75,000	165,000
Initial Staff (Technicians)	**	3	6	-
Increased Staff (Two Years)	5	5	6	16

* Includes US\$250,000 for transportation cooperatives

** Not Available

TECHNICAL ASSISTANCE COSTS

	<u>AID</u>	<u>GON/BC</u>	<u>TOTAL</u>
<u>CONSTRUCTION BOTTLENECK PROGRAM</u>			
1. Studies for construction bottleneck priority areas		\$ 40,000	\$ 40,000
2. Short term specialists	\$ 35,000		35,000
3. Training Programs	25,000		25,000
4. Vehicles and Training equipment	20,000		20,000
5. Feasibilities Studies	20,000		20,000
Sub total	<u>\$100,000</u>	<u>\$ 40,000</u>	<u>\$ 140,000</u>
 <u>SMALL ENTERPRISES PROGRAM</u>			
1. Direct Technical Assistance Costs			
BNN		42,550	42,550
Banco Popular		51,600	51,600
FUNDE	42,900		42,900
2. Other Technical Assistance			
BNN			
Vehicles and Training Equipment	40,000		40,000
Short term consultants	15,000		15,000
Banco Popular			
Vehicles and Training Equipment	20,000		20,000
Short term consultants	15,000		15,000
FUNDE			
Vehicles and Training Equipment	30,000		30,000
Short term consultants	15,000		15,000
Transportation cooperatives T.A.	30,000		30,000
3. Technical Assistance for FED Operating Unit			
	<u>50,000</u>		<u>50,000</u>
Sub total US\$	<u>257,900</u>	<u>94,150</u>	<u>352,050</u>
 TOTAL US\$	 <u><u>357,900</u></u>	 <u><u>134,150</u></u>	 <u><u>492,050</u></u>

	A.I.D.					GON/BC					
	FED	BNN	BP	FUNDE	SUB-TOTAL	FED	BNN	BP	FUNDE	SUB-TOTAL	TOTAL
Credit		638,125	202,500	1,510,000	2,350,625	-	2,126,875	202,500	-	2,329,375	4,680,000
Direct Technical Assistance Costs				42,900	42,900	-	42,550	51,600	-	94,150	137,050
Other Technical Assistance		55,000	35,000	75,000	165,000	-			-		165,000
T.A.	50,000				50,000	-			-		50,000
Administrative Costs						200,000				200,000	200,000
TOTAL	50,000	693,125	237,500	1,627,900	2,608,525	200,000	2,169,425	254,100	-	2,623,525	5,232,050

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5. IMPLEMENTATION OF THE SMALL ENTERPRISES RECONSTRUCTION CREDIT FUND

A. Strategy

The credit fund project will be directed through the FED Operating Unit. (See description of the FED system Annex 16-A). The FED system is already in place and is the only effective medium in Nicaragua for achieving the broad impact explicit in the purposes of the credit fund (See Section

The FED will increase its staff and operating tools in order to most effectively handle this new program (new staff and facilities are described in Section

The participating banks and institutions will also be staffed with additional manpower. The level of technical assistance will be high and coordinated with the number and type of subloans. Technically, the project is designed to achieve the maximum number of qualified borrowers and not just a large number of subloans.

USAID anticipates that all aforementioned banks and institutions will participate in the credit program. There may be a question whether the FUNDE participation will be directly with the FED or through a state owned institution. USAID anticipates that this possible question will be satisfactorily resolved.

B. Execution Schedule

Please refer to Section VIII - Loan Administration, for Target Implementation dates for the AID Loan.

Conditions to the release of AID Loan funds for the credit fund and covenants related thereto will include the following:

C. Conditions

- i. Conditions to be satisfied prior to the approval of the PASP for this activity: The FED shall have established an operating unit

to administer all aspects of the small enterprises reconstruction credit fund and appointed full-time personnel acceptable to AID to staff the division; submitted to AID a detailed financial plan (including counterpart requirements) for the disbursement period and ten year cash flow and financial statements for the project (plan should indicate borrowers to be used in implementation and estimated amounts of credit to each of these borrowers); submitted to AID an operating manual setting forth policies, borrower and subborrower eligibility, loan and subloan terms, model agreements with the participating financial institutions, technical assistance at the FED and PFI levels, procedures, evaluation data, etc.

ii. Conditions to be satisfied prior to disbursements for construction bottleneck credit: The FED shall have investigated with the VMUP, INCAE, and others the construction industry capacity requirements and developed a specific list of bottleneck areas to be financed by the FED, acceptable to AID; submitted to AID, based on the study of construction industry capacity a plan for technical assistance necessary to promote, locate and assist potential subborrowers; submitted to AID copies of agreements with participating financial institutions, or appropriate documentation, and determined the conditions of entry into the construction industry for small enterprises.

iii. Conditions to be satisfied prior to disbursements for small enterprises credit: The FED shall have submitted to AID copies of agreements with the participating financial institutions.

iv. In addition the PASP will cover the following points:

Reflows will be allocated from construction bottleneck credits upon completion of the Immediate Action Program for reconstruction to the small enterprises component of the credit fund.

As a minimum the AID portion of the credit fund will be maintained as a permanent resource of the small enterprises credit fund.

Adequate supervision and technical assistance to the credit fund will be maintained at levels prescribed in the PASP over the life of the fund.

An annual evaluation of the project during the disbursement period and an overall evaluation within one year of final disbursement will be made.

Following satisfaction of the PASP documentation which will include the budget and implementation plan for the credit fund, the FED will submit a request for financing the credit fund activity based on procedures approved by USAID (See Section VIII - Loan Administration, paragraphs C and D).

D. Sub-Loan Criteria

These criteria are discussed in Section 3.A and B of this Annex. Terms, interest rates and other conditions are summarized in pages 7 and 8 of this Annex.

E. Procurement

Procurement will be conducted under criteria established by AID for Intermediate Credit Institutions. Subborrowers will be required and assisted through the technical assistance program to use good business practices.

F. Disbursement

The bulk of the Loan proceeds is expected to be disbursed for local currency purchases of machinery and equipment and for working capital needs. It might be necessary to make some U.S. dollar purchases from Code 941 sources for equipment or materials not locally available.

Upon completion of the disbursement period there will be a probable decrease in the volume of lending operations. Repayments available for relending may not be at a high enough rate to match annual volume levels during initial years of disbursements. The USAID will seek to minimize this volume decrease by requiring that a proper mix of loan terms (long term, short term) be maintained consistent with program requirements and good business practices. Also the participating banks will be encouraged to complement subloan repayments with their own resources in the technical assistance-credit program to maintain a high activity level.

G. Reporting Requirements

USAID will prepare a reporting format to be completed monthly by FED. The FED will maintain access to information on the program with all

participating institutions. USAID reports to AID/W will include a special section on the credit fund operations.

H. Evaluation

This component of the AID Loan will be evaluated at least annually by the Review and Evaluation Committee established for this purpose (See Section VIII - Loan Administration).

Evaluation of the Credit Fund activity will be guided by special criteria for gathering and interpreting relevant information. One particular area of evaluation will be an attempt to measure the impact of "front loaded" technical assistance costs on credit losses. This could be achieved by sampling the Banco Popular's future credit losses on present outstanding portfolio, where minimal T.A. inputs were made and comparing these results with a sample of the proposed program and its heavy T.A. inputs. These criteria will be defined in Implementation Letters.

Following is an illustrative list of data that the FED will regularly prepare and interpret for evaluation purposes:

- i. Total Amount of Credit
- ii. Number of Subloans
- iii. Purpose of Subloans
- iv. Location of Projects
- v. Stratification of Subloan Amounts
- vi. Loan Delinquency Data
- vii. Number of Firms Benefitted
- viii. Amount of Employment Generated
- ix. Production data resulting from the Loan
- x. Sales before and after the Subloan
- xi. Benefits from the Subloan
 - Total Assets Before and After
 - Equity Before and After
 - Profits Before and After

A variety of additional data providing for assessment of the institutional performance and the technical assistance element will be identified when the evaluation criteria are conceptualized in Implementation Letter No. 1.

I. Monitoring

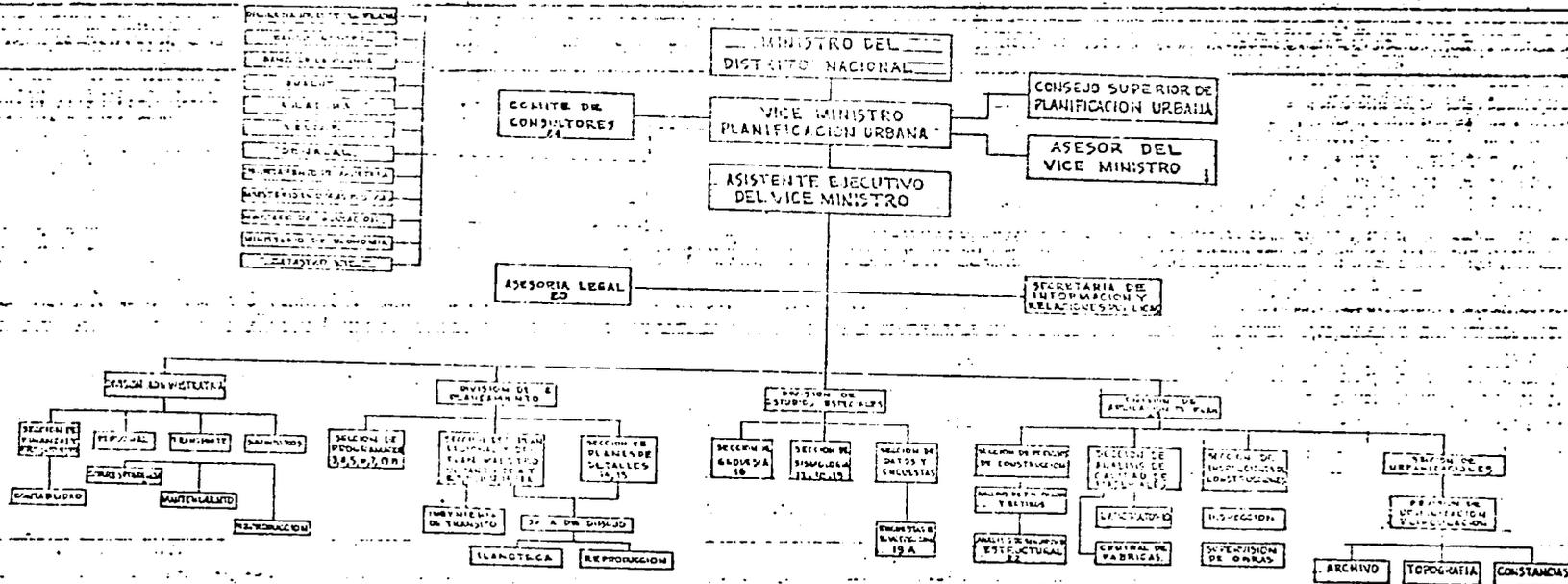
See Loan Administration (Paragraph H, Section VIII) describing monitoring activities.

J. Disposition of the Small Enterprises Reconstruction Credit Fund

This AID/FED fund will make a significant contribution to the recovery of the small enterprises sector in Managua. However, the expected three year disbursement period will be sufficient to permit the sector to rebuild its equity base in part only. Consequently, credit resources at a high level will continue to be demanded by the sector, if it is to recover and reestablish its equity base and to regain its place in the economy of the new city. All subloans including subloans for the construction bottleneck program will be repaid to the fund. Upon completion of the GON's Immediate Action Reconstruction Program, the objective of the fund will be limited to assisting the growth and development of small enterprises.

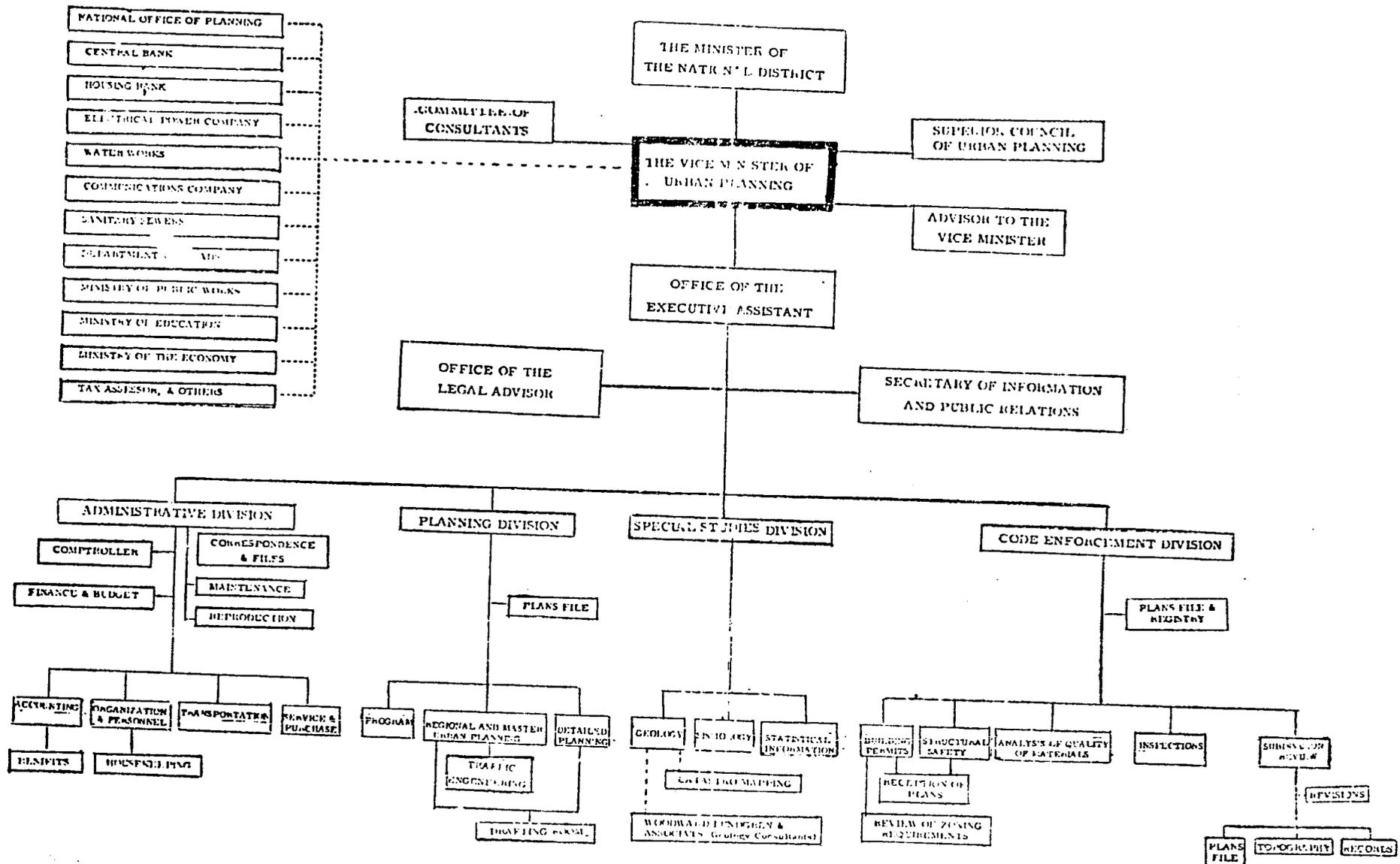
With the purpose of assuring a permanent credit resource for the sector, the AID disbursement to the fund will remain as a permanent resource of the FED for financing the small enterprise sector, as a condition of PASP approval. The GON will also be requested to provide an equal amount to the FED for this purpose.

ESTRUCTURA ADMINISTRATIVA DEL VICE MINISTERIO DE PLANIFICACION URBANA.
MINISTERIO DEL DISTRITO NACIONAL, MANAGUA, NICARAGUA, CENTRO AMERICA



ADMINISTRATIVE STRUCTURE OF THE VICE MINISTRY OF URBAN PLANNING *
 MINISTRY OF THE NATIONAL DISTRICT - MANAGUA, NICARAGUA, CENTRAL AMERICA

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*The minor differences between this chart and the preceding chart are the result of functional adjustments made since the first chart (in Spanish) was drawn.

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THE VMUP'S WORKLOAD PROJECTIONS FOR BUILDING
PERMIT DEMAND

1. The VMUP's workload projections assume that most of the natural rise in building permit demand, over the present level of 20,000 to 30,000 square meters of construction per month, will be channeled into construction activities related to the Immediate Action Reconstruction Program; however, the present level of 20,000 to 30,000 square meters of construction per month will represent a constant level of demand for building permits for construction activities outside the Program.
2. With the implementation of the Immediate Action Reconstruction Program, it is anticipated that there will be a one-to-one ratio between GON and private sector spending. Approximately one-third of the GON and virtually all of the private sector's spending will be for structures that will require VMUP review. The GON will spend approximately C\$95,000,000 and the private sector, C\$295,000,000, for a total of C\$390,000,000 annually for structures which will require building permits.
3. The demand for the issuance of building permits caused by the Immediate Action Reconstruction Program will be lower in the initial year of the program as projects are identified and feasibility studies finished and greater in the final year as the project become finalized and plans are submitted to the VMUP for review.

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4. During the eleven month period that the VMUP has tabulated building permits, a total of 159,455.5 square meters* of buildings were issued permits. The VMUP valued that construction at C\$73,819,893 or C\$463 per square meter. This VMUP cost per unit was used to convert anticipated spending to square meters of buildings requiring review in the attached graph.

* The total square meters of buildings issued a permit by the VMUP from June 1, 1973 to April 30, 1974 does not include the 426 permits issued for the repair of structures that were not measured in square meters. The demand for repair approvals will gradually diminish during the period covered in the attached graph. New construction approvals during that period of June to April were in the following categories:

Residential:	New Homes	67,530.5 m ²
	Home Additions	<u>26,506.38 m²</u>
	TOTAL RESIDENTIAL	94,036.88 m ²
Commercial:		28,915.47 m ²
Industrial:		9,197.53 m ²
Institutional & Other:		13,484.5 m ²
Educational (Public & Private)		<u>13,821.11 m²</u>
	TOTAL	159,455.5 m ²

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PROCESSING CAPACITY PROJECTIONS

Currently there are 25 professionals employed and 25 vacancies in the authorized total staffing strength of the two sections of the VMUP that are responsible for reviewing plans and issuing building permits. In January of 1974, basically the same staff issued building permits for 31,265 square meters* of buildings (or 1,251 square meters of buildings processed per man-month). In April of 1974, 20,594.5 square meters of buildings were processed resulting in a per man-month processing capacity of 825 square meters of buildings.

The capacity projections for the VMUP used in the attached graph include a normal increase in operating efficiency as experience is developed. Without technical assistance, the VMUP is expected to reach and maintain a level of 1,250 square meters of buildings processed per man-month. The capacity projections for processing with technical assistance inputs assumes that the VMUP can reach and maintain a volume of 2,000 square meters of buildings processed per man-month by improving the present system of controlling work flow, instituting time saving review procedures and conducting informal plan review in the offices of the firms submitting plans coupled with formal seminars with groups of private sector professionals designed to improve the quality of submissions made for building permits.

1. If the VMUP does not fill the 25 vacancies in the two sections responsible for issuing building permits even though their per man-month processing capacity increases at the rate of 25 square meters until a level of 1,250 square meters is reached and maintained, the VMUP would have a total processing capacity of 31,250 square meters of buildings per month by the end of 1976.

* This record high in total square meters of buildings processed in a single month was caused by 500 identical submissions from the Banco de la Vivienda for the permanent units in Las Americas No. 2.

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The projected workload would result in a gap of 87,500 square meters to be reviewed or a requirement of an additional 70 professional man-months.

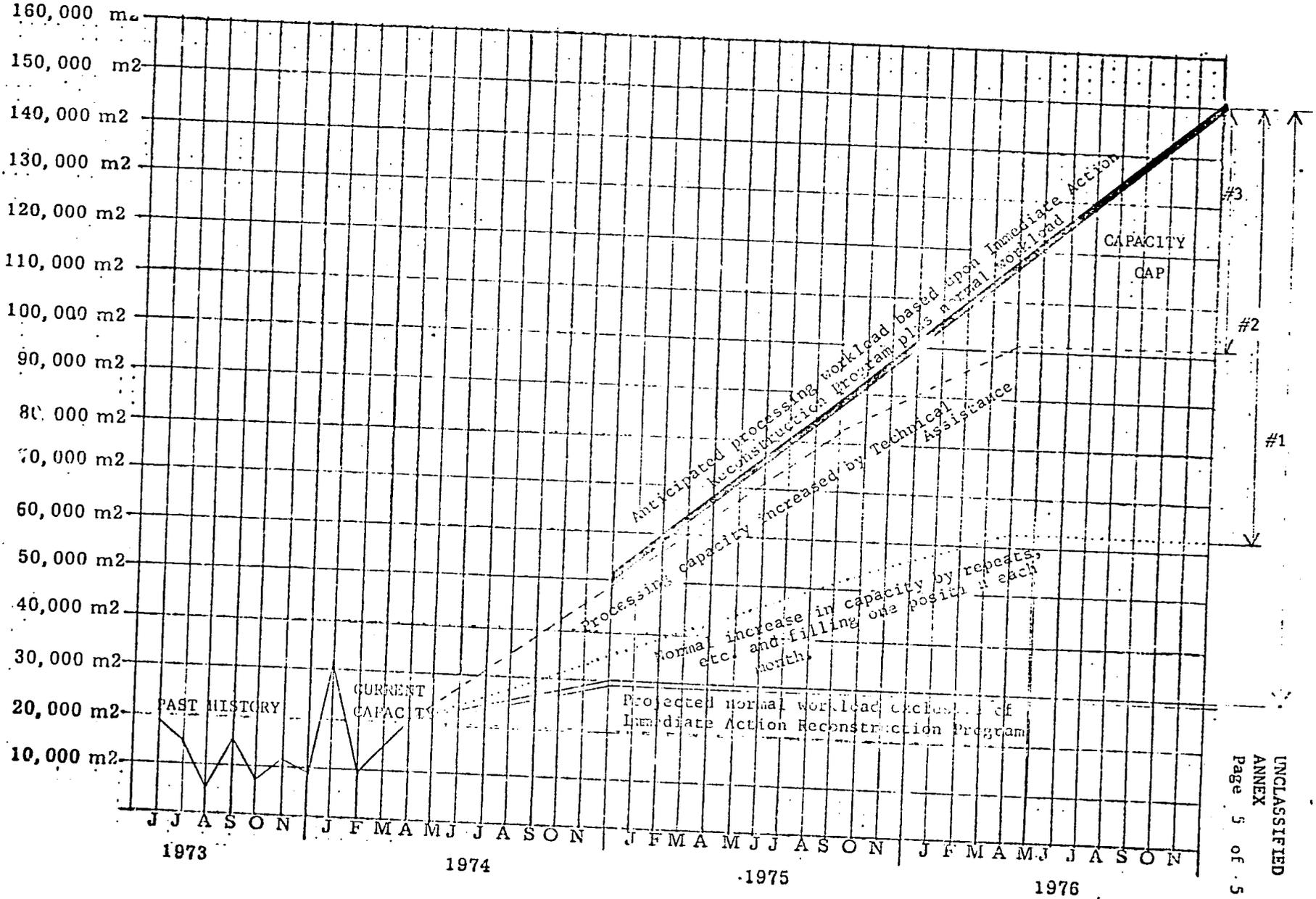
3. Assuming the processes described in #1 and #2 have occurred and the technical assistance input improves the per man-month capacity at the rate of 70 square meters until a level of 2,000 square meters of buildings processed is reached and maintained, the VMUP would then have a total processing capacity of 100,000 square meters of buildings per month by the end of 1976 or a gap of 50,000 square meters between capacity and demand.

The gap between capacity and demand described in #3 can be eliminated by an increase in the authorization for professional positions (and a corresponding increase in non-professional positions) from the present authorization of 50 to a level of 75 professional positions. To keep pace with the increased demand for building permits without creating a delay in the review process, the VMUP will have to hire two professionals each month, starting in January 1975, until all 75 positions are filled. To assure that the VMUP does not become a bottleneck in the Immediate Action Reconstruction Program, the VMUP will be required to demonstrate how it proposes to avoid a gap between its capacity to process submissions and the demand for building permits. This analysis of staffing needs will be submitted as a part of the Immediate Action Reconstruction Program.

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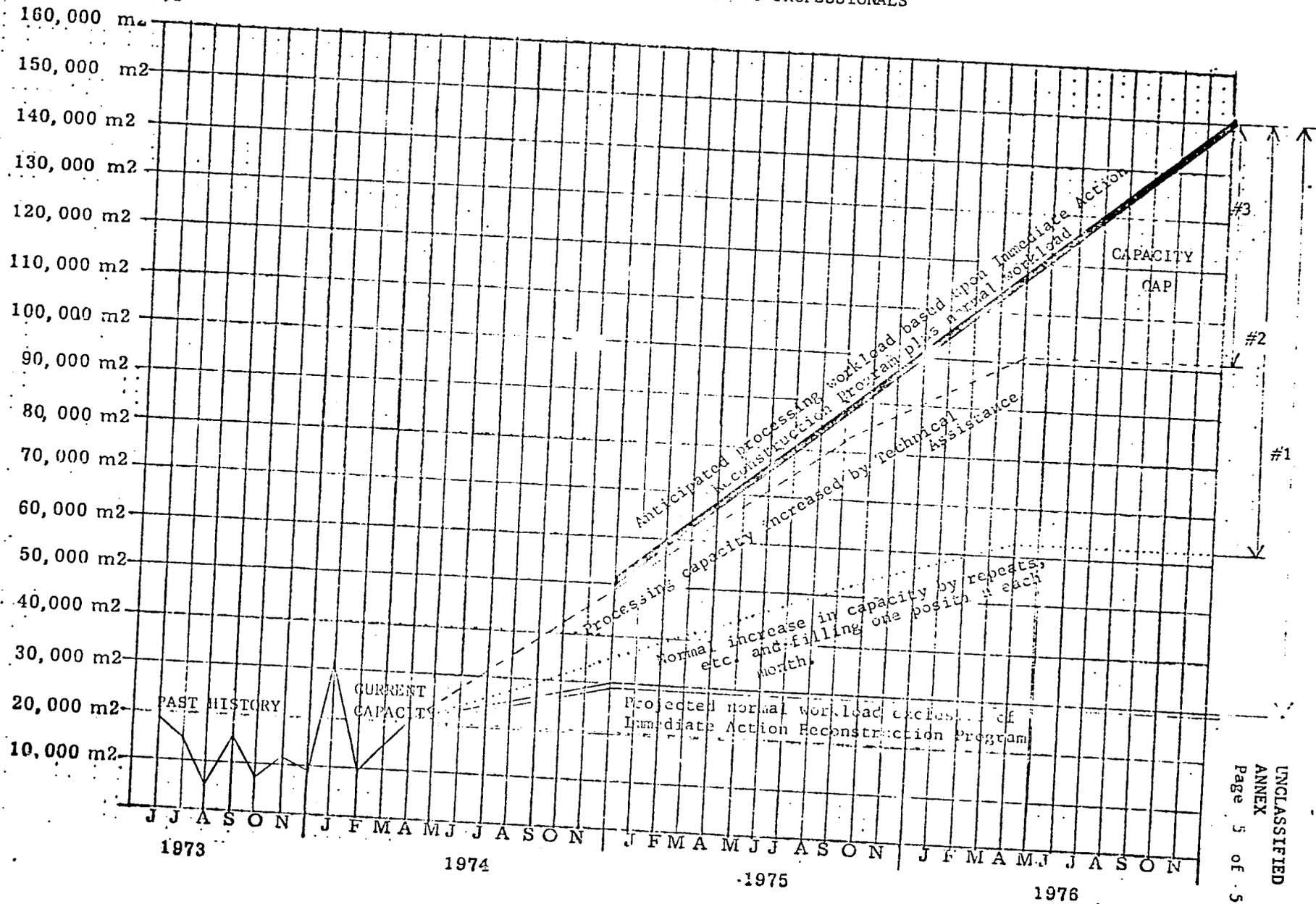
PROJECTED CAPACITY OF THE WUP TO PROCESS PLANS
AND ISSUE BUILDING PERMITS FROM CURRENT STAFFING
LEVEL OF 25 TO AUTHORIZED STAFF OF 50 PROFESSIONALS

Square Meters
of Construction
to be Processed



PROJECTED CAPACITY OF THE WUP TO PROCESS PLANS
 AND ISSUE BUILDING PERMITS FROM CURRENT STAFFING
 LEVEL OF 25 TO AUTHORIZED STAFF OF 50 PROFESSIONALS

Square Meters
 of Construction
 to be Processed



EMERGENCY PROGRAM LOAN
(AID LOAN 524-L-028)

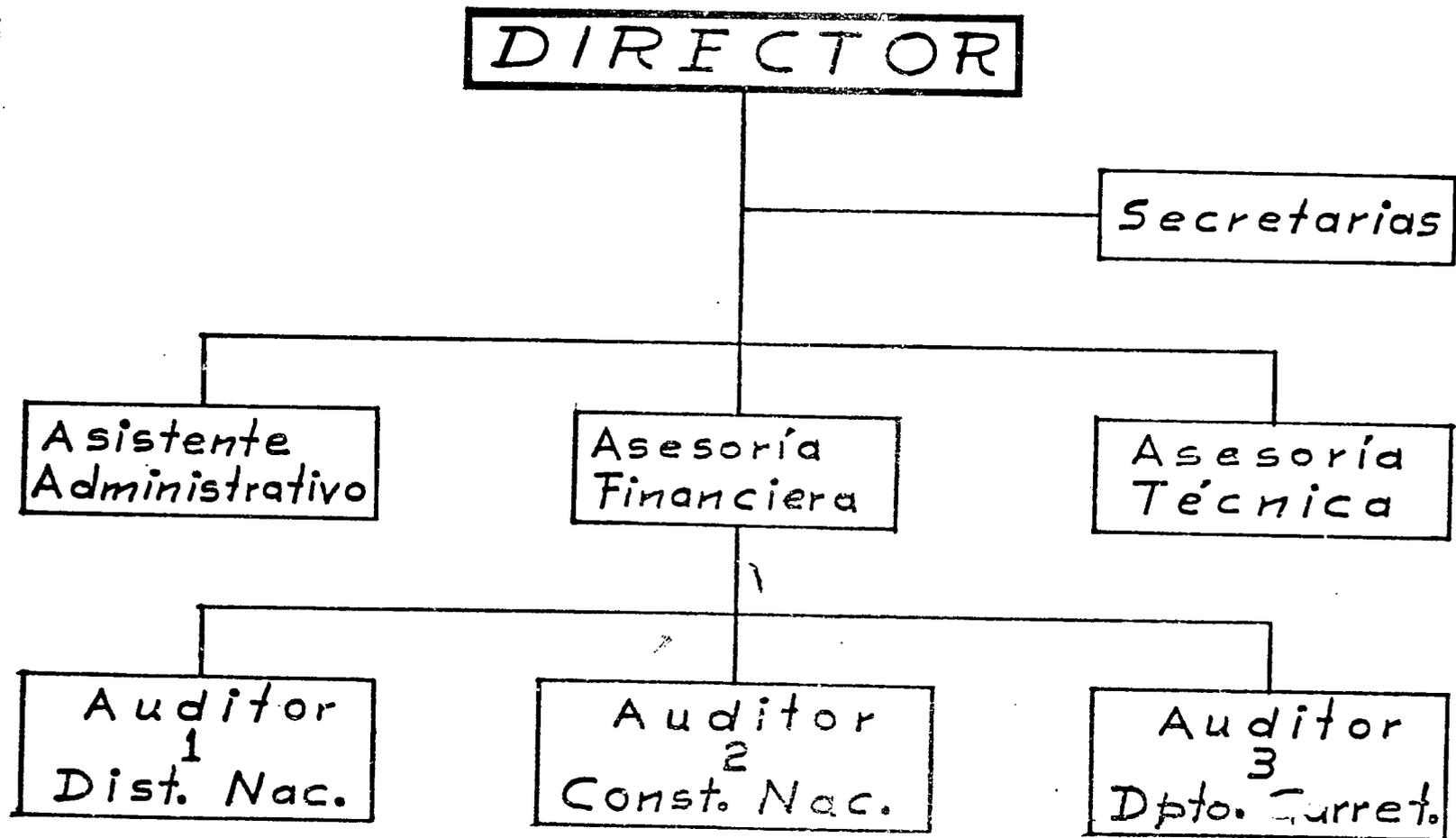
<u>ACTIVITIES</u>	<u>COMMITTED</u> (March 30, 1974)	<u>DISBURSED</u> (March 30, 1974)
Hospital Warehouse Construction	61,668.00	61,668.00
Velez Paiz Hospital Expansion	175,285.71	143,925.13
Drain Channels	1,296,426.45	907,412.48
Rural Elec. Coop. (Counterpart)	357,142.00	251,689.21
INCAE Advisory Center	524,300.00	98,722.50
Implementation & Coordination Office	100,140.01	49,795.32
Education Sector Loan (Counterpart)	1,400,000.00	975,136.95
Medical Supply Warehouse	11,677.33	11,677.33
Managua By-Pass	205,814.29	177,550.44
Technical Support to C. N.	66,641.14	28,569.71
Repair of Palacio Nacional	225,500.00	134,343.94
Feeder Road Betterment (Counterpart)	60,643.57	46,373.34
Feasibility Studies (Counterpart)	23,854.45	15,926.69
Demolition & Rubble Removal	3,115,159.29	1,107,255.99
Salvage & Rubble Removal (CRC)	1,233,479.21	1,154,828.62
Hospital Construction	3,440,428.57	1,015,950.21
Repair of Public Buildings	190,573.00	118,823.71

Customs Office & Warehouse	245,613.00	29,521.97
Physical Rehabilitation Center	60,107.14	48,808.15
Construction of Five Bridges	152,814.28	91,831.18
Velez Paiz Hospital - Second Expansion	220,000.00	- 0 -
Traffic Signals	50,000.00	- 0 -
Velez Paiz Hospital - Third Expansion	1,142,857.14	- 0 -
TOTAL:	\$ 14,368,325.44	\$ 6,469,810.87*

* It should be noted that an additional \$3.0 million of disbursement documentation (including L/COMMs) is now in various stages of being claimed for reimbursement.

OFICINA DE COORDINACION E IMPLEMENTACION
DE
PROGRAMAS DE EMERGENCIA
ORGANIGRAMA

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EMERGENCY PROGRAM LOAN ACTIVITIES NOW BEING IMPLEMENTED

1. Hospital Warehouse Construction (CN-1)
The construction of four warehouses to refurbish, repair and store hospital equipment salvaged from the Managua General Hospital "El Retiro", destroyed by the 1972 earthquake.
2. Velez Palz Hospital Expansion; Step One (CN-2)
The construction of a maternity ward, nursery, men's ward and women's ward by the addition of two wings to the existing hospital building and the repair and remodeling of the existing structures.
3. Restoration of Managua's Major Drain Channels (DN-1)
The cleaning, repair and lining of Managua's major storm drain channels, approximately 12 kilometers.
4. Local Currency Counterpart Funds for Rural Electrification Cooperative III - (Loan No. 524-L-025 - ENALUF)
The provision of counterpart funds for one year to continue the implementation of the Rural Electrification Project.
5. Government of Nicaragua Planning Group (INCAE Advisory Center)
The provision of funds to establish an Economic (Reconstruction) Planning Group through a contract with INCAE in cooperation with the Harvard Development Advisory Service.

6. Program and Implementation Office

The provision of funds to establish and maintain, for the term of activities under the loan, an Implementation Office under the auspices of the Ministry of Finance to coordinate and implement Program activities.

7. Local Currency Counterpart Funds for A.I.D.'s Education Sector Loan (524-L-027)

The provision of counterpart funds for one year to continue the implementation of the Education Sector Loan.

8. Medical Supply Warehouse (CN-4)

The construction of a warehouse to store medicines and medical supplies.

9. Managua By-Pass (DN-2)

The paving of 3.5 kilometers of the Managua By-Pass linking the southern and northern areas of the city.

10. Technical and Administrative Support for Construcciones Nacionales (CN-3)

The provision of funds to allow Construcciones Nacionales to acquire the additional technical personnel necessary to carry out construction activities under the Program Loan.

11. Repair of the Palacio Nacional (CN-5)

The repair and structural restoration of the GON's Major Government Office Building for the Ministry of Finance.

12. Local Currency Counterpart Funds for Feeder Road Betterment A.I.D. Loan 524-L-026

The provision of counterpart funds to continue implementation of the Feeder Roads Betterment Project.

13. Local Currency Counterpart Funds for Feasibility Studies Project A.I.D. - Loan No. 524-L-024

The provision of counterpart funds to continue implementation of the Feasibility Studies Project.

14. Demolition and Rubble Removal (DC-1)

The demolition of buildings in the Central City designated by the GON as beyond repair and the removal of the rubble resulting from the 1972 earthquake to a land fill site by contract with local and international firms.

15. Salvage and Rubble Removal Operations by the Civilian Reconstruction Corps (DC-2)

The removal of rubble resulting from the earthquake and the salvage of construction materials from the destroyed buildings with the objectives of employing large numbers of up to 5,000 unskilled workmen.

16. Hospital Construction (CN-6)

The planning and construction of two 250 bed general hospitals and the provision of the fixed and semi-fixed medical equipment.

17. Repair of Public Buildings (CN-7)

The repair and structural restoration of schools, health centers and other public buildings damaged by the earthquake.

18. Construction of Customs Office and Warehouse (CN-10)

The construction of a warehouse and office building by contract to replace customs facilities destroyed by the earthquake.

19. Expansion of Facilities for the Physical Rehabilitation Center (CN-9)

Construction of two buildings as additions to an existing complex at the physical rehabilitation center, one building as a physical therapy center and the other as a prosthetic shop.

20. Construction of Five Bridges (DN-3)

The construction of five small bridges located at strategic points throughout the new network of highways linking the new population centers on the edges of Managua.

21. Velez Paiz Hospital Expansion Step Two (CN-8)

The construction of an out-patient clinic, kitchen, dining room, service facility, pharmacy, and additional remodeling of the existing buildings at the Hospital Velez Paiz to provide basic services facilities.

22. Traffic Signals (OC-3)

The purchase, installation and provision of traffic control devices for eighteen strategic locations in the developing population centers around Managua.

23. Velez Paiz Hospital Expansion - Third Step (CN-11)

The third and final phase of construction to convert Velez Paiz into a full service general hospital. The construction consists of a 3-story building with operating room complex and associated diagnostic centers and additional bed space, and a one-story building to be used as a warehouse and maintenance shop area.

NEW PROJECTS UNDER CONSIDERATION TO THE EXTENT
FUNDS ARE AVAILABLE FROM THE PROGRAM LOAN

1. Repair of Additional Public Buildings

This activity will consist of repairing additional public buildings such as the Geographic and Geology CADASTRAL Institute Building (IAGS) and may be included under the existing project CN-7.

2. The Extension of Two to Four Major Storm Drain Channels

Several of the new commercial centers along Managua's By-Pass have grown faster than anticipated. The existing storm drain system does not extend far enough in some cases to serve those areas. Several new activities in these areas are now being studied.

3. San Judas and Surrounding Barrio Infrastructure

Activities under consideration include four bridges and the provision of water, power, sewerage disposal facilities and street paving.

4. Additional Clean-Up Activities

Rubble removal in suburban Barrios.

5. Masaya Highway Expansion

This activity will consist of widening the existing Masaya Road to accommodate the rapid increase in traffic to and from new commercial centers located near the new Oriental Hospital and a new Centro Comercial.

6. Extension of INCAE Contract

Extension of the INCAE Advisory Center services through CY-1974.

Engineering Analysis

A. Description: The Managua earthquake "Emergency Program" partially financed by AID is nearing completion and the GON is now moving into the first stage of the reconstruction effort with an Immediate Action Program. AID has been asked for assistance in implementing the initial projects in this tremendous effort. Much of the Program will be the reconstruction and expansion of urban facilities to serve new areas where it is anticipated the new Managua will expand.

The GON Vice-Ministry of Urban Planning is now finalizing guidelines for the Immediate Action Program and for the long range reconstruction of the new Managua. The spontaneous growth of the city since the earthquake has been toward the south and southeast of the destroyed core of pre-earthquake Managua. In its preliminary decisions and as recommended by many urban planners experienced in earthquake prone urbanization, the Vice-Ministry anticipates directing the growth of the city toward the south and southeast.

The engineering and construction that will be required in for the Urban Sector Reconstruction Program encompasses planning, design and construction that is familiar to the Executing Agencies of the GON that will participate. Types of projects will include 1) transportation improvement and expansion, 2) public infrastructure improvement and expansion (i.e., water supply, sewage disposal, electrification, streets), 3) the reconstruction and expansion of public facilities (i.e., markets, bus terminals, fire stations, post offices, libraries) 4) the reconstruction of civic facilities to house Nicaragua's government Ministries and Agencies and 5) the development of parks and recreation facilities over those areas that are determined to be dangerous seismic zones.

Zones 3 and 4 (See Annex F) is where most of the projects to be financed under this program will be located. Zones 3 and 4 encompass an area of 48 square kilometers. This is three and one-half times larger than the area that was the core of pre-earthquake Managua (13 square kilometers) where most of the city's population, commercial facilities and government facilities were located. Managua anticipates a population of over 600,000 in 1980, and most of it will be located in Zones 3 and 4. The enormous infrastructure required to accommodate this growth can be imagined and appreciated.

Because of the enormous construction effort that will be required to implement a long range plan for the new Managua, it has not been difficult for the

various executing agencies to select illustrative projects that will be required for this first reconstruction. The Vice-Ministry will select and approve projects for immediate construction under this program from the illustrative lists and those projects will be financed under the program. Once the Vice-Ministry selects a project and its financing by this program is approved, the Executing Agency involved will prepare necessary engineering plans and specifications for its construction. The engineering plans and specifications will require USAID approval.

As mentioned before, most of the projects to be financed by this program will be located in the new developing and expanding areas within Zones 3 and 4 and will particularly improve and expand 1) the north highway industrial strip, 2) the eastern commercial zone, and 3) the western commercial zone. These areas and the surrounding family housing requirement they will attract will have to be provided with adequate road and street networks, water supply, sewage disposal, electrification, parks, and those other urban development facilities, required by modern communities. This program contemplates satisfying some of the immediate needs.

i. Transportation Improvement and Expansion: Pre-earthquake Managua was a city concentrated and congested in an area less than 15 square kilometers. Streets were narrow within the main core of the city where its commercial facilities were located and where most of its population was concentrated. Urgently needed was an improved access system into the city and the downtown street system revamped. This would have required a drastic and enormous urban renewal effort. The earthquake eliminated the downtown problem and has presented an opportunity to deconcentrate Managua and plan and construct the city with adequate access roads and avenues and an internal street system that will serve it properly for many years.

Some improvement and expansion of the city's beltway and by-pass system have been accomplished through the effort of the recent AID program loan. More is needed and included in this program. The main access highways into the city will be improved and expanded (i.e., South Highway, Masaya Road, North Highway). Connecting arterials between the by-passes will be constructed. Wide access roads into large residential areas will be constructed. In summary, not less than 115 kilometers of this type of transportation improvements and expansions are listed for consideration by this program.

The Transportation Improvements and Expansion expected under this

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program will be implemented by the Dirección Nacional de Carreteras or by the Distrito Nacional.

ii. Public Infrastructure Improvement and Expansion: The core of what was pre-earthquake Managua where, as mentioned before, most of the city's population and commercial facilities were located is still in the process of demolition and cleanup. The core is lined with dangerous faults and seismic zones. That area will not be ready for occupation until the seismic danger is determined and zoning and seismic controls are adopted. Managuans cannot wait for this in order to locate their industry, commerce and housing. In fact Managua is experiencing a spontaneous location of these needs.

As with the transportation aspect of the Urban Sector Reconstruction Loan, public infrastructure improvement and expansion financed under this program will be located in Zones 3 and 4 and will be directed to particularly serve the 1) north highway industrial strip, 2) eastern commercial zone, and 3) western commercial zone, and 4) residential areas that compliment the previous three areas. The improvements and expansion will include 1) service roads and streets, 2) water supply, 3) sewage disposal, 4) storm drainage, 5) electrification, 6) telephone communication facilities and 7) other miscellaneous public facilities.

The institutions that will implement this work exist, are capable and are well known to USAID. Included are ENALUF, Aguadora, DENACAL, Distrito Nacional and TELCOR. They are described in other portions of this CAP.

iii. Reconstruction and Expansion of Public Facilities: Managua suffered a severe blow with the total loss of its public facilities in a few seconds of seismic movement. Roofs and walls fell on fire trucks, hospitals crumpled, the red cross center desintegrated, the Palacio de Comunicación became inoperable, markets vanished, electricity failed, transportation stopped and homes were destroyed. A community cannot exist without these basic facilities.

This program contemplates the reconstruction and expansion of its basic public facilities. The program will finance the construction of: 1) central and local market places, 2) bus terminals, 3) fire stations, 4) branch hospitals, 5) pedestrian overpasses, 6) libraries, museum, etc., and 7) other miscellaneous public facilities.

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Construcciones Nacionales of the Ministry of Public Works will be the implementing institution for this portion of the program. This institution has played a major role in the AID financed program loan. Construcciones Nacionales is described in detail in another portion of this CAP.

The GON is beginning to undertake the construction of new office facilities for many of its Ministries, Institutions and Agencies. The GON has planned two office complexes, one in the western commercial zone and the other along the north highway industrial strip. This program contemplates financing the construction of the North Highway GON Complex. The complex will consist of not less than five large office structures with complementary laboratory and warehouse facilities. The Ministry of Agriculture and similar types that require large and special type housing and equipment will locate there.

B. Technical Feasibility

The projects that will be constructed have not as yet been finalized for financing and will be selected from the illustrative list of activities included in Annex G or that should develop during the planning process. However, there are no projects on the list that will require special technical knowledge and capability for their design and construction. The technical institutions of the GON that will implement the projects have executed their particular type of projects for many years. (i.e., Dirección General de Carreteras - Roads and Highways, Aguadora - Water Supply, DENACAL - Sewer Disposal, Construcciones Nacionales - Public Buildings, ENALUF - Electrification, etc.). These Agencies are described in more detail in the above portion of this CAP. Each is well known to the USAID and considered capable of implementing the projects to be financed under this program. All of these institutions have worked with international financing not only from AID, but also from IBRD, IDB, UN, OAS and others.

The projects to be constructed under this program will be located in areas that have already been analyzed and determined to be in relatively safe seismic zones. Construction under the adopted seismic code will produce buildings and facilities that will not endanger the lives of its occupants.

This program and others that coincide with the construction time frame contemplated will have a definite impact on the materials production and construction capacity of Nicaragua. Project costs and timely construction will be affected

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by how materials, skilled labor and the construction industry capacity are made available for this work.

A large number of the projects listed will require the acquisition of rights of way or building sites. This has been a serious problem in the implementation of projects. The GON has been unable to cope with land acquisition in a timely manner which results in delays and increased costs.

C. Planning, Design, Construction and Implementation

i. Planning: The projects that appear on the illustrative list are those that the GON considers top priority and essential to satisfy Managua's urgent and immediate needs. Also they are those projects that take the first step toward reconstruction and deconcentration.

The projects selected for this program by the different Executing Agencies are those for which demand already exists, that spontaneous post-earthquake growth, in the desired direction, need for its continued existence and expansion and those that are obvious for the reconstruction of Managua's transportation, infrastructure and public facilities.

A long-range plan for a future Managua existed in preliminary form before the earthquake. Its outer limit was the outer beltway which coincides with the limits of this program. Most of the transportation projects selected for this program are those that appeared in the long-range plan. Also, pre-earthquake water supply and sewage disposal plans for improvement and expansion of these facilities exist. The projects to be selected for this program for water supply and sewage disposal are those that adjust those plans to the Immediate Action Reconstruction Program objective. The GON public buildings and facilities will be reconstructed. Their reconstruction under this program designs and locates them in a manner that complements the reconstruction/deconcentration objective.

All of the implementing Agencies' future plans and expected growth were based on this preliminary long-range plan. ENALUF, Aguadora, DENACAL, etc., were preparing for growth towards the south and southeast. It may un sentimental say, but nevertheless a fact, that their operations were hampered by the congested, deteriorated and obsolete systems they had to keep operating in the pre-earthquake Managua core. It could easily be concluded that these Agencies welcome and are not unprepared to cope with the deconcentration effort and that

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they will not be project-shocked by it.

The primary purpose of the reconstruction program is to promote the planning and development of a deconcentrated and multi-centered urban complex. However, the destroyed central urban core of old Managua must eventually be rebuilt. This zone will require an extensive reconstruction planning and controlled development effort.

An international competition will be proposed to select the firm to elaborate a master plan for the development of the zone. This master plan, when accepted and approved, would form the base for programming the implementation of the reconstruction effort in this destroyed core. Detailed plans for selected components of the master plan would be prepared to initiate and further promote the reconstruction program in this zone.

In order to initiate this competition, responses, together with qualification information, would be solicited in accordance with AID professional services procurement policies from urban planning firms interested in participating in this element of the reconstruction program. From these responses, the borrower would evaluate and select the three firms it considers best qualified to prepare and develop the concepts for a master plan within the framework of a defined scope of work. The scope of work would be defined such as not to limit the presentation of redevelopment planning concepts but to assure that a consistent and common base would be followed by all competitors.

ii. Design: Feasibility studies and preliminary plans exist for some of the major transportation projects that appear in the illustrative list. Most have been on the Managua pre-earthquake long-range plan and are projections and improvements of existing access roads and city streets. All will require final location, selection of design criteria and coordination with the Vice-Ministry of Urban Planning and with the Immediate Action Program. Design will utilize past experience, local materials and will not deviate from the types of roadways and streets that have been constructed in Managua for many years.

The same is true as regards the improvement and expansion of the water supply, sewage disposal, storm drainage and electrical systems. Typical designs with the use of local materials and methods will be the criteria. Hazen

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and Sawyer are consultants for DENACAL and Aguadora and ENALUF has several consulting firms advising them. None suggest the discontinuation of the design and construction that these Agencies have adopted and are experienced in.

No preliminary plans exist for the proposed public structures. The Ministry of Public Works has determined the minimum needs of public buildings for the GON Ministries and Agencies and those public facilities that Managua lost and urgently needs. Construcciones Nacionales, the Executing Agency for this aspect of the program, has analyzed those needs and has estimated minimum requirements to satisfy them with very basic building area requirement, design ideas and cost estimates based on their experience and involvement in the many projects of the AID program loan.

All projects to be constructed under this program will have to be analyzed individually by the GON and USAID to determine and justify the requirements, feasibility, design criteria, design (By the Executing Agency or Consultants) and construction (by force account or private contractors). Each project requires this analysis because of their variety in size, type and implementing agency experience. This approach has been successful with the program loan activities and it is expected that these same procedures can be used successfully by the central GON.

iii. Construction: It is recommended that public bids of most of the improvements and expansion projects be solicited from private construction firms. A serious attempt should be made to attract international contractors. This program is extensive and the present Nicaraguan construction capacity and number of local construction firms could not be significantly expanded to absorb it in the planned time frame. The projects to be constructed are not complicated but are numerous and some are relatively large. Construction competition may not exist which would increase costs. The tendency of local firms and even GON institutions to resist outside competition will have to be faced and diminished for the benefit of timely project implementation and reasonable cost. However, since construction projects are expected to be grouped in large packages, international competition is expected.

The Nicaraguan construction industry capacity is analyzed in another section of this CAP. Construction cost inflation is a reality. Although a

leveling-off is felt, this program can change that with the announcement of the first project. It, therefore, is very important that the Engineer responsible for the design of each project be required to submit a detailed and comprehensive cost estimate of his design.

No special construction materials or methods will be necessary for the implementation of this program. Local engineering and construction contractors could implement this program if time were not a constraint. The time schedule requires international construction assistance and the importation of some materials. Some of the work can be performed by force account but it should be only that work that would not attract local and international private construction contractors.

No special equipment will be required for the construction. Equipment for some of the public buildings, markets, etc., should be procured with early and extended lead time if possible because of the long delivery periods now being experienced. It is a fact that special equipment is almost impossible to obtain unless procured months in advance.

In the preparation of cost estimates, basic prices were established from award of contracts for comparative structures within the last three months. The general range of building construction cost was from ₱2,100.00 per M² (\$27.88 per sq. ft.) for the more complicated structures down to a low figure of ₱1,500.00 per sq. meter (\$20.00 per sq. ft.) for the more common type of construction. The judgement of the reasonableness of these figures must be tempered by consideration of the unsettled conditions existing here in the country. Further consideration must be given to the high short term interest rate for money which is in excess of 17%. The contractors expect, and seem to be getting, as much as 25% profit on his direct cost and overhead. The material supply picture is painted in the same hue with the merchant applying a minimum of 100% markup. In the case of imported materials, there is a high duty placed on it which influences the base price from which the merchant works. In the case of some tools required by the construction industry, the item is priced as much as 400% of U.S. price of the identical item.

This situation reflects the uncertainty experienced by the construction industry along with a sharp rise in anticipated activity. In the true sense of the phrase, active competition is limited at this time. The number of contractors capable of performing the larger jobs is limited. Those that are not

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loaded to capacity, feel that they will take on new work only at their price. It is hoped that new foreign companies in conjunction with some of the smaller established in joint-venture will move in with a more aggressive attitude to reverse this explosive trend.

D. Implementation

The construction aspects of this program can be completed within the programmed time period of the loan. Shortages of materials could be a delaying factor as could labor strikes. This could primarily affect the construction of urgently needed buildings but may not have a serious detrimental effect on infrastructure construction.

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Environmental Statement

As the Background shows, the environment has not been kind to the residents of Managua. However, any program related to the recovery from the cataclysmic occurrence of December 23, 1972, will involve movement and change of people and their life styles and thus, will have, in turn, its significant effects on the environment. The underlying consideration here is that the shifting of people has and will have "environmental impact", but each infrastructure or construction project undertaken in this program can be evaluated at the appropriate moment when detailed plans are presented for approval and steps recommended to assure the least damage to the environment. In all cases, such as drainage infrastructure, the projects should improve the current environmental situation. In sum, the irreversible change that the environment wrought upon the central portion of Managua presents planners with precious few alternative solutions to the problem of minimizing adverse environmental impact.

In general the purpose of the program will consist of encouragement and assistance to the GON in their desire to minimize the re-occupying of the once densely populated central portion of Managua, and thus to reduce exposure to the hazards of another earthquake. The most dramatic and visible portion of the program will be the construction of urban streets to connect, radially, the bulls-eye rings of the by-pass roads. The tandem activity of infrastructure improvement for the various development zones will not be as obvious, but is equally important in reference to both environment and reconstruction. The industries and commerce encouraged by this infrastructure will carry with them the inherent attack on the environment which must be provided for under second or third generation provisions of the project. The vertical construction components such as public facilities, public markets, office buildings, communication and transportation facilities are in themselves focal points of environmental impacts and will be evaluated at a time when manageable and evaluable plans are in hand.

Scope of work for professional services shall contain sufficient provisions to insure that the environmental impact of each reconstruction activity has been rationally analyzed and should contain, but not be limited to, the following:

- a. A statement of the environmental impact of the proposed action.
- b. A statement of any adverse environmental effects which cannot be avoided should the proposal be implemented.

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- c. Alternatives to the proposed action.
- d. The relationship between local short-term use of the environment and the maintenance and enhancement of long-term productivity.
- e. Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

A sympathetic concern for the environment has been demonstrated by the GON in implementing past projects and there is no reason to expect a change in attitude with regard to this Program. While, to quote the M.O., "There is no intent to impose U.S. standards, priorities, or solutions on a foreign government thought this procedure", elemental consideration of environmental effects and actions to minimize adverse impact will be contained in each element of this loan package at such time as technical information for each project's implementation becomes available. This will be provided for by this Program.

UNIT COST ESTIMATE

Water Supply Systems (Est. \$35,000/hectare for low cost housing)

<u>Item</u>	<u>Unit</u>	<u>Unit Price</u>
2" PVC pipe	ML	₹ 45
4" A.C. pipe	ML	48
6" A.C. pipe	ML	52
8" A.C. pipe	ML	60
12" A.C. pipe	ML	82
Hydrants	Each	700
2" Valves	"	400
4" Valves	"	900
6" Valves	"	1,200
8" Valves	"	1,800
12" Valves	"	4,800
Storage tank	0.5 MG	600,000
Storage tank	2.5 MG	2,500,000

Sewer Collection Systems (Est. \$100,000/hectare for low cost housing)

8" Concrete pipe	ML	₹ 175
10" Concrete pipe	ML	215
12" Concrete pipe	ML	250
Manholes (Av. Standard)	Each	3,000

Streets and Avenues

Earthwork	M ³	₹ 35
Paving	M ³	49
Concrete	M ³	1,200
Sidewalks (standard)	ML	42
Gutters (standard)	ML	56

Electrification

Primary and Secondary	L.S./Hectare	₹ 12,000
Lighting	L.S./Hectare	5,000

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PLANNING FOR THE EARLY POTENTIAL GROWTH OF CENTERS
NEAR MANAGUA

On a good highway 25 Km, northeast of Managua lies Tipitapa, population approximately 7,000. To the southeast on the main road halfway to Granada lies Masaya, population approximately 40,000. These three form the "inner metropolitan triangle" with Managua at one apex and the two cities at the other apexes. Reinforcing this triangle will be a new highway from Tipitapa to Masaya. Beyond these points of inner triangle lie other potent centers: Diriamba-Jinotepe south of Managua 30 Km., Granada southeast of Masaya 20 Km., and San Benito just north of Tipitapa at a junction of the national road north and the Rama road to the east, plus a potential route west on a shortcut to Leon and Chinandega. Time distances in the whole system are very small; in the inner triangle only 20 minutes; Managua to Granada only 40 minutes; distances which can be further reduced by highway and traffic improvements.

This network may rapidly develop into a practical daily system for business, industry, residence, schooling, working and social trips. It was previously a disconnected pattern of local trade areas, but commuting sprang to life with the earthquake and the refugee overload.

From the maximum moment of refugee saturation estimated at 200,000 in early 1973, the population overload declined by 50%, or 100,000 people, to the present date. Some social agencies saw the immediate opportunity for a crash program of employment and housing in the outlying refugee centers, for absorption of the population. However, neither the planning, engineering or funding of a crash program was possible, before refugees were compelled by circumstances to filter back to Managua. Now the housing and employment capacity of Managua offers a better prospect than the almost stagnant satellites. While this situation seems inevitable for the immediate several years of high

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investment in Managua, the larger question is: must the imbalance continue, or can early planning tilt metropolitan growth into the satellites?

Some serious policy consideration plus some physical improvements going into the satellites give promise of a second phase of decentralized metropolitan growth. This might take 5 to 15 years. But it is precisely this lag which early planning and key infrastructure investments may shorten. The main advantages would be these:

a. Safety of a Satellite System

The geophysical dangers of Managua (high level earthquake of predictable frequency 30-50 yrs., and volcanic eruptions of unpredictable frequency) have been extensively reported by scientific teams. These hazards may or may not be less in the satellite centers, but their history of destruction is proportionally far less. The direction of Tipitapa and San Benito is near the "quiet zone" of the Sierra de Amerrisque, out of the "pacific volcanic belt." More important is the dispersal of future urban population and economic facilities among 5 or 6 centers within a daily commuting system which would reduce the geophysical hazard. This would provide emergency capacity for refugees any where in the system - water and sanitation, communication, health facilities, a basis for temporary housing. It could be the ultimate safety policy for the metropolitan population.

b. Efficiency of a Satellite System

At present some 25,000 or more urban jobs exist in the ring of satellites outside Managua (compared with some 80,000 in Managua). Normally, half of these would be in local commercial and public service, and the other half in industries which could grow to meet the coming demands of Managua reconstruction, such as:

cement and concrete products, tiles, ceramic and vitreous ware, plastic pipe and plumbing fixtures, electrical products, air conditioners, refrigerators, roofing materials, steel forms and fittings, wood and panel products, windows of wood and metal frame, furniture and fabrics, glass products, paints, finishes,

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plasters, insulation, containers, small tools.

All these may be seen among the satellites today, in embryonic form; but now an enormous demand is approaching. More specifically, the very small enterprise level which saturates these towns economies is not up to date with the national market demands, due to historic lag in technology, credit, and also to low levels of demand for modern industrial products, due to previous low incomes of this market. However, the earthquake reconstruction of Managua will soon change this. It will generate several billion cordobas worth of materials. Normally half of construction costs go for materials, and we may project a 6-yr reconstruction plus growth estimate of some C\$4,000,000,000. For satellite town industries this means a large "captive market" for products, which will upgrade local production.

c. Needed Metropolitan System

Managua for 100 years has agglomerated to itself most urban growth. But other Latin American capitols have sprouted active satellite towns, such as the San Jose metropolitan system, Guatemala metropolitan system, etc. Part of the explanation for this lag in Managua and its satellites is the historically low income level, low industrial technology level, low automobile and trucking index, low energy distribution index. Without the advent of the earthquake and reconstruction, the Managua satellite system would have begun to catch up, mainly due to highways. But now the reconstruction contracts for many materials and services can be positively planned to accelerate this metropolitan system.

d. Equity Considerations for Developing Satellites

Outlying communities are already painfully aware of the economic burdens that are falling upon them directly and indirectly as a result of national investment in Managua, through inflation, loss of young labor to Managua and other indirect effects. They would see their level of local public facilities fall even farther behind those to be built in Managua, and it will appear that the lion's share of public investment in schools, hospitals,

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water and sewer, roads, government buildings, airports, etc. will go into Managua. What will not be clear to them is that a new, more efficient Managua will contribute much more to the GNP, for the benefit of the entire country. This would seem to be too far off to be relevant in communities which are now so substandard. The sense of inequity has already found expressions in public debates. 1/

For all these reasons, regional planning theory here is fast approaching a two-stage policy:

Stage I - Managua's 6 year reconstruction of infrastructure would be planned for 650,000 population in 1980, and not for indefinitely continued expansion at this high reconstruction rate;

Stage II - Satellite towns would pick up rapid growth after 1980, rising from the "normal" 1980 projection of 175,000 to at least 400,000 in 1985; this means rising from 25% to 40% of the Managua metropolitan system. These outlying towns have had a suppressed rate of 2 to 4% annually (compared with Managua's 7.3% rate before the earthquake) but this would rise to something like 10%.

The key to this theory is that the satellite town growth potential can be based on the huge "captive market" for reconstruction goods and services - and that early planning and investment in satellites can assure this higher growth. This growth curve would at first (1975-1980) be lower than the Managua growth which would have massive local construction, housing projects, large infrastructure, etc. Essentially satellite town build-up requires more intricate introduction of many components of public facilities, services, housing, industries and vocational

1/ Ref: Proceedings of the Private Enterprise Conference in Managua - March 1, 1974

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training, which would require several years to result in efficient industrial capacity.

How potent the satellite growth might become, is indicated by certain conditions in the two nearest places, as follows:

1. Tipitapa

The Pan American Highway now passes through Tipitapa on the way to Managua, thence south on a constricted winding road in a half loop turning eastward toward Costa Rica - but now a new highway link from Tipitapa will go due south to Masaya and thereby cut partly through the loop, a shortcut of many kilometers and great relief of congestion through Managua, thus making Tipitapa into a very potential trucking-warehousing-transport junction on the Panamerican Highway system. At present the population is merely 7,000, mostly in self-built modest workers housing. Only the central part of the town has water and electricity, and only one paved street, the Pan American Highway, which also serves as the open market strip. Tipitapa already shows industrial beginnings, having steel building prefabrication, plywood, milk products. It has a power substation on the direct line from northern hydroelectricity. A study for an inter-lakes multi-purpose water and power section is underway. It is a busy local trading center, opening to the large agricultural and other products of the north and east. It lies closer to the international airport than does downtown Managua. It has boundless water supply for industry from both Lake Managua and Lake Nicaragua, lying at the head of the estuary opening into the large lake.

To the north and east lie vast plains, in cotton, traversed by streams from the Sierra de Amerrisque - where a second national airport could be built and any amount of industrial expansion. A few kilometers north along the Pan American Highway is the junction of San Benito, with the Rama Road into the eastern part of the country, and the potential short-cut to Leon-Chinandega to the west. The entire lake-shore corridor from Managua to Tipitapa, some 20 Km. long,

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will someday become an intermittent city along the good highways, power lines and airport, and along a cleaned-up lake Managua. Tipitapa could see a development boom very soon, based on its advantages of: (a) transportation/warehousing terminal, (b) manufacturing of many more building materials, (c) worker housing for 30,000 to 50,000 population located within 20 minutes of Managua's active east end, location for a strategic sub-center for government offices and new airport serving the entire interior of the country, all located more safely than in Managua. There is some interest by international agencies in funding an industrial park at Tipitapa. However, a fully specified functional plan and physical design of all new highway connections, rail spur, utilities and lake ports for the new transport-industrial town is urgently needed. It is this immediate planning which should be part of the Managua deconcentration program.

2. Masaya

Now a very active but poorly equipped trading center in the middle of the highest rural population density of Nicaragua, Masaya's capacity could rapidly provide more production in the coming boom of Managua reconstruction. It lies on a first class level highway, 15 Km. distant from Managua's rapidly growing southeast construction area, and 15 Km. from Granada in the opposite direction. Soon, the arrival of the new Pan-American link highway from Tipitapa will boost Masaya's trucking potential. Of special importance to reconstruction is the first-class deposit of building stone just outside Masaya on the Managua side, which will become the major source of crushed stone, ready-mix concrete and concrete produces. This is probably the best of very few sources of good workable stone, near Managua. At present the Managua projection of a new southeastern expressway point toward Masaya (and Granada, beyond) - and could become the country's major highway junction plus railroad service to Masaya's doorstep. Masaya has practically unlimited fresh water resources in two deep lakes (calderas) lying on either side of the town. Some small industrial and housing projects are projected - but the entire potential of transportation network, utilities, industrial expansion, critical

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industries like gravel and concrete should be planned as part of the regional balance of the deconcentration program. This planning would have a triggering effect, and would make ready for the arrival of the major new industrial highways from two directions, Managua and Tipitapa. An important collateral effect would be to improve the very inadequate present urban facilities for supporting the large rural population surrounding the town, to stabilize its services and employment capacity to prevent a landslide of underemployed labor force from moving into Managua.

In summary, these two examples of satellite towns illustrate strategic possibilities for supporting reconstruction and deconcentration policy for Managua. The other key centers - Granada, Diriamba, Jinotepe and San Benito - also offer particular service capacities for industry and population absorption and this metropolitan system would greatly relieve Managua from an economic and unsafe kind of mushroom growth supported by reconstruction labor. These potentialities of satellite towns are not only ways to resolve many standard problems of a rapidly growing metropolis, but are vital to safety and change in this target zone for geophysical disaster. It is imperative to begin some rigorous satellite development planning, with the deconcentration loan. It will have the effect on reconstruction policy of establishing the idea and practice of "Phase II Metropolitan Decentralization", a principle which will cut across all other programs.

More particularly, the technical planning in the satellite towns will require up to \$1,400,000 of the loan fund, and will take several forms simultaneously, as follows:

1. In VMUP, a special section for Satellite Town Planning will analyze the main functions, allocations and timing of town satellite growth, in relation to the entire regional planning policy.
2. In each of the four main satellite locations (1) Masaya, (2) Granada, (3) Diriamba-Jinotepe, and (4) Tipitapa VMUP will have a Resident Planning Office, together with a Development

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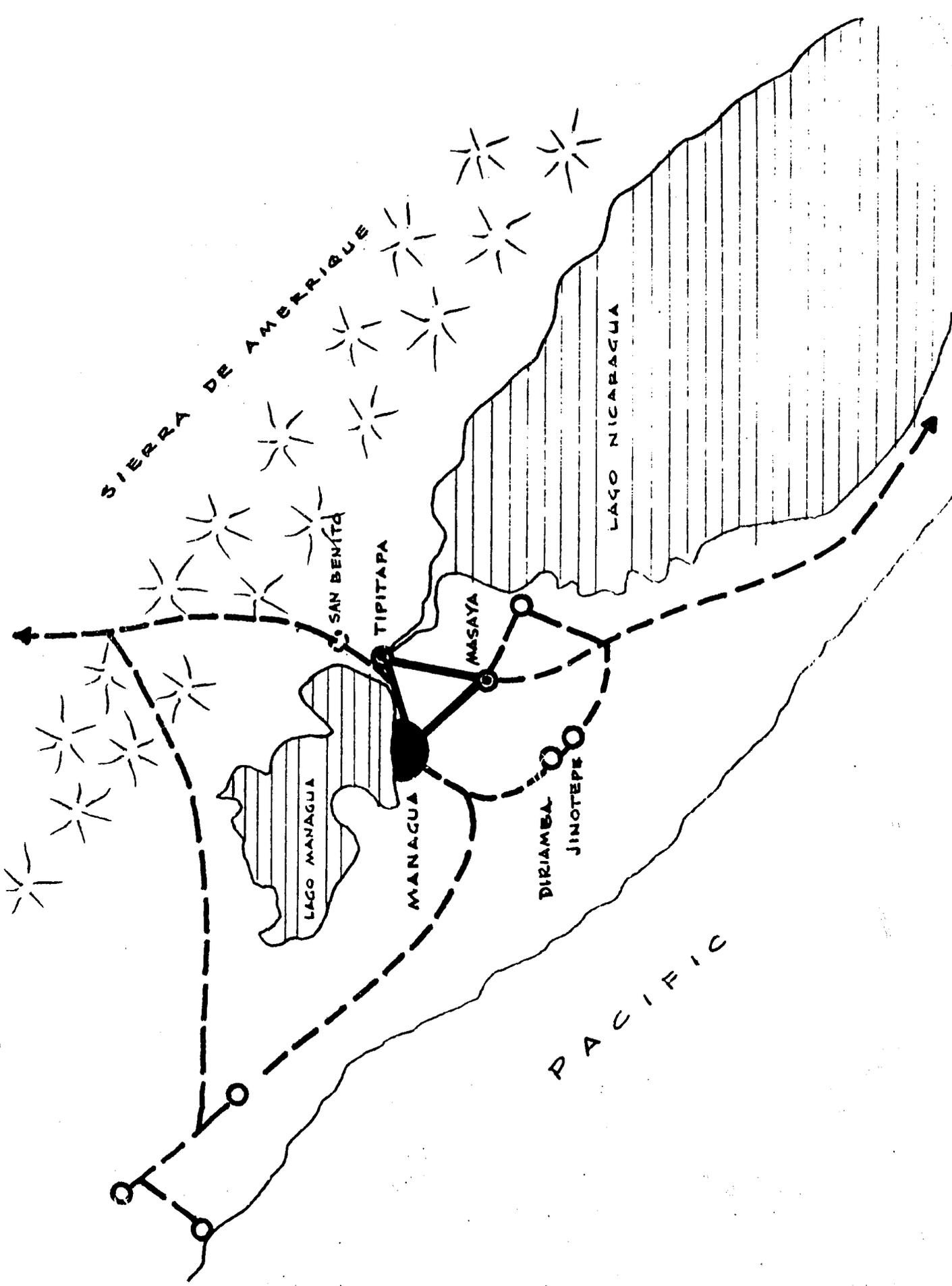
ANNEX 27

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Advisory Council of industry and town officials. The local planning office will have two tasks: (1) industrial development through specific selection and assistance for key industries, and (2) civil works design and construction for enlarged communities and connections with Managua and each other.

3. In addition to the above mechanism, the loan will provide for contracting of consultant firms for special work such as studies of specific industry feasibility, market analysis, transportation and warehousing studies, and areas designs.

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ESTIMATE COST OF MANAGUA DESIGN COMPETITION

The Managua Center Design Competition will be organized to conform the regulations developed for such activities by the principle architectural and urban planning professional associations of the Western Hemisphere. The competition will be formulated in a manner which will attract experienced, and progressive thinking competitors by a team composed of representatives of the Government of Nicaragua, Nicaraguan Professional Groups and a Professional Advisor selected by the GON, and approved by AID.

Competitors will be drawn from applicants submitting pre-qualifications as a result of an international public request by the GON Competition Team. An international five member jury will be selected directly by the GON Competition Team with assistance by the Professional Advisor.

The GON Competition Team will consist of a Board of Directors composed of representatives of principle Ministries and the National Emergency Committee. A five man technical section composed of architects, planners and engineers will develop the competition program together with the professional advisor over about a six month period.

The term of the competition is estimated to be six to twelve months.

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Estimated Cost of the Competition is as follows:

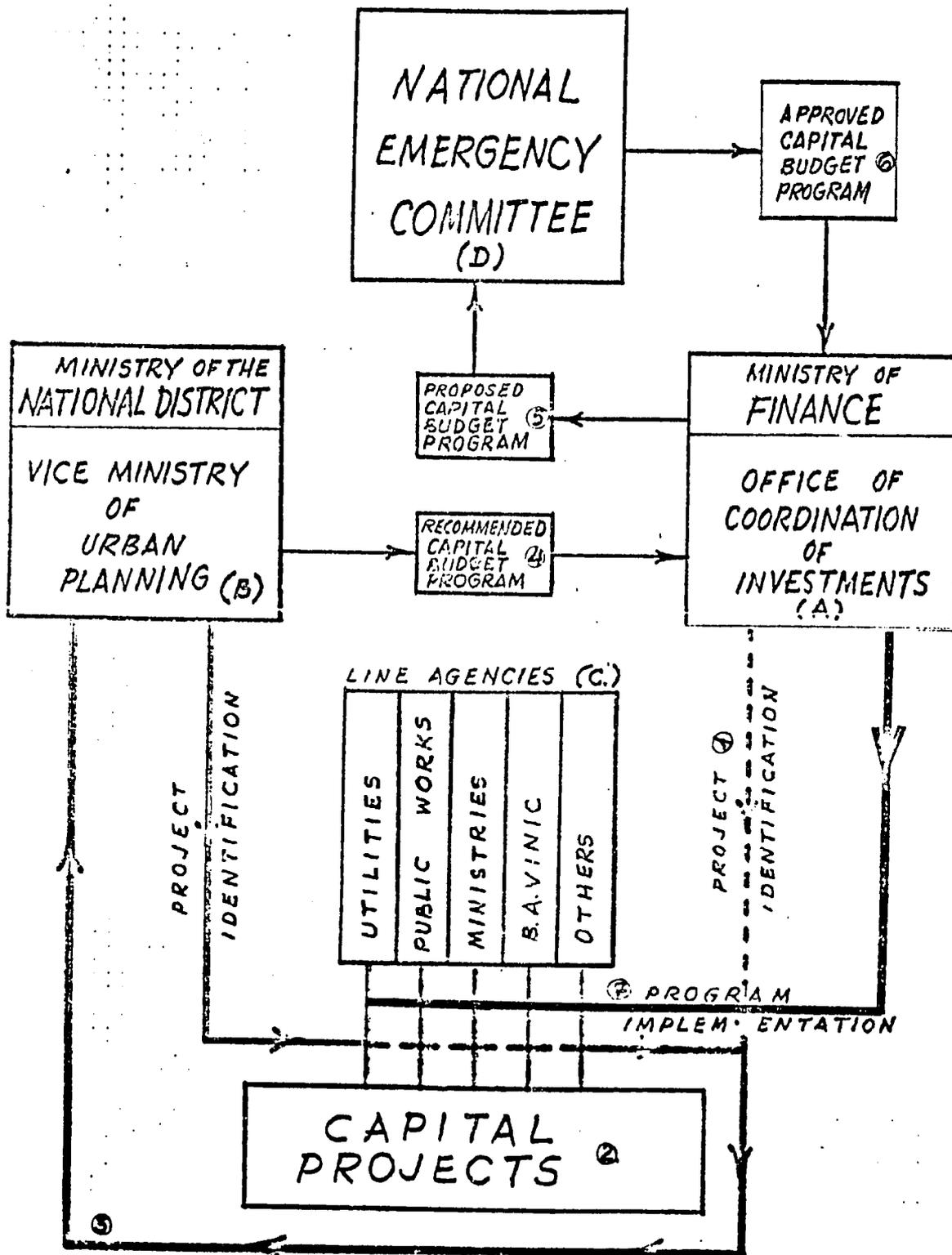
1.	Competitors Honorarium		
A.	Salary:		
	Principal (1/2 m/m)	\$ 2,000	
	Architect (2 m/m)	4,000	
	Engineer (1 m/m)	2,000	
	Draftsmen (2 m/m)	3,000	
	Art (2 m/m)	2,000	
	SUB-TOTAL	<u>\$13,000</u>	
B.	Overhead, travel etc. (2 x salaries)	<u>26,000</u>	
		\$39,000	(say \$40,000)
	7 x \$40,000		\$280,000
2.	Prize Fund		150,000
3.	Professional Advisor		
A.	Salary (6 m/m)	30,000	
B.	Assistance, travel, per diem, etc.	<u>20,000</u>	
			50,000
4.	Jury (5 x 2 weeks, travel, per diem, etc.)		15,000
5.	Miscellaneous, printing, etc.		55,000
6.	Contingencies		<u>50,000</u>
	TOTAL		<u>\$600,000</u>

THE CAPITAL BUDGET PROGRAM PREPARATION PROCESS

At present, the Office of Coordination of Investments (OCI) of the Ministry of Finance (A) identifies capital projects that are ready for financing. This identification process (1) will eventually be transferred to the Vice Ministry of Urban Planning of the National District (B) when it has the operating capacity to carry out this function effectively. These capital projects (2) will be proposed by the line agencies..(C), the VMUP, or the OCI. The projects thus identified will then be transmitted (3) to the VMUP for review as to their location, size, cost, timing and consistency with urban planning guidelines. The VMUP will put together a "Recommended Capital Budget Program" (4) which is then submitted to the OCI for analysis as to the availability of resources. The OCI will then prepare a "Proposed Capital Budget Program" (5). This "Proposed Capital Budget Program" will be submitted to the Emergency Committee (D) for final adoption. At this stage, all of the agencies involved (the line agencies, OCI, and the VMUP) will probably exert pressure to promote the projects of greatest concern to them. The "Approved Capital Budget Program" (6) will emerge from this process. The Ministry of Finance, on behalf of the Emergency Committee, will coordinate the Program Implementation (7) as the cycle starts over again.

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THE CAPITAL BUDGET PROGRAM AND PREPARATION PROCESS



Sample Format for Capital Budget Program

Total Proposed Program

SIX YEAR PROGRAM FOR IMPROVEMENTS

BRANCH OF GOVERNMENT MUNICIPAL GOVERNMENT
(M) G.L. General Levy Fund (S.E. Sewer Treatment Funds)
(O.D. General Obligation Bonds (S.B. Street Rightway Participation
(S.A. Special Assessments (S.W. Water Department Funds
(W.D. Water Department Funds (S.R. Railroad Co. Participation

- (S) STATE OF FLA
1. Preliminary estimate only.
2. Surveys complete.
3. Surveys complete.
4. Work on plans not begun.
5. Plans in preparation.
6. Plans in preparation.
7. Plans in preparation.
8. Plans in preparation.
9. Plans in preparation.
10. Plans in preparation.

Submitted by: (Date)
Title:
Approved:
Page 3 of 3 pages

NOTE: Estimate of cost of land indicated by letter "L"

PROJECT (1)	FUND (2)	ESTIMATED TOTAL COST OF CONSTRUCTION AND ESTIMATED YEARLY EXPENDITURES (including cost of land if any)	FISCAL YEAR						REMARKS (13)			
			Total estimated cost (3)	Total for first year (4)	FISCAL YEAR							
					1973-74 (5)	1974-75 (6)	1975-76 (7)	1976-77 (8)		1977-78 (9)	(Last) Year (10)	
A. Public Buildings		\$74,400	\$74,400		3,000	136,500	3,000					
B. Fire Department		14,000	14,000	14,000	14,000		14,000					
C. Streets and Sewers		87,875	87,875	8,718	16,767	21,472	6,300	6,000				18,600
D. Land Acquisition		1,700	1,700	1,700	1,700	1,700	1,700	1,700				
E. Special Assessment Projects		82,140	44,400	118,200	227,800	77,700	15,400	64,000	87,000	49,700		
F. Discharges		54,700	54,700									
G. Water Department		18,100	18,100	21,100	41,200	15,700	11,000	1,000	1,000	1,000		11,000
H. Sewage Disposal		87,225	87,225	21,200			24,200	3,400	10,200	14,800		14,800
I. Airports		87,400	87,400	87,400	12,400	18,400	15,400	14,400	14,400	14,400		14,400
(11) S.S.B.		21,145	21,145									
(12) S.L.		482,675	151,175	16,175	16,175	27,475	26,400	21,500	15,500	14,500		68,175
(13) S.B.		114,500	114,500				76,000	14,500	12,000			
(14) S.A.		48,700	48,700	127,400	187,400	12,700	14,400	21,000	21,000			21,000
(15) S.W.		17,000	17,000				17,000	17,000	17,000			17,000
(16) S.R.		36,100	36,100	6,400		28,700	9,400	12,500	14,400			14,400
(17) S.P.		21,000	15,000	15,000								
(18) S.S.B.		80,400	71,900	15,400	95,200	11,000			6,400	9,500		
(19) S.L.		477,700	142,500	14,200	142,500	220,200	170,200	17,000				
(20) S.B.		200,000	200,000									
(21) S.W.		17,000	17,000									
Total		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
Rest of Streets-Public Library												
A. Library All & Equipment-Books		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
(22) S.S.B.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
(23) S.L.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
(24) S.B.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
(25) S.W.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
(26) S.R.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
(27) S.P.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
Total		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
Total-All Goals and Departments												
(1) Total from General Levy Special Assessment		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(2) Total from Bond-DEBEP Series 15-72-121		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(3) Total from General Obligation Bonds		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(4) Total from Special Assessments		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(5) Total from Water Department Funds		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(6) Total from Sewer Treatment Funds		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(7) Total from State of Florida		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(8) Total from Railroad Company Participation		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(9) Total from Airport Participation		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000
(10) Total		1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000	1,147,000		1,147,000