

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

MEXICO

HEALTH SERVICES UPGRADING PROGRAM

(ME0159)

PROJECT REPORT

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MEXICO
(ME-0159)

HEALTH SERVICES UPGRADING PROGRAM

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GLOSSARY OF ABBREVIATIONS

CISP	Centro de Investigaciones en Salud Pública de la SSA Public Health Research Center of the Ministry of Health
CSRC RHCCs	centros de salud rural concentrado rural health centers serving concentrated populations
CSRD RHCSs	centros de salud rural disperso rural health centers serving scattered (disperse) populations
CSU UHCs	centros de salud urbano urban health centers
IMSS IMSS	Instituto Mexicano de Seguridad Social Mexican Social Security Institute
IMSS-COPLAMAR IMSS-COPLAMAR	Programa de Salubridad Social por Cooperación Comunitaria para prestar servicios médicos a la población de escasos recursos en zonas marginales Public Health through Community Cooperation Program to provide the low-income population in marginal areas with medical services
ISSSTE ISSSTE	Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado Social Services and Security Institute for State Workers
H60 H60	hospital general de 60 camas 60-bed general hospital
H120 H120	hospital general de 120 camas 120-bed general hospital
M\$N Mex\$	pesos mexicanos Mexican pesos
NAFIN NAFIN	Nacional Financiera, Sociedad Nacional de Crédito, institución de banca de desarrollo Nacional Financiera, Sociedad Nacional de Crédito, a development banking institution
OMS WHO	Organización Mundial de la Salud World Health Organization
OPS PAHO	Organización Panamericana de la Salud Pan American Health Organization

GLOSSARY OF ABBREVIATION (Cont.)

PND	Plan Nacional de Desarrollo, 1983-88
PND	1983-88 National Development Plan
PNS	Plan Nacional de Salud, 1984-88
PNS	1984-88 National Health Plan
SHCP	Secretaría de Hacienda y Crédito Público
SHCP	Ministry of Finance
SSA	Secretaría de Salud
SSA	Ministry of Health

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I. INTRODUCTION

A. Background

- 1.01 The Constitution of the United Mexican States establishes the right of every Mexican to health protection. This high priority is reflected in the General Health Act of 1984, the 1983-88 National Development Plan, and the 1984-88 National Health Program.
- 1.02 In general, the average health indicators in Mexico are comparable to those of other Group A countries. Nevertheless, there are very marked differences in health levels among the various states and the various regions of the Mexican federation. Health deficiencies are more pronounced in rural areas and in marginal urban and suburban areas. While life expectancy in the most developed areas is 71.6 years, it drops to 60.5 years in the most depressed states. Moreover, infant mortality in areas with best health care services is 11.3 per thousand live births recorded, while in the poorest areas that figure increases to 57.1 per thousand.
- 1.03 Overall, the country has an average of only 0.7 hospital beds per thousand inhabitants, the only other comparable countries in the region being Haiti and Bolivia. This indicates a severe shortage of hospital beds and the respective coverage, particularly in rural and marginal areas.
- 1.04 There are three types of institutions providing health care services to the country's entire population: (1) private sector establishments; (2) social security institutions; and (3) public institutions run by the Ministry of Health.
- 1.05 The public institutions run by the Ministry of Health provide medical care to all those who do not have access to private health care services and are not covered by social security. This so-called "open population" represents about 50% of the country's total population and includes those areas and communities with the worst health indicators and the weakest health care services in the country.
- 1.06 In order to upgrade the health care services provided to the most needy communities and areas in the country, the Government of Mexico has requested financing from the Bank for a health program that involves the construction and outfitting of primary health care centers and hospitals of 60 to 120 beds in the most critical areas of the country; in other words, in rural areas and marginal sectors of the country's urban and suburban centers. As this document will describe, the proposed program would be a global multiple works program that would benefit approximately 2.8 million people who are not covered by social security and who presently do not have satisfactory access to health care services.

- 1.07 This would be the Bank's first program devoted exclusively to upgrading health care services in Mexico. In December 1985, the Bank approved an emergency rehabilitation program (loan 189/IC-ME, US\$100 million) that includes a health subprogram to rehabilitate health care facilities damaged by the earthquake in Mexico City in September 1985. Also under consideration in the Bank at this time is an emergency reconstruction program (ME-0168, US\$200 million) which will include a component to rebuild hospitals destroyed by the earthquake, and a component to rebuild the telephone system.

B. The Request and Priority

- 1.08 During the consultations with the Bank to develop the tentative operating program in Mexico for consideration in 1985-86, the Mexican delegation conveyed its government's interest in having the health services upgrading program included. The priority of the program was confirmed by the Ministry of Finance (SHCP) in a note dated March 27, 1985.

C. Missions

- 1.09 In December 1984 and May 1985, the Bank sent special missions to Mexico to guide the authorities of the Ministry of Health in preparing the basic documentation and the design and justification of the proposed program. The analysis mission went to Mexico in October 1985. Finally, in February 1986, a special mission was sent to obtain any outstanding documents on the program and to assist the authorities in the final definition of the scale of the program.

II. FRAME OF REFERENCE 1/

A. Normative Framework of the National Health System

1. 1983-88 National Development Plan

2.01 The 1983-88 National Development Plan defines Mexico's priorities, objectives and strategies in economic and social development for that six-year period. Where the health sector is concerned, the plan establishes the following general priorities:

- (a) To promote national coverage of health care services;
- (b) to improve the health of the populace, particularly that of rural and urban underprivileged sectors and, especially, that of the most vulnerable groups;
- (c) to contribute to a rate of demographic growth in balance with the country's economic and social development, with full respect for the couple's right to decide; and
- (d) to promote social welfare to enhance the well-being of those of little means, especially minors, the elderly and the disabled.

2.02 To serve those priorities, the strategic framework focuses on developing the sector in five major policy areas:

- (a) Measures to prevent communicable and non-communicable diseases;
- (b) reorganization and modernization of health care services structured according to level of health care;
- (c) consolidation of the national health system, with emphasis on integrating sectoral programming, decentralizing and deconcentrating health services out to the states, and strengthening the health infrastructure of the states and municipalities;
- (d) an increase in the productivity and efficiency of services, through better training and development of health personnel and more momentum for research in the field of health; and
- (e) reorganization of the social welfare services.

1/ A description of the recent economic situation and prospects appears in Appendix II-1.

2. The General Health Act

- 2.03 The General Health Act, which has been in effect since July 1, 1984, defines the nature of the right to health protection established in the country's Constitution. It also establishes the bases of the national health system. That system is made up of federal and state government offices and agencies and of the physical or juridical persons in the social and private sectors that supply health services under the coordination of the Ministry of Health (SSA). The General Health Act seeks to use the available resources to maximum advantage, to expand the coverage of services and to standardize their basic quality.
- 2.04 In addition to establishing the bases and modalities of access to health services, the law encourages the decentralization of services, through delegation of jurisdictions between the federal government and the state governments, based on coordination accords or decentralization agreements. The government's purpose is to see that primary and secondary care is gradually assumed by state and municipal agencies (see paragraphs 4.14-17).

3. National Health Program 1984-88

- 2.05 As coordinator for the national health system, the Ministry of Health has drawn up a medium-range sectoral program, titled the 1984-88 National Health Program (PNS), which was approved on August 7, 1984. The PNS places particular emphasis on the first level of care (primary, ambulatory care), the goal being 1.36 outpatient visits per year per capita of open population by the year 2000 (the current rate is 0.57). For the second level (hospitalization), the goal is 3.0 inpatient discharges for every 100 inhabitants (the figure is now 1.6).
- 2.06 The PNS involves four basic parts:
- (a) a diagnosis of the sector;
 - (b) general objectives, goals and strategies;
 - (c) programs of action; and
 - (d) projects, strategies and instrumentation.
- 2.07 The diagnosis of the sector includes a review of the current status of the health of the population, the institutional and legislative background, as well as the characteristics, organic parts and basic problems facing health services in the areas of medical care, public health and social work, among which the following have been identified:
- (a) inadequate and unevenly distributed health services, especially in scattered population clusters;

- (b) an emphasis on curative rather than preventive medicine;
- (c) operating inefficiencies that lower the quality of the services;
and
- (d) a limited, inadequate infrastructure for epidemiological and health surveillance activities.

2.08 Based on the foregoing diagnosis, the PNS establishes six objectives that will steer the public administration's activities in the health field:

- (a) To provide medical care to the entire population and to improve its basic quality;
- (b) to lower the incidence of communicable diseases and curb non-communicable diseases and accidents;
- (c) to promote the health of the population by reducing the incidence of those factors that place their health in jeopardy and by encouraging them to take proper care of themselves;
- (d) to help upgrade sanitary and environmental conditions;
- (e) to support efforts to reduce fertility levels, while fully respecting a couple's own decision and dignity, and
- (f) to contribute to the social well-being of the population by providing welfare assistance to the more vulnerable groups.

2.09 Furthermore, the PNS establishes 13 programs of action that are grouped on the basis of how they relate to the six sectoral objectives:

- (a) medical care, maternal-infant care and mental health;
- (b) prevention and control of disease and accidents;
- (c) health education, nutrition, occupational health and a program to combat addictions;
- (d) environmental health, basic sanitation and waste control and surveillance;
- (e) family planning; and
- (f) social welfare.

2.10 The PNS has also identified four auxiliary programs to help see that the substantive programs are effectively carried out:

- (a) health research;
- (b) training and development of health personnel;
- (c) information; and
- (d) inputs for health.

B. Health Coverage

1. Types of institutions and populations addressed

- 2.11 There are three types of institutions to provide health care services to the country's entire population: (1) private institutions: (2) institutions attached to the social security system; and (3) public sector institutions to provide care to the open population which has no formal employment ties and hence is not covered under social security.
- 2.12 Private medicine cares for some 3.7 million inhabitants (approximately 5% of the national population), based on the SSA's 1983 estimates. The states that enjoy the best private-sector medical care are Baja California, Chihuahua and Guerrero, with some 10% of the total population.
- 2.13 The social security institutions include the Mexican Social Security Institute (IMSS) and the Institute of Security and Social Services for State Workers (ISSSTE). The IMSS receives funds from the federal government, from the beneficiaries and from private enterprise. The ISSSTE receives federal funds and contributions made by government employees.
- 2.14 The social security system covers nearly 34.3 million people (44% of the total population) composed of workers and their families. Of that total, 27 million are covered by the IMSS (36% of the total), 6 million by the ISSSTE (8% of the total) and 1.3 million are the responsibility of other federal public institutions, such as PEMEX, MARINA, etc. (see Appendix II-2, Health Sector, Institutional Coverage, 1984).
- 2.15 The public institutions that provide health care to the open population, estimated to be some 40 million inhabitants, include those of the Ministry of Health (SSA) and the IMSS-COPLAMAR program.
- 2.16 The IMSS-COPLAMAR Program, a Program for Social Solidarity through Community Cooperation, provides health care for low-income people in marginal areas. This program is run by the IMSS, but its funding comes from the federal budget. The IMSS-COPLAMAR Program provides health care services to around 14.5% of the population (11 million inhabitants) who have no protection under the social security system.

- 2.17 The SSA's institutions provide health care services to some 13 million inhabitants, including the medical services of the Department of the Federal District. The SSA institutions are described below.
- 2.18 Estimates are that some 14 million Mexicans in the open population have no effective access to institutional health care services. The purpose of the proposed program would be to reduce the percentage of the open population that lacks adequate medical attention.

2. The Ministry of Health (SSA) and its health facilities

- 2.19 The Ministry of Health (SSA) bears general responsibility for setting up and managing health care facilities to serve the country's open population. The structure, responsibilities and functions of the SSA are described in detail in Chapter IV.

a. The SSA's model of health care for the open population

- 2.20 The Model of Health Care for the open population used by the Ministry of Health (see Appendix II-3) establishes three levels of health care: the first level (primary, ambulatory care), the second level (general hospital care), and third level (specialized hospital care).
- 2.21 The SSA has over 60 normative documents to govern the organization and operation of its services, by health-care level (see Appendix II-5).

i. First level

- 2.22 The first level ranges from the work done by the volunteer promoter, the operation of rural health centers and auxiliary health units, to rural health centers serving scattered populations (CSRSD), rural health centers serving concentrated populations (CSRC) and the urban health centers (CSU). The architecture of the health centers is based on a modular structure organized according to the number of consulting rooms.
- 2.23 The CSRSD centers are located in rural areas where the target population ranges from 1,000 to 2,500 individuals living at a distance equivalent to 60 minutes travel time by the customary mode of travel. The CSRSDs are located in areas that have from 2,500 to 15,000 inhabitants within the same 60-minute "isochrone." The UHCs are located in zones of over 15,000 inhabitants, with the isochrone being 30 minutes.
- 2.24 The functions of a rural health center are as follows: general medical consultation services, emergency care, epidemiological surveillance, immunization, maternal-infant supervision and family planning, environmental sanitation, health education and community organization. The rural health centers must also train volunteer promoters in the localities under their responsibility.

- 2.25 Rural health centers serving concentrated populations also offer dental care.
- 2.26 The urban health center has the same functions, with greater emphasis on pre- and post-natal supervision, first aid, laboratory tests and radiology studies.
- 2.27 This system ensures that the type of center and services provided are on a scale suited to the characteristics of the target population and that the level of care is also appropriate.
- 2.28 One of the functions of the rural health centers is to coordinate, promote and support the work of the community, by forming community work promotion committees. Those committees, stimulated by the respective center, conduct activities in health education, family planning, improving the production of staple foods and basic sanitation. Participating actively in these efforts are the health promoters, who are elected by that community and work under the center's supervision.
- 2.29 The health promoters work at the community level and are under the rural centers. According to SSA standards, there must be one promoter per health care facility. The promoter is responsible for approximately 10 families, a figure that may vary depending on local circumstances. He must visit "his families" periodically and encourage preventive health-care programs, find those who are sick and refer them to the corresponding health unit, and encourage community organization.
- 2.30 At the rural health posts there are health auxiliaries who represent the link between scattered populations and the health center. The health auxiliaries are elected by the community and given course instruction by the local health service. They work out of their own homes or at facilities provided by the community, or at a health post, if one exists. They do epidemiological surveillance, work on family planning, nutritional guidance and basic sanitation. They keep a basic medicine cabinet, essentially of a preventive nature to handle simple problems. They receive constant advisory assistance from the post physician and are in constant contact with promoters in the area. Both the IMSS and the SSA conduct courses for midwives as well, where they teach them notions of hygiene in child birth and post-natal confinement, and how to recognize the signs and symptoms of a high-risk pregnancy that ought to be directed to the first or second level of medical care for proper handling. According to the SSA, between 1977 and 1982, 7,500 midwives in 12 states were trained. One of the functions of the rural health post is to attract the midwives, train them, and remain in constant touch with them.

ii. Second level

- 2.31 The second level consists of general hospitals of 30 to 180 beds. At present there are only 60- and 120-bed hospitals for economic and practical reasons. These hospitals deal in preventive medicine, curative medicine, rehabilitation, manpower training and research. The curative functions of second-level hospitals involve four basic services: general surgery, gynecology-obstetrics, internal medicine and pediatrics. They have a clinical laboratory, X-ray, electrocardiograph and other equipment, and provide emergency services. The 120-bed hospitals also have supplementary services in dermatology, ophthalmology, orthopedics, otolaryngology and stomatology, as well as pathology services.

iii. Third level

- 2.32 The third level is made up of national institutions and specialized hospitals run by the SSA. These include the national institutes of oncology, cardiology, respiratory diseases, neurology, neurosurgery, nutrition, pediatrics, perinatology, the Mexican Psychiatric Institute, the Mexican Children's Hospital, Dr. Manuel Gea Gonzalez General Hospital, the Maximino Avila Camacho Mother-Child Center and a foundation for private care, all with organizational and program links to SSA.

b. The public health sector's physical resources

- 2.33 For ambulatory care (first level), there were a total of approximately 23,252 dispensaries in 1984; of these, 15,029 belonged to Social Security and 11,362 to social welfare institutions, of which the SSA had 8,223.
- 2.34 As for the number of beds available, there are significant differences between the social security systems and the open population systems, since the former have one bed per thousand beneficiaries, while the latter have only 0.6 beds per thousand. On average, the country has 0.7 beds per thousand inhabitants, which is indicative of a severe shortage of hospital beds and hence weak coverage. On the other hand, there is also one outpatient facility for every thousand inhabitants in the public sector. The following table is a comparison of the supply of beds and services in the country with that of Group A countries, the United States and Canada.

Physical Resources in Mexico and Other Countries - 1984

	<u>ME</u>	<u>AR</u>	<u>BR</u>	<u>VE</u>	<u>US</u>	<u>Canada</u>	<u>PAHO Goals</u>
Beds per 1,000 inhabitants	0.7	5.4	4.3	2.7	5.7	16.2	4.5 <u>3/</u>
Outpatient visits per capita	0.57	6.2	1.5 <u>2/</u>	1.8	n.a.	5.5	2.0 <u>4/</u>
Inpatient discharges per capita	1.6	6.6 <u>1/</u>	11.0 <u>2/</u>	5.5	16.7	16.1	10.0 <u>4/</u>

1/ Only the metropolitan area.

2/ Does not include the private sector.

3/ PAHO. Punta del Este Meeting, 1971.

4/ PAHO. Ten-year Plan for the Americas, 1979/1980.

Source: PAHO/WHO, Annual Report of the Director, 1984, and Mexico's National Health Plan, 1984-88.

- 2.35 The number of beds in Argentina, Brazil and Venezuela, which are Group A countries for the Bank's purposes, are, respectively, 671%, 514% and 286% higher than Mexico. An effort to maintain the rate of hospital beds available in 1982 in Mexico would require over 18,000 new beds in the next ten years in order to cover the population increase calculated on the basis of a gradual and marked reduction in the birth rate. Likewise, over 10,000 beds would have to be set up during the same period in order to sustain the present installed capacity and to complete its rehabilitation within 50 years.
- 2.36 The following table shows the type of physical resources available in the public sector (1984). Not included are private medical services.

	<u>Outpatient Offices</u>	<u>Beds</u>
Social security institutions:		
IMSS	9,509	29,433
ISSSTE	<u>1,989</u>	<u>5,477</u>
Subtotal	<u>11,498</u>	<u>34,910</u>
Institutions serving the open population:		
SSA	8,223	20,930
IMSS-COPLAMAR	<u>3,531</u>	<u>1,627</u>
Subtotal	<u>11,754</u>	<u>22,557</u>
TOTAL	<u><u>23,252</u></u>	<u><u>57,467</u></u>

Source: National Health Program 1984-88.

c. Human resources in the public health sector

- 2.37 The public sector (IMSS, ISSSTE, the SSA and the IMSS-COPLAMAR) has 54,000 physicians and 76,000 nurses (between university and non-university graduates). Some 70% of these work within the social security system, while the remaining 30% serve the open population. The latter must care for a higher percentage of the population (over 50% of the total). The information on what manpower the health sector has available must be adjusted due to the fact that a large number of the personnel provide their services in more than one institution, and must also be corrected for the differences in the number of days of care provided by the various services.
- 2.38 There are 56 medical schools in the country, 47 dental schools and 15 nursing schools. These graduate around 8,000 physicians, 5,000 dentists and 10,000 nurses each year. Hence, the supply of professional personnel is acceptable, based on the levels recommended by international health organizations. The more limited supply of nurses is supplemented by training nursing auxiliaries, who receive nonformal training in sufficient numbers to meet the country's needs.

Before practicing their professions, physicians, dentists and nurses must render a year's service in rural areas, known as "social service" or "internship". The following table compares the number of professionals available in the country with the number available in Group A countries and the United States.

<u>Professional</u>	<u>1984</u>				
	<u>ME</u>	<u>AR</u>	<u>BR</u>	<u>VE</u>	<u>US</u>
Physicians per 10,000 inhab.	8.2	24.8	8.6	12.1	19.6
Nurses per 10,000 inhab.	4.9	5.8	1.0	8.1	59.0
Nurses aides per 10,000 inhab.	6.1	8.9	25.2	23.4	33.0

C. The Country's Health Situation

1. Population

- 2.39 Mexico is a country with a high rate of demographic growth. The federal government has undertaken a population policy intended to reduce normal growth. The Directorate of Statistics and Information estimated the 1985 population to be 78.5 million (see Appendix II-4, Population by Federative Entity).
- 2.40 Yearly population growth was 3.1% between 1950 and 1960, 3.4% between 1961 and 1970, 3.3% between 1971 and 1980, and dropped to 2.4% between 1981 and 1985. However, in marginal low-income areas, the rate is higher than the national average.
- 2.41 In 1950, youth under the age of 15 years accounted for 43.1% of the population; by 1970 the figure had increased to 46.7%. With the start of the population policy in the 1970's, Mexico succeeded in bringing this down to 44.7%.

2. Health indicators

- 2.42 Even though Mexico's health indicators display averages comparable to those of other Group A countries, the following table shows that health levels vary greatly among the various states and regions of the Mexican federation. Health problems are greater in rural areas and in the marginal sectors of urban areas. While life expectancy in the most developed areas is 71.6 years, it is only 58.1 years in the

poorest states. Correspondingly, infant mortality in areas with the best health services is 11.3 per thousand live births recorded, while in the poorest areas it is 57.1 per thousand.

<u>Indicator</u>	<u>ME</u>			<u>AR</u>	<u>BR</u>	<u>VE</u>	<u>US</u>
	<u>Min.</u>	<u>Average</u>	<u>Max.</u>				
Life expectancy (years)	58.1	66.3	71.6	69.7	63.5	69.2	74.6
Infant mortality 1/	11.3	33.0	57.1	20.1	87.3	29.1	11.5
Maternal mortality 1/	0.3	0.9	1.6	0.4	1.3	0.5	0.9
% population under 15 years	37.0	44.2	52.6	30.0	38.2	40.0	22.0

1/ Per thousand live births recorded.

Source: PAHO, Annual Report of the Director, 1984; SSA-Datos-ME 1985.

- 2.43 Mortality indicators have a lag of two to three years. The mortality statistics, by federal entity (state), deviate appreciably; generally speaking, the averages for northern Mexico are lower than those for southern Mexico. Moreover, in the the latter region, there is considerable underrecording of deaths.
- 2.44 The ten principal causes of death in 1981 were pneumonia; intestinal infections; traffic accidents; coronary dysrhythmia; diabetes mellitus; cirrhosis; severe infarct of the miocardium; homicide, injuries, etc.; hypoxia; bronchitis, emphysema and asthsma. Of these, pneumonia and intestinal infections ranked first and second, accounting for 36.2% of all deaths; together they accounted for 90.2 deaths per 100,000 inhabitants. In the case of pneumonia, in the five states with the best indicators (Quintana Roo, Nayarit, Sinaloa, Campeche and Baja California Sur), the average mortality rate was 16.5 per 100,000. In the five states where the problem was most common (Tlaxcala, Guanajuato, Puebla, Hidalgo, and Mexico), the average mortality rate was 97.7 per 100,000 inhabitants.
- 2.45 As for deaths from intestinal infection, the states of Oaxaca, Tlaxcala, Chiapas, Puebla and Guanajuato averaged 91.3 per 100,000 inhabitants, while the states of Nuevo Leon, Durango, Sinaloa, Baja California Sur and Nayarit had an average mortality rate of 17.0 per 100,000 inhabitants.

- 2.46 In 1981, motor vehicle accidents were the third leading cause of death, with a mortality rate of 24.5 per 100,000 inhabitants. The highest rates were in the states of Baja California Sur, Colima, Tabasco, Sinaloa and Sonora, with an average of 42.8 deaths per 100,000, while the states of Nuevo Leon, Veracruz, San Luis Potosi, Chiapas and Baja California had an average of 17.7 deaths per 100,000 inhabitants.
- 2.47 The review of mortality rates from the 10 leading causes shows that a considerable percentage of deaths could be either averted or deferred through more effective direct action on the part of the health services.
- 2.48 As for infant mortality, the figures show that in 1982 there were 33 deaths per 1,000 live births in the country. The five states where the problem was most severe (Mexico, Tlaxcala, Guanajuato, Puebla and Queretaro) had an average rate of 51.2 deaths per thousand, while the states with the best indicators (Sinaloa, Nayarit, Durango, Quintana Roo and Guerrero) had an average of 14.9 deaths per 1,000 live births. The principal causes of infant mortality can also be combatted through effective action on the part of the health services.
- 2.49 In 1981, maternal mortality in Mexico was 0.9 for every 1,000 live births. The states of Oaxaca, Chiapas, Hidalgo, Puebla and Queretaro had the highest rates, with an average of 1.3 deaths per thousand, while Nuevo Leon, Coahuila, Baja California, Sinaloa and Colima were the five states with the lowest average, at 0.4 deaths per 1,000 live births.
- 2.50 The data available on morbidity is less reliable than the mortality figures; underreporting and poor records make a more accurate analysis difficult. This phenomenon, which is more common in southern Mexico, means that the most reliable information available refers to reportable communicable diseases and those taken from hospital statistics.
- 2.51 As for hospital morbidity, the reports from the sector's institutions point out that approximately 40% of inpatient discharges are birth-related; in second place is enteritis and other diarrheic diseases.

D. Health Programs and Priority Activities

- 2.52 In 1985 the Ministry of Health did an exercise to identify, using the lines of action established in the legal and programming-related instruments for the sector (National Development Plan, General Health Act and the National Health Program), the programs, subprograms and final activities to be developed by the SSA's present establishments, and by the new units to be built through the program being proposed in this document, based on the open population health care prototype.

- 2.53 Initially, the task was one of ranking the population's health problems in order to select specific priorities. Here, epidemiological criteria of magnitude, importance and vulnerability of the major problems were incorporated. The goal was to select strategies that would be effective in coping with those problems, with a view to mapping out activities that would have the greatest positive impact on the health of the target population. The criteria used in this exercise and the strategies designed are considered to be adequate.
- 2.54 Participating in this process were not only the substantive organs of the SSA headquarters (Health Education, Epidemiology, Preventive Medicine, Regulation of Health Care Services and Supervision of Environmental and Occupational Health); in keeping with the health sector's decentralization policies, the Coordinated Public Health Services of the states were also consulted in order to adapt the more expansive programming developed by those regulatory units to local characteristics and needs.
- 2.55 As a result of the above exercise, the following high priority primary care programs were identified: disease prevention and control, accidents and other risks, mother and child health, nutrition, basic sanitation, and family planning. The priority program identified in secondary care was medical attention, which in turn comprises preventive medicine, treatment and rehabilitation, mother and child care, and mental health programs.
- 2.56 In that sense, the programs, subprograms and activities of the SSA have been broken down by level of care and by type of establishment, depending on the specific problem to be addressed as well as the target population and the efficiency and effectiveness of each program. It is considered that this exercise, conducted in order to identify and rank the health priorities, was well grounded and that the order of priorities is reasonable.
- 2.57 The program being proposed in this document has been designed in accordance with the priorities identified, and in particular that of emphasizing the upgrading of primary care, and would represent an important step toward making health services more accessible to the population.
- 2.58 At the same time, it is expected that the component involving development of operating capability will raise average productivity, not only for the new services included in the program, but also for the services that the SSA and the states now provide.

III. THE PROGRAM, ITS COST AND FINANCING

A. Objectives

- 3.01 The proposed program focuses on the chief general aim of the National Health Plan of providing health care services to the entire population with special emphasis on the primary care level, and also upgrading the basic quality of the services. To accomplish this, it is necessary to expand the coverage of the health services to reach the open population not currently served, according to the SSA's Care Model for the Open Population.
- 3.02 The specific objectives of the proposed program are the following:
- (a) To expand the health services infrastructure, with special emphasis on the primary level of care, in order to reach population groups that are currently without these services.
 - (b) To strengthen and expand the system of secondary-level establishments in localities where there is a marked deficiency of hospital beds for low-income population groups.
 - (c) To contribute to the improvement of the operating capacity of the health services of the SSA and the states.
 - (d) To assist the process of health services decentralization.

B. Description

- 3.03 To achieve the above-described objectives it is proposed to carry out a global program of multiple works that would include the construction and equipping of approximately:

Primary level

- 220 rural health centers serving scattered populations (RHCSs)
- 60 rural health centers serving concentrated populations (RHCCs)
- 60 urban health centers (UHCs)

Secondary level

- 60-bed and 120-bed hospitals, with a total of 720 beds

- 3.04 In addition, the proposed program will include an advisory and research component for developing the operating capacity of the existing services and of the new ones to be included in the program, with emphasis on the state and local levels.

1. Health establishment construction and equipping component

(a) Types of health establishments and equipment to be financed

(i) Primary level

- 3.05 The rural health centers serving scattered populations (RHCSs) will be located in communities with more than 1,000 inhabitants and fewer than 2,500. They will have a building area of 108 m², including a "consultorio", or medical consulting room, a treatment and immunization room, an observation room, a waiting room, a general services area and residential quarters (see Appendix III-1). The personnel will consist of a general physician or a medical student performing social service and a nursing auxiliary selected from the community and specially trained by means of courses and in-service training.
- 3.06 The rural health centers serving concentrated populations (RHCCs) will be located in communities with over 2,000 but fewer than 15,000 inhabitants. They will have building areas of from 121 m² to 175 m² and will comprise one to three modules depending on the population to be served. They will have one to three medical consulting rooms and the rest of their facilities will be essentially similar to those of the RHCSs with the addition of a dental consultorio. The personnel will consist of 1 to 3 physicians, 1 to 3 nursing auxiliaries, 1 to 3 health promoters, 1 dental student on social service and an administrative auxiliary. The three-module RHCCs will also have one nurse (see Appendices III-2 and III-3).
- 3.07 There will also be a type of RHCC with building area of 368 m² that will include a clinical laboratory and X-ray equipment, as it will cover a population of approximately 15,000.
- 3.08 The urban health centers (UHCs) will be located in towns with over 15,000 inhabitants, with building areas of from 121 m² to 591 m² and will be made up of from one to six modules. They will consist of one to six medical consultorios (see Appendices III-4 to III-9), a dental consultorio, a clinical laboratory, immunization and treatment rooms, a pharmaceuticals store, an administrative area, a waiting room, and toilets. Depending on the infrastructure of their catchment areas, they may also in some cases have X-ray facilities. The personnel of each care module will consist of a physician, a nursing auxiliary, a health promoter and a dentist or dental student. UHCs with three or more modules will also have a nurse. The laboratory and X-ray equipment will be operated by technical personnel. The number of management and support staff will be in accordance with the size of the center.

(ii) Secondary level

- 3.09 The secondary-level establishments will include 60- and 120-bed hospitals. The program includes provision for the construction and

equipping of ten 60-bed hospitals and one 120-bed hospital, although as execution of the program progresses it may be found desirable to modify these dimensions. The hospitals will be operated in such a way as to be able to provide appropriate support and referral services for the health centers in their geographic areas of coverage.

- 3.10 The 60-bed general hospitals will be located in towns with 20,000 to 50,000 inhabitants and will have a building area of 4,270 m². They will have emergency services, outpatient consulting facilities, medical and dental consulting facilities and inpatient services for pediatrics, gynecology-obstetrics, internal medicine, and general surgery, as well as laboratory, radiology, pharmacy and other support and logistical services. Their personnel will number approximately 168, including 30 professionals, 82 technicians and auxiliaries and 56 administrative staff.
- 3.11 The 120-bed general hospital will be built in a city with 50,000 to 100,000 inhabitants and will have a building area of 7,052 m². It will have the same make-up as the 60-bed hospitals, but with twice the capacity. Its personnel will number approximately 336, of whom 54 will be professionals, 168 technicians or auxiliaries and 114 administrative staff.
- 3.12 The upper and lower population limits for each type of establishment, in both the primary and the secondary level, are those used in Mexico and are consistent with international technical design standards.
- 3.13 The SSA has drawn up detailed lists of materials and equipment for each of the above-described units. The specifications of the equipment and materials for each functional area of the establishments to be built are set forth in the manual prepared for the purpose by the Directorate of Infrastructure and Medical Equipment Standards of the SSA. These standards are considered adequate.
- 3.14 The rural health centers will be provided with equipment and furniture for the consultorios, treatment and immunization rooms and waiting rooms. The main items are refrigerators, and medical instruments for the consultorios and immunization rooms. The urban health centers will also be provided with furniture and equipment for the management and administration offices, complete medical consultorio equipment, sets of dental equipment, and the items and equipment required for the pharmacy, clinical laboratory and radiology units. The hospitals will include furniture and equipment for consultorios and hospitalization and emergency services, specialized gynecological equipment, and equipment for the pediatric, surgical and obstetric facilities, pharmacy, laboratory, radiology, kitchen, laundry, machine room, teaching equipment, maintenance equipment, vehicles for freight and ambulances, radiotelephone equipment, and furniture and equipment for the management and administration offices and the waiting room.

(b) Goals

- 3.15 Taking into consideration the past experience of the SSA and the IMSS-COPLAMAR Program, the number of consultations expected for each year is presented below, as averages for each type of establishment:

<u>Type of unit</u>	<u>Consultations per year</u>
Rural health center serving scattered populations	2,700
Rural health center serving concentrated populations	
1 module	2,700
2 modules	5,400
3 modules	8,100
3 modules with lab and X-ray facilities	12,500
Urban health center	
1 module	2,700
2 modules	5,400
3 modules	8,100
4 modules	10,800
5 modules	13,500
6 modules	16,200

- 3.16 The 60-bed hospitals are expected to average approximately 37,000 consultations per year. The bases adopted are considered realistic: 7 consultorios with 4 consultations per hour, 6 hours per day and 220 days per year.
- 3.17 The 120-bed hospital would produce around 105,000 outpatient consultations per year, using the same parameters but operating 12 hours per day and with ten consultorios.
- 3.18 On the basis of these production goals, the health units to be set up under the program would, once fully operational, perform approximately 1.8 million outpatient consultations per year in the health centers and hospitals, which would help to raise the national indicator of 0.57 consultations per capita per year to a projected 0.9 by the year 2000. With regard to hospitalization, the program would help the SSA to achieve its target of 3,285 discharges per 60-bed hospital per year (see Chapter VI).

(c) Selection criteria

- 3.19 The selection criteria for the health establishments to be built and equipped with program resources are based on the aim of optimizing their cost-efficiency. During execution of the program the SSA will be required to submit the units it proposes to include in the program for approval by the Bank.

(i) General criteria

3.20 The general criteria applicable to all units to be considered are:

- (a) They must be included in the universe defined by the national mapping exercise conducted by the SSA in 1985.
- (b) Any that are not included in the above-mentioned mapping exercise will have to be duly justified in accordance with the following criteria: (i) the locality must be without any care unit for the open population; or (ii) any existing unit must be in such bad condition that its rehabilitation would require an investment of more than 50% of the cost of a new unit; or (iii) it has borrowed or rented premises; or (iv) expansion of the existing unit is not possible.
- (c) The site must have adequate water and lighting services and solid waste disposal and communications systems. If these are not available, appropriate provisions must be included in the plans in each case.

(ii) Specific criteria

3.21 The specific criteria will determine the location of the various types of health units to be built with program resources, taking into account the geographic size and the population of the base community where the units are to be built, the number of people living in their catchment areas, and the degree of geographic dispersal of the population. In addition, the normal movement patterns of the population in general will be considered and catchment areas will be established taking into account the transportation means and routes used for journeys within certain travel times, defines according to local conditions.

3.22 The specific criteria to be used in selecting the units to be built, by type of unit, are as follows:

(1) Primary level

- RHCSs: The base community will have between 1,000 and 2,500 inhabitants. Coverage will be from 3,000 to 8,000 persons, on the basis of a 60-minute isochrone.
- RHCCs: The base community will have between 2,500 and 15,000 inhabitants. Coverage will be from 3,000 to 5,000 persons per module, on the basis of a 60-minute isochrone.
- UHCs: The base community will have 15,000 inhabitants or more. Coverage will be 3,000 per module, on the basis of a 30-minute isochrone.

(2) Secondary level

- 60-bed hospitals: These will be located in towns with 20,000 to 50,000 inhabitants. Their area of coverage will be considered to be a 120-minute isochrone.
- 120-bed hospital: This will be located in a city with 50,000 to 100,000 inhabitants. Its area of coverage will be considered to be a 120-minute isochrone.

3.23 Whenever a type of health unit is proposed in a locality whose characteristics differ from those detailed in the preceding paragraph, it will have to be duly justified by the SSA.

(d) Dimensioning of the health facility construction and equipping component

(i) Definition of the universe

- 3.24 The selection of the criteria and other supporting documentation for the program were drawn up by the SSA under the coordination of the Directorate of External Credit of the Directorate General of Planning and Budgeting. In performing this work the Directorate received guidance from the Bank and technical assistance from four individual Pan American Health Organization (PAHO) consultants hired under the IDB-PAHO Agreement (ATN/SF-2412-RE).
- 3.25 To apply the selection criteria to the present situation and preselect the universe of localities eligible for inclusion in the program, the SSA organized a workshop seminar in 1985 attended by all the health service coordinators of the country's 31 states, in which a national map was prepared showing: (i) existing health services, and (ii) localities with an as yet uncovered open population either because of lack of access to the health facilities or because the present level of care is inadequate, and specifying the size and density of the population and the distances in time and kilometers between settlements in a given area and the existing health establishments.
- 3.26 The map drawn up provided the basic data for determining the needs to be met in Mexico. Based on the findings of this exercise, a universe of primary-level (primary care) and secondary-level (hospitalization) health units was defined that would be dimensioned and located in accordance with the objective of optimizing cost-efficiency. This mapping exercise is described in greater detail in Chapter VI.
- 3.27 On the basis of this universe, an ambitious program costing some US\$150 million and including a substantially larger number of the same type of health establishments (415 RHCSs, 162 RHCCs, 185 UHCs, 16 60-bed hospitals and two 120-bed hospitals) than in the program now proposed was originally designed.

- 3.28 At the beginning of 1985 the Mexican authorities notified the Bank of their readiness to consider execution of a smaller program, as a first stage, owing to budgetary constraints that would affect the local contribution to the financing of the total cost of the program, together with the impact of the recurrent operating and maintenance costs of the establishments to be built on the annual budget of the SSA.
- 3.29 In view of these constraints, the SSA determined a smaller universe of units eligible for inclusion in the first stage (the program here proposed) according to the same selection criteria as already described, giving priority to the least-protected states and localities and to the so-called "retaining ring" policy. The latter is based on the need to strengthen the system of health centers and hospitals in medium-size cities in the states around the Valley of Mexico, in order to prevent overloading of the health establishments in the Federal District by the inflow of cases from the environs of the capital.

(ii) Representative sample

- 3.30 The smaller universe referred to in the preceding paragraph was defined as a representative sample of primary- and secondary-level units that (a) meet the above-described selection criteria; (b) have sites that are in an advanced stage of purchase or donation and have designs and final engineering ready so that bids can be invited once the program is approved, and (c) will permit uninterrupted execution of the program. This representative sample is presented in Appendix III-10.
- 3.31 The states in which the health units of the proposed program would be located, in accordance with the representative sample, are Puebla, Hidalgo, Mexico, Morelos, Guerrero, Guanajuato, Jalisco, Tabasco, Oaxaca, Chiapas and Quintana Roo.

2. Operating capacity development component

- 3.32 The proposed program includes a sizable component for the development and improvement of the operating capacity of the SSA and the state entities that will be responsible for health services under the decentralization process currently under way. The activities included in this component have been designed so as to respond directly to the institutional weaknesses identified in the National Health Plan (see paragraph 4.07), and complement the SSA's current programs to upgrade its services. This component will also take advantage of the experience gained in the IMSS-COPLAMAR Program, which benefits the same segment of the population as the proposed program - i.e., the open population not otherwise covered. Appendix III-11 of the Project Report contains the tentative terms of reference for the personnel who would be responsible for this component.

- 3.33 The objectives of the operating capacity development component are as follows: (a) to investigate and evaluate health services and demand, with a view to analyzing clearly and precisely by region and by service both the quality of the services and the social and epidemiological characteristics of the demand; (b) to train personnel in both technical and administrative fields, as well as in their attitudes towards the execution of health programs; (c) to design and implement supervision and evaluation systems that will permit health services to be properly administered; and (d) to develop the education level of the community so that the community can take part, in interested, active, and conscious fashion, in the maintenance of its own health, in preventive health measures, and in the activities of health units in the country.
- 3.34 Long-term aims are: (a) to extend the SSA's services to cover a broader area and to do so more efficiently; (b) to develop and carry out local programming according to the local population's health needs, through joint effort between health services and the community; and (c) to reduce the inequity present in health service coverage by setting up the new units called for under the program and ensuring that they operate properly.
- 3.35 Accordingly, the program areas of this component will be as follows:
- (a) Investigation and evaluation of health services and the demand for them
- 3.36 This activity will contribute to a better understanding of the actual situation in regard to health services, by providing more reliable analyses concerning and epidemiological characteristics of the demand for health services and characteristics of those services. The investigation will be conducted in selected states. For each state, the investigation will consist of a pilot study using a sample of community centers where services exist and where new services are to be set up.
- 3.37 For this activity, the following personnel will have to be hired: (i) two international advisors who are experts in the field of health research, for 13 months each; (ii) two specialist Mexican advisors in the same field, for 42 months each; (iii) four principal investigators, for 42 months each; (iv) eight assistant investigators, for 42 months each; (v) 12 interviewer/coders, for 24 months each; (vi) an administrator, for two months; and (vii) a secretary and a driver. As well, typewriters, a minicomputer, and two vans for transporting this equipment will be purchased. Appendix III-11 contains the tentative terms of reference for the personnel to be hired.

(b) Training of human resources

- 3.38 This activity will seek to improve the knowledge of health personnel at all levels, will unify operating criteria, and will develop certain attitudes and skills so that health personnel will be able to provide the population with proper care. The training will be provided for several categories of professional, technical, and administrative personnel. It is expected that roughly 5,000 primary health care personnel and 5,000 secondary health care personnel will be trained.
- 3.39 The training will be conducted in the technical and administrative spheres at both the state and local levels. The personnel to be trained will be considered in two groups: (i) professionals and technical specialists under the responsibility of the Directorate General of Training of the SSA; and (ii) administrative staff under the responsibility of the Office of Material and Human Resources of the SSA. The training centers for primary health care technical specialists will be situated at a model center in the state in question, while the training centers for those in secondary health care will be situated in a model hospital. The training centers for administrative staff will be situated in the office of the regional director for each state.
- 3.40 For this activity, the following personnel will have to be hired: (i) two international advisors who are experts in training, for six months each; (ii) four Mexican advisors who are specialists in the same field, for six months each; and (iii) 24 technical specialists in personnel training, for a total of 385 man/months. Appendix III-11 contains the tentative terms of reference for these personnel.
- 3.41 Twenty-four television monitors, 24 video-cassette recorders, and one minicomputer will be purchased in support of the training component.

(c) Development of supervision and evaluation

- 3.42 In this activity, supervision and evaluation systems will be designed and implemented to permit the proper operation of the health services. The basic strategy will be to set up a team in each state coordinated by the office of the regional director of health for that state, with these teams conducting visits to every area. The states' systems will be given support in the form of experts in the field of supervision and evaluation. Evaluations will be carried out periodically, and will include provision for assessing progress and achievements with ex-ante and ex-post studies.
- 3.43 For this activity, the following personnel will have to be hired: (i) two international advisors who are experts in health services supervision and evaluation, for a total of 32 man/months; (ii) two Mexican advisors who are specialists in the same field, for a total

of 56 man/months; and (iii) six technical specialists in supervision and evaluation, for 42 months each. Appendix III-11 contains the terms of reference for the advisors to be hired.

(d) Promotion of community participation

- 3.44 This activity centers on health education, aimed at involving the population in active and interested fashion in the SSA's work in developing the health care system and in self-help at the individual, family, and group levels. The cultural characteristics of the populations in the states selected will be studied, and appropriate systems will be implemented at selected centers. The basic strategies will be activities focusing on the direct training of the general public, the training of schoolchildren and families, and the provision of information and guidance to the general public through promotional and mass media. Municipal health and environmental committees and promotional groups operating under these committees will be set up. Municipal representatives and promoters from the area will take part. The community participation model will be developed and implemented, and the community will be encouraged to take part in accordance with the model that has been designed.
- 3.45 For this activity, the following personnel will have to be hired: (i) one international advisor, for 12 months; (ii) two Mexican advisors, for a total of 20 man/months; and (iii) 12 technical specialists, for 42 months each. Appendix III-11 contains the terms of reference for these personnel. As well, 12 vehicles fitted with sound, film, television, and video-cassette recorder equipment and electrical generators will be purchased, together with films and video and audio recordings.

(e) Definition and sizing of the operating capacity development component

- 3.46 The need for the operating capacity development component was indicated in the government's original request, and confirmed by the Bank's analysis mission and the results of the institutional analysis of the program contained in Chapter IV of this document.
- 3.47 The content and magnitude of this component are considered adequate, and are in line with the objective of helping to improve the operating capacity of the health services operated by the SSA and by the states.

C. The Program's Total Cost, and Financing Plan

1. Total cost of the program

- 3.48 The total cost of the proposed program is the equivalent of US\$76.3 million (based on an exchange rate of Mex\$350 = US\$1.00), broken down as follows:

Total Cost and Financing Plan
(in thousands of US\$)

	IDB			Local con-		%
	Foreign currency	Local currency	Total	tribution	Total	
1. <u>Engineering and administration</u>	-	-	-	3,260	3,260	4.3
2. <u>Direct costs</u>	24,935	10,433	35,368	25,153	60,521	79.3
(a) Construction	14,534	7,178	21,712	13,388	35,100	
(b) Equipment	10,401	3,255	13,656	11,765	25,421	
3. <u>Concurrent costs</u>	-	-	-	5,767 a/	5,767	7.6
(a) Land	-	-	-	3,167	3,167	
(b) Development of operating capacity	-	-	-	2,600	2,600	
4. <u>Financial charges</u>	5,065	867	5,932	820	6,752	8.8
(a) Interest	4,765	754	5,519		5,519	
(b) Fee				820 b/	820	
(c) Inspection and supervision	300	113	413	-	413	
TOTAL	30,000	11,300	41,300	35,000	76,300	100.0
Percent	39.3	14.8	54.1	45.9	100.0	

a/ See paragraph 3.54

b/ Payable in dollars.

- 3.49 The total construction cost is based on the designs prepared by the SSA and similar construction work done in recent years by the IMSS. Construction accounts for 46.0% of the total cost of the program, including provision for cost escalation and contingencies.
- 3.50 The equipment cost, based on recent purchases for similar facilities, is calculated at US\$25,153,000. This figure includes a 10% allowance for contingencies and cost escalation, determined in accordance with the Bank's technical standards.
- 3.51 Included under financial costs are the interest capitalized during the execution period (four years), the credit fee, and the fee for inspection and supervision by the Bank.

- 3.52 As the table shows, engineering and administration account for 4.3% of the total cost of the program, a proportion considered reasonable for a program of this kind.
- 3.53 Appendix III-12 shows the cost breakdown for each of the four program areas of the operating capacity development component.
- 3.54 In addition to the investments shown in the table of costs, there will be increases in operating and maintenance costs during the program execution period, estimated at the equivalent of US\$22.0 million. As part of the process of decentralizing health services to the states, these funds will come partly from the budget appropriations authorized by the Ministry of Planning and Budget for the SSA and for the states, and partly from contributions from the states themselves, as provided for under the decentralization agreements signed between the states and the federal government. As an indication of the high priority assigned to the expansion of health services coverage to the open population under the 1983-1988 National Development Plan and the National Health Program, Mexican authorities at the national and state levels have undertaken to provide the necessary funds for operations and maintenance for each of the facilities covered by the program from the moment it enters service. Estimates indicate that, once all the health facilities covered by the program are operating at full capacity, these higher costs will amount to roughly the equivalent of US\$18.8 million a year, an amount which, for the reasons given above, is expected to be made available in timely fashion (see Chapter VI on the financial viability of the program).

2. Proposed financing from the Bank

- 3.55 The financing provided by the Bank in foreign currency will be in the amount of US\$30 million, representing 39.3% of the total cost of the program, a proportion slightly below the maximum established for social infrastructure programs in Group A countries. As well, the Bank will provide the equivalent of US\$11.3 million in local currency. The resources provided by the Bank will be used to finance (a) approximately 58.4% of the construction and equipment costs, (b) interest during construction, and (c) IDB inspection and supervision charges.
- 3.56 The loan from the Bank in foreign exchange will come from the OC/IC, with a variable interest rate and a 20-year amortization period. The first amortization installment will be paid six months after the date set for the last disbursement. The loan from the Bank in local currency will come from the FSO, with an interest rate of 3% and a 25-year amortization period. The first amortization installment on the FSO loan will also be paid six months after the date set for the last disbursement.

- 3.57 Because of the expected distribution of the program's benefits to low-income groups (see Chapter VI), use of the FSO is considered justified.

3. Local contribution

- 3.58 The local contribution, in an amount equivalent to US\$35 million, will come from national budget appropriations as resources specifically designated by the Ministry of Programming and Budget (SPP) as the Mexican counterpart contribution to the program, and with contributions from the state governments in the form of land for the works to be built in their jurisdictions. The SPP will also allocate funds to cover operating and maintenance expenses for the facilities after they have been built and equipped, under the SSA's annual budget. These costs incurred during the program execution period (US\$22 million) are not included in the total cost of the program. The local contributions will finance (a) the entire engineering and administration category, (b) part of the direct construction and equipping costs, (c) all the costs for land and operating expenses, and (d) the credit fee.
- 3.59 With regard to the operating capacity development component, the entire cost of the activities to be carried out in the four program areas will be covered out of the local contribution, except for the cost of international advisory services. This cost, reckoned at roughly US\$330,000 in foreign exchange, will be covered by the agreements signed between the Government of Mexico and the UNDP for financing the services of international consultants through PAHO in the public health field in Mexico.

IV. THE BORROWER AND EXECUTING AGENCY

A. The Borrower

- 4.01 The borrower from the Bank would be Nacional Financiera, Sociedad Nacional de Crédito, a development banking institution (NAFIN), as a financial agent of the federal government, in accordance with the provisions of the law enacted on December 30, 1947. That law empowers NAFIN to negotiate, incur and administer the public sector's medium- and long-range external loans that require the guarantee of the United Mexican States.
- 4.02 The loan under study would have the full guarantee of the United Mexican States.

B. The Executing Agency

- 4.03 General responsibility for execution of the program would be in the hands of the Ministry of Health, through the Directorate of Planning and Budget of the Office of the Assistant Secretary for Planning. A description and breakdown of the functions of the executing unit appear in Chapter V.

1. The Ministry of Health

(a) Responsibilities and functions

- 4.04 Article 39 of the Organic Law of the Federal Public Administration sets forth the responsibilities and functions of the Ministry of Health; its principal provisions are as follows:
- i. To create and manage health care facilities, public welfare facilities and social therapy facilities anywhere within the national territory;
 - ii. To administer the property and funds that the federal government allocates to provide for public welfare services;
 - iii. To organize and administer general health care services throughout the Republic;
 - iv. To control and inspect the preparation and circulation of food and drink;
 - v. To provide the services within its competence, either directly or in coordination with the governments of the states and the Federal District.

(b) Organization

- 4.05 Appendix IV-1 is an organization chart of the Ministry of Health, a description of which follows:

(i) The Minister

- 4.06 The highest authority of the Ministry of Health is the Minister, who establishes and directs the ministry's policy on the basis of the guidelines established by the federal government. The Minister is competent to approve, control and evaluate the plans, programs and budgets of the ministry in conformity with the policies and objectives of the National Development Plan and of the National Health System; to propose to the Office of the President of the Republic bills and decrees on matters within the ministry's competence, and to see to the organization and administration of the ministry.

(ii) Supporting offices

- 4.07 This ministry has two directorates whose purpose is to provide support, coordination and advisory services. These are: (a) the Directorate of Public Communication, which publicizes the activities of the ministry; and (b) the Directorate of Legal Affairs, which prepares preliminary draft legal provisions such as laws, regulations and decrees, represents the ministry in suits, litigation and labor disputes, and defends the ministry's property and legal interests.

(iii) Office of the Assistant Secretary for Planning

- 4.08 This office is responsible for planning, coordinating, reporting and monitoring the ministry's activities through its directorates, as follows: (a) Directorate of Planning and Budget: this directorate plans, programs, and budgets the health services, coordinates the participation of states and municipalities in the planning process; maintains the accounts and supervises the budget of the ministry's income and expenditures; (b) Directorate of Information and Evaluation: this directorate maintains the ministry's data and statistics system, analyzes the data and determines what is needed in the way of computerized equipment; periodically evaluates the ministry's programs and budgets and those of the health sector's agencies, for purposes of follow-up, monitoring and identification of results; (c) Directorate of Decentralization and Administrative Modernization: this directorate is responsible for activities relating to the federal government's decentralization policy ^{1/} in the health area, evaluates the ministry's organic structure, proposes changes and keeps the organization manual up to date; (d) Directorate of Sectoral Coordination: this directorate coordinates the ministry's working groups with those of other agencies in the health

^{1/} See paragraphs 4.14 to 4.17, which describe the country's decentralization plans.

sector, in order to avoid duplication of effort; (e) Directorate of Regional Coordination Support: this directorate coordinates the health services' regional operations.

(iv) Office of the Assistant Secretary for Sanitation Regulation and Development

- 4.09 This office is responsible for sanitation control with respect to products and industrial and commercial establishments that produce those products or use them, in order to ensure the presence of hygienic conditions that meet the laws in effect in this regard. It also participates in the research and development policy and the health education policy. This office has four directorates to serve the following functions: (a) Directorate for Sanitation Control of Goods and Services: this office issues technical standards and monitors the processing of foodstuffs to ensure that conditions are sanitary; (b) Health Products Control Directorate: this office issues the technical standards for processing and using medications. It monitors to ensure that sanitation standards are being observed and issues standards on manufacture and use; (c) Directorate of Research and Technological Development: this office is responsible for establishing national policy in respect of research and teaching in the field of health. As part of this function, it is to promote scientific and technological activities in that field and to promote the development of human resources for research and technological development. It also conducts activities in medical-equipment maintenance, through the Center for Technological Development and Applications (CEDAT); (d) Health Education Directorate: this directorate helps establish national policies for training health workers. It evaluates training programs for health workers and promotes training for middle-level professionals and ancillary staff.

(v) Office of the Assistant Secretary for Health Services

- 4.10 This office is geared to providing medical services to the population, its objectives being to protect and improve the health of the population. It has four directorates and a general management office: (a) Directorate of Epidemiology: this office develops programs to prevent epidemics and communicable diseases, coordinates monitoring activities at the national level and issues national vaccination certificates; (b) Directorate of Preventive Medicine: this office establishes the standards and proposes policies for the prevention of disease and health risks; (c) Directorate of Family Planning: this office is responsible for developing family planning programs and for conducting research in this regard; (d) Health Services Regulation Directorate: this office establishes standards for the administration of medical units, teams and services, and regulates the rehabilitation services, mental health services and social welfare services; (e) Office of the General Manager for Biological and Reactive Products: this office is responsible for

manufacturing or importing the biological products and reagents used by units of the Ministry of Health. It conducts research and establishes standards for distribution and storage.

(vi) Office of Material and Human Resources

- 4.11 This office manages the Secretariat's material and human resources, as well as the provision of general services. It has four directorates: (a) Directorate of Supplies: this office is responsible for purchasing and distributing medicines, medical equipment and other types of equipment and office supplies; (b) Administration Directorate: this office provides such general services as filing, correspondence, copying, storage, etc., and carries a record of and maintains real property and goods; (c) Directorate of Personnel Management: this office handles recruitment, selection, hiring, promotions, transfers and termination of personnel. It maintains records, handles the ministry's payroll system and supervises the staff training and development programs.

(vii) Office of the Internal Comptroller

- 4.12 The principal responsibilities of this office include monitoring the ministry's programs, budgets, standards and procedures, and ensuring that they are carried out. In its activities, it adheres to the auditing standards established by the Ministry of the Comptroller General of the Federation. In discharging those responsibilities, it must conduct audits to ensure that legal provisions are being observed, that the financial and accounting information is correct and that the budget is being executed properly. From the reviews it conducts, it must recommend corrective measures and see to it that they are instituted.

(c) Staffing

- 4.13 As of October of 1985, the staffing of the SSA was as follows:

Management personnel

Directors	1,057
Physicians and heads of services	559
Administrators, health centers	<u>858</u>
Subtotal	<u>2,474</u>

Medical personnel

Medical specialists	3,293
General practitioners	5,129
Resident physicians	3,036
Dentists	<u>1,312</u>
Subtotal	<u>12,770</u>

Technical personnel

Chemists	730
Dietitians	933
Specialized technicians	6,694
Other professionals	<u>2,151</u>
Subtotal	<u>10,508</u>

Nursing staff

Nurses	9,277
Nursing auxiliaries	<u>16,105</u>
Subtotal	<u>25,382</u>

Administrative and other personnel

Administrative support, security, and cleaning staff, drivers, etc.	47,035
Promoters	2,213
Instructors	<u>164</u>
Subtotal	<u>49,412</u>

TOTAL 100,546
=====

(d) Decentralization of health services

- 4.14 The 1983-88 National Development Plan emphasizes the consolidation of the National Health System by means of the following: (a) decentralization of the health services provided to the open population, by

handing over a portion of the responsibility to the states; and (b) upgrading of the services' basic infrastructure in order to improve their administrative and technical efficiency.

- 4.15 The General Health Act went into effect in 1984. This law establishes the bases for the people's right to health services and the means of access, and the agreement between the federal government and the state governments in respect of health services. The law provides that both levels of government may establish, through coordination agreements, administrative structures to be responsible for health services, so as to coordinate the administration of the human, material and financial resources that the parties contribute (see Appendix IV-2).
- 4.16 A presidential decree established the Health Services Decentralization Program in August of 1983 and in March of 1984 an executive order called for the decentralization of health services, within the framework of the aforementioned SSA program, so that the states would share the responsibility for those services. As of March 30, 1986, decentralization agreements had been concluded between the federal government and 12 states. Those agreements stipulate the process, procedures, standards and financial contributions both parties are to make for capital expenditures and operating and maintenance expenses. In all cases, the financing has been negotiated on the basis of the resources the states have available. In the case of capital expenditures, the state contribution varies from 2.0% to 66% of the planned investments, while in the case of operation and maintenance outlays, the state contribution ranges from 0.7% to 8.3%.
- 4.17 In March of 1986, the Executive Order on the Formation of the National Health Council issued by the Office of the President of the Republic was published in the Official Gazette. In general terms, the National Health Council represents federal and state participation on general health matters. In addition, the executive order stipulates that the coordination of the National Health System will be in the hands of the Ministry of Health. It also provides that the state governments should assist, in their respective spheres of competence and in accordance with the terms of the coordination agreements that they conclude with the Ministry of Health, in consolidating and operating the National Health System. This executive order confirms the importance that Mexico has attached to decentralizing health services, as a key factor in establishing an efficient, representative and functional system of services.

(e) Institutional capacity

(i) Operating capability

- 4.18 Although the decentralization process is well under way with planning, training and standards programs, there are areas that need improvement. In the chapter on problems by area of activity, the NHP identifies "a set of operating inefficiencies that weaken the quality of the service," mentioning the following, among others: (1) the absence of effective subsystems for programming, information and evaluation, which has made it difficult to establish uniform standards for medical care, which in turn has made it difficult to establish a standard basic quality of service; (2) health research, which has been conducted without the guidance of a general framework that pinpoints priorities; (3) insufficient coordination among sectors, so that there are approximately 500 areas where the SSA units and the units of the IMSS-COPLAMAR program overlap; (4) inadequate infrastructure to provide training to health personnel and the coordination needed to keep abreast of the needs of the health services; (5) too little in the way of health education programs, which makes it difficult for the population to participate in activities geared to promoting and protecting health; (6) an inadequate infrastructure for distributing and preserving inputs at the national level; (7) an inadequate infrastructure for developing epidemiological surveillance, with poor application of existing standards; and (8) preventive medicine which has not achieved adequate levels, such that the demand for medical care for problems and risks that could have been avoided or reduced through preventive measures persists.
- 4.19 The existing data (1984) concerning the production of services, by unit, at the first and second level, indicate that the SSA system is not productive, in large part due to the fact that those units have an inadequate operating capacity.
- 4.20 In order for the SSA's health systems to function, there are extensive legal, policy-programming and normative guidelines, as well as priorities established on the basis of epidemiological criteria, with a systematic breakdown of activities, goals and gauges to measure the extent to which goals are being achieved, by level of care and by type of service. However, there are no satisfactory operating conditions to make efficient use of such instruments to improve the system's productivity.
- 4.21 In view of that situation, an important element of the proposed program is the component for development of operating capacity, which involves four elements to bolster the operating capacity of the SSA and of the states responsible for executing the program and the operation of public health services in the country. The elements that make up this particular component directly address the problems identified.

(ii) Capacity to oversee construction work

- 4.22 The SSA does not have the technical capability to oversee the construction work planned under the proposed program. As a rule, it engages institutions or businesses that have that capability to handle the technical supervision. The IMSS, which on a number of occasions has executed projects for the SSA, has charged an average of 5% of the direct construction costs to cover its design, engineering and supervision expenses. Since the health units will be built in a number of states, the decision as to which institution or business would supervise the construction work must be made before calling for bids (see Recommendation A.1).

2. Financial and accounting organization

- 4.23 The SSA's Office of the Assistant Secretary for Planning handles accounting and financial matters.

(a) Accounting

- 4.24 The Directorate of Planning and Budget handles the SSA's general accounting and that of its programs and special funds, recording the flow of funds and budgets. The regional offices keep records of allocations, collections and expenses, by jurisdiction. These records are not uniform in terms of format, although they are in terms of content. Finally, the health centers themselves maintain records to control funds received for services provided. At the regional offices and health centers, accounting entries are done manually. At the central level, i.e., the Ministry of Health, the accounting operations are mechanized.

(b) Budgets

- 4.25 Formulation of the ministry's annual budget is done in accordance with the standards and procedures established by the SPP, which are very clear in terms of the procedures to be followed. The budgetary classification system now in use requires that income and outlays be organized according to the following criteria: (i) by object of expenditure, in cash and capital expenditures; (ii) by source of funds, both external and internal; and (iii) by program, subprogram and administrative unit. The smallest unit in the ministry's budget is a general hospital, or a jurisdiction, which combines two or more health centers. The ministry's budget does not include the financial resources collected at the health establishment in the form of service charges or donations. These funds, which are minimal, are used to finance local purchases of food and supplies.
- 4.26 Execution of the budget is controlled at both the central and regional levels. At the central level, it is the Directorate of Planning and Budget of the ministry's Office of the Assistant Secretary for Planning that examines and authorizes the paperwork

related to expenditures and checks to determine whether funds are available. This directorate maintains a record of the execution of the budget, where any outlays made are entered by item. Similar records are also kept by the regional offices.

(c) Financial information

- 4.27 Every month, the ministry prepares a budgetary progress report, a statement of net worth and a statement of results. The SSA's budgetary progress report for the end of the fiscal year appears in the Annual Statement of Public Accounts of the federal government.

(d) Management of funds

- 4.28 The Directorate of Planning and Budget is responsible for receiving funds and paying all of the ministry's obligations at the central level. At the regional offices these financial functions are performed by the chief of coordinated services, while at the health centers they are performed by auxiliary staff, under the supervision of the aforementioned chief.

(e) Purchases

- 4.29 Procurement is governed by the Law on Procurements, Leases and Storage of the Federal Public Administration, which establishes the policies and procedures that should govern the purchase, receipt, storage, control and payment of supplies of all types. According to these provisions, the SSA is to purchase supplies and execute construction work on the basis of competitive bidding and awarding of contracts. Most purchases of capital assets, supplies and medications are handled by the SSA's central offices. The regional offices and health centers receive small allowances for the purchase of those food items and supplies that it is more advantageous to purchase locally.

(f) Internal auditing

- 4.30 The SSA has an Office of the Internal Comptroller, whose principal responsibility is to monitor and control the financial activities and fulfillment of the programs.

3. Financial analysis

(a) Ministry of Health

- 4.31 What follows is a summary of the budgets and of the execution of the budgets of the Ministry of Health (SSA) for the fiscal years 1982, 1983, and 1984, and the 1985 budget. To standardize the figures for purposes of comparison, the values in Mexican pesos for the period under analysis were adjusted to the 1985 price level (the consumer price indices, as an annual average based on statistics from the

International Monetary Fund are as follows: 1982 = 203.3; 1983 = 410.1; 1984 = 679.0 and 1985 = 943.7, with a base year 1980 = 100) and then converted to US dollars at the official exchange rate of US\$1.00 = Mex\$350, in effect as of September 30, 1985.

M E X I C O

Ministry of Health
(In millions of US\$)

	1982			1983			1984			1985
	<u>Budget</u>	<u>Actual</u>	<u>%</u>	<u>Budget</u>	<u>Actual</u>	<u>%</u>	<u>Budget</u>	<u>Actual</u>	<u>%</u>	<u>Budget</u>
<u>Current expenditure</u>	622.8	646.1	104	383.4	439.5	115	367.2	482.9	132	485.8
<u>Capital expenditure</u>	37.4	43.5	116	29.4	17.8	61	39.1	18.4	47	55.4
<u>Total expenditure</u>	660.2	689.6	105	412.8	457.3	111	406.3	501.3	123	541.2

Distribution of
actual outlays

Current expenditure	93.7%	96.1%	96.3%
Capital expenditure	6.3%	3.9%	3.7%
	100.0%	100.0%	100.0%

- 4.32 The above table shows that the budgets presented are the original budgets at the start of each fiscal year; at some point during the year, these are adjusted to reflect the pace of actual outlays, which is why the actual current expenditure is always higher than indicated in the original budget. The table shows that, because of the crisis that began in 1982, expenditures in constant currency fell sharply in the following fiscal years; the greatest impact of this can be seen on capital expenditure.
- 4.33 During the period under analysis, the SSA spent on average 95% of its funds on current expenditure, while capital expenditure absorbed the remaining 5%.
- 4.34 The following table shows that the line item that has the greatest impact on the SSA's current expenditure is staff, which represents an average of 66% of all outlays. Next in order of importance is the line item for transfers, which represents an average of 13%, followed by materials and supplies, and general services.
- 4.35 All the SSA's expenditures are covered by appropriations from the national budget, except for minimal sums received at health centers and hospitals, which are used locally to purchase food and supplies.

MINISTRY OF HEALTH BUDGET

(in millions of US\$)

	<u>1 9 8 2</u>			<u>1 9 8 3</u>			<u>1 9 8 4</u>			<u>1 9 8 5</u>
	Original budget	Actual	% Dis- trib.	Original budget	Actual	% Dis- trib.	Original budget	Actual	% Dis- trib.	Budget
<u>CURRENT EXPENDITURE</u>										
Staff	425.7	475.7	69	282.3	310.8	68	240.5	313.0	62	288.5
Materials and supplies	66.4	53.3	8	33.0	48.5	11	40.8	68.6	14	84.3
General services	41.3	40.2	6	21.3	24.5	5	24.1	29.6	6	31.0
Transfers	80.4	76.9	11	46.8	55.7	12	61.8	71.7	14	82.0
	<u>622.8</u>	<u>646.1</u>	<u>94</u>	<u>383.4</u>	<u>439.5</u>	<u>96</u>	<u>367.2</u>	<u>482.9</u>	<u>96</u>	<u>485.8</u>
<u>CAPITAL INVESTMENTS</u>										
Property and goods	25.4	11.4	2	16.0	10.8	2	8.0	12.1	3	11.5
Public works	-	27.0	4	10.8	7.0	2	24.3	6.3	1	21.6
Special outlays	12.0	5.1	-	2.6	-	-	6.8	-	-	22.3
	<u>37.0</u>	<u>43.5</u>	<u>6</u>	<u>29.4</u>	<u>17.8</u>	<u>4</u>	<u>29.1</u>	<u>18.4</u>	<u>4</u>	<u>55.4</u>
Grand totals	<u>660.2</u>	<u>689.6</u>	<u>100</u>	<u>412.8</u>	<u>457.3</u>	<u>100</u>	<u>406.3</u>	<u>501.3</u>	<u>100</u>	<u>541.2</u>

(b) The ministry's share of national expenditures

- 4.36 The following table compares the Public Administration's expenditures with those of the SSA:

A comparison of the expenditures of the Central Public Administration of the National Government and those of the Ministry of Health (SSA)

(In millions of US\$)

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Budgeted</u>
1. <u>Total expenditures</u>				
Federal Central Public Administration	24,518.3	18,203.7	17,652.7	19,563.9
Ministry of Health	<u>689.6</u>	<u>457.3</u>	<u>501.3</u>	<u>541.2</u>
<u>Percentage</u>	<u>2.5%</u>	<u>2.5%</u>	<u>2.8%</u>	<u>2.8%</u>
2. <u>Current expenditures</u>				
Federal Central Public Administration	16,147.7	11,899.5	11,938.6	13,154.1
Ministry of Health	<u>646.1</u>	<u>439.5</u>	<u>482.9</u>	<u>485.8</u>
<u>Percentage</u>	<u>4.0%</u>	<u>3.7%</u>	<u>4.0%</u>	<u>3.7%</u>
3. <u>Capital expenditures</u>				
Federal Central Public Administration	8,370.6	6,304.2	5,714.1	6,409.8
Ministry of Health	<u>43.5</u>	<u>17.8</u>	<u>18.4</u>	<u>55.4</u>
<u>Percentage</u>	<u>0.5%</u>	<u>0.3%</u>	<u>0.3%</u>	<u>0.9%</u>

- 4.37 The "actual" spending figures for the federal government are estimates worked out at the end of each fiscal year for purposes of presenting the following year's budget. They are not, therefore, final figures.

- 4.38 The table shows that the Ministry of Health's expenditures accounted for 2.5% of the Federal Public Administration's total expenditures in 1982 and 1983, and 2.8% in 1984 and 1985. As for current expenditure, the proportion averaged 3.9% over the four years, while capital expenditure remained at 0.5% or less, although in the 1985 budget it increased to 0.9%. The proposed program would increase the number of health establishments which in turn would increase the costs involved in their operation and maintenance in proportion to the incremental operating costs (see Chapter VI).

(c) The national budget

- 4.39 The national budget appears in the following table. It shows that expenditures have dropped by US\$11.2 billion, from US\$28.9 billion in 1982 to US\$17.7 billion in 1984. That drop was due largely to austerity measures imposed by the government because of the country's economic situation. The budget approved for 1985 called for an increase of US\$1.9 billion over the expenditures for 1984, as a result of adjustment for inflation, salary increases, etc.

Expenditures of the Central Public Administration
(In millions of US\$)

	<u>1982</u>			<u>1983</u>			<u>1984</u>			<u>1985</u>
		<u>Estimated</u>			<u>Estimated</u>			<u>Estimated</u>		
T EXPENDITURES	<u>Budget</u>	<u>Actual</u>	<u>%</u>	<u>Budget</u>	<u>Actual</u>	<u>%</u>	<u>Budget</u>	<u>Actual</u>	<u>%</u>	<u>Budget</u>
als and supplies	5,068.0	6,529.1	26.7	3,468.8	4,750.8	26.1	3,458.5	4,625.1	26.2	3,980.3
l services	289.2	289.2	1.2	158.4	203.6	1.1	268.8	492.1	2.8	498.4
l outlays	456.6	547.9	2.2	286.6	414.7	2.3	400.0	596.9	3.4	583.6
ers	6,163.8	1,004.4	4.1	1,478.0	256.4	1.4	1,854.6	273.4	1.5	1,436.1
	5,281.1	7,777.1	31.8	4,758.3	6,274.0	34.5	5,222.0	5,951.1	33.7	6,655.7
	<u>17,258.7</u>	<u>16,147.7</u>	<u>66.0</u>	<u>10,150.1</u>	<u>11,899.5</u>	-	<u>11,204.9</u>	<u>11,938.6</u>	<u>67.6</u>	<u>13,154.1</u>
L INVESTMENTS										
and investments	319.6	304.4	1.2	135.7	256.4	1.4	232.4	341.7	1.9	278.7
works	3,348.2	3,393.9	13.8	1,643.9	2,511.1	13.8	1,891.0	2,046.0	11.6	2,321.3
l outlays	289.2	243.5	1.0	1,523.5	-	0.0	1,066.3	45.6	0.3	91.8
ers for investments	2,876.4	2,496.0	10.2	2,239.6	2,021.0	11.1	1,881.9	2,205.4	12.5	2,295.1
ial investments	30.4	1,628.5	6.6	731.5	746.5	4.1	606.1	688.1	3.9	655.7
t for payment										
liabilities	4,794.2	304.3	1.2	588.2	769.2	4.2	346.3	387.3	2.2	767.2
	<u>11,658.0</u>	<u>8,370.6</u>	<u>34.0</u>	<u>6,862.2</u>	<u>6,304.2</u>	<u>34.6</u>	<u>6,024.0</u>	<u>5,714.1</u>	<u>32.4</u>	<u>6,409.8</u>
	<u>28,916.7</u>	<u>24,518.3</u>	<u>100.0</u>	<u>17,012.3</u>	<u>18,203.7</u>	<u>100.0</u>	<u>17,228.9</u>	<u>17,652.7</u>	<u>100.0</u>	<u>19,563.9</u>

V. EXECUTION OF THE PROGRAM

A. The Executing Agency and Arrangements for the Transfer of Funds

- 5.01 The executing agency for the proposed program will be the Ministry of Health (SSA), through its Directorate of Planning and Budget. NAFIN, S.N.C., the borrower and the federal government's financial agent in the matter will be the recipient of the loan proceeds, which, together with the counterpart funds, will be transferred to the SSA through budget appropriations.

B. Executing Unit

- 5.02 The SSA has named the Directorate of Programming and Budget, part of the Office of the Assistant Secretary for Planning, as the executing unit for the program.

- 5.03 Personnel to staff the executing unit will be taken on in stages according to a timetable submitted to the Bank, which is regarded as covering the program's needs adequately. Unit staff will be recruited on a full-time basis only. Appendix V-1 shows the organization chart for the unit, while Appendix V-2 details staffing costs year by year, as well as other incremental costs forming part of program expenditure during the execution period. The executing unit will be supported and assisted by the SSA's other operating and administrative divisions.

1. Functions of the executing unit

- 5.04 The functions of the program executing unit will be to:

- Serve as the point of liaison with NAFIN, the Ministry of Finance (SHCP), and the Ministry of Planning and Budget (SPP);
- Program, direct, supervise and coordinate the program execution activities;
- Set up and administer the financial and accounting system for the program in accordance with existing laws and the conditions stipulated in the loan contracts;
- Program, check and approve the disbursements to the participating institutions;
- Administer invitations to submit bids issued under the program, in collaboration with the agency or agencies responsible for the supervision of program works, in accordance with the procedure agreed upon with the Bank (see Appendix V-4);

- Monitor the purchase and/or installation of the equipment, materials, and goods and services required under the program, as well as the implementation of the operating capacity development component;
- Issue periodic progress reports and a final report on the program, as well as any other information the federal government, the SSA or the Bank may consider appropriate during the course of the execution process; and
- Prepare and, through NAFIN, submit for Bank approval all requests for disbursement under the program, in accordance with the Bank's regulations in this regard.

2. Organization of the executing unit

5.05 To enable it to carry out the functions enumerated in the previous paragraph and to meet the general needs of the program, the executing unit will be organized as follows:

- Office of the Director: Responsible for directing, coordinating and supervising all financial, administrative, institutional and the technical activities under the program.
- Finance and administration: Responsible for seeing that the clauses of the loan contract are carried out; administering the entire program budgeting process; operating the accounting system for the program; coordinating the loan disbursement process; drawing up all financial reports; and maintaining the organizational subsystems that handle purchasing, personnel matters, records management, security, etc.
- Construction and equipment: Responsible for preparing and administering invitations to submit bids, evaluating the performance of the organization retained to supervise the program works and contractors, and for monitoring and inspecting the works being executed and the equipment being installed.
- Analysis and evaluation: Responsible for drawing up the program execution reports, setting up and operating statistical data systems to handle the various kinds of information generated by the program, and following up and monitoring the progress of the program.
- Operating capacity development: Responsible for coordinating execution of the subprogram to develop operating capacity and its various components (investigation and evaluation, human resources training, supervision and evaluation, and community participation).

C. Execution of the Health Facility Construction and Equipping Component

1. Execution periods

- 5.06 The health facility construction and equipping component will be executed within four years from the date of signature of the loan contracts. The deadlines for physical commencement of the works will be 2-1/2 years from the date of signature of the loan contracts, in the case of the 60-bed and 120-bed hospitals, and three years for the other types of health facilities included under the program. The deadline for disbursement of loan proceeds will be four years from the date of signature of the loan contract.
- 5.07 The three-year deadline for commencement of work on the health centers is regarded as justifiable because the construction time they require is relatively short in comparison with the total execution period allowed for the program. The period allowed for construction and equipping will range from six months in the case of the RHCSs and RHCCs and single-module UHCs up to 11 months for six-module UHCs. On the other hand, it is estimated that periods of 16 to 18 months will be required for the construction and equipping of the hospitals, which explains why a contractual deadline of 2-1/2 years is recommended for this type of facility.

2. Representative sample

- 5.08 Using the results of the national mapping process and the selection criteria discussed in Chapter III, the SSA has put together a representative sample of the units eligible to be included in the program (see Appendix III-10). The units making up the representative sample: (i) meet the selection criteria stipulated; (ii) have sites arranged for which the purchase or donation of the land on which to build them is well advanced, and have designs and final engineering plans ready, so that invitations to submit bids on the works involved can be issued as soon as the program is approved; and (iii) will allow the program execution process to go ahead without interruption.
- 5.09 The sample consists of 61 RHCSs, 35 RHCCs, 42 UHCs, and five 60-bed hospitals. As a group, the facilities account for approximately 42% of direct program costs. Furthermore, each of the various modular versions of the centers is represented. The sample was therefore used in designing and dimensioning the program.

3. Program designs

- 5.10 The basic designs for each type of structure to be built have been drawn up by the SSA's Project Directorate on the basis of modular designs. These modular designs, which appear in Appendices III-1 to III-9, are considered appropriate.

- 5.11 An initial version of the architectural plans, floor plans, cross-sectional views and elevations for the primary health care facilities have been drawn up by the SSA's Project Directorate. The SSA expects to have final architectural, structural and service plans for all types of buildings included in the program ready during the first six months of 1986.

4. Bidding procedure

- 5.12 Construction contracts and contracts for the provision and/or installation of equipment are to be let by a competitive bidding process, to be administered in accordance with the procedure agreed upon between the Bank and Mexico (see Appendix V-4).

5. Execution timetable

- 5.13 The following table indicates the approximate number of units to be completed each year during the program execution period:

	<u>Units to be completed</u>				
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Total</u>
<u>RHCSs</u>	<u>63</u>	<u>64</u>	<u>60</u>	<u>33</u>	<u>220</u>
<u>RHCCs</u>	<u>18</u>	<u>24</u>	<u>15</u>	<u>3</u>	<u>60</u>
1 module	10	15	8	-	33
2 modules	8	6	7	3	24
3 modules	-	2	-	-	2
4 modules	-	1	-	-	1
<u>UHCs</u>	<u>9</u>	<u>23</u>	<u>24</u>	<u>4</u>	<u>60</u>
1 module	5	5	-	-	10
2 modules	3	5	8	-	16
3 modules	1	2	-	1	4
4 modules	-	3	3	1	7
5 modules	-	5	7	-	12
6 modules	-	3	6	2	11
<u>60-bed hospitals</u>	<u>-</u>	<u>4</u>	<u>4</u>	<u>2</u>	<u>10</u>
<u>120-bed hospital</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>1</u>

6. Human resources

- 5.14 In order to ensure that the health units the program provides for are able to function adequately, it is estimated that it will be necessary to staff to them as indicated below, with the cost to be covered out of the local contribution as part of operating and maintenance expenses:

- First level: RHCSs, RHCCs and UHCs

Physicians	509
Nurses	45
Nursing auxiliaries	531
Technicians	69
Dentists	146
Administrative staff	415
Support staff	90
Promoters	<u>1,216</u>
Total	3,021

- Secondary level: 60- and 120-bed hospitals

Professional staff	354
Technicians and auxiliaries	988
Managerial and administrative staff	<u>674</u>
Total	2,016

7. Transportation

- 5.15 The rural health units would be visited periodically by a multidisciplinary zone supervisory team consisting of a physician, a promoter and a maintenance technician. The necessary means of transport will be provided by each state with financial assistance provided out of the SSA's budget; provision for such transport is not included in the program. All vehicles, both ambulances and general-purpose vehicles, will be administered by the states on a zone basis. The zones will be set up by each state's Ministry of Health according to the individual characteristics of that state.

8. Maintenance

- 5.16 Repair and maintenance of the buildings housing the health units for which the SSA is responsible will be attended to by the Maintenance Directorate of the Directorate General of Administration. The staff of the Maintenance Directorate includes a small number of technicians qualified to assist in the simple maintenance of buildings. When the maintenance work required is more complex, it will be done through private contractors.
- 5.17 The maintenance of medical equipment, instruments and apparatus at centers for which the SSA is responsible will be attended to by the Directorate General of Research and Technological Development through the Center for Development and Applied Technology (CEDAT). Established in February 1984, the CEDAT is responsible for promoting, developing and implementing technical procedures for the maintenance, repair, overhaul and replacement of medical instruments and apparatus in use in SSA health facilities; it is also engaged in training personnel technically qualified to promote the proper maintenance, rehabilitation, adaptation and installation of SSA medical equipment and accessories.

- 5.18 Maintenance of facilities built with program resources in states that have already signed decentralization agreements with the federal government will be attended to by the particular state in accordance with the provisions contained in its decentralization agreement. In the case of facilities built in states which have not yet entered into decentralization agreements with the federal government, the SSA itself will be responsible for maintenance, acting through the units indicated above.
- 5.19 To ensure that the program's buildings and equipment are properly maintained, the SSA must be required to submit, within the first three months of each year (beginning in 1988 and for the following seven years): (i) its annual operating and maintenance plan for the works and equipment covered by the program; and (ii) a report on the previous year's repair and maintenance activities in accordance with that year's plan for the works and equipment.

D. Execution of the Operating Capacity Development Component

- 5.20 The various activities forming part of this component (investigation and evaluation, training, supervision and evaluation, and community participation) have been established in direct response to the operating deficiencies identified in the National Health Program. First, through the investigation and evaluation of health services and the demand for them, new knowledge will be created and problems and needs that have to be considered in the provision of services will be identified. Second, the training of medical and administrative personnel working in the health system will increase their capabilities and help to raise the fundamental quality of the services they provide. Third, the development of supervision and evaluation systems will make it possible to gain experience that will be reflected in the care provided to the open population. And lastly, the promotion of health awareness within the population group benefited will increase the community's interest in supporting and participating in the work of the health centers and hospitals established under the program.
- 5.21 The activities associated with the four facets of this program component will be undertaken in three phases: (1) strengthening of infrastructure; (2) application and consolidation; and (3) integration.
- 5.22 The first phase, lasting approximately six months, will be pre-operational and diagnostic in nature, and concerned primarily with programming and structure. The second, lasting approximately three years, will consist mainly of the consultants' work and the application of the knowledge gained both for the new health units and for the on-going health-care system. The third phase, that of the full integration of the technology developed, will be carried out on a continuing basis by the services set up by the SSA and the states after the execution period of the proposed program.

- 5.23 With regard to the investigation and evaluation activities, the first phase (strengthening of infrastructure) will include: the identification and evaluation of the states and areas that will take part; the training of states government employees, assistant investigators, and interviewers; and the design and the coding of the survey. The second phase (application and consolidation) will include: the application of the findings of the field investigation and the analysis thereof; the review and adjustment of the investigation and the manuals; and the development of the permanent system to be implemented for integrating this function within the on-going activities of the SSA.
- 5.24 As far as human resources training during the first phase (strengthening of infrastructure) is concerned, the states where training and follow-up are to take place will be selected and the states' instructors will be given the training they need, as will selected personnel from various government bodies in those states. The training program itself will be conducted in the second phase (application and consolidation).
- 5.25 The first-phase activities in regard to the development of supervision and evaluation capability will include: the identification of action areas; the development of the supervision and evaluation system; and the training of the personnel who will serve as supervisors and evaluators. In the application and consolidation phase, coordination and advisory services will be provided for the implementation of supervision and evaluation activities in the various participating states.
- 5.26 Finally, in regard to the promotion of community participation, the first phase will be devoted to developing a community participation model. Subsequently, in the second phase, the model will be put into operation by disseminating information using vehicles fitted with sound, film, television and video-cassette equipment.
- 5.27 Appendix V-3 lists the human resources, equipment and materials needed for each phase of the operating capacity development component.

E. Investment Schedule

- 5.28 Below is a summary of the proposed investment schedule, showing the amounts to be provided by the IDB loans and the local contribution.

Proposed Investment Schedule
(US\$ thousands or equivalent)

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Total</u>
Bank					
IC	8,163	7,020	10,050	4,767	30,000
FSO	3,375	4,580	2,373	972	11,300
Total	<u>11,538</u>	<u>11,600</u>	<u>12,423</u>	<u>5,739</u>	<u>41,300</u>
Local contribution	<u>12,250</u>	<u>12,102</u>	<u>8,100</u>	<u>2,548</u>	<u>35,000</u>
Total	<u>23,788</u>	<u>23,702</u>	<u>20,523</u>	<u>8,287</u>	<u>76,300</u>
%	31.2%	31.1%	26.9%	10.8%	100%

F. Availability of Supplies and Contractors

- 5.29 According to the IDB's policies and the bidding procedure agreed upon by the Bank and Mexico (see Appendix V-4), construction work and the supply of materials are to be opened to international bidding, enabling suppliers from the member countries of the Bank to take part.
- 5.30 However, Mexico has construction firms capable of executing the type of construction work called for in the program.
- 5.31 As regards the availability of materials, Mexican industry produces structural steel, cement, ceramics and all the necessary materials for the construction work to be done under the proposed program. In addition, Mexico is considered to have sufficient managerial capacity to meet the needs imposed by the construction work.

G. IDB Inspection and Supervision

- 5.32 The IDB field office in Mexico will be in charge of inspection and supervision of the program on behalf of the Bank.

H. Advance of Funds

- 5.33 As a means of expediting execution of the program, it is recommended that an advance of funds be granted, chargeable to the proceeds of the prospective loans, up to a maximum of 10% of the amount of each loan.

I. External Auditing

- 5.34 In keeping with current practice in Mexico, starting with the fiscal year in which execution of the program begins, the annual financial statements of NAFIN during the life of the loan are to be submitted to the Bank each year after auditing by a firm of independent public accountants acceptable to the Bank. The financial statements for the

program, during its execution, are to be countersigned by the competent ministry of the guarantor and submitted each year to the Bank.

J. Ex Post Evaluation

- 5.35 The final ex post evaluation report is to be submitted to the Bank within a period of three years after the date of the last disbursement of the loan. The report is to be based on the basic and comparative data discussed in the following paragraphs.
- 5.36 Within three years after the effective date of the prospective loan contracts, the executing agency is also to submit to the Bank a partial evaluation report based on the same basic and comparative data discussed below.
- 5.37 The initial basic data are to include:
- (a) Definitive location of each of the health units included in the program, including the type of unit and its isochrone, and containing a breakdown of the population, base community and total catchment area according to the selection criteria established under the program.
 - (b) For each isochrone and control population (base community and catchment area), expressed in annual terms:
 - (i) The number of outpatient consultations per year, by type of consultation and type of unit, including hospitals.
 - (ii) The type and level of qualification of medical personnel used for the consultations in clause (i) above.
 - (iii) The unit cost per consultation (investment and recurring expenses).
 - (iv) The number of hospital discharges, average length of stay and type of unit (number of beds).
 - (v) The type and level of qualification of medical personnel used for clause (iv) above.
 - (vi) The unit cost per patient discharged (investment and recurring expenses).
- 5.38 The annual comparative data are to include:
- (a) The same items listed in the foregoing paragraph.
 - (b) The actual construction cost, including cost overruns.

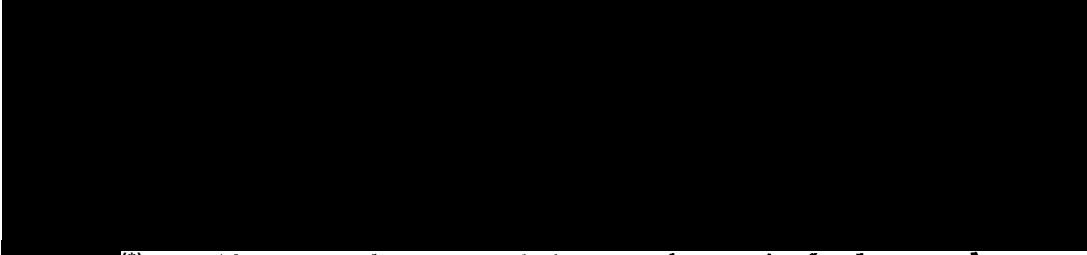
- (c) Changes in designs and in the original timetables for putting the facilities in operation.
- (d) The resources used for operation and maintenance in the health units covered by the program based on a representative sample.
- (e) Expenditures, broken down by program area, for the operating capacity development component.

5.39 As regards the methodology, the general framework of the partial and final ex post evaluation reports will be provided by the ex ante socioeconomic evaluation methodology. In the review of the program, emphasis will be placed on:

- (a) A reestimation of the ex ante cost-effectiveness and/or cost-benefit indicators, based on data compiled during the execution of the program.
- (b) The activities performed within the operating capacity development component as regards the generation of indicators of impact on the population at risk, health status indicators, cost-effectiveness indicators, and, where possible, cost-benefit indicators.

VI. JUSTIFICATION OF THE PROGRAM

A. Technical Viability

- 6.01 The proposed program meets one of the basic objectives of the National Health Plan, i.e. that of providing health care services to the country's entire population, with special emphasis on primary care. The most underprivileged low-income groups without easy access to health services number approximately 14 million persons. The proposed program will provide coverage for about 20% of this population by means of the construction, equipping and inauguration of approximately 220 CSRD, 60 CSRC, 60 CSU centers, 10 60-bed hospitals and one 120-bed hospital. This will not be sufficient to cover all the health care needs, especially as regards the second level, but it will be a significant improvement over the present situation. In light of these circumstances, the goal in ambulatory care for the program services has been estimated at 0.9 consultations per capita per year projected to the year 2000.
- 6.02 The Operating Capacity Development component will also help to increase the present productivity through improvement of the use of the present installed capacity and utilization of the services that will be made available with the proposed program.
- 6.03 
- (*)In addition, the communities, and particularly rural ones, have not had either the motivation or the education in health matters that would prompt them to active and organized participation in the health services' action programs.
- 6.04 The Operating Capacity Development component will make it possible to determine the social and epidemiological characteristics of the demand for health services better by means of evaluative research; will provide training in both administrative and technical aspects; will enable development and improvement of norms and systems for supervision and evaluation, and will help to improve the education level of the population by encouraging its active participation in the care of its own health. All of these elements will contribute toward raising the production and productivity both of the existing resources and of the new ones proposed in this program.
- 6.05 The various ambulatory care units have been designed to allow for growth, starting from a module for one care unit.

(*) At the request of the borrowing country, the information contained in paragraph 6.03 will not be disclosed. The non-disclosure of this information is in accordance with the country-specific information exception in paragraph 4.1 i of the Bank's Access to Information Policy, document GN-1831-28.

- 6.06 In the secondary-level establishments, of 60 and 120 beds, a single plan will be used that has potential for growth and following an approach designed to project the hospital outward to the community, with ambulatory, emergency and education services.
- 6.07 No problems are anticipated in providing the additional medical personnel required, in view of the large number of graduates per year coupled with the fact that before graduating a physician is required to perform "social service" by working for a year in a rural area or in a small city establishment.

B. Institutional Viability

- 6.08 The SSA has the physical and human resources required for the planning, construction, start-up and operation of the services included in the program, with the exception of construction supervision which will be contracted out to one or more specialized firms. It is also considered that the program executing unit will have the operating and technical capacity to execute the proposed program properly. Nevertheless, the operating and technical capacity of the SSA and of the health services of the states needs strengthening in order to ensure the effective functioning of the health establishments for which they are responsible and to increase the productivity of both the present health services and of the new ones to be included in the proposed program. The program accordingly includes an operating capacity development component that comprises personnel training, health services research, improvement of supervision and evaluation, and promotion of community participation.

C. Financial Viability

- 6.09 The impact of the program in terms of resources needed for timely availability of the local counterpart and the additional operating and maintenance expenditures of the program health establishments were examined on the basis of projected national resource requirements, as set forth below.

1. Local counterpart for execution

- 6.10 The total required as local counterpart during the execution period would be US\$35 million, as shown in the following table:

Impact of Local Counterpart on the Capital Budget
of the Federal Government
(US\$ millions)

<u>Year</u>	<u>National capital budget for 1985</u>	<u>Local counterpart</u>	<u>%</u>
1	6,409.8	12.3	0.19
2	6,409.8	12.1	0.19
3	6,409.8	8.1	0.13
4	6,409.8	2.5	0.04
		<u>35.0</u>	

6.11 The funds required from the national budget for execution of the program represent an annual incremental effort equivalent to 0.19% of capital expenditure, which is considered to be within the financial capacity of the government. The national commitment to maintaining the priority assigned to health services for the open population at national level will also necessarily have to remain effective.

6.12 The average annual counterpart during execution of the program, equivalent to US\$8.75 million, represents 1.6% of the SSA's total expenditure in 1985 (US\$541.2 million equivalent). This will also be within the government's financial capability.

2. Current operating and maintenance expenditures

6.13 The incremental expenditures necessary for the operation and maintenance of the facilities built as a result of the program have been projected according to the assumptions set forth in Appendix VI-1 and on pages 2-5 of Appendix VI-4.

6.14 As shown in the following table, the incremental current expenditures resulting from the program under study over a ten-year period, during which the establishments will become fully operational, would require the equivalent of US\$18.8/year in contributions from the national budget. In terms of the 1985 national current expenditure budget, this would amount to additional appropriations of approximately 0.3% and would represent an increase of approximately 4.0% of the current expenditure budget allocated to the SSA for health services, which is also considered to be within the government's financial capability.

6.15 The breakdown of the operating and maintenance costs by level is as follows:

<u>Type of service</u>	<u>Cost (US\$ millions)</u>	<u>%</u>
Primary level (health centers)	10,496.2	55.8
Secondary level (hospitals)	<u>8,324.6</u>	<u>44.2</u>
	18,820.8	100.0
	=====	=====

D. Economic Viability

1. Demand of the program

- 6.16 The concept of demand as applied in this analysis proceeds from an aggregative relationship of target population to existing services, using data by region and state, and then from that base to a national mapping exercise which seeks to localize priorities and reasonably assure health care satisfaction, plus a procedure to more effectively reveal demand for services, and match this demand with existing, project, and other future service facilities.
- 6.17 The macro analysis derives from the extensive study by Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados, COPLAMAR, "Necesidades Esenciales en México: Situación actual y perspectivas al año 2000", 1982-85, principally Volume 4, "Salud," and 5, "Geografía de la Marginación". This is complemented by analysis carried out by the SSA, some specifically for purposes of program design.
- 6.18 The micro analysis has been made possible by a national mapping exercise which was formally convened during the period May 29-31, 1985, in the Seminario Taller, Servicios Coordinados de Salud Pública de los Estados (Jefes Estatales de Salud), held in Mexico City. Following a number of iterations of the exercise which included field visits by SSA central staff and PAHO technicians to the states, the study was completed and thus provided the basis for the dimensioning of the loan application. ^{1/} This, in turn, was reviewed by the Bank and as a result, a \$153 million program universe was defined.

^{1/} The mapping exercise was realized by Federal and local public health authorities for all the Mexican states. Its end-purpose was to determine the extent of health service coverage of the población abierta as provided by existing health facilities. The method entailed (a) spatial location of existing facilities, (b) catchment area of each facility according to physical access of the surrounding population (distance and time per the accustomed mode of travel), (c) distribution of population outside catchment areas, based on priorities established in prior steps of the existing health facilities, and (d) design of isochrones, i.e., proposed catchment areas, based on priorities established in prior steps of the mapping study. Existing facilities were classified according to level of services provided (post, center, etc.), and effective coverage of catchment populations. Topographical conditions and infrastructure (especially the transport net) were assessed. Human settlements were located, relative to topography and roads. Detailed documentation of results of the mapping is contained in Secretaría de Salud, "Proyecto de Salud México-BID: Primero y Segundo Niveles de Atención (Agosto 1985)" chapter 4, "Demanda", and annexes ("Listados de tramos de accesibilidad", "Croquis lineales de árboles viales", "Localización de Establecimientos existentes", and "Nuevas localidades"). This documentation is available in the files of PRA-PSD.

- 6.19 Subsequently, due to financial constraints of the Mexican government, it was necessary to reduce the scope of the program. The new program utilizes the same universe and eligibility criteria, with priority being set by the policy denominated "anillo de retención", literally retaining ring, inspired by the earthquakes of September 1985, which seeks to provide health services in regions adjacent to Metropolitan Mexico City known to act as "feeders" of patients to the capital due to lack of adequate local facilities.
- 6.20 During the ex-ante analysis process, the Bank and PAHO worked with SSA, particularly the Dirección General de Epidemiología and the Centro de Investigación en Salud Pública, for the basic purpose of identifying the population at risk. An interdisciplinary team of planners, epidemiologists, economists and statisticians was organized during the special (orientation) mission, and the first phase of a longitudinal health care survey was designed to be carried out on a pilot basis, first in the state of México, and then in a subsample of states included in the project sample. This continuing survey, together with the Evaluative Research, Training, Supervision and Evaluation, and Community Participation components of the "Desarrollo de la Capacidad Operativa Subprogram", will provide information on the socioeconomic and health status of target population, of direct value in the operation, adaptation and future design of health care services.
- 6.21 The target population of the proposed program is the población abierta ("open population")--i.e. those without social security or other health care protection--who lack physical, economic and/or sociocultural access to SSA or IMSS-COPLAMAR facilities. The COPLAMAR study of 1983 (Geografía de la Marginación) rates distinct geographical concentrations (states, regions, municipalities) according to a statistically constructed index of "marginalized population" (marginación de la población) according to nineteen economic, social and health variables, employing principal-components factor analysis ^{1/} which makes it possible to "reduce" an array of indicators into composites in order to detect an underlying pattern. (It is interesting to note that one of the variables is income, wherein low-income is defined as the equivalent of approximately \$450 per capita/year, versus the Bank's figure of approximately \$550, both in 1977 dollars). Results were employed for project dimensioning purposes as a macro indicator of spatial priority in terms of an equity criterion. ^{2/}

^{1/} COPLAMAR, "Geografía de la Marginación", 2a. ed., 1983, p. 28; and Nie, N.H. et al, "Statistical Package for the Social Sciences (SPSS)", 2d. ed., 1975, Ch. 24.

^{2/} Summary results of the "Índice de Marginación" are provided in Appendix VI-2 (from COPLAMAR Study, p. 31).

- 6.22 The open population of México totalled an estimated 39.9 million in 1985 and is projected to rise to 49.2 million by 1990. The SSA puts its coverage at approximately 13 million and IMSS-COPLAMAR serves about 11 million. Another 3 million are said to be attended by private physicians. The SSA estimates that the "deficit"--open population without effective health care--is on the order of 14 million. To be sure, these are rough estimates and effective care by definition depends not only on quantity, e.g. consultations per capita per year, but also on quality of the attention.
- 6.23 The national mapping exercise has provided the best overall approximation of demand, to date, based on objective criteria. It shows that 6.4 million persons comprising the open population who currently do not have access (distance/time) to health care are within reach utilizing priority criteria including cost-effectiveness tests. The purpose of this approach is to determine the locations where new health facilities are justified based upon experience and performance norms of the SSA and IMSS-COPLAMAR. It is noteworthy that, consistent with the national definition of población abierta, project beneficiaries targeted by the mapping are essentially rural economy based, at both the primary (outpatient) and secondary (hospitalization) levels. This may be seen in that the average size community at the secondary level is less than 50,000 population, and only one of 18 (the city of Puebla, where in an outlying area the sole 120-bed hospital of the program would be constructed), exceeded 100,000.
- 6.24 The mapping has also provided valuable data regarding the locations of existing facilities the performance of which can be brought up to minimal standards by, first, "software" inputs to be included in the proposed program as "Desarrollo de la Capacidad Operativa", complemented as needed, and as local resources may permit outside the program, by repair and rehabilitation of the existing facilities. A substantial highly disperse rural population will also require innovative solutions which will be addressed by the Desarrollo de la Capacidad Operativa component.
- 6.25 As noted previously, the national mapping is complemented by a probabilistic survey designed as indicative of the characteristics of demand and the prevailing utilization of health services. 1/ Based on mapping results, nine catchment areas of open population without SSA or IMSS-COPLAMAR facilities were studied in three states (Hidalgo, Oaxaca and Veracruz). Among the more striking of the conclusions was the consistency of responses, including indigenous populations, to the effect that: (a) no health services were

1/ SSA, Dirección General de Epidemiología, "Encuesta de Atención a la Salud" julio-octubre, 1985. The survey format is included as Appendix VI-3. Details of preliminary results, including printouts, are on file in PRA-PSD.

currently being utilized, with the occasional exception of private physicians, druggists, curanderos and parteras (an objective observation); (b) there was a felt need for health education and access to health services (a subjective observation); and (c) there was an awareness of the nature of local health problems (combined objective and subjective observations).

- 6.26 The survey will take on operational significance in expanded form as the first step in a longitudinal tracer of project beneficiaries, control groups and program benefits (impacts), to be carried out as part of loan monitoring operation of facilities, and ex-post evaluation. It will provide guidance in a more complete understanding of effective demand for health services. To this end, the Desarrollo de la Capacidad Operativa component will be essential, including the evaluative research, training, supervision and evaluation, and community participation components.

2. Dimensioning of the program

- 6.27 The SSA's analysis of demand relative to existing health facilities produced a global, nation-wide program dimensioned to reach 6.4 million open population currently without access to primary level health care either from SSA or IMSS-COPLAMAR, and this population would rise to a projected 9.5 million in ten years. It should be noted that this "final" nation-wide iteration, realized as a direct result of the Bank's analysis mission in October 1985, in itself represented a major change in structure as well as dimensioning, responding to persistent financial constraints. Thus, greater relative emphasis was given to rural centers for disperse population, while reducing the number of beds. To be sure, what is being proposed is a group of essentially rural-type health centers and hospitals where existing coverage is nil.
- 6.28 An equity criterion was foremost in establishing priorities. This is because the priority population is población abierta without existing access to health care. The COPLAMAR study mentioned above, which included a mapping of marginalized population at the level of municipality for the nation as a whole, provided the basis for implementation of this criterion, as will be seen in the section on low-income impact.
- 6.29 The program now being considered for Bank financing, as detailed in Chapter III, is in effect a first stage of the global program referred to in the previous paragraph. It is important that this be explicit, as the logic of what is now being proposed depends on it. The present program has a total catchment population estimated at 2.8 million in 11 states, rising to approximately 4.3 million in 10 years.

- 6.30 The target population was selected by the SSA guided by the mapping and the project's location criteria in order to "fit" the project's capital budget of approximately US\$75 million, further constrained by institutional capacity and recurrent costs. The "fitting" process has been facilitated by physical designs which emphasize flexibility, expandability and economy, in terms of both capital and operating costs; and by institutional strengthening which provides support for the Program's "software".
- 6.31 A representative sample of health facilities in 11 Mexican States --Puebla, Hidalgo, México, Morelos, Guerrero, Guanajuato, Jalisco, Tabasco, Oaxaca, Chiapas and Quintana Roo--has been derived from selection criteria as part of the universe of eligible locations identified by the National Mapping (1985). The sample constitutes approximately 42% of program direct costs and consists of 61 CSRD, 35 CSRC, 42 CSU and 5 H60. The balance of the units to be included in the program will be selected in the same manner and provided by the Borrower to the Bank as part of the baseline data of the ex-post evaluation, thereby expediting the monitoring process in preparation for the Mid-Term Review.
- 6.32 At the level of primary care, a total of approximately 510 modular consultorios operating in units ranging from one to six would be provided in 340 locations. Catchment populations would vary from (a) the rurally disperse ranging 3,000 - 8,000 who would have access to a facility within a maximum of one hour travel time; (b) rural concentrations of population of 8,000 - 15,000; and (c) urbanized concentrations of 15,000 or more. Analysis of internal efficiency, included in the cost-effectiveness analysis of this chapter, demonstrates that primary level coverage will be significantly improved with the project.
- 6.33 At the secondary level, ten hospitals of 60 beds each and one hospital of 120 beds would provide a total of 720 beds to locations with populations of 20-50,000 and 50-100,000, respectively, plus referral populations defined by a catchment area ("isócrona") of 120 minutes travel distance. For the eleven hospitals proposed, the direct beneficiary population is estimated at 500,000, while the total catchment population would exceed two million; this yields coverage of 1.45 beds per 1,000 direct population, versus 0.7/1,000 national average, but only about 0.3/1,000 for the Program's total catchment. The latter suggests that secondary level care is underdimensioned, although it should be observed that: (a) for the majority of the catchment population, service with the project would be brought approximately to the national average, from existing service levels substantially below it, and (b) the hospitals proposed are expandable in modules of 60 beds. The fact remains that secondary level care as proposed in the present redimensioned program is minimal.

- 6.34 The institutional strengthening or "software" component is imperative to the success of the program. It is recognized that the existing system functions poorly, and that levels and quality of health care for the open population are unacceptable, even in many instances where there is existing access to SSA or IMSS-COPLAMAR facilities. The component as dimensioned, at a cost of equiv. US\$2.6 million, addresses itself to the essentials, to give the program operational impact, including management systems support.

3. Delivery of low-cost basic care: program outputs and outcomes

- 6.35 This section consists of (a) elaboration of the health care delivery system model for analysis of program outputs and outcomes, (b) economic costing of alternative solutions, (c) economic outputs, and (d) economic and social outcomes (impact).

(a) Health care delivery system model

- 6.36 The program will seek to rationalize health care delivery, making it more responsive to target populations, that is, basic care at the primary and secondary levels, reaching the largest possible numbers at lowest possible costs. Prototypes have been developed for rural disperse (CSRD) and concentrated ambulatory patients (CSRC), urban ambulatory patients, and inpatient and outpatient care in the basic areas of mother and child care, internal medicine and general surgery (H60 and H120). All prototypes are modular, at the primary level up to six consultorios and at the secondary level up to 180 beds (although the program contemplates no 180 bed facility, the flexibility is there when required) resulting in a total of 13 types of facilities. When reinforced by the Desarrollo de la Capacidad Operativa this approach should enable a more effective referral/counter-referral system.
- 6.37 A model traces the project's performance during its life-cycle. ^{1/} Each of the thirteen types of facilities is brought on stream according to construction chronograms, for each location selected according to program selection criteria, in real values adjusted for financial costs and transfers. The operation of each is then phased in, taking into account experience of SSA and IMSS-COPLAMAR, until "normal" operating capacity is attained. In addition to the "With Project" case, a "Without Project" simulation is carried out, as is a scenario utilizing SSA norms. Production of health services is then introduced, in terms of medical consultations for outpatients (consultas) and inpatient discharges (egresos). Catchment population relative to type of facility provide the basis for measurement of productivity. Physical input parameters include medical consultations per consultorio/year and egresos per bed/year. The resulting

^{1/} An extract of this model appears in Appendix VI-4. The model in its entirety may be examined in the files of PRA/PSD.

outputs are then treated as flows over the life of the program. The flow of economic costs are brought to present value, and then, total cost and unit cost comparisons can be made to determine the technical-economic efficiency of the program as proposed, and impact implications.

(b) Economic costing of alternatives

- 6.38 Project capital costs derive from SSA's "Modelo de atención a la salud a la población abierta." Details of costs for the 11 health center typologies and 2 hospital types are contained in the Health care delivery system model. The health centers are based on three basic typologies, for rural disperse, rural concentrated, and urban populations with service modules ranging from 1 to 6 consultorios and a lab/X-ray unit. The ten 60-bed hospitals and the sole 120-bed establishment are defined by SSA's Dirección General de Regulación de Servicios de Salud in two studies dated October 1985 and made available to the Bank. The capital cost of the Program's basic, one-module health center and the basic 60-bed hospital unit come in slightly under the experience of IMSS-COPLAMAR's unidad médico rural (UMR) and hospital rural tipo S (HR"S") respectively; ^{1/} this is quite important, as will be seen, since experience with the two IMSS-COPLAMAR typologies provide key efficiency parameters for program output.
- 6.39 Project recurrent costs proceed from norms provided in SSA's "Modelo de atención", adapted to real experience. Particular attention has been given to utilization rates of consultorios, health and human resources per establishment (especially health professionals per hospital bed), and utilization rates of beds (turnover and down-time). Theoretical population coverage has been discriminated, where possible, for relative ease of access; principally, the approach has been to assign higher coverage rates (consultations and bed-discharges per capita) to local populations than to populations at the periphery of the zone of influence.

(c) Program economic outputs

- 6.40 The effect of varying critical parameters is shown in the comparison of three "hypotheses" - -
- (1) Without the program
 - (2) With the program, and
 - (3) SSA theoretical norms.
- 6.41 These comparisons are made in terms of economic costs (capital and recurrent, excluding financial and transfer costs) per unit of output

^{1/} Per the report of the Bank's Architectural Consultant for the Program, November 1985.

(consultations and inpatient discharges), including sensitivity analysis, for each of fifteen program typologies (11 centers at the primary level, two inpatient facilities at the secondary level plus two outpatient services within these same facilities).

6.42 Productivity results may be summarized as follows:

	Consultations per capita/yr.	Discharges per 60-beds/yr.
Without program ^{a/}	0.57	2,390
With program ^{b/}	0.90	3,285
SSA Norms	1.37	3,285

a/ Proxy. Existing coverage in program areas is nil.

b/ Approximates IMSS-COPLAMAR experience with UMR and HR"S"

6.43 The program populations targeted are presently without access to the services proposed. This is documented by the national mapping exercise and SSA-Epidemiology's probabilistic survey of health services utilization. Preventive care, and routine and emergency curative care are the most serious deficiencies. Illnesses, to the extent they are perceived to directly affect economic or household activity, may prompt a visit to a distant hospital whether that level of care is warranted or not.

6.44 "Without the program", it is likely that some of the program populations would be provided some form of public care. A proxy for this alternative--a second-best solution--may be represented by existing-type facilities which would bring actual levels of care to the national average, that is from nil to approximately 0.57 consultations per capita/year, and likewise from nil inpatient discharges to 733 per the equivalent of a 60-bed facility/year. (Available evidence of actual real costs in similar facilities suggests that the proxy alternative understates costs without the program).

6.45 The "With the program" hypothesis employs experience with IMSS-COPLAMAR's unidad médica rural and hospital rural "S", providing a plateau between the existing situation in the program areas and SSA's theoretical norms. A program based on the integration of COPLAMAR facilities as part of the decentralization process merits the assignment of "probable" to this hypothesis, over the foreseeable future of the program.

6.46 Results of the cost-effectiveness analysis, comparing the 'With' and 'Without' alternatives, are summarized as follows:

Summary of Economic Costs

<u>Level and type of establishment</u>	<u>Present value of economic unit cost (annual)</u>	
	<u>Without program</u>	<u>With program</u>
<u>Consultations</u>		
Level I		
CSR	US\$ 3.34	US\$ 2.11
CSR1c	6.82	4.32
CSR2c	4.65	2.95
CSR3c	4.26	2.70
CSR3lab	5.20	3.29
CSU1c	6.34	4.01
CSU2c	4.49	2.85
CSU3c	4.12	2.61
CSU4c	4.01	2.54
CSU5c	3.60	2.28
CSU6c	7.16	4.54
Level II		
H60	3.80	1.75
H120	3.90	0.90
<u>Egresos (Level II)</u>		
H60	108.19	78.71
H120	107.49	73.90

- 6.47 The program is shown to deliver low-cost primary and secondary level health care. Clearly, these are basic services, averaging less than US\$3 per consultation at level I and ranging from US\$74-79 per inpatient discharge (approximately US\$16 per day). The "without program" case provides an indication of potential cost-savings attributable to the program as a result of increased coverage under conditions of improved efficiency, approximately 40% at level I and 30% at level II. In aggregate dollar terms, the present value of level I cost without the program would be US\$43.7 million, versus US\$28.9 million "with" for a total cost-saving of US\$14.8 million. The comparable aggregate cost-saving at level II would be US\$ 12.4 million. The sum total cost saving for the program as a whole would exceed US\$27 million.

- 6.48 The redimensioning process has prompted intensive solutions in the utilization of the proposed facilities. This is illustrated in the case of level II outpatient care (emergency, consultations and specializations), wherein the technical-economic analysis proceeds on the assumption that the H60 and H120 facilities will require capacities sufficient to serve approximately 50,000 and 100,000 people, respectively, providing a target rate of 0.90 consultations per capita per year. This implies a medical human resources workload which brings down economic unit costs to US\$1.75 and US\$0.90 for the H60 and H120, respectively. It may prove difficult to attain these levels of efficiency; consequently, sensitivity analysis has been applied.
- 6.49 The sensitivity analysis in the case of level II, consultations, assumes a reduction in the hourly rate of this type service by 25%, and recognizes increased economic costs (capital and recurrent) of 20%. The result, in the "with program" case, is a 46% increase in unit cost, along with a 25% decrease in outpatient coverage, to US\$2.56 and US\$1.32 for the H60 and H120 prototypes, respectively.
- 6.50 Selective sensitivity is also applied with other prototype services. At level II, inpatient care, if we reduce the bed utilization rate from 70% to 60% and increase economic cost by 20%, the unit cost per outpatient discharge rises by a factor of 28% to US\$101 and US\$95 for H60 and H120.
- 6.51 At level I, probably the greatest risk is that the 0.9 consultations per capita may not be realized, especially in the rural areas. Taking the case of the CSRD, for disperse population, a reduction in the coverage rate to 0.7--barely above the national average--plus a 20% economic cost overrun results in a unit cost per consultation of US\$2.72 and a decrease of almost 25% in consultations. For the other level I prototypes, unit cost increases, and decreases in the consultation rate, are considered less risky.

(d) Program economic and social outcomes

- 6.52 Mexico's health priorities are clearly in basic services, as shown in the frame of reference of this report. The logical response was the national mapping exercise, in order to locate those priorities. Once located, a major effort was devoted to diagnosing the existing problem and to means of improving service deliveries to those populations. Thus, population without coverage and inefficiency of existing facilities are program priorities. This takes on special importance and immediacy in light of the financial constraint imposed by heavy and limited operating resources. In addition, the Desarrollo de la Capacidad Operativa subprogram will allocate resources for the purpose of improving the effectiveness of the outputs: the outcomes or impact on health status and socioeconomic wellbeing of the beneficiary population.

- 6.53 The first step in the evaluation of outcomes has been taken in a longitudinal health survey, as described in the "Demand" section of this chapter. This approach, together with enhanced management and reporting, the promotion of community participation, and an underlying monitoring system which incorporates evaluative research, should begin to produce useful results: (a) at the end of the first year of execution, for a sample of existing facilities--a control group--and (b) by the beginning of the third year, approximately, for a mid-term review of execution and initial operation of new establishments. A budget for this purpose is included in the Desarrollo de la Capacidad Operativa.
- 6.54 It was not possible to complete the initial phase of the longitudinal survey due to budgetary, staffing and logistical problems, and the effects of the September 1985 earthquake. Nonetheless, partial data indicates very low levels of health care due to "inadequate services" and "lack of confidence" in available facilities. When hospitalization is resorted to, the choice seems to respond to the criteria "le da confianza" or "por recomendación". Responses to questions related to time and travel costs, and to work-time lost, are too limited to be useful in an ex-ante benefit-cost analysis.
- 6.55 The impact of the program on income distribution may be summarized as follows: At the primary level of health care, for an aggregated catchment population of approximately 2.8 million, to be served by 510 modular consultorios in 334 locations in 11 Mexican states, an estimated 81% of the economic value of facilities will be allocated to a like proportion of low-income beneficiaries. At the secondary level, with reference to direct beneficiaries only, approximately 518,000 open population would be served by one 120-bed and ten sixty-bed hospitals in seven states, and about 75% of the value of these establishments would benefit low-income population.

4. Summary: Economic feasibility

- 6.56 Demand for the program is based on the extensive study by Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados (COPLAMAR-1982), the National Mapping Exercise (SSA-1985), and the health care longitudinal survey initiated in 1985 by SSA-Dirección General de Epidemiología. Priorities and location criteria are established on a nation-wide basis (excluding Metropolitan Mexico City) for an essentially rural based population (población abierta) currently without access to care but within cost-effective reach. This population totals an estimated 6.4 million people. The newly dimensioned program, however, will serve in this first stage only 11 Mexican states and a target population of approximately 2.8 million.
- 6.57 A representative sample of facilities consisting of approximately 42% of program direct costs has been derived from selection criteria as part of the National Mapping in 1985. The balance of the units to be included in the program will be selected in the same manner.

- 6.58 Based on an analysis of 15 prototype health care facilities, there is reasonable evidence that the program can deliver low-cost, efficient services to ambulatory rural disperse and concentrated populations, ambulatory "urban" populations in peripheral areas, and catchment populations of predominantly rural economy based hospitals. Both capital and recurrent inputs appear cost-effectively designed. The present value of economic unit costs for level I care--health centers--ranges from US\$2.11 to 4.54 per consultation, or about 40% less than the best alternative without the program. Unit costs for level II--ten hospitals of 60 beds and one of 120 beds--range US\$73.90 - 78.71 per discharged inpatient (about \$16 per patient-day), an estimated 30% less than the "without program" alternative. The present value of potential savings with the program are estimated at US\$27 million.
- 6.59 In order to improve health service outcomes, that is, the impact on health status and socioeconomic wellbeing of the beneficiary population, a "software" package of institutional strengthening has been included in the program. It will include training of human resources, evaluative research, supervision and evaluation, and community participation. It is estimated that a minimum package of approximately US\$2,6 million reasonably assures effective results from physical facilities.
- 6.60 The low-income impact may be seen in that approximately 81% of the economic value of primary level facilities would be allocated to a like proportion of low-income beneficiaries. At the secondary level, with reference to direct beneficiaries only, about 75% of the value of these establishments would benefit low income population. On a weighted basis, that is the, proportion of the value of total facilities utilized by low-income beneficiaries, the distributive effect is estimated at 78%.

E. Legal Viability

- 6.61 No obstacles of a legal nature to approval and execution of the program are expected. NAFIN, in its capacity as financial agent of the Federal Government, possesses the legal capacity to be a borrower from the Bank. The loan contracts will, as is usual, be guaranteed by the United Mexican States. Finally, the Ministry of Health (SSA), in its capacity as coordinating agency for the National Health System, possesses the legal capacity to execute this program.

M E X I C O

Economic Framework

A. Recent Economic Trends

- 1.01 Economic conditions in Mexico deteriorated markedly during 1985, as falling oil prices and rising interest payments on the domestic public debt weakened the external and fiscal positions. This situation was further compounded by the September earthquake. By mid-year the currency was devalued while the expansionary policy in effect since the middle of 1984 gave way to restrictive fiscal and credit policies. Economic activity slowed down dramatically during the second semester while inflationary pressures intensified.
- 1.02 Real gross domestic product (GDP) grew by approximately 2.7 per cent as compared to 3.7 per cent in 1984. Credit availability in the first half of the year encouraged strong recovery of fixed private investment, more than offsetting the lack of growth in public investment. Public and private consumption spending, grew by about 4 per cent, the latter stimulated by rising employment in the first half.
- 1.03 Positive growth rates were registered in all sectors, with the exception of Government and other services. Manufacturing output grew 5.8 per cent, with consumer durables and capital goods showing the greatest increments while construction activity responded moderately to private investment.
- 1.04 Declining petroleum revenues which narrowed the surplus of the state petroleum company (PEMEX), and higher interest payments on domestic debt contributed to an overall public sector deficit of approximately 10 per cent, far exceeding the target of 5.1 per cent. The reduced flows of external financing and efforts to curtail the expansion of the monetary base forced the Government to rely increasingly on internal sources, other than the Central Bank, such as the issuance of treasury bills.
- 1.05 The balance of trade surplus was sharply reduced following a strong performance in 1983-84, as a result of a sharp drop in both oil and manufactured exports and a steep rise in private sector imports, particularly of capital goods. Indeed, oil earnings, which account for about two thirds of total merchandise exports, declined due to a fall both in prices and in volume. The disappointing performance in non-oil exports can be traced both to a strong domestic demand in the first semester, which reduced the manufacturing products available for exports, and to the appreciation of the peso up to mid-year. In turn, the September earthquake affected adversely tourism revenues. Despite lower international interest rates, interest payments on public and private debt were approximately \$10 billion. Net capital

flows were negative, a result of reduced foreign loans, substantial amortization payments and, to a lesser degree capital flight. The overall balance of payments position posted a drawdown in net international reserves, exerting pressure on the foreign exchange situation.

- 1.06 Official estimates indicate that repayments of public sector external debt were roughly similar to new borrowings. If all amortization payments had been effected, as initially scheduled, public sector indebtedness would have declined. Despite a postponement of amortization payments of \$950 million due in September, debt service remained high representing about 46 per cent of exports of goods and non-factor services.
- 1.07 Inflation accelerated during 1985. The devaluation of the currency and increases in controlled prices, including gasoline and food items, determined an average annual rate of growth in prices of 57.7 per cent. While the higher inflation rate reflected the impact of the domestic currency devaluation, inflationary expectations contributed to the depreciation of the peso. Minimum wages were adjusted twice during 1985 representing a cumulative increase of 54 per cent; however real minimum wages dropped by 1 per cent in view of the acceleration of inflation.

B. Economic Policies

- 2.01 In mid-September, the International Monetary Fund declared the country out of compliance on the terms of the three year Extended Fund Facility due to failure in meeting some of the agreed targets, in particular, fiscal deficit reduction and credit expansion. The Government was forced to adopt several adjustment measures during 1985 to deal with the increasing internal and external disequilibria.
- 2.02 In the fiscal area, measures to strengthen public finances were adopted to restrict current expenditures, such as the cancellation or postponement of some non-priority programs, the imposition of a freeze on hiring and the elimination of vacant positions. During June and July additional measures were adopted to further curtail expenditures, including the delay of some investment projects.
- 2.03 Monetary policy was expansionary through the first semester, but became restrictive especially with respect to private sector credit during the rest of the year. Initially, the reserve requirement was reduced from 48 to 10 per cent. By mid-year the monetary authorities imposed an additional reserve requirement of 35 per cent. Furthermore, banks were required to earmark 35 per cent of deposits to the purchase of Government securities, 3 per cent on loans to development banks and 6.8 per cent loans to certain priority sectors. As a result, only 10 per cent was allowed for unencumbered lending. The commercial banks agreed not to increase their loan portfolios through the end of the year above levels existing at the end of October 1985.

- 2.04 The monetary authorities officially devalued in July the controlled exchange rate, applicable to 80 per cent of transactions, and adopted a policy of managed float, whereby the controlled rate would be subject to periodic depreciation by a fixed amount, in order to narrow the spread with respect to the free market rate. In August the authorities discontinued the fixed daily slide of the controlled rate and adopted a policy of daily adjustment based on market considerations. In addition, during November, state and foreign owned banks were required to cease offshore peso-lending operations in an effort to discourage capital flight and currency speculation.
- 2.05 Import licensing requirements affecting 60 per cent of imports, were replaced by tariffs in an important move toward trade liberalization, while some luxury imports were banned. In the same direction, the Mexican Government formally announced that it would seek entry to the General Agreement on Tariffs and Trade (GATT). Mexico also signed a bilateral trade accord with the United States under which the Mexican Government agreed to phase out export subsidies. Additionally, the authorities designed an export promotion program whereby exporters can import merchandise up to 30 per cent of the value of their exports without licensing or any prior authorization.
- 2.06 The policy on direct foreign investment also changed in the direction of liberalization. At mid-year, the Government announced that majority-owned foreign investment would be allowed in the following areas: pharmaceuticals, tourism, hydrocarbon technology, computers and technology. In this sense, the Government authorized a 100 per cent foreign-owned IBM investment in personal computers. Upon completion, the project is expected to generate some \$200 million annually in exports.
- 2.07 The Mexican Government and its creditor banks signed on March 1985 the first stage of the long term debt restructuring, which involves some \$49 billion. This amount was restructured over a period of 14 years, with increasing payments which began in 1985. The first part of the restructuring package covered \$29 billion of the debt of the Federal Government and PEMEX and was signed in March 29, 1985. The remaining \$20 billion were rescheduled in August 1985.

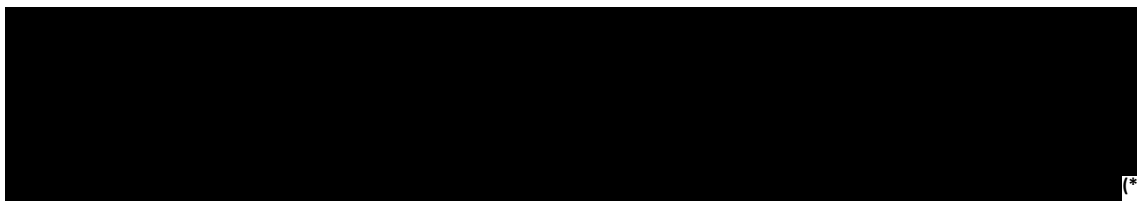
C. Outlook

- 3.01 The country may experience a slowdown in economic activity accompanied by an improved fiscal situation during 1986. In order to increase revenues, the Government plans to tighten control of fiscal evasion. To help with the cost of earthquake reconstruction temporary measures have been proposed such as a surtax levied on upper income earners, increases in extraordinary oil rights and an increment in the tax on new automobile purchases. In addition, gasoline, tobacco and alcoholic beverages taxes and telephone and electricity rates will also be increased. Current expenditures will be reduced, including cuts in transfers and in food subsidies; in

January, prices of subsidized consumer goods were increased. Toward the reduction in the size of the public sector, while increasing privatization efforts, the authorities have proposed the sale of approximately 180 unprofitable state enterprises, and of a large hotel chain. Fiscal outlook, however, is heavily dependent on petroleum contributions. The recent plummeting of oil prices and the associated instability of the world petroleum market, will cause a severe reduction in fiscal revenues, with respect to the amount originally estimated by the Government.

- 3.02 In terms of foreign trade policy, efforts will continue to promote liberalization. During the early part of 1986, a package designed to make exporting attractive to broad sectors of industry was approved. Under this scheme, a list of exporting companies and their suppliers will be provided with access to credit and foreign exchange as well as tax incentives. In support of the program the Government is negotiating a loan with the World Bank for \$500 million. Also, a futures market will be introduced for the controlled rate, allowing exporters and importers to plan transactions ahead. The Government anticipates these measures will increase non-oil exports by \$1 billion. Improved performance is expected in the services account, due to reduced international interest rates, increases in border trade and tourism.

3.03

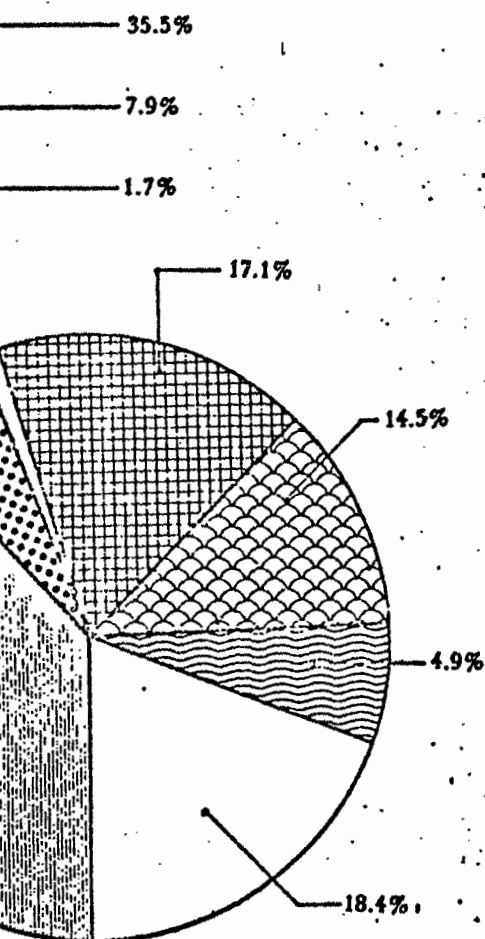


- 3.04 Lower subsidies on basic foods, petroleum derivatives and electricity, and increased labor cost will be reflected in upward inflationary pressures despite a tight credit policy and reduced domestic demand.

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(*) At the request of the borrowing country, the information contained in paragraph 3.03 will not be disclosed. The non-disclosure of this information is in accordance with the country-specific information exception in paragraph 4.1 i of the Bank's Access to Information Policy, document GN-1831-28.

SECTOR SALUD COBERTURA INSTITUCIONAL 1984



INSTITUCIONES Y POBLACION

MILES DE PERSONAS

COBERTURA LEGAL (Seguridad Social)

34,300



IMSS

27,000



ISSSTE

6,000



OTRAS INSTITUCIONES PUBLICAS FEDERALES

1,300

COBERTURA REAL. (Población Abierta)

24,000



SSA

13,000



IMSS-COPLAMAR

11,000



MEDICINA PRIVADA

3,700



POBLACION DESPROTEGIDA

14,000

POBLACION TOTAL

76,000

FUENTE: PROGRAMA NACIONAL DE SALUD 1984-1988.

MODELO DE ATENCION DE SALUD - MEXICO 1985

PO DE ACION	TAMAO LOCALIDAD	RANGO DE COBERTURA	NIVELES DE ATENCION	TIPO DE UNIDAD	RECURSOS HUMANOS	SISTEMA DE REFERENCIA
			TERCERO NIVEL	Institutos Nacionales Hospitales Especializa- dos		
		Más de 100,000	SEGUNDO NIVEL	H.O. 100 Camas	10-15% Prof. 45-55% Tecn. 35-45% Adm.	
		50,000 a 100,000		H.O. 120 Camas	12-17% Prof. 50-55% Tecn. 25-35% Adm.	
		20,000 a 50,000		H.O. 60 Camas	15-20% Prof. 43-50% Tecn. 30-35% Adm.	
		Hasta 20,000		H.O. 30 Camas	17-22% Prof. 43-48% Tecn. 32-37% Adm.	
	Más de 15,000	3,000 X Módulo	PRIMERO NIVEL	Centro de Salud Urba- no.	Médico Aux. Enf. Promotor Odontólogo Tecn. Rayos X Laboratorio	
4,771 0,970 4,990	2,500 a 15,000	3,000 a 5,000 X Módulo		Centro de Sa- lud Rural Po- blación Con- centrada	Médico Gral. o SS, Aux. Enf. Promotor y Odontólogo	
2,431 1,009	1,000 a 2,500	5,000 a 8,000 X Módulo		Centro de Sa- lud Rural Po- blación Dis- persa.	Médico Gral. o S.S., Aux. Enfer.	
999	500 a 1,000	1,000 a 2,500 X Técnico o Mé- dico		Unidad Auxi- liar de Salud	Médico S.A. o Técnico en Salud	
		500 a 1,000 x Auxiliar		Casa de Sa- lud	Auxiliar de Salud	
99		50 a 100 x Promotor			Promotor Vo- luntario	
99 h.		50 a 100 x Promotor			Promotor Vo- luntario	

Unidad Móvil, adscrita a unidades estratégicamente ubicadas para atención a poblaciones menores de 1,000 habitantes. Recursos Humanos: Médico B.B.A. Auxiliar de Enfermería.

APENDICE II-4

Población por Entidad Federativa - Estados Unidos Mexicanos

<u>Entidad Federativa</u>	<u>Total</u>
<u>Estados Unidos Mexicanos</u>	<u>78.524.158</u>
Aguascalientes	619.902
Baja California Norte	1.438.439
Baja California Sur	269.770
Campeche	521.142
Coahuila	1.767.974
Colima	412.435
Chiapas	2.369.091
Chihuahua	2.253.735
Distrito Federal	9.811.537
Durango	1.311.500
Guanajuato	3.419.734
Guerrero	2.413.138
Hidalgo	1.828.038
Jalisco	5.013.731
Mexico	10.535.046
Michoacan	3.182.084
Morelos	1.167.902
Nayarit	839.747
Nuevo León	3.063.126
Oaxaca	2.555.960
Puebla	3.787.722
Queretaro	87.721
Quintana Roo	325.017
San Luis Potosí	1.868.808
Sinaloa	2.223.674
Sonora	1.768.663
Tabasco	1.269.141
Tamaulipas	2.231.549
Tlaxcala	622.193
Veracruz	6.316.200
Yucatán	1.209.479
Zacatecas	1.230.410

FUENTE: Dirección General de Estadística e Informática.
Anuario Estadístico SSA. México, 1985.

Relación de Documentos Normativos para la Organización y
Funcionamiento del Sector Salud por
Niveles de Atención

I. PRIMER NIVEL DE ATENCION

- Norma Técnica para la Prestación de Servicios de Atención Primaria.
- Manual de Organización y Funcionamiento de las Unidades de Atención Primaria.
- Organización y Funcionamiento de Enfermería en la Atención Primaria a Población Abierta.
- Norma Técnica para la organización y Funcionamiento de los Servicios Estomatológicos del Primer Nivel de Atención.
- Manual para la Determinación de Población Adscrita por Módulo.
- Norma Técnica para la Participación de la Comunidad en Programas de Atención a la Salud.
- Norma Técnica para el Diagnóstico de Salud de la Comunidad.
- Guía para la Elaboración y Actualización del Diagnóstico de Salud.
- Manual de Programación para Situaciones Locales de Salud.
- Manual para la Organización y Funcionamiento del Comité de Salud.
- 1. Casa de Salud
 - Manual de Organización y Funcionamiento de la Casa de Salud.
 - Cuadro Básico de Material de Curación y Medicamentos.
- 2. Unidad Auxiliar de Salud
 - Manual de Organización y Funcionamiento.
 - Cuadro Básico de Material de Curación y Medicamentos.
- 3. Unidad Móvil
 - Manual de Organización y Funcionamiento.
 - Cuadro Básico de Material de Curación y Medicamentos.

4. Centro de Salud Rural para Población Dispersa

- Manual de Organización y Funcionamiento.
- Norma Técnica para el Diseño.
- Equipamiento Básico.
- Cuadro Básico de Material de Curación y Medicamentos.

5. Centro de Salud Rural para Población Concentrada

- Manual de Organización y Funcionamiento.
- Norma Técnica para el Diseño.
- Equipamiento Básico.
- Cuadro Básico de Material de Curación y Medicamentos.

6. Centro de Salud Urbano

- Manual de Organización y Funcionamiento del Centro de Salud Urbano.
- Norma Técnica de Diseño del Centro de Salud Urbano.
- Equipamiento Básico.
- Cuadro Básico de Material de Curación y Medicamentos.

II. SEGUNDO Y TERCER NIVEL DE ATENCION

- Norma Técnica de Organización y Funcionamiento de Unidades Hospitalarias del Segundo Nivel.
- Norma Técnica para la Organización y Funcionamiento de Unidades Hospitalarias del Tercer Nivel.
- Modelo de Servicios de Atención Médica, Hospital Jurisdiccional de 30 Camas.
- Modelos de Servicios de Atención Médica, Hospital Jurisdiccional de 60 Camas.
- Modelo de Servicios de Atención Médica, Hospital Jurisdiccional de 120 Camas.
- Modelo de Servicios de Atención Médica, Hospital Regional de 180 Camas.
- Modelo de Servicios de Atención Médica, Hospital de 240 Camas.
- Modelo de Servicios de Atención Médica, Hospital de Especialidades de 350 Camas.
- Norma Técnica para la Evaluación de la Calidad de la Prestación de Servicios de Atención Médica.

- Norma Técnica para la Integración y Manejo del Expediente Clínico en las Unidades Hospitalarias.
- Expediente Clínico, Instructivos y Formatos.
- Norma Técnica para la Referencia y Contrarreferencia de Pacientes.
- Manual para la Referencia y Contrarreferencia de Pacientes en los Niveles de Atención Médica.
- Manual de Organización y Funcionamiento de los Servicios de Urgencias en Unidades Hospitalarias de 2do. y 3er. Nivel.
- Recetario Colectivo de Medicamentos para las Unidades Hospitalarias del Sector Salud.
- Manual de Trasplante de la Cornea.

1. Servicios de Enfermería

- Guía para Elaborar el Manual de Organización del Departamento para Unidades Hospitalarias del 2do. y 3er. Nivel de Atención.
- Manual de Puestos para Unidades de Atención Médica de Segundo Nivel.
- Manual de Procedimientos para el Cálculo del Personal en los Hospitales de Segundo Nivel.
- Sistema para la Atención de la Población Abierta en las Unidades Hospitalarias del 2do. y 3er. Nivel de Atención.

2. Servicios Auxiliares de Diagnóstico y Tratamiento

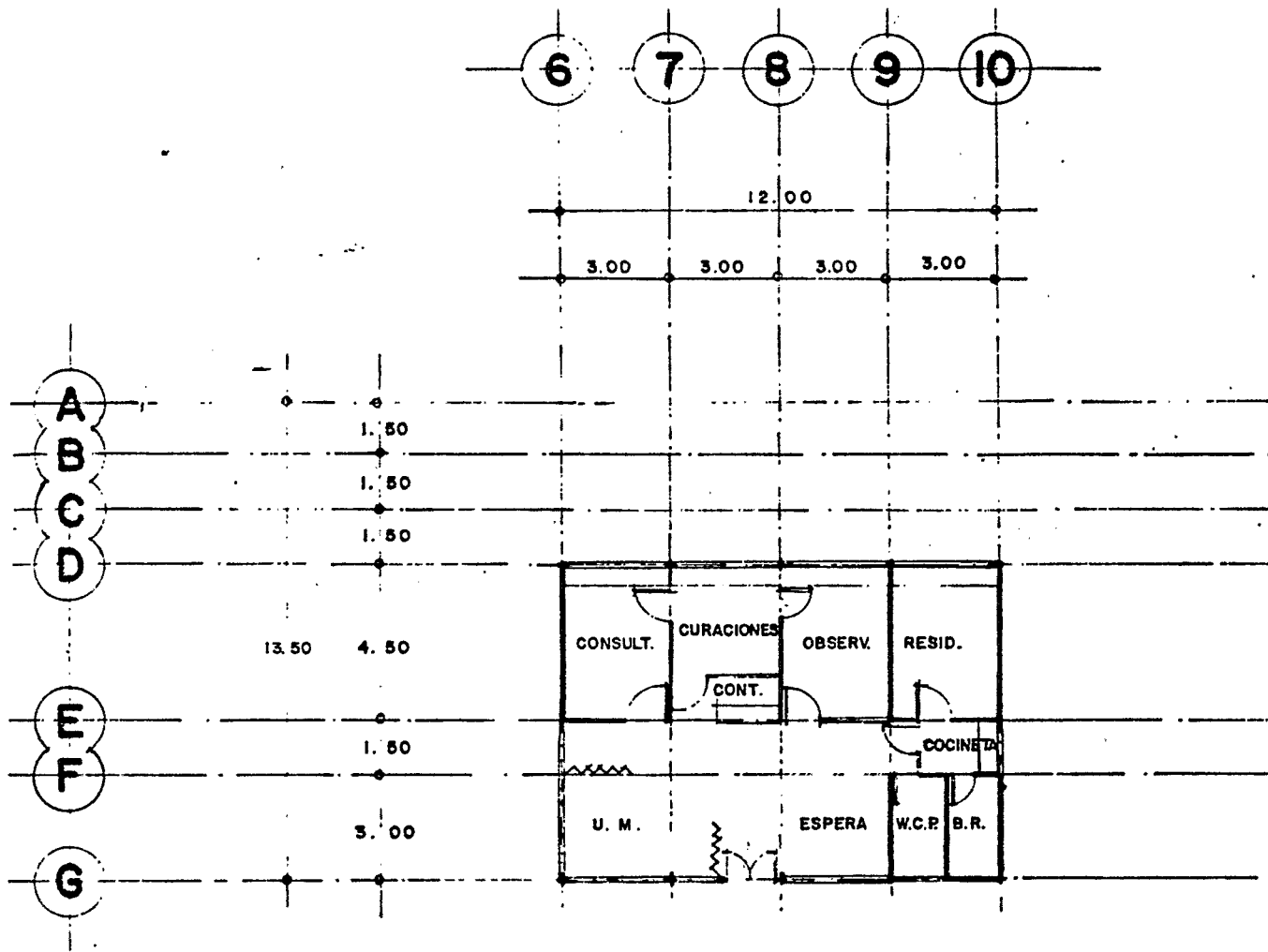
- Reglamento de la Ley General de Salud en Materia de Control Sanitario de la Disposición de Organos, Tejidos y Cadáveres de Seres Humanos.
- Norma Técnica para la Disposición de Sangre Humana y sus Derivados con Fines Terapéuticos.
- Norma Técnica para la Disposición de Organos y Tejidos de Seres Humanos con Fines Terapéuticos.
- Cuadro Básico de Anatomía Patológica.
- Cuadro Básico de Materias, Reactivos y Medios de Diagnóstico para Laboratorios del Sector Salud.

III, GENERALES

- Reglamento de la Ley General de Salud en Materia de Prestación de Servicios de Atención Médica.
- Norma Técnica para el Equipamiento Básico de Unidades de Atención Médica.
- Norma Técnica para la Dotación y Uso de Ropa en Establecimientos de Servicios de Salud.
- Norma Técnica para la Prestación de Servicios de Salud Mental.
- Norma Técnica para la Prestación de Servicios de Asistencia Social en Casa Hogar para Ancianos.
- Norma Técnica de Organización de los Niveles de Atención en Rehabilitación.
- Norma Técnica de Supervisión y Control de los Servicios de Atención Médica.
- Lineamientos de Supervisión para la Atención Médica a Población Abierta.
- Cuadro Básico de Medicamentos del Botiquín de Urgencia.
- Dengue, Manual para el Médico General.
- La Abeja Africana, Manual para el Médico General.

Estadísticos

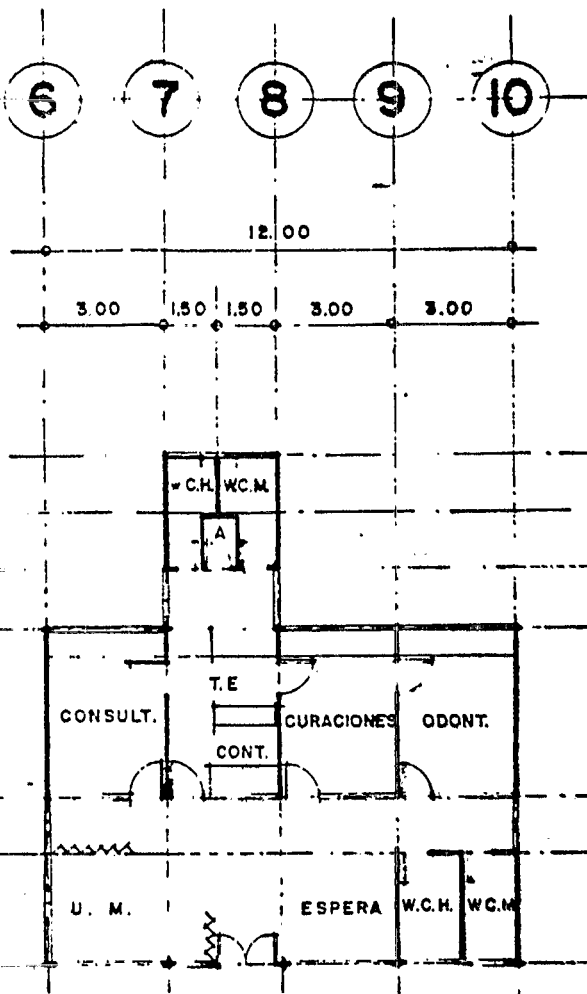
- Para los Hospitales del 2do. Nivel.
- Viales de Población, Recursos y Servicios.



A-1 CENTRO DE SALUD RURAL

POBLACION DISPERSA

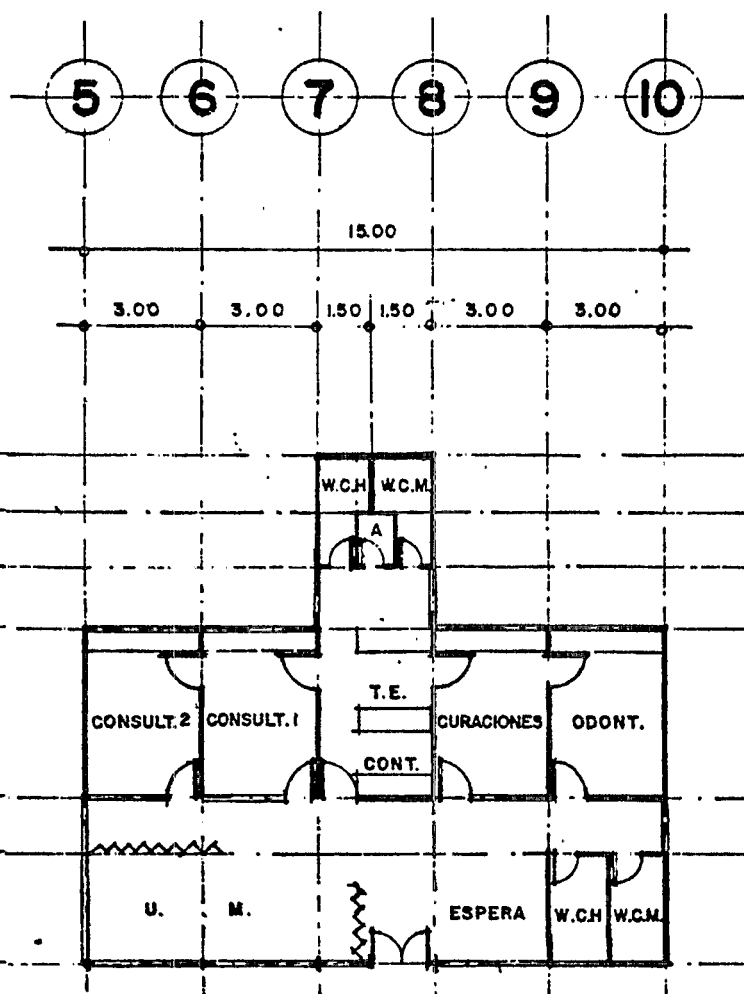
SUP. CONSTRUIDA 108.00 m²



B-1 CENTRO DE SALUD RURAL

POBLACION CONCENTRADA

SUP. CONSTRUIDA 121.50 m²

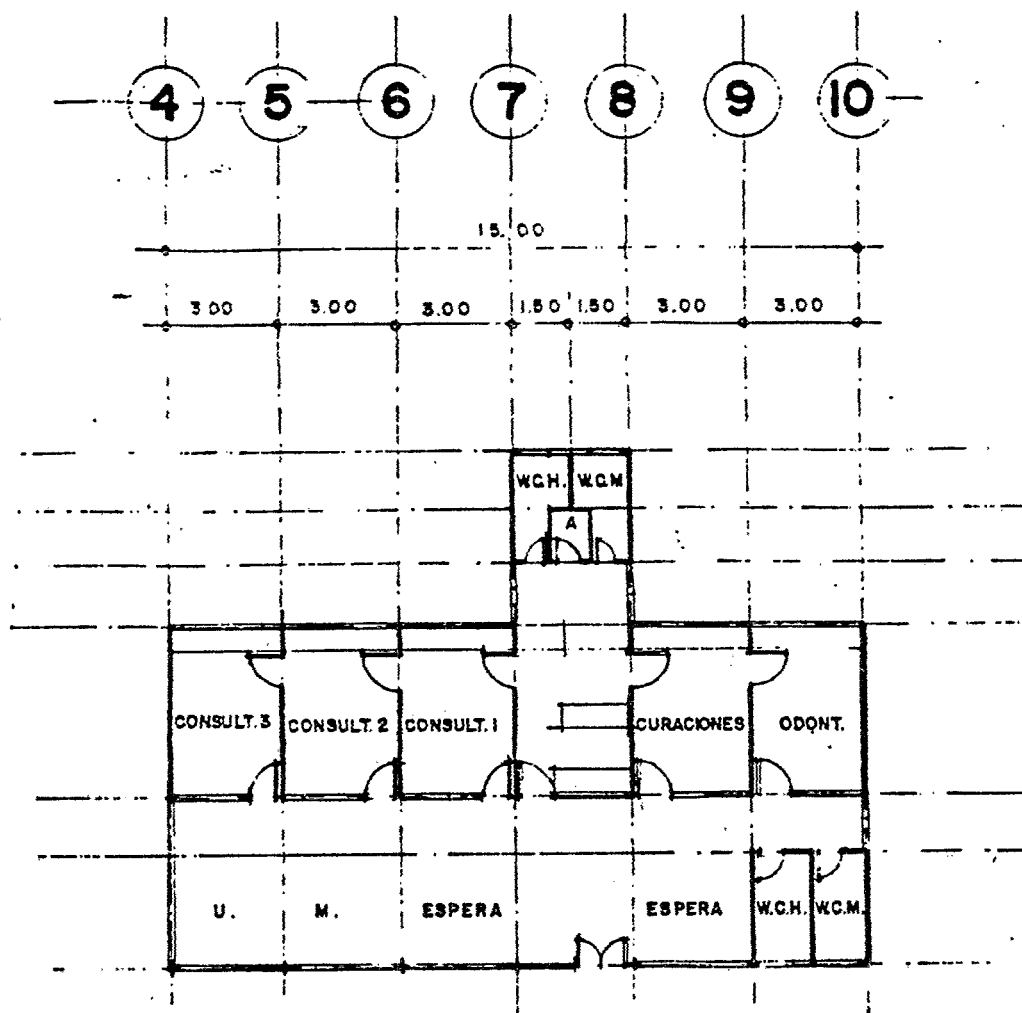


B-2 CENTRO DE SALUD RURAL

POBLACION CONCENTRADA

2 CONSULTORIOS

SUP. CONSTRUIDA 148.50 m²



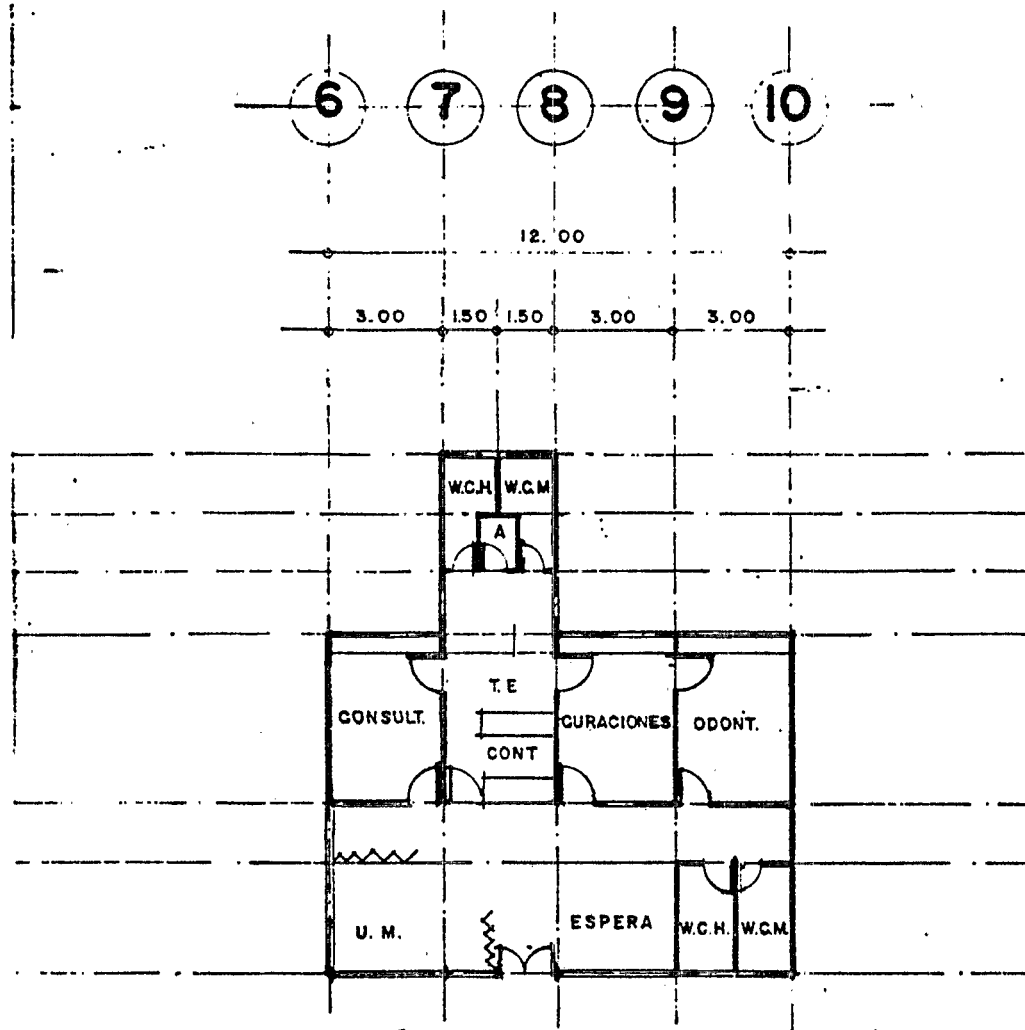
B-3 CENTRO DE SALUD RURAL

POBLACION CONCENTRADA

3 CONSULTORIOS

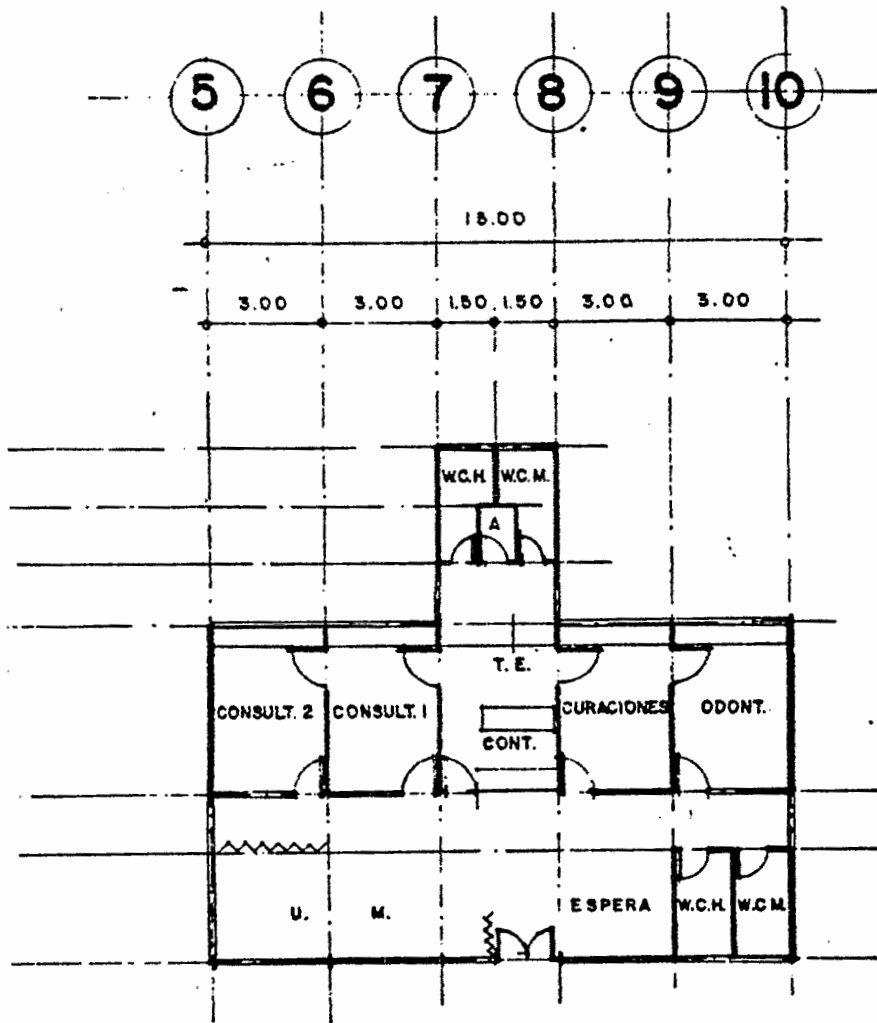
SUP. CONSTRUIDA 175.50 m²





C-1 CENTRO DE SALUD URBANO

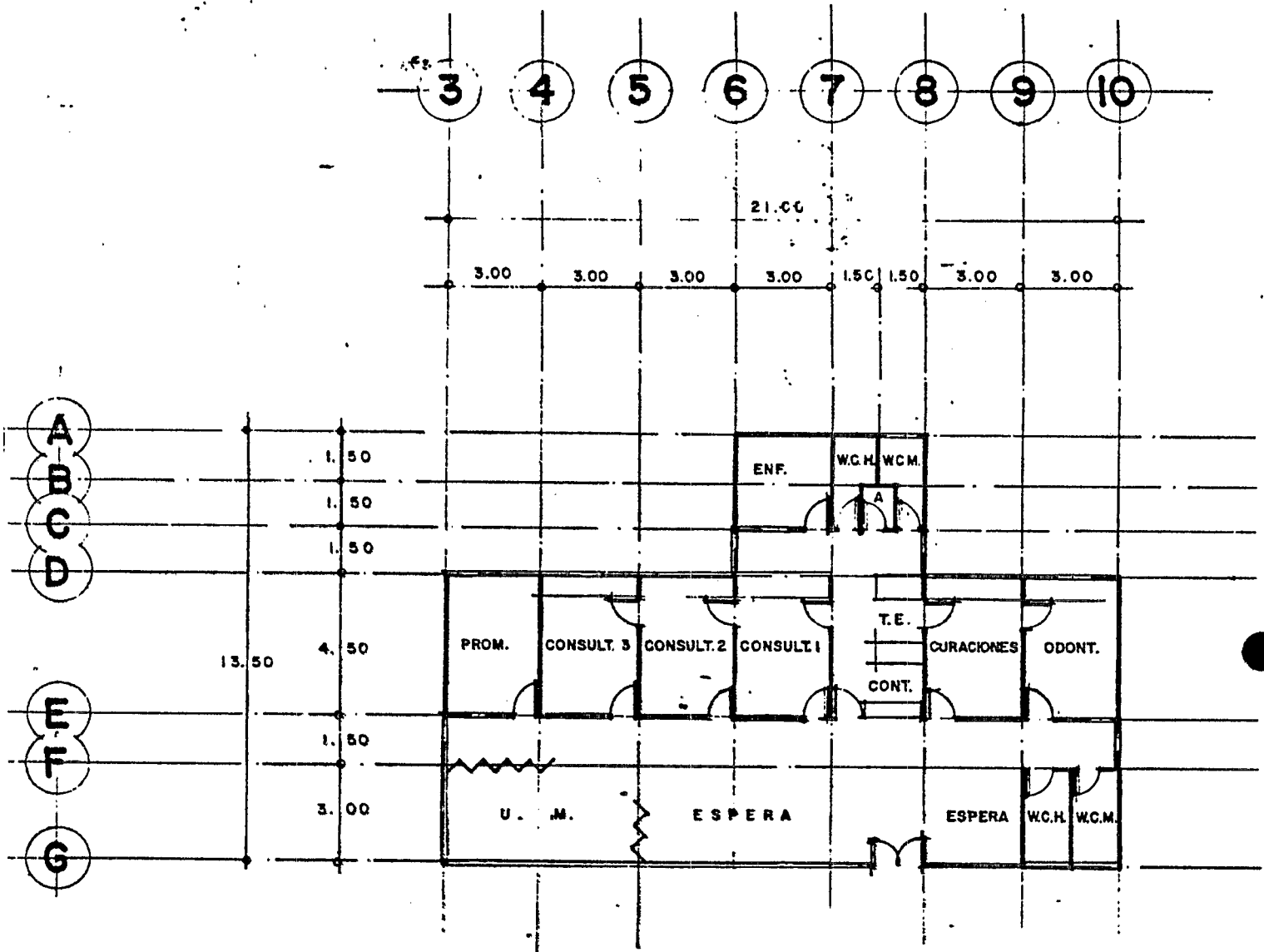
SUP. CONSTRUIDA 121.50 m²



C-2 CENTRO DE SALUD URBANO

2 CONSULTORIOS

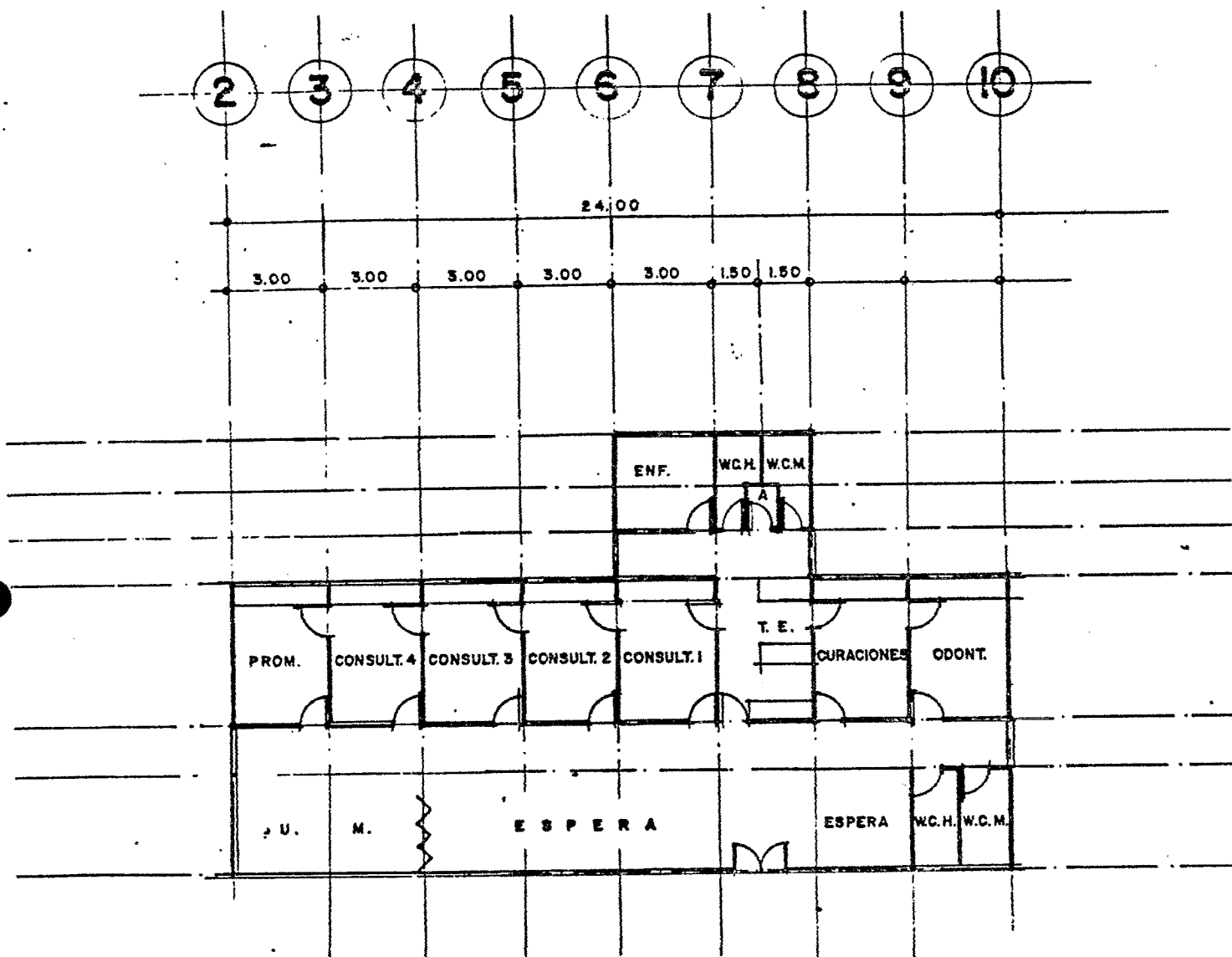
SUP. CONSTRUIDA 148.50 m²



C-3 CENTRO DE SALUD URBANO

3 CONSULTORIOS

SUP. CONSTRUIDA 216.00 m²



C-4 CENTRO DE SALUD URBANO

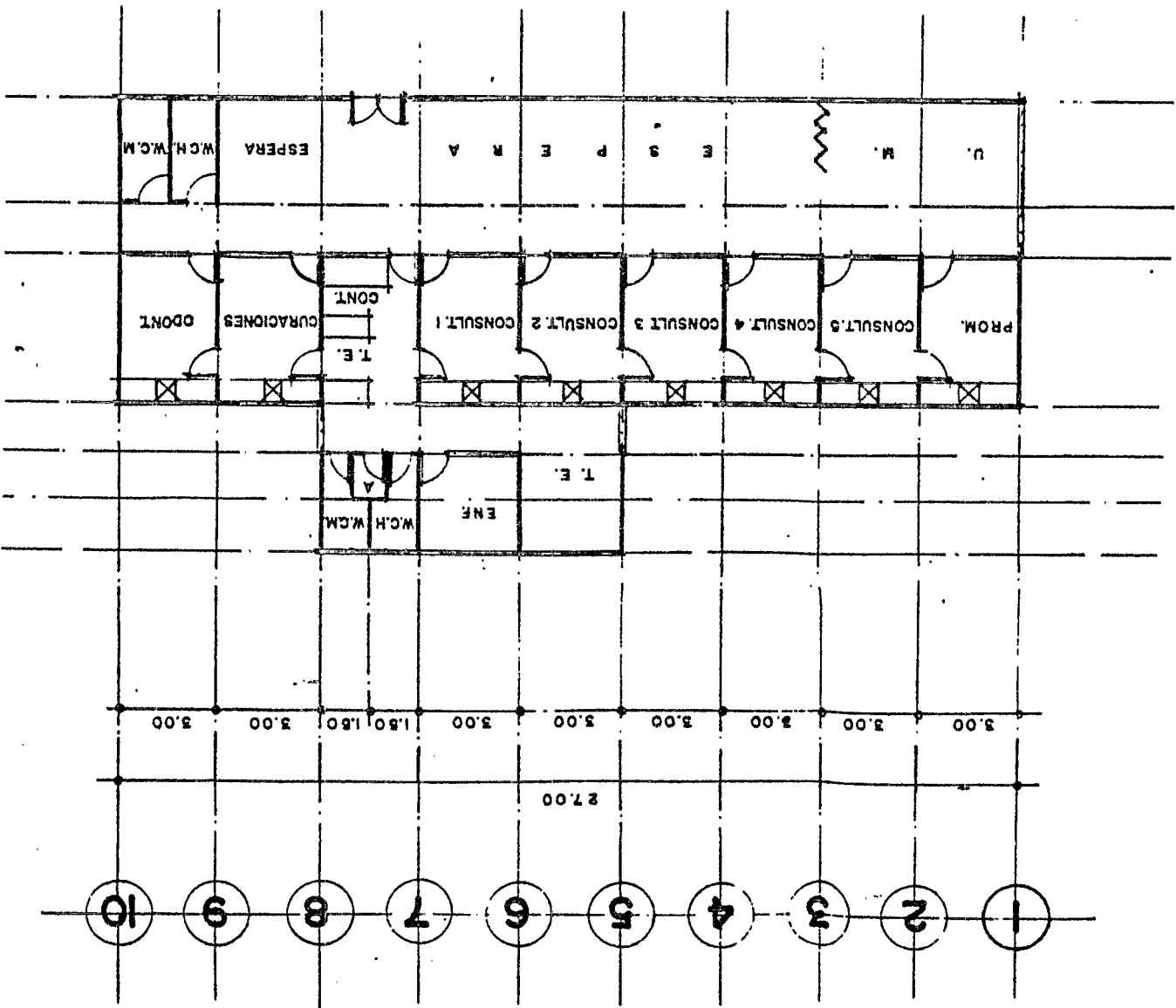
4 CONSULTORIOS

SUP. CONSTRUIDA 243.00 m²

SUP CONSTRUIDA 283.00 m²

5 CONSULTORIOS

C-5 CENTRO DE SALUD URBANO





6 CONSULTORIOS Y RAYOS "X"

SUP. CONSTRUIDA 591.00 m²

MUESTRA REPRESENTATIVA DE CENTROS DE SALUD Y
HOSPITALES A SER INCLUIDOS EN EL PROGRAMA

(ME - 0159)

Unidades de Segundo Nivel

<u>Municipio</u>	<u>Localidad</u>	<u>Población</u>		<u>Tipo de Hospital</u>
		<u>Sede</u>	<u>Cober- tura</u>	
Estado: <u>GUANAGUATO</u>				
Valle de Santiago	Valle de Santiago	15.648	109.690	Hospital 60 camas
Estado: <u>Guerrero</u>				
Coyuca de Catalán	Coyuca de Catalán	30.000	128.000	Hospital 60 camas
Estado: <u>JALISCO</u>				
Tepatitlán de Morelos	Tepatitlán	52.857	195.152	Hospital 60 camas
Estado: <u>MEXICO</u>				
Jilotepec	Jilotepec	51.788	51.788	Hospital 60 camas
Estado: <u>OAXACA</u>				
Pochutla	Pochutla	25.121	121.601	Hospital 60 camas

UNIDADES DE PRIMER NIVEL

<u>Municipio</u>	<u>Localidad</u>	<u>Sede</u>	<u>Población</u> <u>Cober-</u> <u>tura</u>	<u>Tipo de</u> <u>Centro</u>
Estado: <u>CHIAPAS</u>				
Larrainzar	Larrainzar	1.173	4.173	CSRD
Teopisca	Teopisca	4.300	4.300	CSRD
Margaritas	Amatitlán	2.800	5.750	CSRD
Margaritas	Ojo de Agua	2.900	5.000	CSRD
Catazaja	Punta Arena	2.100	4.580	CSRD
Palenque	Progreso	2.500	4.100	CSRD
Tapachula	Mexiquito	2.000	4.000	CSRD
Palenque	Ejido Agua Blanca	3.000	4.570	CSRD

Estado: GUANAJUATO

Irapuato	Hacienda de Marquez	1.855	11.899	CSRD
Penjamo	Potrerrillo del Río	1.545	7.205	CSRD
Salamanca	Tinaja	1.545	7.205	CSRD
Tarimoro	La Noria	1.943	4.191	CSRD
Silao	Trejo	1.878	6.434	CSRD
Valle de Santiago	Noria de Mosqueda	2.379	5.369	CSRD

Estado: GUERRERO

Taxco	Cacalotenango	1.900	4.400	CSRD
Taxco	Huahuaxtla	1.950	4.100	CSRD
Acapulco	Cumbres de Figueroa	7.500	17.500	CSU-3
Ometepec	Ometepec	12.000	14.850	CSU-4
Iguala	Iguala	50.000	25.000	CSU-6
Tie José Asuta	Sihtuatanejo	20.000	22.000	CSU-6

<u>Municipio</u>	<u>Localidad</u>	<u>Población</u>		<u>Tipo de Centro</u>
		<u>Sede</u>	<u>Cober- tura</u>	
Estado: <u>HIDALGO</u>				
Zimapán	Lázaro Cárdenas	2.130	6.333	CSRD
Atotonilco el Grande	Sta. Ma. Amajac	2.528	4.278	CSRD
San Salvador	Sta. Ma. Amajac	3.298	4.525	CSRC-2
Pachuca	Santiago Tlapaloya	2.616	6.129	CSRC-2
Guautepec	Santa Ma. Nativitas	2.095	8.472	CSRD
Estado: <u>JALISCO</u>				
Guadalajara	Col. Bethel	20.000	20.000	CSU-6
Guadalajara	Col. Ramirez Ladewing	20.000	20.000	CSU-6
Guadalajara	Col. Lomas de Tepeyac	25.000	25.000	CSU-6
Guadalajara	Col. Hermosa	25.000	25.000	CSU-6
Guadalajara	Col. Olimpica	60.000	60.000	CSU-6
Guadalajara	Col. Atlas	30.000	30.000	CSU-6
Degollado	Huascato	1.490	3.846	CSRD
Tolimán	Copala	2.687	3.100	CSRC-1
Zaputlanejo	Santa Fe	1.928	5.566	CSRD
Poncitlán	S. Pedro Itzicán	2.500	3.558	CSRC-1
Poncitlán	Cuitzeo	3.070	3.897	CSRC-1
Chapala	Atotonilquillo	6.100	6.100	CSRC-1
Teocuitatlán de Corona	S. José de Gracia	4.139	4.595	CSRC-1
Tonila	S. Marcos	3.008	3.008	CSRC-1
Jolotepec	S. Juan Cosala	4.958	6.784	CSRC-1
Tlajomulco	Sta. Cruz del Valle	4.808	5.657	CSRC-1
Tlajomulco	S. Sebastián el Gde.	4.630	5.174	CSRC-1
S. Martín Hidalgo	El Salitre	4.607	4.607	CSRC-1
Ameca	S. Antonio Matute	2.586	3.262	CSRC-1
Casimiro Castillo	Tecomates	1.672	5.046	CSRD

<u>Municipio</u>	<u>Localidad</u>	<u>Población</u>		<u>Tipo de Centro</u>
		<u>Sede</u>	<u>Cober- tura</u>	
Estado: <u>JALISCO</u> (Cont.)				
Tomatlán	El Tule	1.544	5.097	CSRD
Ameca	El Texcalame	1.757	3.564	CSRD
Zapopán	Col. Agua Blanca	5.000	8.000	CSU-2
Zapopán	Col. Cd. Granja	15.001	10.000	CSU-3
Zapopán	Col. Las Pirámides	9.000	9.000	CSU-4
Zapopán	Col. La Martinica	7.000	7.000	CSU-2
Zapopán	Col. Lomas de la Cant.	12.000	12.000	CSU-4
Zapopán	Col. Masa Colorada	7.500	7.500	CSU-2
Zapopán	Col. Arroyo Hondo	14.500	14.500	CSU-4
Zapopán	Col. Sta. Ma. Pueblitos	6.000	6.000	CSU-2
Zapopán	Col. Jocotán	8.800	8.800	CSU-2
Zapopán	La Venta del Astilleros	6.000	7.019	CSRC-1
Zapopán	Col. S. José de Bají	8.220	8.220	CSRC-1
Zapopán	Col. Santa Fé	6.120	6.120	CSRC-1
Ahualulco del Mercado	Emilio Portes Gil	2.579	4.812	CSRC-1
Cuautitlán	Manantlán	2.797	4.812	CSRC-1
Puerto Vallarta	Col. El Pitillal	7.521	8.027	CSU-2
Zapopán	Col. Las Parcelas	7.000	7.000	CSU-2

Estado: MEXICO

Atizapán de Zaragoza	México Nuevo	22.744	34.019	CSU-5
V. Nicolás Romero	Francisco Sarabia	16.787	32.763	CSU-5
Temascalcingo	Mesa de Sta. Ana (Yenshu)	3.541	3.541	CSRD
Acambay	Boshindo	2.893	3.823	CSRD
Ecatepec	Ecatepec	36.561	40.000	CSU-5
San Felipe del Prog.	Calvario del Carmen	1.700	5.908	CSRD
San Felipe del Prog.	Rio Hoyos Buenavista	2.140	4.196	CSRD

<u>Municipio</u>	<u>Localidad</u>	<u>Población</u>		<u>Tipo de Centro</u>
		<u>Sede</u>	<u>Cober- tura</u>	
Estado: <u>MEXICO</u> (Cont.)				
San Felipe del Prog.	Purísima Concepción M	2.004	3.082	CSRD
San Felipe del Prog.	Dolores Hidalgo	3.086	2.597	CSRD
Ixtlahuaca	Edelfonso	1.629	3.829	CSRD
Ixtlahuaca	Miguel Enyeje	1.684	4.184	CSRD
Aculco	San Lucas Totolmaloya	2.011	3.858	CSRD
Aculco	Arroyo Zarco	2.044	4.514	CSRD
Netzahualcoyotl	Aguilas	46.932	56.998	CSU-6
Netzahualcoyotl	Metropolitana	36.367	36.575	CSU-5
Texcoco	Cuautlalpán	2.363	4.949	CSRD
Ocolmán	Chipiltepec	2.791	3.191	CSRD
Almoloya de Juarez	S. Agustín Zitlali	2.744	2.744	CSRD
Toluca	Col. Benito Juarez	15.055	39.520	CSU-6
Toluca	Seminario	16.396	38.227	CSU-6
Huixquilucán	Zacamulpán	1.765	2.721	CSRD
Huixquilucán	S. Bartolo Coatepec	1.978	3.355	CSRD
Estado: <u>MORELOS</u>				
Temixco	Temixco	9.268	18.536	CSU-2
Jiutepec	Tejalpa	12.168	19.348	CSRC-3
Temixco	Acatlipa	7.543	12.724	CSRC-2
Temixco	Villa de las Flores	15.000	15.000	CSRC-2
Cuernavaca	Col. La Carolina	4.400	16.900	CSRC-3 + Lab.
Cuernavaca	Chipitlán	3.375	8.250	CSRC-3
Cuernavaca	Col. Flores Magón	7.000	7.000	CSU-2

<u>Municipio</u>	<u>Localidad</u>	<u>Población</u>		<u>Tipo de Centro</u>
		<u>Sede</u>	<u>Cober- tura</u>	
Estado: <u>OAXACA</u>				
S.J.B. Atatlahuaca	S.J.B. Atatlahuaca	2.220	4.920	CSRD
S. Jerónimo Taviche	S. Jerónimo Taviche	2.240	3.120	CSRD
S. Juan Comaltepec	S. Juan Comaltepec	1.712	2.552	CSRD
Sta. Catarina Loxicha	Sta. Catarina Loxicha	1.820	2.625	CSRD
S. Bartolomé Loxicha	S. Bartolomé Loxicha	1.993	2.033	CSRD
S. Antonio Sinicahua	S. Antonio Sinicahua	1.482	3.332	CSRD
Sta. Ma. Zoquitlán	Sta. Ma. Zoquitlán	1.955	4.277	CSRD
Nejapa de Madero	Nejapa de Madero	2.253	4.551	CSRD
S. Lucas Camotlán	S. Lucas Camotlán	1.551	2.913	CSRD
Sta. Ma. Guiegozani	Sta. Ma. Guiegozani	2.013	3.427	CSRD
Mixistlán de la Reforma	Mixistlán de la Reforma	1.715	3.301	CSRD

Estado: PUEBLA

Juan C. Bonilla	Acatepec	3.129	11.956	CSRC-2
S. A. Cholula	Zacatepec	4.360	5.543	CSRC-1
Puebla	Col. Providencia	26.789	26.789	CSRC-6
Puebla	Col. B. Campeche	21.818	21.813	CSU-6
Puebla	S. Fco. Hueyotlipán	7.423	19.587	CSU-6
Amozoc	Amozoc	7.027	13.591	CSU-4
Amozoc	Chachapa	5.072	5.999	CSU-1
Acajate	Acajate	6.311	13.769	CSRC-2
Acteopán	Acteopán	2.491	3.116	CSRD
Tepexco	Calmecca	3.921	3.868	CSRC-1
Eloxochitlán	Eloxochitlán	1.639	6.187	CSRD
Acatzingo	S.S. Villanueva	3.250	4.400	CSRC-1
Cuapiaxtla de Morelos	Cuapiaxtla	3.262	4.046	CSRC-1
Tocatepec	S. M. Caltengo	2.964	3.634	CSRC-1

<u>Municipio</u>	<u>Localidad</u>	<u>Población</u>		<u>Tipo de Centro</u>
		<u>Sede</u>	<u>Cober- tura</u>	
Estado: <u>PUEBLA</u> (Cont.)				
Puebla	Totimehuacan	12.078	12.078	CSU-4
Los Reyes de Juarez	Los Reyes de Juarez	5.251	10.566	CSRC-2
Ahuazotepec	Beristain	2.150	3.175	CSRD
Tlapacoya	Tlamaya Grande	1.596	4.701	CSRD
Tepetzintla	Tlamanca de Hernández	2.170	6.341	CSRD
Teziutlán	S. Sebastián	2.333	3.787	CSRD
Olintla	Vicente Guerrero	3.992	6.771	CSRC-1
Huehuetla	Ozolonacaxtla	2.702	4.204	CSRC-1
Zoquiapán	Zoquiapán	2.261	2.703	CSRD
Guadalupe	Mixquitepec	1.676	3.786	CSRD
S. Salvador el Seco	Coatepec	4.121	6.504	CSRC-1
Nopalucán	Sta. Ma. Ixtiyucán	3.984	5.064	CSRC-1
Coronango	Coronango	5.727	17.022	CSU-2
Cuautlalcingo	S.J. Cuautlalcingo	7.241	15.611	CSU-2
Ocoyucán	Sta. C. Ocoyucán	3.929	7.960	CSRC-1

Estado: QUINTANA ROO

Benito Juarez	Ciudad Cancun	5.429	15.427	CSU-5
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Estado: TABASCO

Comalcalco	Tecolutilla	6.188	6.398	CSRC-1
Cunduacán	Ejido 2 Letras	2.000	5.581	CSRD
Jalpa de Mendez	Jalpa de Mendez	2.000	7.853	CSRD

Subprograma de Desarrollo de la Capacidad Operativa

Términos de Referencia de los Participantes

1. Ingestigación Evaluativa de Servicios de Salud y de la Demanda.

- Investigadores: Deberán ser profesionales en las áreas de salud o sociología, con capacitación de postgrado en investigación y experiencia mínima de cinco años. Tendrán las funciones de (a) elaborar el protocolo nacional; (b) adiestrar a los responsables de la investigación en los estados y a los investigadores ayudantes; (c) revisar y validar los protocolos estatales; (d) desarrollar el protocolo general permanente.
- Ayudantes de Investigadores: deberán ser profesionales en las áreas de salud o sociología, con capacitación de postgrado en investigación, no siendo necesaria la experiencia previa en dicho campo. Tendrán las funciones de (a) recabar información para la elaboración del protocolo; (b) adiestrar a encuestadores; (c) supervisar la prueba preliminar de la investigación y su aplicación permanente; (d) presentar informes de la prueba preliminar y de la investigación.
- Encuestadores Codificadores: deberán ser técnicos de nivel medio o con preparatoria terminada y con experiencia mínima de un año en trabajo comunitario. Sus funciones serán las de (a) aplicar la encuesta en la comunidad; (b) codificar las encuestas.
- Asesores Nacionales: deberán ser médicos o sociólogos con estudios de postgrado en investigación y con experiencia de diez años en la aplicación del tipo de investigación que se requiere para esta área programática. Desempeñarán las funciones de (a) coordinar la participación de todo el personal que tomará parte en la investigación; (b) consolidar los documentos definitivos del estudio piloto y del esquema permanente de investigación; (c) evaluar el equipo de investigación; (d) supervisar la aplicación de la investigación.
- Administrador: deberá ser un contador público con dos años de experiencia y conocimiento de terminología de investigación. Su función será llevar el control administrativo de la investigación.
- Secretarias: deberán ser taquimecanógrafas con dos años de experiencia y desempeñarán la función de proporcionar apoyo mecanográfico para la investigación.
- Choferes: deberá ser personal masculino con licencia para conducir transporte público, cinco años de experiencia y con disposición para

viajar. Su función será la de transportar al personal de investigación.

2. Capacitación de Recursos Humanos

- Asesores para el 1er. y 2do. nivel: deberán ser pedagogos profesionales especializados en la capacitación de recursos y con 5 años de experiencia en este campo. Sus funciones serán las de desarrollar el programa de trabajo en materia de capacitación técnica.
- Profesionales en capacitación para el 1er. y 2do. nivel: deberán ser profesionales especializados en el curso que impartirán y con experiencia previa en la materia. Sus funciones consistirán en capacitar a los adiestradores estatales y a los funcionarios de las nuevas unidades.

3. Supervisión y Evaluación

- Asesores Nacionales: médicos especializados en el área de evaluación, y/o médicos especializados en el diseño de modelos y sistemas de supervisión, ambos con experiencia en administración de servicios de salud. Sus funciones serán las de (a) elaborar el programa a desarrollar, conjuntamente con el responsable del área programática; (b) revisar los modelos de evaluación y supervisión de los servicios de salud y proponer las modificaciones necesarias; (c) determinar los procedimientos operativos por niveles; (d) asesorar a las otras áreas de programáticas en la elaboración de esquemas de evaluación y supervisión en sus respectivos programas; (e) coordinar la participación del personal técnico nacional en la elaboración, implantación y desarrollo de los procedimientos; (f) prestar asesoramiento y participar en el diseño y desarrollo de los cursos de capacitación en materia de evaluación y supervisión.
- Técnicos: profesionales licenciados en medicina, sociología o en ingeniería con una maestría en salud pública o en administración de hospitales, o profesionales en administración pública, con experiencia en actividades de salud pública, tanto a nivel normativo como operativo. Desempeñarán las funciones de (a) desarrollar los modelos de evaluación y supervisión; (b) elaborar los procedimientos de supervisión y evaluación por niveles operativos; (c) participar, como expositores, en los cursos de capacitación que se realicen; (d) supervisar la instrumentación y el desarrollo del programa en las entidades federativas; (e) elaborar y consolidar los informes que se deriven de las acciones realizadas y los que les sean solicitados.

4. Participación Comunitaria

- Asesores Nacionales: deberán ser médicos o sociólogos con estudios de postgrado en áreas afines a la participación comunitaria y con

una experiencia de 10 años en trabajos de comunidad. Sus funciones consistirán en (a) desarrollar el modelo operativo de participación comunitaria; (b) pone en práctica dicho modelo; (c) evaluar los resultados.

- Educadores para la Salud o Técnicos: estarán capacitados y calificados en áreas de educación para la salud o promoción de la salud, con dos años de experiencia, licencia para conducir transporte público y conocimiento de mantenimiento automotriz y de equipo. Sus funciones serán las de desarrollar la tarea promocional con unidades móviles.

DESCGLOSE COSTO TOTAL COMPONENTE DESARROLLO CAPACIDAD OPERATIVA

(U.S. DOLARES)

AREA PROGRAMATICA	FASE: FORTALECIMIENTO DE LA INFRAESTRUCTURA (I)	FASE: APLICACION Y CONSOLIDACION (II)	TOTAL (I) + (II)
1. Investigación Evaluativa De Servicios de Salud.	156,129.6	603,473.2	759,602
2. Capacitación	236,399.8	388,850.7	625,250
3. Supervisión y Evaluación	68,590.2	540,374.4	608,964
4. Participación Comunitaria.	290,463.6	311,392.6	601,856
T O T A L	751,583.2	1'844,090.9	2'595,674

INVESTIGACION EVALUATIVA DE SERVICIOS DE SALUD
(U. S. DOLARES)

	CANTIDAD DE RECURSOS	TIEMPO POR RECURSO (MESES)	MES/RECURSO	COSTO UNITARIO	COSTO NACIONAL	COSTO INTERNACIONAL	COSTO TOTAL
Fase: Fortalecimiento de la Infraestructura					134,189.6	21,940.0	156,129.6
1. a: Diseñar Protocolos de Investigación - Nacional y 12 Estatales.							
RECURSOS							
Humanos:							
Investigador Titular	4	6	24	617.8	14,827.2		
Ayudante de Investigador	8	6	48	450.9	21,643.2		
Encuestador-Codificador	12	2	24	195.9	4,701.6		
Administrador	1	6	6	350.0	2,100.0		
Secretaria	5	6	30	144.0	4,320.0		
Chofer	2	6	12	115.0	1,380.0		
Asesor							
Nacional	2	6	12	617.8	7,413.6		
Internacional	2	2.5	5	2,000.0		10,000.0	
Viáticos:							
Nacionales	400 días	-	-	61.2	17,880.0		
Internacionales	150 días	-	-	61.2		9,180.0	
Pasajes:							
Nacionales	18 viajes			varios	3,228.0		
Internacionales	2 viajes			varios		2,760.0	
Tecnología:							
Equipo de Cómputo CROMENCO: Sinto 100	1			25,200.0	25,200.0		
Máquinas de Escribir Eléctricas	5			1,272.0	6,360.0		
Camionetas	2			12,568.0	25,136.0		
2. b: Aplicación y Consolidación					514,637.2	88,836.0	603,473.2
3. a: Realizar 12 investigaciones estatales y un resumen de la 1a. etapa.							
RECURSOS							
Humanos:							
Investigador Titular	4	42	168	617.8	103,790.4		
Ayudante de Investigador	8	42	336	450.9	151,502.4		
Encuestador-Codificador	12	14	168	195.9	32,911.2		
Administrador	1	42	42	350.0	14,700.0		
Secretaria	5	42	210	144.0	30,240.0		
Chofer	2	42	84	115.0	9,660.0		
Asesores							
Nacionales	2	42	84	617.8	51,895.2		
Internacionales	2	10.5	21	2,000.0		42,000.0	
Viáticos:							
Nacionales	1,960 días	-		varios	99,372.0		
Internacionales	630 días	-		61.2		38,556.0	
Pasajes:							
Nacionales	98 viajes			varios	20,566.0		
Internacionales	6 viajes			varios		8,280.0	
TOTAL DEL AREA							758,802.8

CAPACITACION

(U.S. DOLARES)

	CANTIDAD DE RECURSOS	TIEMPO POR RECURSO (MESES)	MES / RECURSO	COSTO UNITARIO	COSTO NACIONAL	COSTO INTERNACIONAL	COSTO TOTAL
Fase: Fortalecimiento de la Infraestructura					187,607.8	48,792.0	236,399.8
Meta: Adiestrar a 2,077 profesionales y técnicos así como a 702 administrativos del primer nivel, y 1,733 profesionales y técnicos así como a 916 administrativos del segundo nivel.							
RECURSOS							
Humanos							
asesor							
Nacional	4	6	24	617.8	14,827.2		
Internacional	2	6	12	2,000.0		24,000.0	
Profesionales en Capacitación	10	5	50	450.9	22,545.0		
Viáticos							
Nacionales	960 días			varios	50,292.0		
Internacionales	360 días			61.2		22,032.0	
Viajes							
Nacionales	192			varios	5,885.0		
Internacionales	2			varios		2,760.0	
Matrícula							
Monitores T. V.	24			650.0	15,600.0		
Videograbadora	24			600.0	14,400.0		
Equipo de Cómputo CROMEMCO							
C-10	1			1,178.6	1,178.6		
Sistema 100	1			25,200.0	25,200.0		
Material Didáctico							
Manuales (tiraje)	4,000			5.0	20,000.0		
Videocassettes 60'	28			400.0	11,200.0		
Películas 60'	12			540.0	6,480.0		
Fase: Aplicación y Consolidación					388,850.7		388,850.7
Meta: Impartir capacitación continua a 2,077 profesionales y técnicos así como a 702 administrativos del primer nivel, y 1,733 profesionales y técnicos así como a 916 administrativos del segundo nivel.							
RECURSOS							
Humanos							
Profesionales en Capacitación	14	24	335	450.9	151,051.5		
Viáticos							
Nacionales	4,384 días			49.2	215,692.8		
Pasajes							
Nacionales	673 viajes			varios	22,106.4		
TOTAL DEL AREA							625,250.5

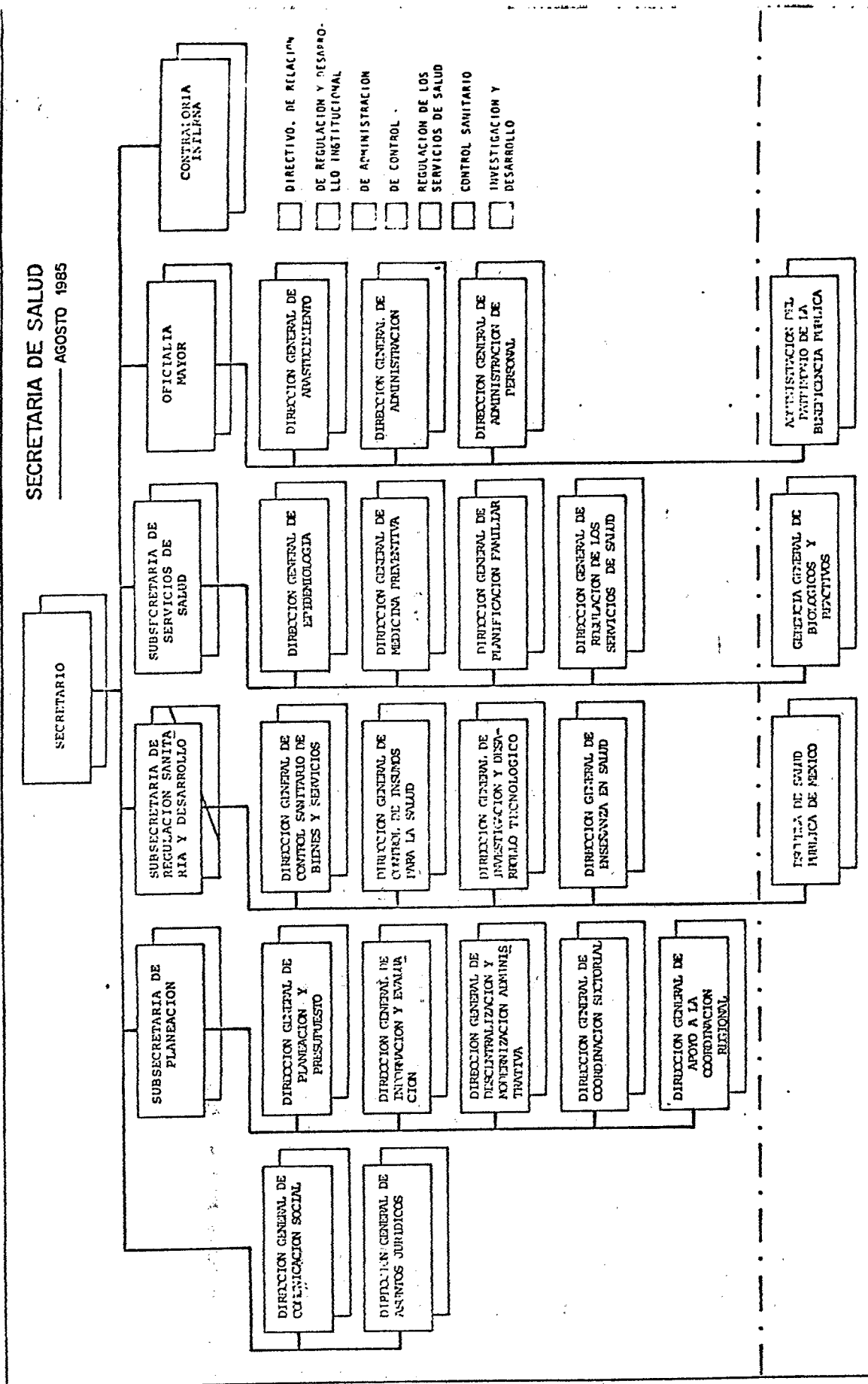
SUPERVISION Y EVALUACION
(U.S. DOLARES)

	CANTIDAD DE RECURSOS	TIEMPO POR RECURSO (MESES)	MES/RECURSO	COSTO UNITARIO	COSTO		COSTO TOTAL
					NACIONAL	INTERNACIONAL	
Fe--: Fortalecimiento de la Infraestructura					35,142.2	33,448.0	68,590.2
Me : Diseñar 1 esquema nacional de supervi- sion y evaluacion y 12 estatales y ca- pacitar supervisores estatales mediante el apoyo de 6 expertos nacionales.							
RECURSOS							
Humanos							
Asesor							
Nacional	2	4	8	617.8	4,942.4		
Internacional	2	4	8	2,000.0		16,000.0	
Técnico en Supervisión y Evaluación	6	2	12	450.9	5,410.8		
Viáticos							
Nacionales	336 días	-	-	varios	18,144.0		
Internacionales	240 días	-	-	61.2		14,688.0	
Pasajes							
Nacionales	60 viajes	-	-	varios	6,645.0		
Internacionales	2 viajes	-	-	varios		2,760.0	
Fa : Aplicación y Consolidación					445,550.4	94,824.0	540,374.4
Me. : Aplicar el esquema nacional de supervi- sion y evaluacion, así como los 12 es- quemas estatales, mediante la realiza- cion de 144 visitas anuales de supervi- sion en los doce estados y 4,332 visi- tas de supervisión locales al año, ade- más de 12 informes estatales de evalua- cion y un concentrado nacional con una periodicidad anual							
RECURSOS							
Humanos							
Asesor							
Nacional	2	24	48	617.8	29,654.4		
Internacional	2	12	24	2,000.0		48,000.0	
Técnico en Supervisión y Evaluación	6	48	288	450.9	129,659.2		
Viáticos							
Nacionales	3,456 días	-	-	varios	175,963.2		
Internacionales	720 días	-	-	61.2		44,064.0	
Pasajes							
Nacionales	1,008 viajes	-	-	varios	110,073.6		
Internacionales	2 viajes	-	-	varios		2,760.0	
TOTAL DEL AREA							608,964.6

PARTICIPACION COMUNITARIA
(U.S. DOLARES)

	CANTIDAD DE RECURSOS	TIEMPO POR RECURSO (MESES)	MES/RECURSO	COSTO UNITARIO	COSTO		COSTO TOTAL
					NACIONAL	INTERNACIONAL	
se: Fortalecimiento de la Infraestructura					273,204.8	17,259.0	290,463.6
ta: Diseño del Programa Nacional y 12 Es- tatales; elaborar material didáctico y capacitar a 46,781 promotores volunta- rios en 1,186 comunidades con una po- blación de 2'863,016 habitantes.							
R E C U R S O S							
Humanos							
Asesores							
Nacional	2	6	12	617.8	7,413.6		
Internacional	1	4	4	2,000.0		8,000.0	
Viáticos							
Nacionales	36 días	-	-	61.2	2,203.2		
Internacionales	120 días	-	-	61.2		7,344.0	
Pasajes							
Nacionales	12 viajes	-	-	varios	1,329.0		
Internacionales	1 viaje	-	-	1,915.0		1,915.0	
Materiales							
Camioneta equipada	12	-	-	20,814.9	249,778.8		
Material Didáctico					12,480.0		
Películas	12	-	-	540.0	6,480.0		
Videocassettes	12	-	-	400.0	4,800.0		
Cassettes (sonido)	12	-	-	100.0	1,200.0		
Fin: Aplicación y Consolidación					278,789.6	32,603.0	311,392.6
ta: Implantar los programas estatales y - ajustar en base a la evaluación.							
R E C U R S O S							
Humanos							
Asesores							
Nacional	1	6	6	617.8	4,942.4		
Internacional	1	6	6	2,000.0		16,000.0	
Técnicos Nacionales	12	48	576	450.9	259,718.4		
Viáticos							
Nacionales	144 días	-	-	61.2	8,812.8		
Internacionales	240 días	-	-	61.2		14,688.0	
Pasajes							
Nacionales	48 viajes	-	-	varios	5,316.0		
Internacionales	1 viaje	-	-	1,915.0		1,915.0	
TOTAL DEL AREA							801,856.2

SECRETARIA DE SALUD
AGOSTO 1985



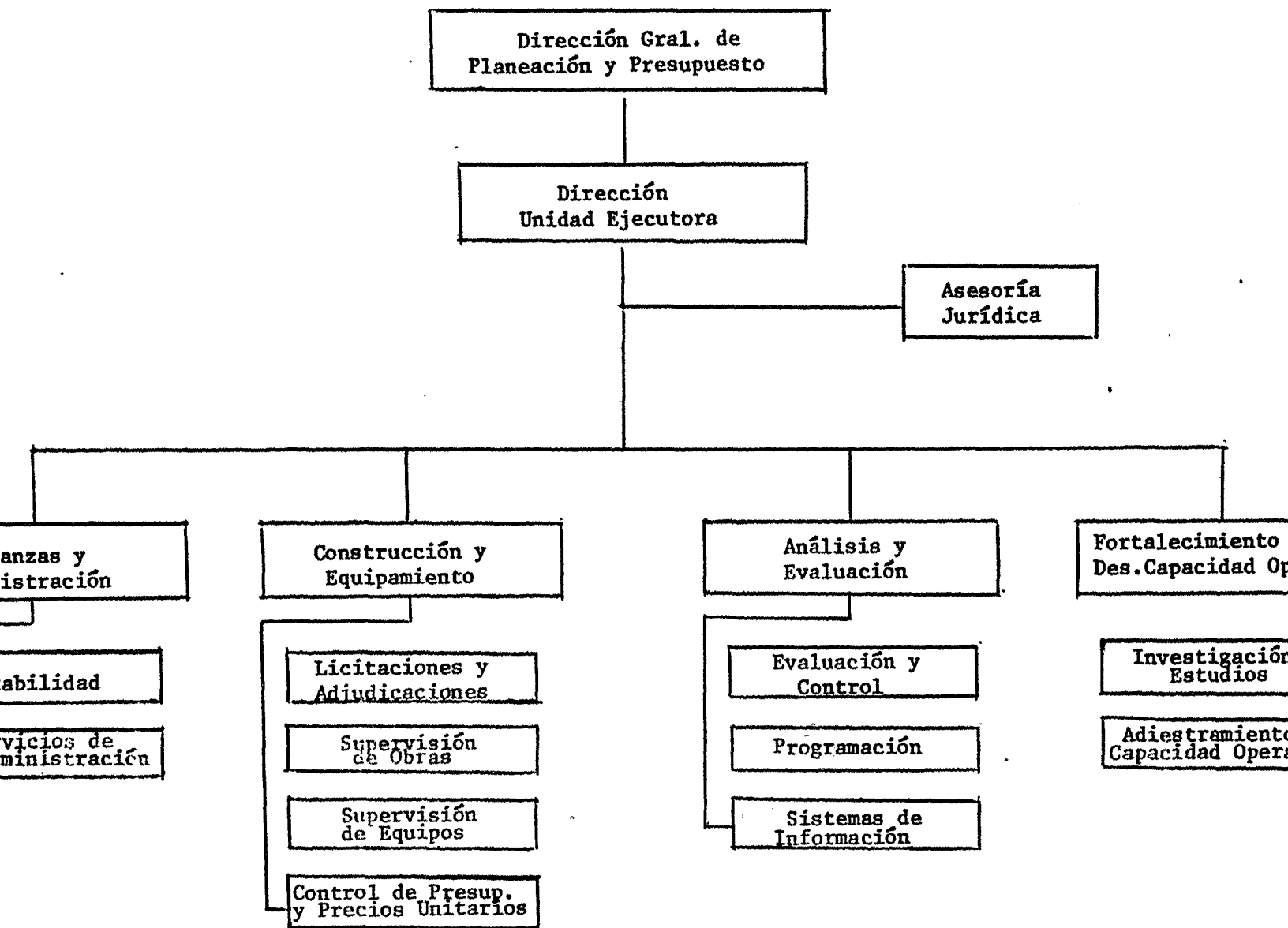
ENTIDADES FEDERATIVAS DESCENTRALIZADAS
CON ACUERDOS DE CONFINANCIAMIENTOS

Al 15 de Septiembre de 1985

<u>Entidad Federativa</u>	<u>Fecha de Acuerdo</u>	<u>Monto de Financiamiento</u>									
		<u>Gastos de Capital</u> ✓					<u>Gastos de Operación</u>				
		<u>(Millones de US\$)</u>									
		<u>Federal</u>	<u>%</u>	<u>Estatal</u>	<u>%</u>	<u>Total</u>	<u>Federal</u>	<u>%</u>	<u>Estatal</u>	<u>%</u>	<u>Total</u>
Baja California	27-Mar-85	2.04	87.6	0.29	12.4	2.33	5.70	96.0	0.24	4.0	5.94
Campeche	23-Jul-85	1.78	80.5	0.43	19.5	2.21	1.42	99.3	0.01	0.7	1.43
Hidalgo	10-Jul-85	2.70	82.3	0.58	17.7	3.28	4.42	98.7	0.06	1.3	4.48
Michoacán	2-Ago-85	2.10	98.1	0.04	1.9	2.14	4.16	99.3	0.03	0.7	4.19
Morales	1-Oct-85	1.52	34.5	2.88	65.5	4.40	1.61	95.8	0.07	4.2	1.68
Nuevo León	22-Jul-85	5.06	39.8	7.65	60.2	12.71	7.01	94.0	0.45	6.0	7.46
Oaxaca	21-Mar-85	4.19	91.3	0.40	8.7	4.59	6.32	94.0	0.41	6.0	6.73
Puebla	27-Mar-85	2.02	86.7	0.31	13.3	2.33	3.43	91.7	0.31	8.3	3.74
Queretaro	23-Feb-85	1.18	82.5	0.25	17.5	1.43	2.08	92.9	0.16	7.1	2.24
San Luis Potosí	25-Jun-85	1.36	81.4	0.31	18.6	1.67	2.37	97.9	0.05	2.1	2.42
Tamaulipas	3-May-85	2.35	64.9	1.27	35.1	3.62	5.14	97.9	0.11	2.1	5.25
Zacatecas	24-Abr-85	1.47	93.0	0.11	7.0	1.58	2.60	98.9	0.03	1.1	2.63

Tasa de Cambio MX\$400 = US\$1.00

Organigrama de la Unidad Ejecutora-Proyecto BID



REQUERIMIENTOS DE LA UNIDAD
EJECUTORA Y COSTOS RESPECTIVOS

UNIDAD EJECUTORA
RESUMEN DE COSTOS

(en US\$)

	ANO 1	ANO 2	ANO 3	ANO 4	TOTAL
PERSONAL	243400	264400	266200	266200	1040200
GASTOS CORRIENTES	141800	182600	214200	219200	757800
EQUIPO Y MOBILIARIO	102000	0	0	0	102000
TOTAL	487200	447000	480400	485400	1900000

UNIDAD EJECUTORA

COSTO DE PERSONAL

(EN MILES DE US\$)

	NO.DE PERSONAL	COSTO UNITARIO	ANO 1	ANO 2	ANO 3	ANO 4	TOTAL
DIRECCION							
=====							
TITULAR	1	24500	24500	24500	24500	24500	98000
SECRETARIA	1	2700	2700	2700	2700	2700	10800
RECEPCIONISTA	1	1900	1900	1900	1900	1900	7600
TOTAL DIRECCION	3		29100	29100	29100	29100	116400
FINANZAS Y ADMINISTRACION							
JEFATURA	1	16250	16250	16250	16250	16250	65000
JEFE DE CONTABILIDAD	1	8000	8000	8000	8000	8000	32000
CONTADORES	2	2400	2400	4800	4800	4800	16800
MECANOGRAFA	2	2000	2000	4000	4000	4000	14000
AUXILIAR ADMINISTRATIVO	2	1800	1800	3600	3600	3600	12600
CHOFERES	4	1800	3600	5400	7200	7200	23400
SECRETARIA	1	2100	2100	2100	2100	2100	8400
AUXILIARIES DE SERVICIOS GENERALES	2	1800	1800	3600	3600	3600	12600
TOTAL FINANZAS Y ADMINISTRACION	15		37950	47750	49550	49550	184800
CONSTRUCCION Y EQUIPAMIENTO							
JEFATURA	1	16250	16250	16250	16250	16250	65000
JEFE LICITACIONES Y ADJUDICACIONES	1	8000	8000	8000	8000	8000	32000
ABOGADO	1	2800	2800	2800	2800	2800	11200
ARQUITECTO	1	2800	2800	2800	2800	2800	11200
JEFE DE SUPERVISION DE OBRAS	1	8000	8000	8000	8000	8000	32000
SUPERVISORES	6	2800	5600	16800	16800	16800	56000
JEFE CONTROL Y SEGUIMIENTO EQUIPO	1	8000	8000	8000	8000	8000	32000
ESPECIALISTA EN EQUIPAMIENTO	1	2800	2800	2800	2800	2800	11200
TECNICOS	2	2800	5600	5600	5600	5600	22400
JEFE PRESUP.BASE Y PRECIOS UNITARIOS	1	8000	8000	8000	8000	8000	32000
ARQUITECTOS	1	2800	2800	2800	2800	2800	11200
INGENIERO CIVIL	1	2800	2800	2800	2800	2800	11200
SECRETARIA	1	2100	2100	2100	2100	2100	8400
MECANOGRAFA	2	2000	4000	4000	4000	4000	16000
TOTAL CONSTRUCCION Y EQUIPAMIENTO	21		79550	90750	90750	90750	351800

ANALISIS Y EVALUACION

JEFATURA	1	16250	16250	16250	16250	16250	65000
JEFE DE EVALUACION Y CONTROL	1	8000	8000	8000	8000	8000	32000
ECONOMISTA	1	2800	2800	2800	2800	2800	11200
JEFE DE PROGRAMACION	1	8000	8000	8000	8000	8000	32000
MEDICO ADMINISTRADOR	1	2800	2800	2800	2800	2800	11200
JEFE DE SISTEMAS DE INFORMACION	1	8000	8000	8000	8000	8000	32000
PROGRAMADOR	1	2800	2800	2800	2800	2800	11200
CAPTURISTA	1	2100	2100	2100	2100	2100	8400
SECRETARIA	1	2100	2100	2100	2100	2100	8400
MECANOGRAFA	2	2000	2000	2000	2000	2000	8000

ANALISIS Y EVALUACION

11 54850 54850 54850 54850 219400

FORTALECIMIENTO INSTITUCIONAL Y
ESTUDIOS SOCIOECONOMICOS

JEFATURA	1	16250	16250	16250	16250	16250	65000
JEFE DE ELABORACION DE ESTUDIOS	1	8000	8000	8000	8000	8000	32000
ECONOMISTA	1	2800	2800	2800	2800	2800	11200
JEFE FORTALECIMIENTO INSTITUCIONAL	1	8000	8000	8000	8000	8000	32000
ESPECIALISTA EN ADIESTRAMIENTO	1	2800	2800	2800	2800	2800	11200
SECRETARIA	1	2100	2100	2100	2100	2100	8400
MECANOGRAFA	1	2000	2000	2000	2000	2000	8000

TOTAL FORTALECIMIENTO INSTITUCIONAL Y
ESTUDIOS SOCIOECONOMICOS

7 41950 41950 41950 41950 167800

TOTAL PERSONAL

57 243400 264400 266200 266200 1040200

UNIDAD EJECUTORA

GASTOS CORRIENTES

(EN MILES DE US\$)

	COSTO UNITARIO	ANO 1	ANO 2	ANO 3	ANO 4	TOTAL
RENTA DE OFICINAS	20000	20000	20000	20000	20000	80000
INSUMOS OFICINA (PAPELERIA DIVERSA)		1800	2000	3000	3000	9800
FOTOCOPIADORA XEROX 7000						
RENTA MENSUAL	250	3000	3000	3000	3000	12000
30000 COPIAS/MES		7200	9600	12000	12000	40800
VEHICULOS (GASTOS OPERACION)						
SEGURO	3000	3000	3000	3000	3000	12000
COMBUSTIBLE		7200	9600	12000	12000	40800
MANTENIMIENTO		2400	3200	4000	4000	13600
GASTOS DE SUPERVISION						
VIATICOS		70000	90000	100000	100000	360000
TRANSPORTACION		20000	35000	50000	55000	160000
COMUNICACIONES						
LINEAS TELEFONICAS (9)						
SERVICIO	4500	4500	4500	4500	4500	18000
RENTA MENSUAL	2700	2700	2700	2700	2700	10800
TOTAL		141800	182600	214200	219200	757800

UNIDAD EJECUTORA
EQUIPO Y MOBILIARIO
(EN MILES DE US\$)

	COSTO		ANO 1	ANO 2	ANO 3	ANO 4	TOTAL
	CANTIDAD	UNITARIO					
COMPUTADORA CON SOFTWARE	1	15000	15000	0	0	0	15000
ESCRITORIO EJECUTIVO	15	300	4500	0	0	0	4500
SILLON EJECUTIVO	15	125	1875	0	0	0	1875
SILLAS FIJAS	50	75	3750	0	0	0	3750
CREDENZAS	4	360	1440	0	0	0	1440
ESCRITORIO ANALISTA	25	150	3750	0	0	0	3750
SILLON FIJO	25	75	1875	0	0	0	1875
ESCRITORIO SECRETARIAL	13	77	1001	0	0	0	1001
SILLA SECRETARIAL	13	45	585	0	0	0	585
ARCHIVERO 4 GAVETAS	13	100	1300	0	0	0	1300
MAQUINAS DE ESCRIBIR	13	800	10400	0	0	0	10400
MESA DE JUNTAS C/8 SILLAS	1	1100	1100	0	0	0	1100
CESTO DE BASURA	50	25	1250	0	0	0	1250
PERCHERO	15	22	330	0	0	0	330
ENGARGOLADORA	1	600	600	0	0	0	600
GUILLOTINA	1	45	45	0	0	0	45
LIBRERO	1	225	225	0	0	0	225
MESA PARA TELEFONO	16	25	400	0	0	0	400
SALA DE RECEPCION	1	500	500	0	0	0	500
RELOJ CORRESPONDENCIA	1	300	300	0	0	0	300
CALCULADORA CON IMPRESORA	10	325	3250	0	0	0	3250
SACAPUNTAS	4	15	60	0	0	0	60
ENFRIADOR CALENTADOR AGUA	2	400	800	0	0	0	800
VEHICULOS:							
SEVAN (4 CILINDROS)	3	7000	21000	0	0	0	21000
PICK UP (6 CILINDROS)	2	9500	19000	0	0	0	19000
MISCELANEOS		7664	7664	0	0	0	7664
TOTAL	290	44853	102000	0	0	0	102000

Necesidades en Recursos Humanos, Equipo y Materiales en
cada fase del Subprograma de Desarrollo de la Capacidad Operativa

I. Investigación Evaluativa de Salud y de la Demanda

A. Fase de Fortalecimiento de la Infraestructura

1. 2 Asesores Internacionales por 2,5 meses = 5 m/h, cuyos servicios serían financiados por la PNUD a través de la OPS
2 Asesores Nacionales por 6 meses = 12m/h.

Sus funciones serán:

- a) Coordinar la participación de todo el grupo.
- b) Colaborar en la selección de los estados que participarán.
- c) Colaborar en la preparación del informe.
- d) Supervisar la administración de la investigación.
- e) Asesorar a los investigadores.

2. Investigadores Titulares 4 por 6 meses = 24m/h.

Sus funciones serán:

- a) Elaborar el protocolo de la investigación.
- b) Adiestrar a funcionarios estatales y ayudantes de investigador.
- c) Revisar y validar los protocolos estatales.

3. Ayudantes de investigador 8 por 6 meses = 48m/h.

Sus funciones serán:

- a) Preparar los protocolos con las indicaciones de los investigadores.
- b) Adiestrar a los encuestadores.
- c) Supervisar el piloteo de la investigación.

4. Encuestadores/codificadores 12 por 2 meses = 24m/h.

Sus funciones serán:

- a) Aplicar el piloteo de la investigación.
- b) Identificar las áreas de operación.
- c) Codificar la encuesta.

5. Secretarias 5 por 6 meses = 30m/h.
Apoyo mecanográfico.

6. Choferes 2 por 6 meses = 12 m/h.
Transporte personal.

Equipo (paras las tres fases):

- 1 equipo de minicomputación
- 5 máquinas de escribir
- 2 camionetas para transporte

B. Fase de aplicación y consolidación:

1. 2 Asesores Internacionales por 10,5 meses = m/h cuyos servicios serían financiados por la PNUD a través de la OPS
2 Asesores Nacionales 1 por 18 meses = 18m/h
Para asesorar en todas las fases de la investigación y colaborar en la capacitación del personal

2. Investigadores Titulares 4 por 36 meses = total 144 m/h.

Sus funciones principales serán:

- a) Asesorar a investigadores estatales
- b) Revisar y ajustar la investigación
- c) Revisar y actualizar los manuales
- d) Desarrollar el esquema permanente.

3. Ayudantes de Investigador 8 por 36 meses = 288 m/h.
Ayudarán a los investigadores en sus funciones.

4. Encuestadores codificadores 12 por 14 meses cada uno = 168 m/h

Para la aplicación de la investigación en el campo y su codificación.

5. Administrador 1 por 2 meses = 2 m/h.

Dirigirá todos los aspectos administrativos de la investigación.

6. Secretarias 5 por 36 meses = 180 m/h.

7. Choferes 2 por 36 meses = 72 m/h.

C. Fase de Integración

Será una función continua financiada por la SSA.

II. Capacitación de Recursos Humanos

A. Fase de fortalecimiento de la infraestructura

1. Asesores:

4 asesores nacionales para la capacitación técnica del primer y segundo nivel, para personal técnico y administrativo, por 6 meses cada uno = 24 m/h. primer y uno para el segundo nivel 6 meses cada uno = 12 m/h.
Dos asesores internacionales, uno técnico y el otro administrativo por 6 meses cada uno, cuyos servicios serían financiados por la PNUD a través de la OPS.

Sus funciones serán colaborar en la preparación de los programas y esquemas de capacitación de los cuatro grupos y en la selección de los estados en que se llevará a cabo el adiestramiento y su secuencia.

2. Técnicos de Capacitación 10 por 5 meses cada uno = 50 m/h.

Prepararán a capacitadores estatales y a personal seleccionado de las diversas unidades en los estados participantes.

Equipo y Materiales (para las tres fases):

24 monitores de TV
24 Video cassettes
1 Minicomputadora.
12 Películas

B. Fase de Aplicación y Consolidación

1. Técnicos en Capacitación 14 por 24 meses cada uno = 336 m/h

Realizarán la capacitación de las diversas unidades de los estados seleccionados, tanto las existentes como las nuevas y prepararán capacitadores estatales.

C. Fase de Integración

Será función permanente de la SSA.

III. Supervisión y Evaluación

A. Fase del Fortalecimiento de la Infraestructura

1. 2 Asesores Internacionales por 4 meses cada uno = 8 m/h
2 Asesores Nacionales - por 6 meses = 12 m/h.
Sus funciones serán:
Elaborar el esquema de supervisión y evaluación y capacitar a los funcionarios que servirán de supervisores y evaluadores.
2. Técnicos en Supervisión y Evaluación - 6 por 2 meses = 12 m/h.
Sus funciones serán:
Identificar las áreas de acción y recibirán la capacitación que les permita desarrollar sus funciones en las etapas siguientes.

B. Fase de Aplicación y Consolidación

1. 2 Asesores Internacionales por 12 meses cada uno = 24 m/h.
2 Asesores nacionales - por 20 meses = 40 m/h.
Supervisarán, coordinarán y asesorarán en las actividades de supervisión y evaluación en los diversos estados; harán los reajustes semestrales que sean necesarios y harán la evaluación de los resultados obtenidos.
2. Técnicos en Supervisión y Evaluación
6 por 36 meses cada uno = 216 m/h.
Sus funciones serán:
Aplicar los esquemas de supervisión y evaluación en los estados seleccionados; asesorar a los funcionarios estatales en su práctica; y preparar los informes de progreso.

C. Fase de Integración

Será función permanente de la SSA.

IV. Participación Comunitaria

A. Fase de Fortalecimiento de la Infraestructura

1. 1 Asesor Internacional por 4 meses = 4 m/h.
2 Asesores Nacionales por 6 meses cada uno = 12 m/h.
Sus funciones serán desarrollar el modelo de participación comunitaria.

Equipos y materiales (para las tres fases):

- 12 vehículos con equipo de sonido, cine, TV, videocasetera y planta generadora de electricidad.
- 12 películas
- 12 video cassettes
- 12 grabaciones

B. Fase de Aplicación y Consolidación

1. 1 Asesor Internacional por 8 meses = 8 m/h.
1 Asesores Nacional por 8 meses = 8 m/h.
Sus funciones serán colaborar en poner en operación el modelo de participación comunitaria y hacer su evaluación.
2. Técnicos en educación para la salud: 12 por 36 meses cada uno = 432 m/h.
Llevarán a cabo la tarea de promover a la comunidad, de acuerdo con el modelo preparado.

C. Fase de Integración

Será función permanente de la SSA.

WPC/MD0126
MODELO

ANEXO B

PROCEDIMIENTO DE LICITACIONES PUBLICAS APLICABLE
AL PRESTAMO No. / -ME

Las normas y procedimientos de licitación pública para la adjudicación de contratos de ejecución de obras y para la adquisición de bienes relacionados con (en adelante denominado el "Proyecto" o el "Programa") a ser ejecutado por (en adelante denominado "Organismo Ejecutor"), que se financia parcialmente con los recursos del contrato de préstamo No. serán los siguientes:

A los efectos de este procedimiento se entenderá como:

- (a) Terminación de obras y adquisiciones. Que está terminado el trabajo respecto a cada obra en particular cuando ésta haya sido recibida y aprobada por el Organismo Ejecutor y así haya sido comunicado por escrito al Banco Interamericano de Desarrollo (en adelante denominado el "Banco"). Se entenderá, además, que está terminada la adquisición de un bien cuando éste haya sido recibido en su totalidad, a entera satisfacción del Organismo Ejecutor y asimismo, haya sido igualmente comunicado por escrito al Banco.
- (b) Origen de bienes. Respecto a los materiales y/o equipo por adquirir, su "origen" será el país en el cual se hubieren extraído, cultivado o producido materiales y/o el equipo mediante manufactura, elaboración o montaje. El origen de un artículo "producido" será necesariamente el país en el cual, por medio de dicha manufactura, elaboración o montaje, se obtenga otro artículo comercialmente reconocido que difiera sustancialmente en sus características básicas, propósitos o utilidad de cualquiera de sus componentes importados. La nacionalidad o país de origen de la firma que produce o vende los bienes o el equipo, no es relevante para determinar el origen de éstos.
- (c) Firmas nacionales de países miembros del Banco. Se entenderá que sólo podrá adjudicarse contratos a firmas que estén debidamente constituidas o legalmente organizadas en un país miembro del Banco y que tengan establecido en dicho país el asiento principal de sus negocios, siempre que:
 - (i) Más de un 50% de la propiedad con derecho a participar en las utilidades pertenezca a una o más firmas de tal país y/o de otro país miembro del Banco y/o a ciudadanos o residentes bona fide del país o de otros países miembros del Banco, y que el Banco determine que constituye parte integral de la economía del país miembro en que están situadas, de acuerdo con los criterios que más adelante se señalan. La propiedad con derecho a participar en utilidades podrá establecerse, a juicio del Banco, mediante constancia bona fide hecha por un

funcionario de la firma, debidamente autorizado, sobre la ciudadanía o residencia de los propietarios de la firma. En el caso de sociedades anónimas, el secretario de la sociedad podrá hacer constar, a juicio del Banco, la propiedad con derecho a participar en utilidades. Dicho funcionario podrá tomar, como una de las bases para determinar la ciudadanía, la residencia permanente o los documentos de identidad de los accionistas, siempre que, cuando se trate de un accionista cuya participación social sea decisiva en la sociedad anónima, haga constar también que no tiene conocimiento de otros hechos que puedan hacerle dudar de su elegibilidad por razón de ciudadanía. Para que una firma se considere parte integral de la economía de un país miembro del Banco, según se menciona en el párrafo anterior, se la definirá como una entidad que llena las siguientes condiciones: (1) la totalidad o buena parte de sus directores de operaciones locales, del personal de alto nivel y personal técnico profesional que vaya a intervenir en el Programa deberán ser personas residentes bona fide en el respectivo país; y (2) la firma no necesita llevar de otros países ninguna parte importante de sus equipos de operaciones que sean imprescindibles para desempeñar la labor para la cual vaya a ser contratada;

- (ii) No haya concertado ningún arreglo por el cual una parte sustancial de las utilidades o beneficios tangibles de la firma se destinen a personas que no sean ciudadanos o residentes bona fide de los países miembros del Banco. De acuerdo con este requisito, una firma que haya sido declarada elegible no podrá subcontratar ninguna parte sustancial de las obras con otras firmas que a su vez, no reúnan los anteriores requisitos de elegibilidad; y
- (iii) Por lo menos un 80% de todas las personas que presenten sus servicios amparados por el contrato de construcción sean residentes bona fide de algún país miembro del Banco.
- (d) Excepciones. Sólo podrá omitirse el procedimiento de licitación pública: (i) cuando el valor de las adquisiciones, obras o contratos, no exceda del equivalente de 200,000 dólares; y (ii) en los términos establecidos en el contrato de préstamo;
- (e) Registro. El Organismo Ejecutor tomará como base el padrón vigente de contratistas establecido en la Ley de Obras Públicas y el Padrón de Proveedores establecido en la Ley sobre Adquisiciones, Arrendamientos y Prestación de Servicios relacionados con bienes muebles de los Estados Unidos Mexicanos, los cuáles se encontrarán permanentemente abiertos para registro de contratistas y proveedores, nacionales y extranjeros.

A. LICITACION PUBLICA INTERNACIONAL

Se aplicará el procedimiento de licitación pública internacional que se detalla más adelante cada vez que ello sea procedente de conformidad con

el contrato de préstamo y cada vez que se utilice alguna parte de los recursos de divisas provenientes del financiamiento. Dicho procedimiento se encuadra en las leyes aplicables en los Estados Unidos Mexicanos y las bases específicas de licitación se sujetan a las políticas del Banco y a los propósitos del financiamiento.

1. Convocatoria

El Organismo Ejecutor someterá a licitación pública internacional, la adquisición de maquinaria, equipo y otros bienes, así como la ejecución de obras relacionadas con el a cuyo efecto, en cada caso, publicará una convocatoria para que libremente se presenten proposiciones solventes en sobre cerrado, que será abierto públicamente, a fin de asegurar las mejores condiciones disponibles en cuanto a precio, calidad, financiamiento, oportunidad y demás circunstancias pertinentes. En forma previa a la publicación de las convocatorias, el Banco y el Organismo Ejecutor acordarán el formato que contendrá los elementos básicos, comunes a las convocatorias y circulares que se utilizarán para los contratos de obras y/o adquisiciones financiadas parcialmente con recursos del préstamo. Antes de convocar a la licitación, el Organismo Ejecutor presentará al Banco, para su consideración, el texto de cada convocatoria y de la circular a que hace referencia el numeral 2, así como los planos generales, las especificaciones, los presupuestos, las bases específicas de licitación y los demás documentos necesarios para el concurso a que hace referencia el numeral 4, y en el caso de obras, evidencia de que se tiene posesión legal de los terrenos que posibiliten la construcción de las respectivas obras y/o de las servidumbres u otros derechos pertinentes.

2. Publicación de la Convocatoria

La convocatoria a que se refiere el numeral anterior se publicará en dos de los diarios de mayor circulación de la Ciudad de México y simultáneamente en uno del Estado donde se ejecutarán las obras. Esta convocatoria se hará en forma posterior ó simultáneamente con la entrega de una comunicación circular a las embajadas de todos los países miembros del Banco que tengan representación en los Estados Unidos Mexicanos.

3. Requisitos de la Convocatoria y de la Circular

En el texto de cada convocatoria y circular, con la amplitud conveniente a juicio del Organismo Ejecutor, se indicará como mínimo lo siguiente:

- (a) El nombre del Organismo Ejecutor convocante;
- (b) El objeto y lugar de ejecución de las obras así como el origen de los fondos para financiar el costo de las obras a construir y los bienes a adquirir;
- (c) La descripción general de las obras a construir con volúmenes o cantidades de obra en sus partes principales y en el caso de la adquisición de maquinaria, equipo y materiales, la descripción general de los mismos;

- (d) Información sobre los anticipos;
- (e) El lugar, hora y plazo fijados para que los interesados concurran a retirar, o en su caso, adquirir el paquete de la documentación e información que deberán emplear para presentar sus propuestas, en la inteligencia de que dicho plazo no podrá ser menor de 15 días calendario contados a partir de la fecha de la publicación de la convocatoria;
- (f) La cuota en dinero que deberán cubrir todos los interesados, cuando el Organismo Ejecutor lo juzgue conveniente, para adquirir el paquete de documentación e información a que se refiere el párrafo (e);
- (g) El plazo final de que dispondrán los interesados para entregar al Organismo Ejecutor su propuesta técnica y económica, el cual no podrá ser inferior a 45 días calendario a partir de la fecha de publicación de la convocatoria, siempre y cuando en forma previa o simultánea, las circulares hayan sido entregadas a las embajadas de todos los países miembros del Banco que tengan representación en los Estados Unidos Mexicanos;
- (h) La especialidad que se requiere;
- (i) Los criterios conforme a los cuales se decidirá la adjudicación;
- (j) Los requisitos que deberán cumplir los interesados y que exclusivamente serán los siguientes:
 - (i) capital contable mínimo requerido;
 - (ii) registro en el Padrón de Contratistas de Obras Públicas y/o en el Padrón de Proveedores, o cuando sea el caso, la declaración por escrito señalando que su registro se encuentra en trámite, la fecha de presentación de la solicitud y la especialidad que manifestó así como copia de la solicitud de inscripción con sello o acuse de recibo. Con respecto a los proponentes extranjeros se establecerá, y como tal se hará constar en la circular, que en el caso de que su oferta resultara seleccionada, el cumplimiento de este requisito será condición previa indispensable para firmar el contrato respectivo;
 - (iii) testimonio del Acta Constitutiva y modificaciones en su caso, según naturaleza jurídica;
 - (iv) registro, en su caso, actualizado en la Cámara de la industria que le corresponda. Con respecto a los proponentes extranjeros se establecerá, y como tal se hará constar en la circular, que en el caso de que su oferta resultara seleccionada, el cumplimiento de este requisito será condición previa indispensable para firmar el contrato respectivo;
 - (v) relación de los contratos de obras en vigor que tengan celebrados con su país de origen u otros países tanto con los

Gobiernos como con los particulares, señalando el importe total contratado y el importe por ejercer desglosado por anualidades;

- (vi) capacidad técnica, entendida ésta como la relación de obras ejecutadas o en ejecución, conforme al objeto del contrato;
- (vii) declaración escrita y bajo protesta de decir verdad de no encontrarse en ninguna de las situaciones siguientes:
 - que en su empresa participe el funcionario que deba decidir directamente, o los que le hayan delegado tal facultad, sobre la adjudicación del contrato, o su cónyuge o sus parientes consanguíneos o por afinidad hasta el cuarto grado, sea como accionista, administradores, gerentes, apoderados o comisarios;
 - que por causas imputables a ellos mismos se encuentren en situación de mora, respecto de la ejecución de otra u otras obras públicas que tengan contratadas; y
 - que tengan impedimentos legales.
- (k) Que los interesados que cumplan con los requisitos a que hace referencia el inciso (j) anterior, y adquieran el paquete de documentación e información para el concurso, quedarán automáticamente inscritos en el proceso de adjudicación y tendrán derecho inobjetable para presentar su propuesta.
- (l) En el texto de la circular se señalarán los documentos a que se refiere el último párrafo del numeral 8, que en su oportunidad deberán presentar los proponentes extranjeros para obtener el registro en el Padrón de Contratistas y/o Proveedores; así como la descripción de la especialidad requerida para participar en la licitación.
- (m) Que únicamente podrán participar firmas nacionales y extranjeras que estén debidamente constituidas o legalmente organizadas en un país miembro del Banco y que tengan establecido en dicho país el asiento principal de sus negocios, en los términos del inciso (c) de las definiciones.
- (n) El plazo de ejecución de las obras, indicando la fecha de iniciación de los trabajos y la de terminación de las obras, o en su caso, el plazo de entrega de los bienes.

4. Documentación para el concurso

El paquete de documentación e información para el concurso que se entregará en la oportunidad correspondiente a los concursantes, constará esencialmente de lo siguiente:

- (a) La cantidad por el que debe ser expedido un documento bancario por el proponente con cargo a cualquier institución de banca y crédito, a favor del Organismo Ejecutor, que servirá para garantizar la seriedad de la propuesta que presente el postor;
- (b) Los porcentajes de anticipo, por una sólo vez, para el inicio de los trabajos y el o los correspondientes para la compra de equipo y materiales de instalación permanente, con base en la asignación aprobada en el ejercicio presupuestal de que se trate;
- (c) Fecha de inicio de los trabajos y fecha de terminación;
- (d) Lugar, fecha y hora para la visita al sitio de la obra;
- (e) Proyectos arquitectónicos y de Ingeniería, incluyendo planos y diseños, que se requieran para preparar la proposición; normas de calidad de los materiales y especificaciones de construcción aplicables; catálogo de conceptos, cantidades y unidades de trabajo; relación de conceptos de trabajo, de los cuales deberán presentar análisis y relación de los costos básicos de materiales, mano de obra y maquinaria de construcción que intervienen en los análisis anteriores;
- (f) Relación de materiales y equipos de instalación permanente, que en su caso, proporcione el Organismo Ejecutor;
- (g) El modelo de contrato previamente acordado con el Banco, que el Organismo Ejecutor celebrará con el postor que gane el concurso, el cual deberá incluir cláusulas relativas a:
 - (i) Los procedimientos de ajuste que utilizará el Organismo Ejecutor para compensar aumentos o reducciones en los costos de los trabajos aún no ejecutados, cuando durante la vigencia del contrato ocurran circunstancias de orden económico no previstas en el mismo;
 - (ii) origen de la maquinaria, equipo y bienes que se adquieran para ser utilizados en las obras;
 - (iii) transporte de maquinaria, equipos y materiales que se importarán para el Proyecto;
 - (iv) publicidad sobre las fuentes de financiamiento, de acuerdo a lo que estipule el Contrato de Préstamo;
 - (v) obligación del contratista de no invocar la protección de Gobierno Extranjero;
 - (vi) garantías que deberá presentar el concursante a fin de asegurar la ejecución de las obras y/o el suministro de la maquinaria, equipo u otros bienes, cuando corresponda.

(h) El pliego de especificaciones relativo al concurso, en el que se indicará:

- (i) La manera como elaborar los formularios en los que debe ser presentada la propuesta para la licitación;
- (ii) la documentación requerida en sobre cerrado en forma inviolable, el cual deberá contener lo siguiente:

Documento 1 Demostración de solvencia financiera para la ejecución de la obra mediante estados financieros y posibles líneas de crédito.

Documento 2 Carta dirigida al Organismo Ejecutor que contenga aceptación expresa del postor de los términos y condiciones del concurso.

Documento 3 Aceptación del modelo de contrato con todas sus hojas debidamente firmadas.

Documento 4 Manifestación escrita de conocer el sitio de los trabajos.

Documento 5 Propuesta escrita, la cual incluirá:

- Catálogo de conceptos, unidades de medición, cantidades de trabajo, precios unitarios propuestos e importes parciales y el total de la proposición;
- Datos básicos de costos de materiales, de mano de obra y horarios de maquinaria de construcción;
- Análisis de los precios unitarios de los conceptos de trabajo solicitados;
- Costos indirectos, los que estarán representados como un porcentaje del costo directo; dichos costos se desglosarán en los correspondientes a las administraciones de oficinas centrales y de la obra, seguros, fianzas y financiamiento. Se deberá anexar el análisis del costo financiero y el programa de utilización del personal encargado de la dirección, supervisión y administración de los trabajos;
- Programa de ejecución de obra, técnica y económica;
- Relación de maquinaria y equipo de construcción, indicando si es de su propiedad y su ubicación física.

Documento 6 Garantía de cumplimiento de la propuesta, expresada en un cheque cruzado en la moneda de curso legal de los Estados Unidos Mexicanos.

Documento 7 Aceptación de las especificaciones con todas sus hojas debidamente firmadas.

- (iii) los criterios específicos que se usarán para evaluar las diferentes propuestas incluyendo una indicación de si serán por precio unitario, alzado u otras formas; estos criterios de evaluación se expresarán en términos pecuniarios;
- (iv) que ninguna condición que no aparezca en el pliego de especificaciones será tomada en consideración en la evaluación o estudio de las propuestas;

(i) En el caso circulares aclaratorias.

5. Apertura de Propuestas

El acto de presentación y apertura de propuestas se llevará a cabo en la fecha, lugar y hora establecidos en la convocatoria y será presidido por el servidor público que designe el Organismo Ejecutor, quien será la única autoridad facultada para aceptar o deshechar cualquier proposición de las que se hubieren presentado, en los términos de este procedimiento, y se llevará a cabo en la forma siguiente:

- (a) A la hora establecida se hará la declaración oficial de apertura del concurso y desde ese momento no se recibirán más propuestas.
- (b) Una vez efectuada la presentación de los representantes de las dependencias, organismos e instituciones que asistan al acto, los concursantes al ser nombrados entregarán por sí o por conducto de sus representantes, el sobre cerrado que contenga la propuesta y documentación requerida.
- (c) Se procederá a la apertura del sobre y de inmediato a la revisión de la información, para verificar que esté en regla y que contenga toda la información señalada como obligatoria en el inciso (h) del numeral 4. De no contenerla, se dejará constancia en el acta de la sesión y se procederá a devolver al licitante el sobre y respectiva documentación.

El representante del Organismo Ejecutor que presida el acto, leerá en voz alta, cuando menos el importe total de cada una de las proposiciones admitidas.

- (d) Los participantes en el acto rubricarán todos los documentos de las proposiciones en que se consignen los precios y el importe total de los trabajos motivo del concurso.
- (e) Se entregará a todos los concursantes un recibo por la garantía otorgada.

- (f) Se levantará un acta de esta sesión, que firmarán los representantes del Organismo Ejecutor, de los concursantes asistentes y de las dependencias, organismos e instituciones invitadas que hayan asistido. En dicha acta constarán las propuestas recibidas, así como las que hubieren sido rechazadas y las causas que motivaron el rechazo, y las proposiciones admitidas quedarán en poder del Organismo Ejecutor para su estudio y dictámen y se comunicará a los presentes el lugar, la fecha y hora en que se dará a conocer el fallo y que en caso de que ocurra el evento a que se refiere el segundo párrafo del numeral 8, el Organismo Ejecutor informará oportunamente a los concursantes la nueva fecha para conocer el fallo.

6. Estudio de las propuestas

El Organismo Ejecutor procederá al estudio de las propuestas a fin de determinar las más convenientes, para lo cual tendrá en consideración, además de los precios propuestos, las características técnicas (bajo el punto de vista de eficiencia y calidad). En el caso de suministros, se tendrán también en cuenta los costos que resulten de la colocación de los mismos en los sitios de su empleo, cuando las cotizaciones de los postores correspondan a distintos lugares de entrega. También se considerarán plazos o programas para la ejecución de obras o el suministro; asistencia e instalaciones para mantenimiento y otros factores que fueren considerados convenientes por el Organismo Ejecutor. Estos factores, en la medida de lo posible, deberán expresarse en dinero y de conformidad con los criterios especificados en los documentos de licitación.

7. Margen de preferencia

Podrá aplicarse un margen de preferencia en favor de ofertas de bienes originarios de los Estados Unidos Mexicanos o, según corresponda, países miembros de la Asociación Latinoamérica de Integración (ALADI) conforme con las siguientes normas:

(a) Margen de preferencia nacional.

- (i) Se considerará que un bien es originario de los Estados Unidos Mexicanos cuando el costo total de los materiales, mano de obra y servicios mexicanos empleados en su fabricación represente por lo menos el 40% del costo total del bien;
- (ii) a los efectos de comparación de ofertas, se tendrá como precio de los productos de origen mexicano, el precio de éstos, puestos en obra, una vez deducidos los siguientes importes (1) los derechos de importación pagados sobre materias primas principales o componentes manufacturados y (2) los impuestos nacionales sobre ventas al consumo y al valor agregado, incorporados al costo del artículo ofrecido. El oferente deberá proporcionar la prueba documentada de las cantidades que, de conformidad con los incisos (1) y (2) anteriores, deban deducirse con el sólo objeto de facilitar el cotejo de propuestas;

- (iii) también a los efectos de comparar las ofertas, se tendrá como precio de los productos de origen extranjero, el precio CIF del producto (excluidos los derechos de importación, consulares y portuarios), al cual deberá sumarse el importe de los gastos siguientes: los de manipuleo portuario, y los de transporte local desde el puerto o lugar fronterizo de entrada hasta la obra;
 - (iv) para comparar ofertas de productos de origen mexicano y extranjero se observará lo siguiente:
 - (1) los costos en moneda extranjera se expresarán en su equivalente en pesos mexicanos, utilizando el tipo de cambio pactado entre el Prestatario y el Banco en el Contrato de Préstamo; y
 - (2) al precio CIF de los productos extranjeros, calculado conforme se estipula en el inciso (iii) anterior, se sumará un margen del 15% o el importe del derecho aduanero real, según cual sea menor.
 - (v) cuando aplicando las normas anteriores resulte que la oferta del producto nacional es más conveniente que la del producto extranjero, podrá hacerse uso para su adquisición de las divisas que formen parte del Préstamo.
- (b) Margen de preferencia regional.
- (i) Se considerará que un bien es de origen regional cuando:
 - (1) sea originario de un país miembro de la ALADI y cumpla con los requisitos establecidos en los instrumentos jurídicos que gobiernan la ALADI, en cuanto a origen y otras materias vinculadas con los programas de liberalización del comercio regional, y
 - (2) el valor local añadido no sea inferior al 40% del costo total del bien.
 - (ii) a los efectos de comparar ofertas, al precio CIF del producto, se le sumará el importe de los gastos de manipuleo portuario y los de transporte desde el puerto o lugar fronterizo de entrada hasta la obra;
 - (iii) a los efectos de comparar precios de bienes originarios de países miembros de la ALADI y de bienes originarios de países no miembros de la ALADI, se observará lo siguiente:
 - (1) Se convertirán a su equivalente en pesos mexicanos los precios expresados en moneda extranjera, sobre la misma base de cálculo establecida en el inciso (a) (iv) (1) anterior; y

(2) se sumará al precio de los productos originarios de países no miembros de la ALADI, un margen de 15% o bien la diferencia entre los derechos aplicables a bienes originarios de ese mercado y los derechos aplicables a bienes no originarios del mismo, cualquiera de estas sumas que sea menor.

(iv) cuando aplicando las normas anteriores resulte que la oferta del producto originario de un país miembro de la ALADI, sea más conveniente que la del producto originario de un país que no sea miembro de la ALADI, podrá hacerse uso para su adquisición de las divisas que formen parte del préstamo.

8. Adjudicación

El Organismo Ejecutor presentará a la Autoridad Interna un dictamen que incluirá el análisis comparativo de las diferentes propuestas y la recomendación de adjudicación correspondiente, con debida sustentación, e indicando las razones particulares que motivaron el rechazo de las propuestas restantes. Con la misma fecha, el Organismo Ejecutor enviará copia de esta documentación al Banco para su opinión.

En caso de que el Banco requiera de información complementaria o aclaratoria para emitir su opinión, o bien cuando esta resulte divergente con el análisis, recomendación de adjudicación o razones de rechazo del dictamen correspondiente, el Organismo Ejecutor, diferirá la fecha del fallo a fin de complementar la información, o bien de conocer, estudiar y en su caso considerar la opinión y observaciones correspondientes del Banco.

Una vez cumplidos los trámites anteriores, el Organismo Ejecutor dará a conocer el fallo del concurso en el lugar, fecha y hora señalados para tal efecto; acto al que serán invitadas todas las personas que hayan participado en la presentación y apertura de propuestas, declarando cual concursante fue seleccionado para ejecutar las obras o suministrar los bienes objeto del concurso, adjudicándole el contrato correspondiente. Para constancia del fallo se levantará Acta, la cual firmarán los asistentes a quienes se les entregará copia de la misma, conteniendo además de la declaración anterior, los datos de identificación del concurso y de las obras o suministros de bienes del mismo; lugar fecha y hora en que se firmará el contrato respectivo y la fecha de iniciación de los trabajos. Una copia de dicha Acta y del fallo del Organismo Ejecutor deberá ser enviada oportunamente al Banco para su conocimiento.

En el caso en que el proyecto de contrato señalado en el inciso (g) del numeral 4 hubiese sido modificado el Organismo Ejecutor enviará al Banco el texto modificado para su aprobación.

Cuando la adjudicación no haya contado con la opinión favorable del Banco, éste podrá adoptar las medidas que juzgue necesarias de conformidad con las políticas del Banco y los propósitos del financiamiento.

En el caso de que la decisión de adjudicación recaiga en una firma extranjera, ésta deberá obtener previamente a la firma del contrato, los registros a que hace referencia el numeral 3 inciso (j) (ii) y (iv), para lo cual deberá presentar únicamente la siguiente documentación: datos generales de la firma; capacidad legal; experiencia y especialidad; capacidad y recursos técnicos económicos y financieros; maquinaria y equipo disponibles y, testimonio de la escritura constitutiva y reformas.

Dentro del plazo de 5 días calendario a partir de la fecha de firma del contrato se enviará copia al Banco.

9. Fecha de recepción de obras o bienes.

El Organismo Ejecutor dará a conocer al Banco la fecha de recepción y aprobación de cada obra o de cada uno de los bienes en un plazo no mayor de 10 días calendario.

10. Concurso desierto.

Cuando se hubiere presentado un número de propuestas inferior a tres, o si las propuestas presentadas no estuvieran a juicio del Organismo Ejecutor, suficientemente fundamentadas, o no estuvieran encuadradas en los propósitos que se tuvieron en cuenta al convocar al concurso, el propio Organismo Ejecutor podrá declarar desierto el concurso.

En cualquier caso en que, por razones justificadas, el Organismo Ejecutor se vea forzado a declarar desierto un concurso, entregará al Banco un expediente completo que incluya todos los análisis y elementos de juicio que le sirvieron de base para adoptar tal resolución. El Organismo Ejecutor y el Banco intercambiarán puntos de vista sobre el curso a tomar frente a esta situación.

11. Procedimiento a seguir en caso de rescisión de un contrato.

Cuando un contrato haya sido rescindido por falta de cumplimiento por parte del contratista o proveedor, ya sea que se trate de la calidad o del plazo de entrega, el Organismo Ejecutor y el Banco intercambiarán puntos de vista sobre el curso a tomar frente a esta situación.

12. Pronunciamiento oportuno del Banco

El Banco deberá pronunciarse en forma oportuna sobre los documentos que se someten a su consideración, para que no sufra perjuicio la marcha normal de la obra y/o adquisición sujetas a licitación del Proyecto o Programa y se respeten los calendarios de ejecución previamente programados.

B. LICITACION PUBLICA NACIONAL

Se aplicará el procedimiento de licitación pública nacional cuando se utilicen única y exclusivamente los recursos nacionales adicionales previstos en el Contrato de Préstamo. El procedimiento de licitación pública nacional se ajustará estrictamente a lo establecido en la legislación mexicana sobre esta materia, observándose las siguientes consideraciones adicionales.

1. Convocatoria

El Organismo Ejecutor someterá a licitación pública nacional, la adquisición de maquinaria, equipo y otros bienes, así como la ejecución de obras relacionadas con el a cuyo efecto, en cada caso, publicará una convocatoria para que libremente se presenten proposiciones solventes en sobre cerrado, que será abierto públicamente, a fin de asegurar las mejores condiciones disponibles en cuanto a precio, calidad, financiamiento, oportunidad y demás circunstancias pertinentes. En forma previa a la publicación de las convocatorias, el Banco y el Organismo Ejecutor acordarán el formato que contendrá los elementos básicos, comunes a las convocatorias que se utilizarán para los contratos de obras y/o adquisiciones financiadas parcialmente con recursos del préstamo. Antes de convocar a la licitación, el Organismo Ejecutor presentará al Banco, para su consideración, el texto de cada convocatoria, así como los planos generales, las especificaciones, los presupuestos, las bases específicas de licitación y los demás documentos necesarios para el concurso a que hace referencia el numeral 4, y en el caso de obras, evidencia de que se tiene posesión legal de los terrenos que posibiliten la construcción de las respectivas obras y/o de las servidumbres u otros derechos pertinentes.

2. Publicación de la convocatoria.

La convocatoria a que se refiere el numeral anterior se publicará en dos de los diarios de mayor circulación de la Ciudad de México y simultáneamente en uno del estado donde se ejecutarán las obras.

3. Requisitos de la Convocatoria.

En el texto de cada convocatoria, con la amplitud conveniente a juicio del Organismo Ejecutor, se indicará como mínimo lo siguiente:

- (a) El nombre del Organismo Ejecutor Convocante.
- (b) El objeto y lugar de ejecución de las obras así como el origen de los fondos para financiar el costo de las obras a construir y los bienes a adquirir.
- (c) La descripción general de las obras a construir con volúmenes o cantidades de obra en sus partes principales y en el caso de la adquisición de maquinaria, equipo y materiales, la descripción general de los mismos.
- (d) Información sobre los anticipos.
- (e) El lugar, hora y plazo fijados para que los interesados concurran a retirar, o en su caso, adquirir el paquete de la documentación e información que deberán emplear para presentar sus propuestas, en la inteligencia de que dicho plazo no podrá ser menor de 15 días calendario contados a partir de la fecha de la publicación de la convocatoria.

- (f) La cuota en dinero que deberán cubrir todos los interesados, cuando el Organismo Ejecutor lo juzgue conveniente, para adquirir el paquete de documentación e información a que se refiere el párrafo (e).
- (g) El plazo final de que dispondrán los interesados para entregar al Organismo Ejecutor su propuesta técnica y económica, el cual no podrá ser inferior a 30 días calendario a partir de la fecha de publicación de la convocatoria.
- (h) La especialidad que se requiere.
- (i) Los criterios conforme a los cuales se decidirá la adjudicación.
- (j) Los requisitos que deberán cumplir los interesados y que exclusivamente serán los siguientes:
 - (i) capital contable mínimo requerido;
 - (ii) registro en el Padrón de Contratistas de Obras Públicas y/o en el Padroñ de Proveedores, o cuando sea el caso, la declaración por escrito señalando que su registro se encuentra en trámite, la fecha de presentación de la solicitud y la especialidad que manifestó así como de la solicitud de inscripción con sello o acuse de recibo;
 - (iii) testimonio del Acta Constitutiva y Modificaciones en su caso, según su naturaleza jurídica;
 - (iv) registro, en su caso, actualizado en la Cámara de la Industria que le corresponda;
 - (v) relación de los contratos de obras en vigor que tengan celebrados en los Estado Unidos Mexicanos tanto con la Administración Pública, así como con los particulares, señalando el importe total contratado y el importe por ejercer desglosado por anualidades;
 - (vi) capacidad técnica, entendida ésta como la relación de obras ejecutadas o en ejecución, conforme al objeto del contrato;
 - (vii) declaración escrita y bajo protesta de decir verdad de no encontrarse en ninguna de las situaciones siguientes:
 - que en su empresa participe el funcionario que deba decidir directamente, o los que le hayan delegado tal facultad, sobre la adjudicación del contrato, o su cónyuge o sus parientes consanguíneos o por afinidad hasta el cuarto grado, sea como accionista, administradores, gerentes, apoderados o comisarios.

- que por causas imputables a ellos mismos se encuentren en situación de mora, respecto de la ejecución de otra u otras obras públicas que tengan contratadas; y
 - que tengan impedimientos legales.
- (k) Que los interesados que cumplan con los requisitos a que hace referencia el inciso (j) anterior, y adquieran el paquete de documentación e información para el concurso quedarán automáticamente inscritos en el proceso de adjudicación y tendrán derecho inobjetable para presentar su propuesta.
- (l) Que únicamente podrán participar firmas nacionales.
- (m) El plazo de ejecución de las obras indicando la fecha de iniciación de los trabajos y de la terminación de las obras, o en su caso, el plazo de entrega de los bienes.

4. Documentación para el Concurso.

El paquete de documentación e información para el concurso que se entregará en la oportunidad correspondiente a los concursantes, constará esencialmente de lo siguiente:

- (a) La cantidad por el que debe ser expedido un documento bancario por el proponente con cargo a cualquiera institución de banca y crédito, a favor del Organismo Ejecutor, que servirá para garantizar la seriedad de la propuesta que presente el postor;
- (b) Los porcentajes de anticipo, por una sola vez, para el inicio de los trabajos y el o los correspondientes para la compra de equipo y materiales de instalación permanente, con base en la asignación aprobada en el ejercicio presupuestal de que se trate;
- (c) Fecha de inicio de los trabajos y fecha de terminación;
- (d) Lugar, fecha y hora para la visita al sitio de la obra;
- (e) Proyectos arquitectónicos y de ingeniería, incluyendo planos y diseños, que se requieran para preparar la proposición; normas de calidad de los materiales y especificaciones de construcción aplicables; catálogo de conceptos, cantidades y unidades de trabajo; relación de conceptos de trabajo, de los cuales deberán presentar análisis y relación de los costos básicos de materiales, mano de obras y maquinaria de construcción que intervienen en los análisis anteriores;
- (f) Relación de materiales y equipos de instalación permanente, que en su caso, proporcione el Organismo Ejecutor;
- (g) El modelo de contrato previamente acordado con el Banco, que el Organismo Ejecutor celebrará con el postor que gane el concurso, el cual deberá incluir cláusulas relativas a:

- (i) los procedimientos de ajuste que utilizará el Organismo Ejecutor para compensar aumentos o reducciones en los costos de los Trabajos aún no ejecutados, cuando durante la vigencia del contrato ocurran circunstancias de orden económico no previstos en el mismo;
 - (ii) origen de la maquinaria, equipo y bienes que se adquieran para ser utilizados en las obras;
 - (iii) publicidad sobre las fuentes de financiamiento, de acuerdo a lo que estipule el Contrato de Préstamo;
 - (iv) garantías que deberá presentar el concursante a fin de asegurar la ejecución de las obras y/o el suministro de la maquinaria, equipo u otros bienes cuando corresponda.
- (h) El pliego de especificaciones relativo al concurso, en el que se indicará:
- (i) la manera como elaborar los formularios en los que debe ser presentada la propuesta para la licitación;
 - (ii) la documentación requerida en sobre cerrado en forma inviolable, el cual deberá contener lo siguiente:
 - Documento 1 Demostración de solvencia financiera para la ejecución de las obras mediante estados financieros y posibles líneas de crédito.
 - Documento 2 Carta dirigida al Organismo Ejecutor que contenga aceptación expresa del postor de los términos y condiciones del concurso.
 - Documento 3 Aceptación del modelo de contrato con todas sus hojas debidamente firmadas.
 - Documento 4 Manifestación escrita de conocer el sitio de los trabajos.
 - Documento 5 Propuesta escrita, la cual incluirá:
 - Catálogo de conceptos, unidades de medición, cantidades de trabajo, precios unitarios propuestos e importes parciales y el total de la proposición;
 - Datos básicos de costos de materiales, de mano de obra y horarios de maquinaria de construcción;
 - Análisis de los precios unitarios de los conceptos de trabajos solicitados;

- Costos indirectos, los que estarán representados como un porcentaje del costo directo; dichos costos se desglosarán en los correspondientes a las administraciones de oficinas centrales y de la obra, seguros, fianzas y financiamiento. Se deberá anexar el análisis del costo financiero y el programa de utilización del personal encargado de la dirección, supervisión y administración de los trabajos;
- Programa de ejecución de obra, técnica y económica;
- Relación de maquinaria y equipo de construcción, indicando si es de su propiedad y su ubicación física.

Documento 6 Garantía de cumplimiento de la propuesta, expresada en un cheque cruzado en la moneda de curso legal de los Estados Unidos Mexicanos.

Documento 7 Aceptación de las especificaciones con todas sus hojas debidamente firmadas.

- (iii) los criterios específicos que se usarán para juzgar las diferentes propuestas incluyendo una indicación de si serán por precios unitario, alzado u otras formas; estos criterios de evaluación se expresarán en términos pecuniarios;
- (iv) que ninguna condición que no aparezca en el pliego de especificaciones será tomada en consideración en la evaluación o estudio de las propuestas;

(i) En el caso circulares aclaratorias.

5. Apertura de propuestas

El acto de presentación y apertura de propuestas se llevará a cabo en la fecha, lugar y hora establecidos en la convocatoria y será presidido por el servidor público que designe el Organismo Ejecutor, quien será la única autoridad facultada para aceptar o deshechar cualquier proposición de las que se hubieren presentado, en los términos de este procedimiento, y se llevará a cabo en la forma siguiente:

- (a) A la hora establecida se hará la declaración oficial de apertura del concurso y desde ese momento no se recibirán más propuestas.
- (b) Una vez efectuada la presentación de los representantes de las dependencias, organismos e instituciones que asistan al acto, los concursantes al ser nombrados entregarán por sí o por conducto de sus representantes, el sobre cerrado que contenga la propuesta y documentación requerida.

- (c) Se procederá a la apertura del sobre y de inmediato a la revisión de la información, para verificar que esté en regla y que contenga toda la información señalada como obligatoria en el inciso (h) del numeral 4. De no contenerla, se dejará constancia en el acta de la sesión y se procederá a devolver al licitante el sobre y respectiva documentación.

El representante del Organismo Ejecutor que, presida el acto, leerá en voz alta, cuando menos el importe total de cada una de las proposiciones admitidas.

- (d) Los participantes en el acto rubricarán todos los documentos de las proposiciones en que se consignen los precios y el importe total de los trabajos motivo del concurso.
- (e) Se entregará a todos los concursantes un recibo por la garantía otorgada.
- (f) Se levantará un acta de esta sesión, que firmarán los representantes del Organismo Ejecutor, de los concursantes asistentes y de las dependencias, organismos e instituciones invitadas que hayan asistido. En dicha acta constarán las propuestas recibidas, así como las que hubieren sido rechazadas y las causas que motivaron el rechazo, y las proposiciones admitidas quedarán en poder del Organismo Ejecutor para su estudio y dictámen y se comunicará a los presentes el lugar, la fecha y hora en que se dará a conocer el fallo y que en caso de que ocurra el evento a que se refiere el segundo párrafo del numeral 7, el Organismo Ejecutor informará oportunamente a los concursantes la nueva fecha para conocer el fallo.

6. Estudio de las propuestas

El Organismo Ejecutor procederá al estudio de las propuestas a fin de determinar la más conveniente, para lo cual tendrá en consideración, además de los precios propuestos, las características técnicas (bajo el punto de vista de eficiencia y calidad). En el caso de suministros, se tendrán también en cuenta los costos que resulten de la colocación de los mismos en los sitios de su empleo, cuando las cotizaciones de los postores correspondan a distintos lugares e entrega. También se considerarán plazos o programas para la ejecución de obras o el suministro; asistencia e instalaciones para mantenimiento y otros factores que fueren considerados convenientes por el Organismo Ejecutor. Estos factores, en la medida de lo posible, deberán expresarse en dinero y de conformidad con los criterios especificados en los documentos de licitación.

7. Adjudicación

El Organismo Ejecutor presentará a la autoridad interna un dictámen que incluirá el análisis comparativo de las diferentes propuestas y la recomendación de adjudicación correspondiente, con la debida sustentación, e indicando las razones particulares que motivaron el rechazo de las propuestas restantes. Con la misma fecha, el Organismo Ejecutor enviará copia de esta documentación al Banco para su opinión.

En caso de que el Banco requiera de información complementaria o aclaratoria para emitir su opinión, o bien cuando esta resulte divergente con el análisis, recomendación de adjudicación o razones de rechazo del dictamen correspondiente, el Organismo Ejecutor, diferirá la fecha del fallo a fin de complementar la información, o bien de conocer, estudiar y en su caso considerar la opinión y observaciones correspondientes del Banco.

Una vez cumplidos los trámites anteriores, el Organismo Ejecutor dará a conocer el fallo del concurso en el lugar, fecha y hora señalados para tal efecto; acto al que serán invitadas todas las personas que hayan participado en la presentación y apertura de propuestas, declarando cual concursante fue seleccionado para ejecutar las obras o suministrar los bienes objeto del concurso, adjudicándole el contrato correspondiente. Para constancia del fallo se levantará acta, la cual firmarán los asistentes a quienes se les entregará copia de la misma, conteniendo además de la declaración anterior, los datos de identificación del concurso y de las obras o suministros de bienes del mismo; lugar, fecha y hora en que se firmará el contrato respectivo y la fecha de iniciación de los trabajos. Una copia de dicha acta y del fallo del Organismo Ejecutor deberá ser enviada oportunamente al Banco para su conocimiento.

En el caso en que el proyecto de contrato señalado en el inciso (g) del numeral 4 hubiese sido modificado el Organismo Ejecutor enviará al Banco el texto modificado para su aprobación. Dentro del plazo de 5 días calendario a partir de la fecha de firma del contrato se enviará copia al Banco.

Cuando la adjudicación no haya contado con la opinión favorable del Banco, éste podrá adoptar las medidas que juzgue necesarias de conformidad con las políticas del Banco y los propósitos del financiamiento.

8. Fecha de recepción de obras o bienes

El Organismo Ejecutor dará a conocer al Banco la fecha de recepción y aprobación de cada obra o de cada uno de los bienes en un plazo no mayor de 10 días calendario.

9. Concurso desierto

Cuando se hubiere presentado un número de propuestas inferior a tres, o si las propuestas presentadas no estuvieran a juicio del Organismo Ejecutor, suficientemente fundamentadas, o no estuvieran encuadradas en los propósitos que se tuvieron en cuenta al convocar al concurso, el propio Organismo Ejecutor podrá declarar desierto el concurso.

En cualquier caso en que, por razones justificadas, el Organismo Ejecutor se vea forzado a declarar desierto un concurso, entregará al Banco un expediente completo que incluya todos los análisis y elementos de juicio que le sirvieron de base para adoptar tal resolución. El Organismo Ejecutor y el Banco intercambiarán puntos de vista sobre el curso a tomar frente a esta situación.

10. Procedimiento a seguir en caso de rescisión de un contrato

Cuando un contrato haya sido rescindido por falta de cumplimiento por parte del contratista o proveedor, ya sea que se trate de la calidad o del plazo de entrega, el Organismo Ejecutor y el Banco intercambiarán puntos de vista sobre el curso a tomar frente a esta situación.

11. Pronunciamiento oportuno del Banco

El Banco deberá pronunciarse en forma oportuna sobre los documentos que se someten a su consideración, para que no sufra perjuicio la marcha normal de la obra y/o adquisición sujetas a licitación del Proyecto o Programa y se respeten los calendarios de ejecución previamente programados.

16/abril/1986

Supuestos Utilizados para Proyección de Gastos Corrientes

Los gastos relacionados a la puesta en marcha de los establecimientos de salud como resultado del proyecto bajo estudio se calcularon en base de: tipo y cantidad de establecimientos; costos unitarios promedio por tipo de establecimiento; plan de terminación de obras a construirse; y cronograma de puesta en marcha según la demanda esperada.

El detalle de los supuestos utilizados se muestran en seguida:

1) Tipo y Cantidad de Establecimientos y Costos Unitarios de Operación y Mantenimiento

<u>Tipo</u>	<u>Cantidad</u>	<u>Costos Unitarios de Operación</u> <u>(en miles de US\$)</u>
Centro de Salud Rural Disperso	226	13,198
Centros de Salud Rural Concentrado		
Modelo 1	29	29,568
Modelo 2	24	43,359
Modelo 3	2	62,589
Modelo 4 (RX y Lab)	1	113,065
Centros de Salud Urbano		
Modelo 1	6	40,163
Modelo 2	16	44,156
Modelo 3	4	64,113
Modelo 4	7	80,697
Modelo 5	12	94,570
Modelo 6 ((RX y Lab)	11	220,425
Hospital - 60 camas	10	707,967
Hospital - 120 camas	<u>1</u>	1.344,876
Total:	349 ===	

ENTIDADES FEDERATIVAS SEGUN GRADO DE MARGINACION

CUADRO 2
INDICES DE MARGINACION DE LAS
ENTIDADES FEDERATIVAS AGRUPADAS POR ESTRATOS

Entidades Federativas	Indice de marginación *	Estratos	Grado de marginación
Oaxaca	24.95	10.00 y más	Muy Alto
Chiapas	19.91		
Guerrero	13.14		
Hidalgo	12.82		
Tabasco	11.42		
Querétaro	10.48		
Puebla	10.23	0.01 a 9.99	Alto
Tlaxcala	9.90		
Zacatecas	9.25		
San Luis Potosí	8.04		
Quintana Roo	5.80		
Yucatán	5.41		
Michoacán	4.72		
Guanajuato	3.98		
Veracruz	3.55		
Nayarit	1.21		
Campeche	.28	-0.01 a -9.99	Medio
Durango	- .49		
Edo. de México	- 2.60		
Sinaloa	- 3.44		
Morelos	- 4.06		
Colima	- 5.00		
Aguascalientes	- 6.89		
Jalisco	- 8.39	-10.00 a -19.99	Medio Bajo
Chihuahua	-10.04		
Baja California Sur	-10.63		
Tamaulipas	-11.04		
Coahuila	-11.72		
Sonora	-12.33		
Nuevo León	-19.68		
Baja California	-19.81	-20.00 y menos	Bajo
Distrito Federal	-28.95		

* El índice de marginación de una unidad determinada no representa un valor absoluto de la marginación, sino la posición que ésta guarda con relación al resto de las unidades a partir de la situación relativa que presentó el conjunto de sus 19 indicadores.

FUENTE: Elaboración de Coplamar con base en los 19 indicadores citados en el capítulo 2.

[illegible]

ENCUESTA DE ATENCION A LA SALUD

I VIVIENDA

LOCALIZACION

- 0 1 ENTIDAD FEDERATIVA _____
- 0 2 MUNICIPIO DELEG. _____
- 0 3 COMUNIDAD _____
- 0 4 LOCALIDAD O COLONIA _____
- 0 5 NUMERO DE ORDEN DE LA VIVIENDA _____
- 0 6 DOMICILIO _____

(Collo, No. Ext. , No. Interior o descripción)

0.7 ¿ Los ocupantes de esta vivienda disponen de agua entubada:

(ANOTE EL
CODIGO)

- | | |
|---|---|
| Dentro de la vivienda ? | 1 |
| Fuera de la vivienda pero
dentro del edificio? | 2 |
| De la red pública o hidrante? | 3 |
| No tiene | 4 |

0.8 ¿ Esta vivienda tiene drenaje ?

Si → ¿ A dónde desagua?

1. A red pública
2. A fosa séptica
3. Al suelo

NO

4. ¿ Usan letrina ?
5. ¿ Hacen en el suelo ?

Para ser llenado fuera del domicilio:

Resultado de la visita

Nombre de :

Entrevistador.

Supervisor.

Codificador.**Fecha de la entrevista.**

Entrevista completa.....!

Entrevista incompleta. . . . 2

No hubo entrevista:

Vivienda deshabitada.....3

Se negó a informar.....4

No había nadie.....5

Otros 6

OBSERVACIONES GENERALES



II. DATOS GENERALES

OCUPANTES Y FAMILIAS O GRUPOS				11. SEXO	12. EDAD	13. COBERTURA	14. IDIOMA	15. ESCOLARIDAD	16. OCUPACION	
PERSONAS OCUPANTES DE LA VIVIENDA PREGUNTE A TODAS LAS PERSONAS QUE VIVEN NORMALMENTE EN ESTA VIVIENDA EXCEPTO A LOS NIÑOS CHQUITOS, SI HAY PERSONAS AUSENTES POR MENOS TRES MESES CUENTELAS. TAMBIEN NO CUENTE A LAS PERSONAS QUE SALIERON A VIVIR DEFINITIVAMENTE A OTRO LUGAR. DESPUES DE QUE HAYA LEIDO LAS INSTRUCCIONES ANTERIORES, PREGUNTE: ¿CANTAS PERSONAS VIVEN EN ESTA VIVIENDA? NO. DE PERSONAS _____ FAMILIAS O GRUPOS EN LA VIVIENDA ¿CANTAS LAS PERSONAS QUE VIVEN EN ESTA VIVIENDA SE SOSTIENEN DE UN COMUN PARA COMER? MARQUE CON "X" UN SOLO CIRCULO SI <input type="radio"/> NO <input type="radio"/> SI CONTESTA QUE NO, PREGUNTE: ¿CANTAS FAMILIAS O GRUPOS DE PERSONAS HAY EN ESTA VIVIENDA QUE SOSTIENEN DE GASTOS SEPARADOS PARA COMER? EN LA LISTA EL NOMBRE Y APELLIDOS DE TODOS LOS OCUPANTES QUE VIVEN EN ESTA VIVIENDA, POR FAMILIA O GRUPO.				PARA TODOS ¿CANTOS AÑOS CUMPLIDOS TIENE? - ANOTE EL NUMERO 1. HOMBRE O 2. MUJER?		¿ESTA PERSONA TIENE DERECHO A LOS SERVICIOS DEL: 1. IMSS-COPLAMAR? 2. IMSS? 3. ISSSTE? 4. OTROS? 5. NO TIENE DERECHO 9. NO SABE	¿ESTA PERSONA HABLA UN: 1. DIALECTO? 2. SOLO ESPAÑOL? 3. ESPAÑOL Y UN DIALECTO? 4. NO HABLA? 9. NO SABE	¿CUAL FUE EL ULTIMO AÑO APROBADO EN LA ESCUELA? (ANOTE EL GRADO Y EL CODIGO DEL CICLO) 1. PRIMARIA 2. SECUNDARIA 3. PREPARATORIA O VOCACIONAL 4. TECNICOS 5. PROFESIONAL 6. POSTGRADO 7. OTROS 8. NINGUNO 9. NO SABE	¿ESTA PERSONA TRABAJA ACTUALMENTE? SI <input type="radio"/> NO <input type="radio"/> ¿EN SU TRABAJO PRINCIPAL ES: 01. EJIDATARIO? 02. COOPERATIVISTA? 03. TRABAJA POR SU CUENTA? 04. PEON O JORNALERO? 05. EMPLEADO? 06. PATRON O EMPRESARIO? 07. TRABAJADOR FAMILIAR SIN SUELDO? 08. OTRO	ENTONCES A QUE SE DEDICA. 09. ESTUDIA 10. QUEHACERES DEL HOGAR 11. ESTA ENFERMO O INCAPACITADO 12. PENSIONADO O JUBILADO 13. BUSCA TRABAJO 14. OTROS 99. NO SABE
NOMBRE	APELLIDOS	NO. DE PERSONAS	MARQUE CON "X" EL JEFE	FAMILIA O GRUPO NUMERO	(ANOTE EL CODIGO)	(ANOTE EL CODIGO)	(ANOTE EL CODIGO)	GRADOS	CICLO	(ANOTE EL CODIGO)
		01	<input type="radio"/>							
		02	<input type="radio"/>							
		03	<input type="radio"/>							
		04	<input type="radio"/>							
		05	<input type="radio"/>							
		06	<input type="radio"/>							
		07	<input type="radio"/>							
		08	<input type="radio"/>							
		09	<input type="radio"/>							
		10	<input type="radio"/>							
		11	<input type="radio"/>							
		12	<input type="radio"/>							
		13	<input type="radio"/>							
		14	<input type="radio"/>							

PARA EL INFORMANTE: ¿COMO CONSIDERA SU SALUD?

1.- MUY BUENA ?
 2.- BUENA ?
 3.- REGULAR ?
 4.- MALA ?
 5.- MUY MALA ?

III. MOTIVOS DE DEMANDA

<p>la pregunta 18, si la respuesta es afirmativa, marque si y continúe hasta la pregunta 19. Si es no, haga la pregunta 19.</p> <p>A EL PROCEDIMIENTO HASTA LA PREGUNTA 23</p>	<p>¿Quién?</p> <p>ANOTE:</p> <p>No. DE PERSONA NOMBRE DE PILA</p>	<p>¿QUE TUVO?</p> <p>(ANOTE EL NOMBRE DEL PADECIMIENTO, LESION O "NO SABE")</p>	<p>¿Cuántos días dejó de trabajar, estudiar o hacer sus actividades cotidianas o jugar?</p> <p>(ANOTE EL NUMERO 000 Ninguno 999 No sabe)</p>	<p>¿Qué hizo o con quién se atendió?</p> <p>1. Nada 2. Remedios caseros o automedicación 3. Curandera o yerbero 4. Partera o comadrona 5. Médico particular 6. Unidad médica de consulta externa 7. Hospitalización 9. No sabe</p>	<p>¿Por qué no solicitó atención médica?</p> <p>1. No fue necesario 2. Es caro 3. Está muy lejos 4. No habla la lengua 5. Falta de confianza 6. Tratan mal 7. Falta de tiempo 8. Otros 9. No sabe</p>	<p>¿Cuánto gastó?</p> <p>(ANOTE EL GASTO EN PESOS)</p> <p>00,000 NADA 99,999 NO SABE</p>
Anote el código para cada persona						
<p>Alguno de los ocupantes de la vivienda estuvo enfermo en el ULTIMO MES, por diarrea, vómito, calentura, tos, etc. o en cama y no trabajó por enfermedad?</p> <p>SI <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>NO <input type="radio"/> <input type="radio"/></p>	<p>18.1</p> <p>_____ _____ _____</p>	<p>18.2</p> <p>_____ _____ _____</p>	<p>18.3</p> <p>_____ _____ _____</p>	<p>18.4</p> <p>_____ _____ _____</p> <p>1,2,3 y 4 continúe en 18.5</p> <p>5,6 y 7 pase a Atención</p>	<p>18.5</p> <p>_____ _____ _____</p>	<p>18.6</p> <p>_____ _____ _____</p>
<p>Alguno de los ocupantes de la vivienda sufrió en el último mes un accidente, ejemplo golpe, herida o quemadura?</p> <p>SI <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>NO <input type="radio"/> <input type="radio"/></p>	<p>19.1</p> <p>_____ _____ _____</p>	<p>19.2</p> <p>_____ _____ _____</p>	<p>19.3</p> <p>_____ _____ _____</p>	<p>19.4</p> <p>_____ _____ _____</p> <p>1,2,3 y 4 continúe en 19.5</p> <p>5,6 y 7 pase a Atención</p>	<p>19.5</p> <p>_____ _____ _____</p>	<p>19.6</p> <p>_____ _____ _____</p>
<p>Alguno de los ocupantes de la vivienda está enfermo desde hace más de un mes, ejemplo está desnutrido, tiene azúcar en la orina, ataques, tos crónica, reumas?</p> <p>SI <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>NO <input type="radio"/> <input type="radio"/></p>	<p>20.1</p> <p>_____ _____ _____</p>	<p>20.2</p> <p>_____ _____ _____</p>	<p>20.3</p> <p>_____ _____ _____</p>	<p>20.4</p> <p>_____ _____ _____</p> <p>1,2,3 y 4 continúe en 20.5</p> <p>5,6 y 7 pase a Atención</p>	<p>20.5</p> <p>_____ _____ _____</p>	<p>20.6</p> <p>_____ _____ _____</p>
<p>Alguna de las mujeres que viven aquí está esperando un niño?</p> <p>SI <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>NO <input type="radio"/> <input type="radio"/></p>	<p>21.1</p> <p>_____ _____ _____</p>			<p>21.4</p> <p>_____ _____ _____</p> <p>1,2,3 y 4 continúe en 21.5</p> <p>5,6 y 7 pase a Atención</p>	<p>21.5</p> <p>_____ _____ _____</p>	<p>21.6</p> <p>_____ _____ _____</p>
<p>Alguna de las mujeres que viven aquí dio a luz en el último año?</p> <p>SI <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>NO <input type="radio"/> <input type="radio"/></p>	<p>22.1</p> <p>_____ _____ _____</p>			<p>22.4</p> <p>_____ _____ _____</p> <p>1,2,3 y 4 continúe en 22.5</p> <p>5,6 y 7 pase a Atención</p>	<p>22.5</p> <p>_____ _____ _____</p>	<p>22.6</p> <p>_____ _____ _____</p>
<p>Algún(otro) ocupante de esta vivienda estuvo hospitalizado en el último año?</p> <p>SI <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>NO <input type="radio"/> <input type="radio"/></p>	<p>23.1</p> <p>_____ _____ _____</p>	<p>23.2</p> <p>_____ _____ _____</p>	<p>23.3</p> <p>_____ _____ _____</p>	<p>PASE A ATENCION</p>		

QUE LAS PREGUNTAS 24 A 27 DE LA PAGINA NUMERO 4.

IV. ATENCION

[illegible]

NO OLVIDE LLENAR MIGRACION Y GASTOS

PAG. 5 -

V MIGRACION

41.- MIGRACION	42.- IDENTIFICACION	43.- TIEMPO DE RESIDENCIA	44.- LUGAR DE NACIMIENTO	45.- EDAD AL MIGRAR	46.- LUGARES DE MIGRACION	47.- ULTIMO LUGAR DE RESIDENCIA	48.- CAUSA ULTIMA DE MIGRACION
¿Las personas de esta vivienda siempre han vivido aquí, en este mismo poblado?	¿Quién (es)?	¿Hace cuánto tiempo vive en este poblado?	¿En dónde nació?	¿Cuántos años tenía cuando dejó su lugar de nacimiento por primera vez?	¿Vivió en otros lugares antes de venir a vivir aquí?	¿El último lugar donde vivió es:	¿Cuál fue la razón principal por la que cambió de lugar de residencia la última vez?
1. Sí- Pase a gasto	ANOTE:		1. En este municipio.		1. No →	1. Ejido?	1. Para buscar empleo.
2. NO-Continúe			2. En otro municipio del mismo estado.		2. Si ↓	2. Rancho o Ranchería?	2. Para mejorar ingresos.
(ANOTE EL CODIGO PARA CADA PERSONA)		ANOTE EL NUMERO EN AÑOS CUMPLIDOS.	3. En otro estado.	ANOTE EL NUMERO EN AÑOS CUMPLIDOS	3. En otro municipio del mismo estado	3. Est. FFCC?	3. Para reunirse con la familia.
		OO MENOS DE UN AÑO	4. Fuera del país.	OO MENOS DE UN AÑO	4. En otro estado	4. Campamento?	4. Motivos de salud
			9. No sabe	99 No sabe	5. Fuera del país	5. Pueblo?	5. Estudiar.
			(ANOTE EL CODIGO)		9. No sabe.	6. Villa?	6. Otra, especifique
	Nombre de pila				(ANOTE EL CODIGO)	7. Ciudad? (especifique)	9 No sabe.
						(ANOTE EL CODIGO)	(ANOTE EL CODIGO)
	01						
	02						
	03						
	04						
	05						
	06						
	07						
	08						
	09						
	10						
	11						
	12						
	13						
	14						

VI GASTOS

Finalmente, queremos preguntarle sobre los gastos para cada familia o grupo (Para el entrevistador: Revise cuántas familias o grupos hay en la vivienda, página 2, y aplique a cada uno las siguientes preguntas).

GASTOS POR FAMILIA O GRUPO	FAMILIA O GRUPO 1 ANOTE EL GASTO	FAMILIA O GRUPO 2 EN PESOS-999,999	FAMILIA O GRUPO 3 PARA NO SABE
49- ¿PAGA RENTA DE CASA? NO (ANOTE 000,000) SI → Cuánto paga mensualmente cada familia			
50- ¿Cuánto gastó el ULTIMO MES en alimentos?			
51- ¿Cuánto gastó el ULTIMO MES en bebidas y cigarros?			
52- ¿Cuánto gastó el ULTIMO MES en ropa y calzado, por ejemplo, pantalones, vestidos, zapatos, ropa interior y otras prendas de vestir?			
53- ¿Cuánto gastó el ULTIMO MES en gas para cocinar, libros o revistas, diversiones y otros gastos?			
	ANOTE EL GASTO EN PESOS 999,999 PARA NO SABE Y 999,999 CUANDO EXCEDA 1,000,000		
54- En el ULTIMO AÑO compró muebles, animales, automóviles, bicicletas o instrumentos de trabajo. SI → Cuánto gastó? NO → (Anote 000,000)			

PROGRAMA DE SERVICIOS DE SALUD
CONSTRUCCION Y EQUIPAMIENTO DE CENTROS DE SALUD Y HOSPITALES - B.I.D.

COBERTURA: ANALISIS DE INVERSION DIRECTA, GASTOS CORRIENTES Y
BENEFICIOS A NIVEL DE CADA CENTRO DE SALUD Y A
NIVEL DE PROYECTO A TRAVES DE CRONOGRAMAS DE INCORPORACION.
ANALISIS ECONOMICO DE COSTOS POR BENEFICIARIO.

AUTOR: GONZALO GUERRERO PRA/SUP

PARA: PROYECTO EN MEXICO - ME0159 - (BID)

PEDIDO POR: R. MEERHOFF (CONSULTOR - PRA/PSD)

FECHA DEL PEDIDO: JUEVES 13 DE MARZO 1986

FECHA DE TERMINACION DEL MODELO: MIERCOLES 19 DE MARZO DE 1986

PEDIDO DE ADICIONES AL MODELO POR: MIKE GOMEZ (PRA/PSD/EAU, JEFE)

FECHA DEL PEDIDO: MARTES 8 DE ABRIL DE 1986

FECHA DE TERMINACION
DE ADICIONES AL MODELO: MIERCOLES 30 DE ABRIL DE 1986

TIPO DE CENTRO DE SALUD	SIGNIFICADO
<hr/>	
** NIVEL I **	
C.S.R.D.	CENTRO DE SALUD RURAL DISPERSO
C.S.R.C.	CENTRO DE SALUD RURAL CONCENTRADO
C.S.U.	CENTRO DE SALUD URBANO
** NIVEL II **	
H.60	HOSPITAL DE 60 CAMAS
H.120	HOSPITAL DE 120 CAMAS
<hr/>	

CUADRO # 11

Apéndice VI-4
pág. 2 de 8

PROYECTO BID: ME-0159
TIPO DE ANALISIS: ECONOMICO
NIVEL DEL ANALISIS: PROYECTO (INCORPORACION DE CENTROS)
ASPECTO ANALISADO: GASTOS CORRIENTES ANUALES (DETALLE PARA 12 AÑOS)

GASTOS CORRIENTES POR TIPO DE UNIDAD RESPECTO A COMIENZO DEL PROYECTO - EN U.S.\$

CENTRO DE SALUD GASTOS CORRIENTES	Año 1	Año 2	Año 3	Año 4	Año 5	Año 6	Año 7
** NIVEL I **							
C.S.R.D.							
PERSONAL	0	714,219	1,345,630	2,070,200	2,339,326	2,339,326	2,339,326
OPERACION	0	83,145	173,279	305,588	416,448	485,856	532,128
MANTENIMIENTO	0	17,319	36,094	63,654	86,746	101,203	110,842
TOTAL C.S.R.D.	0	814,683	1,555,003	2,439,442	2,842,520	2,926,385	2,962,296
C.S.R.C. 1C							
PERSONAL	0	228,590	571,475	662,911	662,911	662,911	662,911
OPERACION	0	36,762	104,159	149,499	172,781	177,683	177,683
MANTENIMIENTO	0	4,362	12,359	17,739	20,501	21,083	21,083
TOTAL C.S.R.C. 1C	0	269,714	687,993	830,149	856,194	861,677	861,677
C.S.R.C. 2C							
PERSONAL	0	265,680	531,360	797,040	797,040	797,040	797,040
OPERACION	0	45,667	106,557	182,669	213,114	228,336	228,336
MANTENIMIENTO	0	4,075	9,509	16,301	19,018	20,376	20,376
TOTAL C.S.R.C. 2C	0	315,422	647,426	996,010	1,029,171	1,045,752	1,045,752
C.S.R.C. 3C							
PERSONAL	0	0	98,046	98,046	98,046	98,046	98,046
OPERACION	0-2	0	15,480	20,640	25,800	25,800	25,800
MANTENIMIENTO	0	0	1,169	1,558	1,948	1,948	1,948
TOTAL C.S.R.C. 3C	0	0	114,695	120,244	125,794	125,794	125,794
C.S.R.C. 3CLAB							
PERSONAL	0	0	0	86,468	86,468	86,468	86,468
OPERACION	0	0	0	13,955	18,606	23,258	23,258
MANTENIMIENTO	0	0	0	2,341	3,122	3,902	3,902
TOTAL C.S.R.C. 3CLAB	0	0	0	102,764	108,196	113,628	113,628
TOTAL C.S.R.C.	0	585,136	1,450,113	2,049,167	2,119,355	2,146,851	2,146,851
C.S.U. 1							
PERSONAL	0	0	33,126	110,420	132,504	132,504	132,504
OPERACION	0	0	11,253	37,510	45,012	45,012	45,012
MANTENIMIENTO	0	0	1,091	3,635	4,362	4,362	4,362
TOTAL C.S.U. 1	0	0	45,470	151,565	181,878	181,878	181,878
C.S.U. 2							
PERSONAL	0	74,723	224,168	464,940	531,360	531,360	531,360
OPERACION	0	23,207	69,620	144,396	165,024	165,024	165,024
MANTENIMIENTO	0	1,910	5,731	11,886	13,584	13,584	13,584
TOTAL C.S.U. 2	0	99,839	299,518	621,222	709,968	709,968	709,968

CUADRO # 11

PROYECTO BID: ME-0159
 TIPO DE ANALISIS: ECONOMICO
 NIVEL DEL ANALISIS: PROYECTO (INCORPORACION DE CENTROS)
 ASPECTO ANALISADO: GASTOS CORRIENTES ANUALES (DETALLE PARA 12 AÑOS)

GASTOS CORRIENTES POR TIPO DE UNIDAD RESPECTO A COMIENZO DEL PROYECTO - EN U.S.\$

CENTRO DE SALUD GASTOS CORRIENTES	Año 1	Año 2	Año 3	Año 4	Año 5	Año 6	Año 7
<hr/>							
C.S.U. 3							
PERSONAL	0	0	73,535	98,046	134,813	147,069	147,069
OPERACION	0	0	21,413	28,550	39,256	42,825	42,825
MANTENIMIENTO	0	0	1,697	2,262	3,110	3,393	3,393
TOTAL C.S.U. 3	0	0	96,644	128,858	177,180	193,287	193,287
C.S.U. 4							
PERSONAL	0	93,078	310,260	511,929	558,468	558,468	558,468
OPERACION	0	26,490	88,300	145,695	158,940	158,940	158,940
MANTENIMIENTO	0	2,075	6,915	11,410	12,447	12,447	12,447
TOTAL C.S.U. 4	0	121,643	405,475	669,034	729,855	729,855	729,855
C.S.U. 5							
PERSONAL	0	0	271,508	742,121	868,824	868,824	868,824
OPERACION	0	0	78,926	215,732	252,564	252,564	252,564
MANTENIMIENTO	0	0	5,955	16,277	19,056	19,056	19,056
TOTAL C.S.U. 5	0	0	356,389	974,129	1,140,444	1,140,444	1,140,444
C.S.U. 6							
PERSONAL	0	255,333	723,444	1,489,443	1,829,887	1,872,442	1,872,442
OPERACION	0	68,415	193,843	399,088	490,308	501,710	501,710
MANTENIMIENTO	0	8,597	24,357	50,146	61,608	63,041	63,041
TOTAL C.S.U. 6	0	332,345	941,643	1,938,676	2,381,802	2,437,193	2,437,193
TOTAL C.S.U.	0	553,826	2,145,137	4,483,484	5,321,127	5,392,625	5,392,625
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TOTAL NIVEL I	0	1,953,646	5,150,253	8,972,092	10,283,002	10,465,861	10,521,772
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** NIVEL II **							
H.60							
PERSONAL	0	0	1,039,680	2,252,640	3,119,040	3,552,240	3,965,440
OPERACION	0	0	555,665	1,203,940	1,666,994	1,898,521	2,130,048
MANTENIMIENTO	0	0	53,184	119,664	172,848	206,088	239,328
TOTAL H.60	0	0	1,648,529	3,576,244	4,958,882	5,656,849	6,354,816
H.120							
PERSONAL	0	0	0	505,240	589,446	673,653	757,859
OPERACION	0	0	0	263,836	307,808	351,781	395,753
MANTENIMIENTO	0	0	0	31,576	37,891	50,521	56,836
TOTAL H.120	0	0	0	800,651	935,145	1,075,954	1,210,449
<hr/>							
TOTAL NIVEL II	0	0	1,648,529	4,376,895	5,894,027	6,732,804	7,565,265
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TOTAL GASTOS CORRIENTES	0	1,953,646	6,798,782	13,348,988	16,177,029	17,198,665	18,087,037

CUADRO # 11

Apéndice VI-4
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PROYECTO BID:
TIPO DE ANALISIS:
NIVEL DEL ANALISIS:
ASPECTO ANALISADO:

CENTRO DE SALUD GASTOS CORRIENTES	Año 8	Año 9	Año 10	Año 11	Año 12	INCORPORADAS AL PROYECTO
** NIVEL I **						
C.S.R.D.						
PERSONAL	2,339,326	2,339,326	2,339,326	2,339,326	2,339,326	22,844,657
OPERACION	544,660	544,660	544,660	544,660	544,660	4,719,744
MANTENIMIENTO	113,452	113,452	113,452	113,452	113,452	983,117
TOTAL C.S.R.D.	2,997,438	2,997,438	2,997,438	2,997,438	2,997,438	28,547,518
C.S.R.C. 1C						
PERSONAL	662,911	662,911	662,911	662,911	662,911	6,766,264
OPERACION	177,683	177,683	177,683	177,683	177,683	1,706,982
MANTENIMIENTO	21,083	21,083	21,083	21,083	21,083	202,542
TOTAL C.S.R.C. 1C	861,677	861,677	861,677	861,677	861,677	8,675,788
C.S.R.C. 2C						
PERSONAL	797,040	797,040	797,040	797,040	797,040	7,970,400
OPERACION	228,336	228,336	228,336	228,336	228,336	2,146,358
MANTENIMIENTO	20,376	20,376	20,376	20,376	20,376	191,534
TOTAL C.S.R.C. 2C	1,045,752	1,045,752	1,045,752	1,045,752	1,045,752	10,308,293
C.S.R.C. 3C						
PERSONAL	98,046	98,046	98,046	98,046	98,046	980,460
OPERACION	25,800	25,800	25,800	25,800	25,800	242,520
MANTENIMIENTO	1,948	1,948	1,948	1,948	1,948	18,311
TOTAL C.S.R.C. 3C	125,794	125,794	125,794	125,794	125,794	1,241,291
C.S.R.C. 3CLAB						
PERSONAL	86,468	86,468	86,468	86,468	86,468	778,212
OPERACION	23,258	23,258	23,258	23,258	23,258	195,367
MANTENIMIENTO	3,902	3,902	3,902	3,902	3,902	32,777
TOTAL C.S.R.C. 3CLAB	113,628	113,628	113,628	113,628	113,628	1,006,356
TOTAL C.S.R.C.	2,146,851	2,146,851	2,146,851	2,146,851	2,146,851	21,231,728
C.S.U. 1						
PERSONAL	132,504	132,504	132,504	132,504	132,504	1,203,578
OPERACION	45,012	45,012	45,012	45,012	45,012	408,859
MANTENIMIENTO	4,362	4,362	4,362	4,362	4,362	39,622
TOTAL C.S.U. 1	181,878	181,878	181,878	181,878	181,878	1,652,059
C.S.U. 2						
PERSONAL	531,360	531,360	531,360	531,360	531,360	5,014,710
OPERACION	165,024	165,024	165,024	165,024	165,024	1,557,414
MANTENIMIENTO	13,584	13,584	13,584	13,584	13,584	128,199
TOTAL C.S.U. 2	709,968	709,968	709,968	709,968	709,968	6,700,323

CUADRO # 11

PROYECTO BID:
TIPO DE ANALISIS:
NIVEL DEL ANALISIS:
ASPECTO ANALISADO:

CENTRO DE SALUD, GASTOS CORRIENTES	Año 8	Año 9	Año 10	Año 11	Año 12	INCORPORADAS AL PROYECTO
C.S.U. 3						
PERSONAL	147,069	147,069	147,069	147,069	147,069	1,335,877
OPERACION	42,825	42,825	42,825	42,825	42,825	368,994
MANTENIMIENTO	3,393	3,393	3,393	3,393	3,393	30,820
TOTAL C.S.U. 3	193,287	193,287	193,287	193,287	193,287	1,755,690
C.S.U. 4						
PERSONAL	558,468	558,468	558,468	558,468	558,468	5,383,011
OPERACION	158,940	158,940	158,940	158,940	158,940	1,532,005
MANTENIMIENTO	12,447	12,447	12,447	12,447	12,447	119,975
TOTAL C.S.U. 4	729,855	729,855	729,855	729,855	729,855	7,034,991
C.S.U. 5						
PERSONAL	868,824	868,824	868,824	868,824	868,824	7,964,220
OPERACION	252,564	252,564	252,564	252,564	252,564	2,315,170
MANTENIMIENTO	19,056	19,056	19,056	19,056	19,056	174,680
TOTAL C.S.U. 5	1,140,444	1,140,444	1,140,444	1,140,444	1,140,444	10,454,070
C.S.U. 6						
PERSONAL	1,872,442	1,872,442	1,872,442	1,872,442	1,872,442	17,405,200
OPERACION	501,710	501,710	501,710	501,710	501,710	4,663,623
MANTENIMIENTO	63,041	63,041	63,041	63,041	63,041	585,995
TOTAL C.S.U. 6	2,437,193	2,437,193	2,437,193	2,437,193	2,437,193	22,654,817
TOTAL C.S.U.	5,392,625	5,392,625	5,392,625	5,392,625	5,392,625	50,251,950
TOTAL NIVEL I	10,536,914	10,536,914	10,536,914	10,536,914	10,536,914	100,031,196
** NIVEL II **						
H.60						
PERSONAL	4,245,360	4,332,000	4,332,000	4,332,000	4,332,000	35,522,400
OPERACION	2,268,965	2,315,270	2,315,270	2,315,270	2,315,270	18,985,214
MANTENIMIENTO	272,568	305,808	325,752	332,400	332,400	2,360,040
TOTAL H.60	6,786,893	6,953,078	6,973,022	6,979,670	6,979,670	56,867,654
H.120						
PERSONAL	842,066	842,066	842,066	842,066	842,066	6,736,528
OPERACION	439,726	439,726	439,726	439,726	439,726	3,517,808
MANTENIMIENTO	63,151	63,151	63,151	63,151	63,151	492,578
TOTAL H.120	1,344,943	1,344,943	1,344,943	1,344,943	1,344,943	10,746,914
TOTAL NIVEL II	8,131,836	8,298,021	8,317,965	8,324,613	8,324,613	67,614,568
TOTAL GASTOS CORRIENTES	18,668,750	18,834,935	18,854,879	18,861,527	18,861,527	167,645,764

CUADRO # 14

PROYECTO BID: ME-0159
 TIPO DE ANALISIS: ECONOMICO
 NIVEL DEL ANALISIS: PROYECTO (INCORPORACION DE CENTROS)
 ASPECTO ANALISADO: COSTO/EFICIENCIA
 CASO: SITUACION ACTUAL

TIPO DE CENTRO DE SALUD	VALOR PRESENTE COSTOS PARA 24 AÑOS A PRECIOS DEL AÑO 1 EN U.S.\$			PRODUCCION PRODUCTIVIDAD PARA UN PERIODO DE 24 AÑOS		COSTO UNITARIO DEL PROYECTO - EN U.S.\$	
	INVERSION DIRECTA	COSTOS CORRIENTES	TOTAL PROYECTO	TOTAL CONSULTAS	TOTAL EGRESOS	CONSULTAS	EGRESOS
** NIVEL I **							
TOTAL C.S.R.D.	8,485,957	17,404,575	25,890,532	7,754,508	N/A	3.34	N/A
C.S.R.C. 1C	1,789,572	5,319,529	7,109,101	1,041,732	N/A	6.82	N/A
C.S.R.C. 2C	1,647,175	6,300,001	7,947,175	1,707,264	N/A	4.65	N/A
C.S.R.C. 3C	153,889	755,195	909,084	213,408	N/A	4.26	N/A
C.S.R.C. 3CLAR	190,545	601,614	792,160	152,361	N/A	5.20	N/A
TOTAL C.S.R.C.	3,781,181	12,976,339	16,757,520	3,114,765	N/A	5.38	N/A
C.S.U. 1	346,606	992,055	1,338,661	211,185	N/A	6.34	N/A
C.S.U. 2	1,090,949	4,057,774	5,148,724	1,145,700	N/A	4.49	N/A
C.S.U. 3	245,875	1,059,068	1,304,943	316,778	N/A	4.12	N/A
C.S.U. 4	944,045	4,275,362	5,219,408	1,301,310	N/A	4.01	N/A
C.S.U. 5	1,343,649	6,286,397	7,630,046	2,120,400	N/A	3.60	N/A
C.S.U. 6	3,107,556	13,705,093	16,812,649	2,346,975	N/A	7.16	N/A
TOTAL C.S.U.	7,078,682	30,375,749	37,454,430	7,442,348	N/A	5.03	N/A
TOTAL NIVEL I	19,345,819	60,756,663	80,102,482	18,311,621	N/A	4.37	N/A
** NIVEL II **							
H.6	25,083,344	34,389,345	59,472,689	3,129,840	439,760	3.80	108.19
H.120	3,641,804	6,463,581	10,105,384	466,560	77,088	3.90	107.49
TOTAL NIVEL II	28,725,148	40,852,925	69,578,073	3,596,400	516,848	N/A	N/A
TOTAL NIVEL I Y II	48,070,966	101,609,589	149,680,555	21,908,021	N/A	N/A	N/A

CUADRO # 14

PROYECTO BID: ME-0159
TIPO DE ANALISIS: ECONOMICO
NIVEL DEL ANALISIS: PROYECTO (INCORPORACION DE CENTROS)
ASPECTO ANALISADO: COSTO/EFICIENCIA
CASO: NORMA SSA

TIPO DE CENTRO DE SALUD	COSTOS PARA 24 AÑOS A PRECIO DEL AÑO 1 EN U.S.\$			PRODUCCION PRODUCTIVIDAD PARA UN PERIODO DE 24 AÑOS		COSTO UNITARIO DEL PROYECTO - EN U.S.\$	
	INVERSION DIRECTA	COSTOS CORRIENTES	TOTAL PROYECTO	TOTAL CONSULTAS	TOTAL EGRESOS	CONSULTAS	EGRESOS
** NIVEL I **							
TOTAL C.S.R.D.	8,495,957	17,404,575	25,890,532	18,501,984	N/A	1.40	N/A
C.S.R.C. 1C	1,789,572	5,319,529	7,109,101	2,485,536	N/A	2.86	N/A
C.S.R.C. 2C	1,647,175	6,300,001	7,947,175	4,073,472	N/A	1.95	N/A
C.S.R.C. 3C	153,889	755,195	909,084	509,184	N/A	1.79	N/A
C.S.R.C. 3CLAB	190,545	601,614	792,160	363,528	N/A	2.18	N/A
TOTAL C.S.R.C.	3,781,181	12,976,339	16,757,520	7,431,720	N/A	2.25	N/A
C.S.U. 1	346,606	992,055	1,338,661	503,880	N/A	2.66	N/A
C.S.U. 2	1,090,949	4,057,774	5,148,724	2,733,600	N/A	1.88	N/A
C.S.U. 3	245,875	1,059,068	1,304,943	755,820	N/A	1.73	N/A
C.S.U. 4	944,045	4,275,362	5,219,408	3,112,490	N/A	1.68	N/A
C.S.U. 5	1,343,649	6,286,397	7,630,046	5,059,200	N/A	1.51	N/A
C.S.U. 6	3,107,553	13,705,093	16,812,649	5,599,800	N/A	3.00	N/A
TOTAL C.S.U.	7,078,682	30,375,749	37,454,430	17,764,790	N/A	2.11	N/A
TOTAL NIVEL I	19,345,819	60,756,663	80,102,482	43,698,494	N/A	1.83	N/A
** NIVEL II **							
H.60	25,083,344	34,389,345	59,472,689	6,800,640	604,440	1.75	78.71
H.120	3,641,804	6,463,581	10,105,384	2,027,520	112,128	0.90	73.90
TOTAL NIVEL II	28,725,148	40,852,925	69,578,073	8,828,160	716,568	N/A	N/A
TOTAL NIVEL I Y II	48,070,966	101,609,589	149,680,555	52,526,654	N/A	N/A	N/A

CUADRO # 14

 Apéndice VI-4
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PROYECTO PID: ME-0159
 TIPO DE ANALISIS: ECONOMICO
 NIVEL DEL ANALISIS: PROYECTO (INCORPORACION DE CENTROS)
 ASPECTO ANALISADO: COSTO/EFICIENCIA
 CASO: HIPOTESIS PROBABLE

TIPO DE CENTRO DE SALUD	COSTOS PARA 24 AÑOS A ^{VALOR PRESENTE} PRECIOS DEL AÑO 1 EN U.S.\$			PRODUCTIVIDAD PARA UN PERIODO DE 24 AÑOS		COSTO UNITARIO DEL PROYECTO - EN U.S.\$	
	INVERSION DIRECTA	COSTOS CORRIENTES	TOTAL PROYECTO	TOTAL CONSULTAS	TOTAL EGRESOS	CONSULTAS	EGRESOS
** NIVEL I **							
TOTAL C.S.R.D.	8,485,957	17,404,575	25,890,532	12,243,960	N/A	2.11	N/A
C.S.R.C. 1C	1,789,572	5,319,529	7,109,101	1,644,840	N/A	4.32	N/A
C.S.R.C. 2C	1,647,175	6,300,001	7,947,175	2,695,680	N/A	2.95	N/A
C.S.R.C. 3C	153,829	755,195	909,024	336,960	N/A	2.70	N/A
C.S.R.C. 3CLAB	190,545	601,614	792,160	240,570	N/A	3.29	N/A
TOTAL C.S.R.C.	3,781,181	12,976,329	16,757,520	4,918,050	N/A	3.41	N/A
C.S.U. 1	346,606	992,055	1,338,661	333,450	N/A	4.01	N/A
C.S.U. 2	1,090,949	4,057,774	5,148,724	1,809,000	N/A	2.85	N/A
C.S.U. 3	245,875	1,059,068	1,304,943	500,175	N/A	2.61	N/A
C.S.U. 4	944,045	4,275,362	5,219,408	2,054,700	N/A	2.54	N/A
C.S.U. 5	1,343,649	6,286,397	7,630,046	3,348,000	N/A	2.28	N/A
C.S.U. 6	3,107,556	13,705,093	16,812,649	3,705,750	N/A	4.54	N/A
TOTAL C.S.U.	7,078,682	30,375,749	37,454,430	11,751,075	N/A	3.19	N/A
TOTAL NIVEL I	19,345,819	60,756,663	80,102,482	28,913,055	N/A	2.77	N/A
** NIVEL II **							
H.60	25,083,344	34,389,345	59,472,689	6,800,640	604,440	1.75	78.71
H.120	3,641,804	6,463,581	10,105,384	2,027,520	112,128	0.90	73.90
TOTAL NIVEL II	28,725,148	40,852,925	69,578,073	8,828,160	716,568	N/A	N/A
TOTAL NIVEL I Y II	48,070,966	101,609,589	149,680,555	37,741,245	N/A	N/A	N/A