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SAO PAULO HEALTH PROJECT

STAFF APPRAISAL REPORT

April 19, 1984

Population, Health and Nutrition Department

BRAZIL

SAO PAULO HEALTH PROJECT

STAFF APPRAISAL REPORT

Table of Contents

Page No.

ABBREVIATIONS i
DEFINITIONS iii

I. INTRODUCTION 1

II. SECTOR BACKGROUND 2

A. Population, Health, and Nutrition in Brazil. 2
. Status 2
. National Institutions and Policies 3
. National Health Resources. 6
. Health Sector Issues 7
. Project Rationale. 9

B. The Health Sector in Sao Paulo 9
. General. 9
. Population, Health and Nutrition Status. 10
. Health Sector Institutions and Resources 11
. Health Manpower. 13
. Health Costs and Financing 13
. Health Sector Issues 14

C. Health Care Strategy in Sao Paulo. 14
. A New Model of Basic Health Services 15

III. THE PROJECT 17

A. Project Objectives. 17
B. Project Components. 17
C. Project Description 18
D. Implementation Schedule 24

This report is based on the findings of an appraisal mission, consisting of Messrs. J. Andreu, P.W. Whitford, W. De Geyndt, O. Echeverri, B.J. Hubert, W.P. McGreevey and Mrs. M.V. Lister, which visited Brazil in November-December 1982; the report was updated by Dr. Echeverri with additional information obtained in post-appraisal missions from June, 1983 to January, 1984.

Page No.

IV. PROJECT COSTS AND FINANCING 24

A. Cost Estimate 24
B. Financing Plan. 26
C. Procurement 27
D. Disbursements 28
E. Accounts and Audits 29

V. ORGANIZATION AND MANAGEMENT 29

A. Project Organization. 29
B. Project Management. 30
C. Technical Assistance. 32
D. Staffing and Training 32
E. Maintenance. 33
F. Monitoring and Evaluation 33

VI. PROJECT BENEFITS AND RISKS 33

A. Impact on Health Status. 34
B. Impact on Health Costs 34
C. Environmental Impact 35
D. Project Risks 35

VII. AGREEMENTS TO BE REACHED AND RECOMMENDATION 36

ANNEXES

1 - Supplementary Data on Brazil
2 - Supplementary Data on Sao Paulo
3 - Project Services and Facilities
4 - Project Cost Estimates and Financing
5 - Project Implementation Data
6 - Key Indicators - Project Impact
7 - Selected Documents and Data Available in the Project File

MAPS

IBRD 17283R - Sao Paulo Health Project
IBRD 17284R - Maua
IBRD 17285R - Caieiras
IBRD 17286R - Cotia
IBRD 17287R - Freguesia do O
IBRD 17288R - Itaquera - Guaianazes

ABBREVIATIONS

BANESPA	-	Banco do Estado de Sao Paulo - Bank of the Sao Paulo State
BEMFAM	-	Sociedade Civil Bem-Estar Familiar no Brasil -Organization for Family Welfare in Brazil
CIMS	-	Municipal Interinstitutional Health Commission
CIPLAN	-	Coordenaçao Interministerial do Planejamento - Interministerial Coordinating Body (for Health)
CIS/SES	-	Centro de Informaçao de Saude - Health Information Center (of SES).
CIS	-	Interinstitutional Health Commission
CNPq	-	Conselho Nacional de Pesquisas - National Research Council
CNRH	-	Conselho Nacional de Recursos Humanos - National Human Resources Council
CONASP	-	Conselho Consultivo da Administraçao de Saude Previdenciaria - Consultative Council on the Administration of Health Insurance
CRIS	-	Regional Interinstitutional Health Commission
EMPLASA	-	Empresa Metropolitana de Planejamento do Grande Sao Paulo - Metropolitan Planning Body
FAS	-	Fundo de Apoio do Desenvolvimento Social - Fund for Social Development Assistance
FGV	-	Fundaçao Getulio Vargas - Getulio Vargas Foundation
FINSOCIAL	-	Fundo do Investimento Social - Fund for Social Investment
FUNDAP	-	Fundaçao do Desenvolvimento Administrativo - Foundation for Development Administration
FUNDES	-	Fundaçao de Saude - Health Foundation
GSP	-	Grande Sao Paulo - Greater Sao Paulo
HRC	-	Human Resources Center (of SES)
ICB	-	International Competitive Bidding
IBGE	-	Fundaçao Instituto Brasileiro de Geografia e Estadisticas - Brazilian Institute for Geography and Statistics
INAMPS	-	Instituto Nacional de Assist ncia Medica da Previd ncia Social - National Social Security Institute for Medical Assistance
INAN	-	Instituto Nacional de Alimentaçao e Nutriçao - National Institute of Food and Nutrition
INPS	-	Instituto Nacional de Previdencia Social - National Institute of Social Security
LCB	-	Local Competitive Bidding
MCH	-	Maternal and Child Health Care
M&E	-	Monitoring and Evaluation
MHP	-	Metropolitan Health Program
MOH	-	Ministerio de Saude - Ministry of Health
MPAS	-	Ministerio da Previdencia e Assistencia Social - Ministry of Social Insurance and Assistance
MSP	-	Municipio de Sao Paulo - Municipality of Sao Paulo
PIASS	-	Programa de Interiorizaçao das Acoes de Saude e Saneamento - Program for Grassroots Health and Sanitation Actions
PMU		Project Management Unit

SEPLAN	-	Secretaria de Planejamento - Secretariat of Planning (of the Office of the President of the Republic)
SABESP	-	Companhia de Saneamento Basico do Estado de Sao Paulo - Basic Sanitation Company of Sao Paulo State
SEADE	-	Fundaçao Sistema Estadual de Analise de Dados - State Foundation for Data Analysis
SES	-	Secretaria Estadual da Saude - (Sao Paulo State) Secretariat of Health
SHS	-	Secretaria de Higiene e Saude - Secretariat of Hygiene and Health (of the Municipality of Sao Paulo)
UBS	-	Unidade Basica de Saude - Basic Health Unit

DEFINITIONS

Child Death Rate	:	The number of deaths among children one to four years of age per 1,000 children in that age group in a given year.
Contraceptive Prevalence Rate	:	The percentage of married women in reproductive ages who are using a modern method of contraception at any given point in time.
Crude Birth Rate	:	Number of births per 1,000 population in a given year.
Crude Death Rate	:	Number of deaths per 1,000 population in a given year.
Dependency Ratio	:	Ratio of population 14 years or under and 65 or over, to population aged 15 to 64 years, multiplied by 100. Indicates proportion of population that needs to be economically supported.
Incidence Rate	:	The number of persons contracting a disease as a proportion of the population at risk, per unit of time usually expressed per 1000 persons per year.
Infant Mortality Rate	:	The number of deaths of infants under one year of age in a given year per 1,000 live births in that year.
Life Expectancy at Birth	:	The average number of years an infant would live if the current age/sex-specific mortality trends prevailing at the time of birth were to continue.
Maternal Mortality Rate	:	The number of deaths to women who die due to pregnancy and childbearing complications in a given year per 100,000 live births in that year.
Morbidity	:	The frequency of disease and illness in a population.
Neonatal Mortality Rate	:	The number of deaths of infants under 28 days of age in a given year per 1,000 live births in that year.

Perinatal Mortality Rate	:	The number of fetal deaths after 28 weeks of pregnancy (late fetal deaths) and of infant deaths under 7 days of age per 1,000 live births in that year.
Prevalence Rate	:	The number of persons having a particular disease at a given point in time per population at risk. Usually expressed per 1000 persons per year.
Rate of Natural Increase	:	The rate at which a population is increasing (or decreasing) in a given year due to a surplus (or deficit) of births over deaths, expressed as a percentage of the total population.
Total Fertility Rate	:	The average number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year.

BRAZIL

SAO PAULO HEALTH PROJECT

Staff Appraisal Report

I. INTRODUCTION

1.01 The governments of the Federative Republic of Brazil and the State of Sao Paulo have requested Bank assistance in financing a project for improving health and for increasing the cost-effectiveness of health services delivery in underserved parts of the metropolitan area of Greater Sao Paulo. The project also includes studies to assist policy formulation in health throughout Brazil. The project would be the second free-standing health project in Brazil to be assisted by the Bank, the first being the Northwest Health Project in the State of Rondonia (Loan 2061-BR). Both projects build upon the experience gained in the implementation of 17 health components in different development projects in the Northeast and the Northwest of Brazil, and on the Nutrition Research and Development Project (Loan 1302-BR). The project would also be the first urban health project to be supported by the Bank.

1.02 The project was identified in 1979 by the Secretariat of Health of the State of Sao Paulo (SES), which carried out the initial preparation. In mid-1982, a Special Commission was established by the State Governor to prepare the project, including staff from SES, the Secretariat of Hygiene and Health of the Municipality of Sao Paulo (SHS), the social security agency (INAMPS) and others. The Commission's Summary Project Preparation Report is dated January, 1983. With the change of State Government in March 1983, the Special Commission lapsed and the finalization of project preparation fell to the State Secretary of Planning and Economy, who chaired an Inter-Institutional Council of the State and Municipal Secretaries of Health and the INAMPS Regional Superintendent. The Council appointed an Executive Group to continue project preparation until August 1983. Then a Project Manager was appointed and a Project Management Unit was established in October 1983. Subsequently, the National Studies component was prepared by various federal agencies, coordinated by the Federal Secretariat of Planning (SEPLAN), in consultation with the Bank. Bank staff gave considerable technical assistance to those preparing the project.

II. SECTOR BACKGROUND

A. Population, Health and Nutrition in Brazil

Status

2.01 Population Trends. Brazil's population of about 120 million is unevenly spread over the country's 8.5 million km2, with population densities ranging from two inhabitants per km2 in the Amazon basin to 56 inhabitants per km2 in the Southeast. The population growth rate declined from 2.9% (1960-70) to 2.5% in the 1970-80 decade. The total fertility rate is 4.1, well above replacement levels. The most salient demographic characteristic is heavy migration of rural poor to mostly urban areas (1.5 to 2 million people each year) and, within the latter, from smaller to larger cities. This process has affected all regions of the country, including the Northeast (the urban population of which doubled to one-half of the total in the last 30 years) and the frontier region of the North and Northwest, where about two-thirds of recent migrants are moving to cities and towns. In 1980, there were fewer Brazilians living in rural areas than in 1970 or in 1960. Within urban areas, the ten largest metropolitan centers grew more quickly than small and medium-sized towns and cities. Urban dwellers represented 68% of total population, with an average growth rate of 4.1% in the 1970s. Total fertility has been declining since the 1960's, due mainly to older age of mothers at first birth, and increased use of contraceptives, especially in the most developed states where about 60% of married women of reproductive age use contraceptives compared to 30% in the Northeast.

2.02 Health Status. Health conditions in the country are generally poor, considering Brazil's overall level of development. Life expectancy at birth is 64 years, or comparable to Colombia and Mexico, countries with lower per capita income than Brazil. The infant mortality rate is estimated at 77 per 1000 live births, significantly higher than for Colombia and Mexico (56/1000). The above averages vary widely by regions and by income levels. For example, infant mortality is over 100 per 1,000 live births in the Northeast region as a whole. Life expectancy in the South and among the well-to-do is about 12 to 15 years longer than among the rural poor. In most parts of the country, diarrheal diseases are the leading cause of death, with respiratory diseases and perinatal causes also prominent. Rates of infection from some diseases preventable by vaccination (diphtheria, tetanus, whooping cough) in Brazil are four to six times the rate in Mexico, while the prevalence of measles is comparable and only polio is better controled in Brazil. Tuberculosis and leprosy are still prevalent. Malaria and Chagas' disease (the South American form of sleeping sickness) are also widespread in the Northeast and Northwest. Schistosomiasis affects about 7 million people. Further statistics are given in Annex 1, Tables 1-5.

2.03 The high-income urban core areas of the South and Southeast exhibit health conditions similar to those prevailing in industrial societies, with a high incidence of cardiovascular problems, tumors and diseases associated with old age. Conversely, the poor rural areas of the Northeast and the Amazon, as well as low-income peri-urban areas throughout Brazil, show a high incidence of infectious and parasitic diseases and perinatal death typical of low-income countries.

2.04 Nutrition Status. Only one-third of the country's population is estimated to meet the FAO/WHO calorie requirements. Only 53% percent of children five years of age could be considered adequately nourished (defined as weighing more than 90% of the median weight for the age), while 33% of children of the same age suffer from first degree, 13% from second degree and 1% from third degree, malnutrition. Malnutrition has its most severe impact on infants and children, especially in poor peri-urban areas and in rural areas of the North and Northeast (Annex 1, Table 6). For example, nearly 4% of infants under six months in the Northeast suffer from third-degree malnutrition. Studies carried out since 1972 show that, during the 1960s and early 1970s in the Northeast, the urban poor had a lower nutritional status than the rural poor (1,400 vs. 1,650 cal per capita energy availability). By 1975, the percentage of the rural population with adequate diets was four times higher than for urban people in the Northeast and more than twice as high in the Southeast. A major contributing factor to infant malnutrition is the short duration of breastfeeding in all regions of Brazil. The median duration varies from one month in the southeast and some northeastern cities, such as Recife, to perhaps three months in more traditional areas. Raising this median to six months would not only have direct nutrition benefits but considerable health benefits as well. Studies in Sao Paulo, carried out under the Bank's Nutrition Project, show that the decline in breastfeeding is most commonly due to a lack of confidence by mothers in the quality of their milk, as a result of a lack of knowledge, reinforced by the attitudes of the medical profession, difficulties of working mothers to breastfeed their children, and the heavy advertising of substitutes, leading to early supplementation and the consequent loss of the mother's milk and early weaning.

National Institutions and Policies

2.05 Institutions. Throughout this century, Brazil has had a pluralistic approach to health care delivery, involving a number of agencies in the public and private sectors. The oldest of the public health sector institutions is the federal Ministry of Health (MOH), which started in 1904 as the Public Health Directorate subordinated to the Ministry of Justice and then transformed into the National Public Health Department attached to the Ministry of Education. In 1953 it became MOH and the state Health Secretariats began to be established. MOH concentrates on communicable disease control especially on malaria, schistosomiasis and Chagas disease, while the states historically focussed on tuberculosis, leprosy and immunopreventable diseases. In more recent years, MOH has begun to support the states in more comprehensive programs of primary health care, nutrition, medical research and in special programs for frontier and border areas.

2.06 The other major public health sector institution is the National Social Security Institute for Medical Assistance (INAMPS), which was created in 1967 by merging several social security programs for particular groups of workers, which started in the 1920s. INAMPS, along with other institutes administering retirement and disability pensions, is supervised by the Ministry of Social Insurance and Assistance (MPAS) but enjoys a high degree of financial and operational autonomy. Prior to the 1970s, the predecessors to INAMPS relied mainly on a network of owned clinics and hospitals to serve their subscribers. However, the rapid expansion of coverage in recent years led INAMPS to contract with the private sector for

about 56% of all services. INAMPS is financed by a payroll tax for wage earners and equivalent taxes of the self-employed and its subscribers include, in some sense, 90% of all Brazilians. However, its ability to supply services is quite limited outside the major urban centers.

2.07 The respective jurisdictions of MOH and MPAS are laid down in the Law 6229 of 1975: MOH is responsible for national health policy and for collective health programs, whereas MPAS aims to provide individual medical care, though this distinction is now blurring. Coordination between the two agencies remains inadequate. Both ministries, together with the Ministry of Education, are represented on a coordinating committee (CIPLAN) which could be more effective in coordinating health policy if the federal Secretariat of Planning (SEPLAN) were represented.

2.08 At the state level, the SESs are traditionally oriented to infectious diseases control and maternal and child health (MCH) care. Remaining health services are provided largely by the private sector, generally reimbursed by INAMPS. The SESs frequently lack planning and managerial capability and are characterized by a lack of dynamism, unattractive employment conditions, weak supervision and logistic systems. Municipal governments provide basic health services but most of the 4,000 odd municipal administrations are so poorly managed and funded that their health services are limited to providing small additional funds for the state-managed health activities and to operating ambulance services. Notable exceptions to this are municipalities in large, industrialized metropolitan areas, such as Sao Paulo, which are financially strong and have developed their own independent health services.

2.09 Originally, the private sector consisted mainly of hospitals run by religious or charitable foundations or universities and physicians in private practice. In recent years, there has been a massive growth of profit-making enterprises in the health sector, often established by subsidized loans from the federal Fund for Social Development Assistance (FAS). The private sector caters both to the small group which can pay for their own services (less than 10% of the population) and to INAMPS beneficiaries.

2.10 Population Policies. Official population policy was, until 1974, pronatalist. In 1974, Brazil took a neutral stance in the World Population Conference, asserting that family planning should be decided by the couple, and should not be a privilege of affluent families. Federal authorities also have tacitly approved family planning programs organized by the Sociedada Civil Bem-Estar Familiar no Brasil (BEMFAM) in the last 18 years. But it was not until 1977 that the Government formally announced a family planning program for women with probabilities of high health risk pregnancies. In 1979, the government legalized the advertising of contraceptives, but maintained the penalty for advertising abortion. In 1983, the First Congress on Maternal and Child Health and Family Planning recommended that the government, complemented by private institutions, should provide the means for Brazilians to plan the size of their families, and proposed the creation of a national agency to coordinate a national family planning program. Soon after, the Minister of Health announced the Women's Integral Health Care Program which will be gradually implemented starting on the Northeast in 1984 and covering the whole country by 1988. Family planning is included as part of a full range of maternal and child services. The philosophy underlying the program was that "family planning

should be given its appropriate place in the context of health programs and should neither be seen as a solution to social and economic problems nor have its interface with the health sector ignored". The program is to be financed largely with Brazilian resources, though the Ministry of Health has requested a grant of US$12 million from the United Nations Fund for Population Activities (UNFPA).

2.11 Family planning is widely practiced throughout Brazil, particularly in urban areas, and this is resulting in substantially lower birth rates. Contraceptive methods are used by about 30% of married women in the poorer northeastern states, compared to over 60% in the most developed states (Annex 1, Table 7 and 8). The private sector has played a major role in increasing the availability of contraceptives in the country, both through commercial channels and through voluntary agencies, the most important being BEMFAM.

2.12 Health policies. There is at present considerable interest on the part of the government to redress the inequity and inefficiency of the health care system by improving resource use, resource allocation and coverage. Prospects are good that appropiate policy changes could be implemented in the near future. National strategies already implemented include:

(a) the introduction in 1976 of PIASS (a program to bring basic health and sanitation activities to communities of less than 20 thousand people) in the Northeast. The program's main elements are: establishment of a network of mini-health posts and health centers; reliance on auxiliary health personnel as service providers; and the use of INAMPS' funds to cover recurrent costs of primary health services (the first entry of INAMPS into the primary health care field). PIASS is supported by referral health centers (Unidades mistas), and local or regional hospitals, though this aspect of the system is still weak. Extension of the PIASS program to the rest of the country has been a legally established objective since 1979;

(b) the Curitiba plan, in the state of Parana -- a reorientation of health services in which patients' point of entry into the system is the health center and from there they are referred to upper level private and public facilities only as needed. INAMPS makes fixed payments for given procedures rather than fee-for-service;

(c) implementation since 1982 of CONASP (Consultative Council on Health Insurance Administration) recommendations for: full utilization of the existing public sector facilities, with the health post or center as the normal point of entry; improvement of training and utilization of personnel; extension of coverage to rural and peri-urban areas through reimbursement of public sector agencies; progressive decentralization coordinated by a state Commission including MPAS/MOH/SES; strengthening the managerial capacity of the public sector; and implementation of new accounting systems aiming at a rational control of costs, and at curtailing abuses. Although CONASP's recommendations are now being implemented, such fundamental changes will require phased introduction over a number of years to complete; and

(d) establishment in 1982 of a fund, FINSOCIAL, from earmarked revenues, to support programs in the social sectors.

2.13 Two recent developments in health policy should be mentioned: first, the growing decentralization of health services-- "municipalization" -- and the MOH national program - PERIURBANO - to expand the basic health services network in marginal urban areas. The Northeast has been chosen as priority area for implementing PERIURBANO and for strengthening PIASS.

2.14 Nutrition Policies. The basic principle of government nutrition policies is that improvement of nutritional status depends largely on a reduction of costs of producing and marketing basic foods and on better distribution of income. The National Institute of Food and Nutrition (INAN) is the federal agency in charge of executing MOH nutrition policies. MPAS and the Ministry of Education have also important nutrition programs. Presently, INAN acts largely as a channeling agency, as its programs are mostly executed by state governments, the Brazilian Food Company (COBAL) and others. Nutrition policies are given effect in about twelve federal nutrition programs, grouped into four categories: feeding programs; food distribution; nutrition education; and income transfer. In the past five years, the government has given strong budgetary support to feeding programs and less to food distribution and health education. The income transfer programs are new, quite small and somewhat experimental. The Bank-financed Nutrition Research and Development project has provided the basis for improving nutrition policies and programs in the country. The project has recently been completed and a project completion report is under preparation. As a result of the project, Brazil is in a better position than before to launch a serious effort against malnutrition. Several programs initiated under the project (i.e., the preschool feeding program and two consumer food subsidy programs operating through commercial channels) are being expanded by the Government, taking account of lessons learned under the project. However, the project has fallen short of its institution-building objectives as the National Institute of Food and Nutrition, which was supported under the project, has still to become an effective framework for planning and coordinating the implementation of food and nutrition policies and actions.

National Health Resources

2.15 Health Facilities. In 1980, Brazil had 2,918 health posts, 2,506 health centers, 405 "unidades mistas" (health centers with some basic inpatient services), to provide basic health services in 3,431 municipalities; and 450 thousand hospital beds to serve the entire country, or 3,5 beds per 1000 people, a ratio well above the average of 2 per 1000 for Latin America. About half of all health facilities and 85% of all specialty care institutions belong to the private sector and are mainly located in urban areas. One-fifth of all hospitalizations and one-tenth of all medical consultations occurred in the rural areas which accounts for one-third of total population. These figures show that Brazil has a reasonable network of health facilities but with uneven distribution. This is aggravated by a low productivity, excess of sophisticated medical technology, scarce simple high quality health care, and uncoordinated roles of health care providers. The government has partially responded to these issues with the CONASP, PIASS, and PERIURBANO programs (paras. 2.12, 2.13).

2.16 Health Manpower. Brazil created 29 medical schools in 152 years (1808-1960), and 37 new ones in 6 years (1965-71). This dramatic expansion of training facilities increased the supply of doctors from 1,537 per year in 1965 up to 8,284 per year in 1975. In 1981, the estimated number of doctors in the country was about 108,000, with uneven distribution patterns ranging from 1 per 4,000 people in the Northeast to 1 per 600 in Rio. In 1981 Brazil had 33,000 doctors unemployed or underemployed as a consequence of the growing output of the medical schools. By contrast, there were about 18,000 nurses in 1980, or 15 per 10,000 people, a ratio well bellow the 27 per 10,000 average in Latin America. Auxiliary nurses have a better representation with a total of about 91,000, or 9 per 10,000 people, roughly the same ratio as in Latin America.

2.17 Health Financing. Brazil is now spending an estimated 4% of Gross Domestic Product (excluding the private sector) on health services, which is similar to other middle income countries and not far behind some industrialized countries (Annex 1, Table 9). However, this proportion has risen rather rapidly from 1% of GDP in 1949 to 2.5% in 1976. In 1982, federal expenditure on health was US$3.48 billion, of which INAMPS accounted for 85%, MOH 10% and other ministries 5%. Per capita expenditure on health in Brazil in 1982 was about US$30, excluding state, local, and private non-INAMPS expenditures. While these averages are appropriate to a country at Brazil's level of development, they mask important imbalances between primary, secondary and tertiary care and between geographical regions.

2.18 In Brazil, primary health care (to the extent that it is provided) corresponds to the programs of MOH and the SESs or about 15% of all health expenditures. Because of the inadequacy of these services, secondary care services are overused, thus adding to its costs, and partly explaining its 20% growth rate in recent years. Until policies were recently changed, about 5% of Brazil's national health expenditure was spent on coronary bypasses and renal dialysis for a few thousand patients.

2.19 Geographical disparities affect both revenues and expenditures. In 1982, the Southeast region accounted for 44% of the national population but generated 63% of INAMPS tax revenue (Annex 1, Tables 10-11). The fact that only 53% of INAMPS expenditures were made in this region shows that there is some redistribution within the system. The Northeast region has 29% of the population, generates 9% of the revenues and receives 17% of INAMPS services. The small MOH budget is also slanted to the poorer states but the fact remains that health expenditures are highest in the richer states which already have better health status.

Health Sector Issues

2.20 Brazil has made substantial progress in developing its health care system. Nearly all citizens have access to some measure of health care. The aggregate level of funding is appropriate to Brazil's level of development and the supply of skilled manpower is not a critical constraint. However, significant problems remain; the major ones being equity of access to health services between income groups and geographical areas; and efficiency in the allocation of financial and manpower resources. A second level of issues includes: planning and management capacity; inter-agency coordination; the roles of the public and private

sector; fraud and abuse of the existing financing system; conflict of interest; and inappropriate training of personnel. Because of these problems, Brazil is not achieving the health status that its financial and manpower resources would suggest.

2.21 Equity. Whether one looks at health expenditure, staff, numbers of health posts and centers, or hospital beds, there are wide discrepancies between states (Annex 1, Tables 9-15) and even wider variations if one looks at smaller areas - such as remote rural areas, spontaneous rural settlements and the rapidly growing fringes of the major cities. As the health indicators (Annex 1, Tables 2-5) show, these underserved poverty areas are characterized by high fertility, frequent diarrheal and respiratory diseases, malaria and malnutrition, all of which could be improved through low cost means. The growth of such a system has been constrained by the bias among policy-makers and the medical profession in general towards higher-cost, curative care, particularly in urban areas, as shown by the relative growth of INAMPS compared with MOH. This bias is now changing (para. 2.18).

2.22 Efficiency. The decreasing share of funding for primary health care has obvious efficiency implications, resulting in a rapid increase in health expenditures with only modest improvements in health status. A root cause of these problems was the system of reimbursement by INAMPS (which is now in the process of change) on the basis of fee-for-service, which encouraged the use of unnecessary procedures (for example, 30% of all births in Sao Paulo are by cesarian section, whereas only about 10% might be medically indicated), the installation of expensive equipment, overuse of laboratory tests and X-rays and excessive specialization of physicians.

2.23 Planning and management capacity in the health sector is weaker than in other sectors in Brazil. There is also little coordination between agencies in the operation of programs, leading to overlaps in some areas and gaps in others. With the encouragement of past governments, the private sector has grown from its traditional role of provider to the richer classes to a much broader role as a principal provider of health services to the general population, through INAMPS reimbursement. Until recently, there were few controls on the use of this mandate by the private sector and fraud and abuse abounded. Recent audits of physician and hospital bills submitted to INAMPS for payment found "irregularities" in 90% of all bills.

2.24 A major cause of high costs in the health system is what Brazilians refer to as a dupla militancia, or conflict of interest, which riddles the system. Virtually every physician works for at least one public health facility in addition to a private facility. Typically they use their employment in public clinics as a means to recruit patients into a private facility in which, from the doctor's point of view, he can offer better-quality service on a fee-for-service basis, and in which the client can enjoy more personal attention. The physician can also control service delivery and profit therefrom in the private facility. Thus, public sector facilities were, in 1981, responsible for about 43% of medical and dental consultations but for only 10% of hospital admissions.

2.25 The Bank supports the Government's plans for improving the equity and efficiency of the health system and expects that future Bank-assisted projects will likely incorporate both objectives. The Bank's sector and project work will assist Brazil in these areas.

Project Rationale

2.26 There are several reasons why a project directed at the poor areas of Greater Sao Paulo (GSP) is a logical next step in addressing Brazil's many pressing health needs. These include:

(a) the health needs in GSP are not too dissimilar to those of Brazil as a whole. While average health status is not as bad as in many rural areas, it is much worse than the level one would expect in a fairly developed metropolitan area. Furthermore, the need for coordination of services, improved management, cost control and manpower planning are more acute than elsewhere;

(b) there is a strong commitment to changing the orientation and expanding the coverage of health services in Sao Paulo at the municipal, state, and federal levels, as shown by the development of a tripartite project preparation team (para. 1.02); and

(c) a successful project in GSP would, in the opinion of most observers, facilitate the adoption of new approaches in the rest of the country, because of Sao Paulo's position as a trend setter.

2.27 The analysis below complements the rationale for a health project in GSP, as a logical step in addressing its health needs and the country's health sector issues and strategies.

B. The Health Sector in Sao Paulo

General

2.28 Presently, one-half of the 12.6 million population of GSP is officially considered poor (earning less than five minimum salaries). The high mobility of the population inside the metropolitan area, particularly among poor neighborhoods, contributes to urban chaos and weak social cohesion. This "metropolization" of life creates a paradoxical social isolation in densely populated areas and makes it difficult for people living in the periphery to gain access to services such as health, which are concentrated in the inner part of the metropolitan area.

2.29 For planning purposes, Sao Paulo Municipality (MSP) could be divided into three zones: the core area contains 1.1 million people (13% of the total) and is characterized by a dense and slowly growing population and a high standard of building construction and social services. The intermediate zone has 1.7 million people (20%) and contains a mixture of industry, good and poor housing, and varying levels of social services. The peripheral zone has 5.7 million inhabitants (67%) in a range of densities but with rapid growth rates. This is where most of the recent immigrants have settled, some in squatter settlements (favelas), others in high-density low standard dwellings. Utilities, transport and social services have not been able to keep up with the growth of these dormitory areas, which frequently lack local industry and other employment. The municipalities surrounding MSP share many of the characteristics of the peripheral zone, apart from a few richer ones.

Population, Health and Nutrition Status

2.30 Population. As a result of accelerated industrial and urban expansion during the last thirty years, the population of the Sao Paulo state is at present concentrated in the cities (89%). The metropolitan region of Greater Sao Paulo (GSP) covers only 8,053 km2 but contains 12.6 million people (1980), a population density of 1,562 inhabitants/km2. This is about 10% of Brazil's population: About two-thirds of GSP's population lives in Sao Paulo Municipality (MSP), the remainder in 36 other municipalities mostly quite small (Map IBRD 17283R). The GSP average annual population growth rate of 4.5% for the 1970s was almost twice that of the country as a whole (2.4%). However, about half this growth was from migration, which is adding 280,000 people per year to GSP. At the same time, the downward trend in the crude birth rate, which decreased from 33.4/1000 in 1960 to 26.5/1000 in 1970 was reversed, increasing to 30.5 live births per thousand population in 1980, due to the influx of immigrants, who are younger, less educated and with lower income than the general population. This important change in fertility coincided with others in mortality, especially infant mortality (see para 2.33).

2.31 Recent research on fertility and contraceptive use in Sao Paulo State showed that over one-half of women of reproductive age were using effective contraceptives. Oral contraceptives are the most widely used method through the 15-49 age range (Annex 1, Table 8). However, amongst the poorest groups (especially recent immigrants), knowledge of family planning practices is limited and their access to private sector sources of information and supplies (in the absence of public sector concern) is constrained.

2.32 Health. Because of disparities in incomes and services, the periphery of MSP and the other periurban municipalities of GSP do not differ greatly in health status from that encountered among the poor elsewhere in Brazil and in developing countries in general, whereas the core area presents an improved health pattern similar to that of some developed countries.

2.33 There has been a downward trend in the GSP crude death rate from 8.6 per thousand in 1960 to 7.1 per thousand in 1980. Infant mortality rates, after bottoming out at 61 per thousand live births in 1961, suffered a reversal and reached 95 per thousand in 1973, after which they declined again to 64 per thousand in 1980. These mortality trends were inversely related to the real wage index trends between 1963 and 1979 as well as to decreasing shares of public health expenditures allocated for preventive services (from 64% in 1965 to 16% in 1980). Infant mortality rates vary from 42 per thousand in the core area to 175 in one of the peri-urban municipalities.

2.34 Infectious diseases account for one-third of all infant deaths in the core area and almost one-half of infant deaths in the periphery. Infant death rates for enteritis, diarrhea and pneumonia in the periphery of Sao Paulo are similar (about 1200 per 100,000 population) and are twice higher than in the core area. Neonatal deaths predominated over late infant deaths in the more affluent areas (core and intermediate), while the reverse has been true for the periphery of Sao Paulo. This pattern confirms that basic services, such as MCH care and immunizations, are less adequate in the periphery of MSP and other municipalities than in the central area.

2.35 While cardiovascular diseases remain the leading cause of death in all three areas, they make up 20% of total deaths in the core area and only 10% in the periphery. In contrast, pneumonia is the fourth leading cause of death in the core area (10% of total deaths) while it shares the first place with cardiovascular diseases (10% of total deaths) in the peripheral area.

2.36 The incidence of immuno-preventable diseases has dropped in the last five years due to special vaccination campaigns, but the incidence of polio and measles is comparatively higher in the periphery and other municipalities than in the core area. The fact that 80% of cases of typhoid fever reported in MSP in 1980 occurred in peripheral areas underlines the poor sanitary conditions and food control in the periphery. In a study of hospitalized patients in Sao Paulo during a four month period (Annex 2, table 4), 95% of diagnoses corresponded to common morbidity problems for which admissions could be substantially reduced with more efficient and effective ambulatory care services.Another study carried out in 1980 showed that 12.7% of babies born in public maternity hospitals have low birth weight, compared to 9.0% in private hospitals, indicating the lesser access of poorer mothers to antenatal care. It is considered that 23% of children 6 to 60 months of age suffer from mild malnutrition and 2.2% have moderate to severe malnutrition. These figures jump to 37% of children showing mild malnutrition and 9% moderate to severe malnutrition in children of families with the lowest incomes, who live mainly in the periphery of Sao Paulo.

Health Sector Institutions and Resources

2.37 State and Metropolitan health services are the responsibility of several institutions, which lack coordination in planning, management and service delivery. MOH activities consist of financial support to the programs carried out by the State Secretariat of Health (SES). MPAS health programs are carried out mainly through INAMPS, which provides services to GSP: (i) directly, through its own network of health facilities consisting of 23 ambulatory units and five general hospitals with 1,112 beds; and (ii) indirectly, through contracts with 168 private hospitals with 17,000 beds (104 of them also provide ambulatory and emergency care); contracts with public institutions of the state and the municipality, unions, universities and enterprises ("group medicine"); and contracts with 262 individual physicians. INAMPS own facilities are highly concentrated in the core area of MSP.

2.38 State Secretariat of Health (SES). SES operates through four Coordination Divisions, for community health (ambulatory services), hospital services, specialized technical services (production of serum, vaccines, lab tests), and mental health. SES organizes its ambulatory services on a geographical basis, into districts and regions. However, the health district director has no real control over financial resources and manpower, and the health region director prepares the annual budget to be approved by SES for the health facilities located in the several districts of the region. The five health regions of GSP report to the Community Health Coordination Division of SES. The hospital services of SES are centrally managed by the Hospital Coordination Division, and are not coordinated with the ambulatory services for patient referral. In 1980, ES had 203 health centers and nine hospitals with 3,037 beds in the metropolitan area, and dealt with 1.3 million ambulatory visits (out of

which more than 80% were MCH visits). The rate of occupancy of the hospitals was 50%, with longer stays than in the private sector, as many of the State hospitals are specialized in chronic diseases, such as TB and leprosy. In addition, SES has seven mental hospitals in GSP with 5,245 beds and had contracted 1,780 more beds with private hospitals. It is difficult to estimate SES service coverage since there is no coordination or referral agreements among the health agencies.

2.39 Secretariat of Hygiene and Health of the Municipality of Sao Paulo (SHS). This institution also has separate hospital and community health (health post) services and has regionalized its services into five technical regions, which do not coincide with the state regions. Facilities included 56 health posts, five emergency units, seven hospitals with 1,037 beds, and other private hospitals under contract with 1,165 beds. In 1980, SHS services produced 470,000 medical visits (all MCH), one million emergency visits, and 54,158 hospital discharges. Laboratory services are entirely purchased from the private sector. The public makes greater use of the emergency units than the health posts because of a perception of a broader range of higher quality services and the existence of back-up facilities such as hospitals and laboratories. SHS also operates health and sanitary inspection services.

2.40 A few of the other 36 municipalities in GSP operate full health services (hospitals and health centers) - the best of these (Cotia) is described in para. 2.47. The remainder contribute only with partial personnel expenditures to the SES system or an ambulance to take patients to the downtown area. There are nine University hospitals in GSP which are not coordinated with the government health services. They provide the most sophisticated services and are also used by patients with common health problems, an inefficient use of resources. Seven hospitals with 2,146 beds provide services to a "closed" population (civil servants or military) but these are not coordinated with other services.

2.41 Despite the fact that there are relatively few public sector health posts or centers in the periphery of Sao Paulo, those that exist--whether State or Municipally run--are underutilized, typically operating at 50% or less of capacity. Significantly, INAMPS clinics do not have this problem. The reasons for underutilization include:

(a) a narrow range of services--basically MCH care and distribution of nutrition supplements. Diagnostic services or treatment for adults are very limited, and staff, especially physicians, are not regularly available;

(b) alternative services, especially private group practices and hospital emergency centers, are perceived as offering better care and are often closer to work, especially for INAMPS beneficiaries (the weaknesses of the private sector (para. 2.42) affect less the individual user and more society as a whole);

(c) limited hours of operation, makes difficult for wage earners to attend, and sickness certificates issued by health center doctors are not accepted by employers;

(d) cramped, poorly equipped, unattractive buildings, often built for another purpose compound an overall image of a second-class health service.

Any expansion of public sector facilities in Sao Paulo will need to address these problems (para. 2.49).

2.42 Private Sector. The private sector includes: medical practice in private offices; private hospitals; pre-paid "group medicine"; private health insurance services; and health services provided by factories or unions. Of a total of 223 hospitals in GSP, 193 are private. The network of private hospitals in GSP exists mainly through contracts with INAMPS or with "group medicine" clinics. Most of the services provided by "group medicine" enterprises are ambulatory. They sub-contract hospital services with the private hospital network, but dissatisfaction exists with the quality of these services. The private sector in Sao Paulo epitomizes the national characteristics of the sector described in paras. 2.09 and 2.20 - curative in orientation, high-cost (but popular because it is usually "free" to the patient), tainted by fraud and conflict of interest, and without proper referral arrangements. However, in the areas where a curative approach is appropriate (secondary and tertiary levels), the sector does a good job and its best hospitals are of international standard.

Health Manpower

2.43 One-fourth of the 108,000 physicians in Brazil, live in Sao Paulo State and about 20,000 reside in GSP. This number is increasing by about 2,000 per year. The population/doctor ratio for GSP in 1980 was 790/1, and it is expected to be 520/1 by 1990. The number of professional nurses registered in Sao Paulo State increased from 3,016 in 1975 to 19,399 in mid-1981 (a ratio of 650 people per nurse). However, a high proportion of professional nurses work as administrators. In Sao Paulo, 95% of nurses do graduate courses in clinical specialties, thus getting better salaries, in some cases even above the doctors' salaries. This situation is provoking a severe shortage of general and public health nurses, in addition to the existing shortage of health technicians and nutritionists. The rapid expansion of trained manpower originated in the 1960s, when the number of faculties of medicine and nursing schools increased almost threefold with a continued concentration in Rio de Janeiro and Sao Paulo. Students are attracted from the metropolitan areas and expect to work there after graduation. The curative medical care model which reigns in Sao Paulo is becoming rapidly saturated with general practitioners and specialists. These physicians typically have limited interest in covering large populations with basic health services or in limiting costs, as the curricula at most medical schools emphasize high technology medicine and encourage specialization. This tendency is exacerbated by the low salaries given by SES. However, partly as a result of multiple jobs (para. 2.24), SES is able to employ 3,000 physicians and dentists, SHS 2,000 and INAMPS 1,800.

Health Costs and Financing

2.44 In 1980, the combined federal, state and municipal expenditures for health services totalled US$683 million in the Greater Sao Paulo region. Of this total expenditure, about 65% passed through the INAMPS financing system, 27% was financed by the state government and 8% by municipalities, with MSP directly responsible for three-quarters of that total. Private health expenditures, that is, those which involved direct payments by households to private health-care providers (including

drugstores) were probably at least equal to the sum of public expenditures. More exact data will soon be available from the 1981 Household Expenditure Survey. In 1980, the estimated total regional health expenditures, exclusive of sanitation and environmental programs, was about US$1,400 million, or an average per capita health expenditure of US$110 in Greater Sao Paulo, which is high for a middle income country.

Health Sector Issues

2.45 The main issues for health improvement in Greater Sao Paulo may be summarized as follows:

(a) rapid population growth, primarily as a result of rural-urban migration, and extensive environmentally unhealthy areas of substandard houses for low-income people with limited access to basic health and family planning services;

(b) sharp contrast between the core areas of GSP, with moderate to low infant mortality and a disease profile resembling that of developed countries, and a peripheral area with much higher infant mortality and a significantly greater prevalence of diarrhea, respiratory and immuno-preventable diseases;

(c) concentration of health facilities in the core area and in the private sector and a trend towards higher-cost, high-technology care for the fortunate few;

(d) three uncoordinated public sector systems, one oriented to curative care, the others to MCH and emergency care, none with an adequate network of facilities in the peripheral areas;

(e) underutilization of existing public facilities because of the poor quality, limited range and low availability of services and the existence of a "free" (but high cost) alternative; and

(f) an adequate supply of physicians and nurses but a lack of knowledge of and interest in basic health care techniques and poor salaries in the public sector.

C. Health Care Strategy in Sao Paulo

2.46 General. Dissatisfaction with the current state of health services in GSP has been building for some years - among health policy makers and INAMPS, concerned with spiralling costs; among public health physicians, disturbed by sector inequity and inefficiency and the widespread prevalence of preventable diseases; among community groups in the underserved areas; and among political leaders, responding to these concerns. In developing a new model of services, planners were influenced by the Cotia experience (para. 2.47), the Curitiba Plan (para. 2.12), which showed that health services could be improved and costs lowered by more efficient utilization and coordination of existing facilities, and the CONASP report (para. 2.12) with its stress on primary health care and cost control. The SHS also started small changes on the pattern of health services, in some areas of the municipality, with a view at obtaining feedback for possible broader changes in the system.

2.47 The Cotia Experience. In 1975, a group of physicians established a charitable foundation to construct a 54-bed hospital in the Sao Paulo peri-urban municipality of Cotia, which was previously without health facilities. The hospital incorporates a large health center for ambulatory care. In subsequent years, satellite health posts were constructed in the surrounding communities, funded by a mixture of private, municipal and state funds. By integrating ambulatory and hospital services and by broadening the range of services offered, the Cotia system has had significant impact in health and expenditure terms (Annex 6, Table 2). Infant mortality was reduced from 120/1000 live births in 1975 to 54 in 1980, no cases of polio, diphtheria or tetanus have been reported since 1976; the proportion of caesarian births has been reduced to 15% (it is typically 30% in GSP generally) and only 15% of ambulatory visits are treated as emergencies. In one sample of 2,000 ambulatory visits seen by a nurse-auxiliary, only 7% were referred to a higher level. The project has had strong support from the Kellogg Foundation (USA) and, more recently, part of the operating cost has been reimbursed by INAMPS. This experience indicates that much can be done to improve the functioning of health systems in GSP, by integrating ambulatory and hospital services, coordinating the activities of the public and private sectors, stressing primary health care and the roles of allied health professionals, and the active participation of INAMPS in program planning.

A New Model of Basic Health Services

2.48 Based on these experiences, the health planners developed a new model of Basic Health Services. The new model was defined following an epidemiological approach which considered the health needs of typical poor families living in underserved areas of GSP. Health needs were differentiated by age group and sex. Appropriate interventions for each group were then defined along the natural history of each main disease or condition (starting with interventions to avoid or decrease the risk of disease, continuing with the provision of specific protection, screening, clinical diagnosis and treatment, and ending with rehabilitation). The category of worker with the appropriate skills to administer each of these interventions was determined. Finally, the defined health interventions were divided between those which could be self-administered (reinforced by health promotion and education), those which can be provided through home visiting, those needing ambulatory visits to a health unit or hospital and finally those requiring hospitalization (see Annex 3, tables 1 and 2).

2.49 Under the new model, the root causes for the present under-utilization of health centers (para. 2.41) would be addressed and the excessive use of hospitalizations would be curtailed through a set of coordinated activities, which will not only expand the scope, improve the quality and availability of services but would also counteract the poor image of the health centers now held by the public. These activities are: (a) construction of well-planned, properly spaced basic health units and hospitals, following functional and physical planning; (b) broadening the range and improving the quality of services to meet all the basic health needs of the population served; (c) changing the orientation of health workers and establishment of more attractive employment conditions, especially for physicians and nurses, enforcement of hours of attendance and the greater use of allied health professionals; (d) promotion of the services offered, through mass media campaigns, involvement of community groups and extension of hours of operation to permit workers to attend;

(e) implementation of the CONASP recommendations by changing the INAMPS reimbursement procedures to require that the health unit be the normal point of entry to the health system; (f) discontinuance of hospital outpatient departments and the shift of the bulk of such services to the basic health units; and (g) community surveillance of the operation of health units through Community Health Councils. Organizational and management features of the new model are treated in para. 3.03 and Chapter V. Financial features are described in para. 4.03.

2.50 While some project impacts will be felt throughout GSP, the major and earliest impact will be on 2.5 million people located as follows: 1.7 million in five main target areas, in which the model will be fully developed; and 0.8 million in eight health districts of MSP, where only ambulatory and referral services would be provided by the Basic Health Units. Full implementation of the new model in these eight districts, called extension points, would be part of follow-up phases that would promote the extension of the new model to the whole GSP, building upon experience gained under this project. The extension points were selected on the basis of correspondence to the selection criteria below and the existence of organized health committees that could help coordinate health services in those health districts.

The following criteria were used to choose the project areas:

(a) areas in the periphery of the metropolis with varying population density, known to have poor health conditions, lack of basic health services, and strong popular demands for improvement;

(b) areas where management collaboration between the State, Municipality and INAMPS health services already exists or can be rapidly obtained;

(c) areas where the new health services model and training programs can be implemented rapidly, with minimal new investments in buildings.

2.51 Two of the selected main target areas, the area of Freguesia do O (five health districts with a population of 580,000) and Itaquera-Guaianazes (two health districts with a population of 577,000) are within the Municipality of Sao Paulo (Maps IBRD 17287R and 17288R). The former was chosen partly because the unusual level of cooperation between the various public and private health services will allow the concept of coordinated operation of public and private sector facilities to be immediately tested. The latter area exhibits particularly acute shortage of health facilities. The remaining three target areas are outside the Municipality of Sao Paulo. They are: (a) the area of Cotia (with a population of 63,000), the site of an existing pilot project which pioneered many of the aspects of the new model now proposed for wider application (map IBRD 17286R); (b) the area of Caieiras (five semi-rural municipalities with 161,000 people); and (c) the area of Maua (three heterogeneous municipalities with a population of 294,000). The choice of the latter two areas was dictated by the fact that the new health model can be introduced almost immediately using existing hospitals (Maps IBRD 17285R and 17284R). Seven selected extension points are located in the periphery of the Municipality of Sao Paulo, and the eighth in the central zone (Map

IBRD 17283R). Squatter settlements and high density low-standard dwellings predominate in these areas together with extremely poor health conditions and deficient health facilities. These extension points are located in the districts of Tucuruvi, Vila Maria (north of MSP), Santo Amaro, Jabaquara (south), Butanta (west), Penha de Franca (east), Vila Prudente (southwest) and Lapa (center). Detailed data on the five main target areas and the eight extension points are in Annex 2, Table 1.

III. THE PROJECT

A. Project Objectives

3.01 The project would establish a new model of health services, with the following objectives:

(a) to improve health status in five main target areas, and eight health districts of Greater Sao Paulo (GSP) (see specific health indicators in para. 6.03);

(b) to improve the cost-effectiveness of health services delivery generally within GSP; and

(c) to assist Brazil to develop and put into effect appropriate policies on national health sector issues.

B. Project Components

3.02 The following components are proposed to achieve above objectives:

Part A: Health Policy Development. Aims at improving national policy formulation and state implementation of efficiency policy measures by the development of a program of National Policy Studies on (i) alternative models for expansion of health-service coverage; (ii) decentralization of health service delivery: technical, political and institutional implications; (iii) economic and financial aspects of the health system; and (iv) technology options and impact on cost-effectiveness of the health system (para 3.06).

Part B: Institutional Development. Aims at strengthening management and organization of project implementation by:

(a) establishing and operating a project management unit with a project manager and about 20 staff (para. 5.03);

(b) providing 143 man-months of management consultants and 20 man-months of special advisors on health services organization, delivery and evaluation;

(c) developing a monitoring and evaluation system;

(d) developing a set of project-related research studies (Annex 3 table 4); and

(e) preparing the follow-up project activities.

Part C: Manpower Development. Aims at providing the organization and training of the project manpower by:

(a) establishing a Human Resources Center within SES;

(b) developing a health services staff training program as follows: (i) 67 local courses for about 1200 participants; (ii) 428 in-house courses for about 6000 participants; (iii) 398 continuing education 2-day seminars and workshops for about 5000 participants; (iv) 395 local scholarships for health visitors, sanitation agents and sanitation inspectors; (v) 30 local scholarships for hospital attendants and auxiliaries; (vi) 50 local scholarships for area and module workshops of technical and professional staff; and (vii) 11 overseas scholarships for senior professional staff (Annex 5, table 2); and

(c) providing, field and lab equipment for a program of teaching-service experiences of medical students (para. 3.12).

Part D: Health Facilities Network Development. Aims at improving access to basic health services by:

(a) constructing, furnishing and equipping: (i) about 99 basic health units (UBS) of which, about 61 would be located in the five main target areas and about 38 in eight health districts of MSP ("extension points"); (ii) 5 local hospitals (1000 beds in total) located in the five main target areas (Annex 3, Tables 2 and 3);

(b) renovating and equipping about 28 UBS, all located in the five main target areas; upgrading and equipping (142 beds) the Juqueri hospital, and expanding and equipping (115 beds) the Cotia hospital;

(c) acquiring the Nardini hospital in Maua (226 beds);

(d) providing about 72 ambulances and 180 vehicles for 12 health modules in the five main target areas and other facilities in the health areas of the project, as well as the project management unit and the teaching-service program (part C above).

C. Project Description

3.03 The new model of Basic Health Services as defined in para 2.48 would be fully implemented in the five main target areas and partially (ambulatory and referral services) in the eight "extension points" of the project. Needs and likely demands were assessed, and coefficients for expected visits and hospitalizations per capita were estimated (Annex 3, tables 1 and 2). Model flexibility would be stressed, as users' behavior and socioeconomic conditions would progressively change during project implementation. The new model would consist of:

(a) Health Modules: Geographic areas each with 60,000 to 250,000 people who will be covered with ambulatory health services by 2 to 10 basic health units (UBS) and with inpatient services by one local 200-bed hospital. A referral system would integrate the UBS to module and area (specialized) hospitals. Staff would rotate between ambulatory and inpatient services;

(b) Health Areas: Geographic areas each comprising 1 to 6 health modules or 90,000 to 470,000 people. Some medical specialty services would be available in one of the Area hospitals. Logistical functions such as material supplies and drugs, laundry and ambulance services would be managed at this level. Each of the five main target areas constitutes a Health Area;

(c) Health Regions: Geographic areas of GSP each with an average population of 1.4 million, containing a variable number of health areas and with a range of services from primary up to tertiary health care. These regions may cut across municipal lines of Sao Paulo city in order to balance population and service distribution. The project would not include health regions for management purposes, but it would coordinate referral of patients for tertiary care services.

3.04 Emphasis would be on services for health needs which are widespread and can be cared for at relatively low cost and with safe, effective and standardized methods. Such services are likely to cover about 90% of the health needs of the population in a health module. While many of these services can be administered by allied health professionals, this distinction is less important in Sao Paulo than in a typical rural area. In the context of Sao Paulo, basic health care includes primary health care plus a substantial part of secondary care, as many basic services (such as ambulatory surgery) can be performed by local hospitals at an affordable cost and high quality care.

3.05 The services to be provided are summarized below:

Medical Surveillance, Diagnosis and Treatment: Monitoring of pregnant women and children nutrition status, childbirth, vaccinations, screening for chronic diseases (such as tuberculosis, hypertension and cancer of cervix), treatment of injuries, diagnosis and treatment of common diseases (such as diarrhea, respiratory and other infections, dental caries), simple surgery and rehabilitation of convalescent patients. These services would be rendered to some extent through home visits (for example, screening) but mainly through UBSs and local hospitals. School children would be cared for by the school health services mainly. The complexity of medical and surgical care and the sophistication of medical technology would be limited, avoiding highly specialized manpower and expensive technology applicable only to rare problems. Hospitals would have the following functions: pediatric, gyneco-obstetrics, internal medicine, and surgery. Surgical procedures up to about the level of complexity of a cholecystectomy (removal of gall bladder) would be included; more complex surgeries would be referred to a tertiary care facility. Biochemical tests, X-ray and electrocardiograms in the case of heart disease, would be performed within the health module; more complex diagnoses would be done at the tertiary care facilities outside the health module.

Nutrition and Family Planning: As part of the MOH national program of Integral care for Women and Children (para. 2.10), the model would include food supplementation for children, pregnant and lactacting women, breastfeeding stimulation, early detection and control of breast and cervical cancer, early detection and treatment of sexually transmitted diseases, family planning for preventing unwanted pregnancy and for fertility control.

Promotion and Health Education: Demand creation and education would be stimulated through advertisement of services, home visits, simple messages of self-care, personal hygiene, family spacing, and the like.

Environmental Sanitation: The model includes personal health services mainly but it will include actions in environmental sanitation such as sanitary household inspections, control of rodents and insects, food hygiene control, and community participation in trash collection and appropriate disposal.

Part A: Health Policy Development

3.06 The project would assist in the design and implementation of a program of studies aimed at supporting the Brazilian Government's efforts to improve its health sector policies and to formulate coherent medium-term objectives and plans for the health sector. Main topics to be analyzed were identified at a meeting of key Brazilian health sector's research and policy analysis institutions held in April 1983. These include the following topics: alternative models for expansion of health service coverage, financing options for primary health care and hospital services, technology options and impact on cost-effectiveness of the health system, manpower development alternatives for the health sector, decentralization of health services. The National Human Resources Council (CNRH) of the Federal Secretariat of Planning (SEPLAN) would be responsible for the implementation of this component, including coordination among the agencies of the various ministries concerned and, in liaison with these agencies, would develop yearly study programs, preparing terms of reference for specific studies and selecting consultants and executing institutions for carrying out the studies. CNRH would also be responsible for coordinating with the various ministries concerned the preparation of the policy actions which might follow from the analytical findings. The Foundation for Development Administration (FUNDAP) would be charged with the management of the financial aspects of the various study contracts. The Federal Government through CNRH, the State of Sao Paulo, and FUNDAP would enter, no later than October 31, 1984, into an implementation agreement satisfactory to the Bank. Terms of reference for these studies, their execution arrangements and schedule would be satisfactory to the Bank. CNRH would review with the Bank by October 31 each year, starting October 31, 1984, the progress of ongoing studies and eventual inclusion of new studies, the study plan for the subsequent year and the proposed policy actions resulting from the findings of those studies already completed.

3.07 The project would also implement the following CONASP policy recommendations:

(a) the establishment of the basic health unit as the normal point of entry to the health system (rather than patients showing up at a local or even a referral hospital);

(b) reimbursement by INAMPS of the reasonable cost of providing care (on the basis of an estimated number of visits per capita for the basic health unit and on actual procedures performed for the local hospitals) rather than the present fee-for-service system; and

(c) the phasing out of contractual agreements between INAMPS and private physicians and group practices in the project areas as and when the project health system is able to meet the needs of the population (these arrangements are relatively few at present, as most of the project area residents now seek care in other parts of GSP).

At negotiations, assurances would be obtained that, as each Health Module (para. 3.03) is established, the above policies on reimbursement would be introduced.

Part B: Institutional Development

3.08 To overcome rigidities of the present system and to measure the effectiveness of innovations, the organization and management of health services in the five main target areas would have the following features:

(a) the health services management, whether by SHS or SES, would be organized hierarchically, from the health modules, health areas and health regions, to the SES and SHS headquarters;

(b) devolution of managerial and budgetary authority to the health module. These activities will be complemented by strengthening of SES and SHS planning capabilities and accountability of managers at each level of performance based on specific health improvement objectives;

(c) procedures for referral and counter-referral between levels in the system (including the tertiary level) would be established;

(d) outreach services, such as home visiting for health promotion and education, screening and simple preventive, curative, nutrition and family planning services, where these are more cost-effective than in-center care or necessary to reach those who will not come to the health unit. Home visits would be made by specially trained home visitors, nurses and, occasionally, doctors;

(e) monitoring and evaluation of the main processes of the new model of health services and its impact on health status and costs, together with comparisons of alternative approaches;

(f) introduction of simple cost accounting at each level of the system, to determine the unit costs of each major service or procedure, and development of improved systems of record-keeping and billing (to INAMPS);

(g) encouragement of community participation, through Community Health Councils monitoring the performance of each health unit, and representation on committees exercising

surveillance at higher levels. More extensive community participation in decision-making would be tested at a pilot scale;

(h) development of a program of project-related studies in GSP examining in greater depth health needs and community attitudes to health and health providers, leading to further improvements in techniques and programs of health care (Annex 3, Table 4).

About twenty man/months of special advisers on health services organization, delivery, and evaluation would assist the PMU in establishing innovations in the health system; and about 143 man/months of local management consultants would help the PMU in developing detailed procedures on hospital and UBS management, monitoring and evaluation systems.

Part C: Manpower Development

3.09 This component involves two main elements: (a) establishing the Human Resources Center (HRC) of SES; and (b) staffing and training the personnel for the project.

3.10 Presently, SES manpower management is handled ad-hoc by its coordinating divisions and by two advisers to the State Secretary. The project proposes to establish the HRC to ensure SES managerial capacity to support project manpower requirements. Policies, staffing, training selection and development of human resources, personnel legislation and personnel roster are functions assigned to HRC by decree No. 13.350 of 1979. The PMU would include a senior manpower manager in charge of implementing, with HRC and training institutions, the staffing and training plans.

3.11 Staffing patterns for UBS and hospitals were defined according to the functional programming of Health Services for a health module, CONASP Criteria, and the Personnel Estimates Study carried out by SHS. The project would:

(a) orient and retrain existing staff in the operation of the new model of health services;

(b) provide pre-service training of newly recruited staff, mainly at the sub-professional levels; and

(c) train selected senior staff as managers.

The proposed training program is summarized in Annex 5, Table 3. About 67 courses and other training programs are envisaged, ranging from one-day seminars to 13-week courses. There would be about 1,100 courses over four years, with 11,000 participants.

3.12 The project also provides for about eleven senior professionals to undertake studies of three to 12 months duration in Brazil or overseas, as required. These staff would specialize in health administration, planning, evaluation, manpower development, and metropolitan health care delivery systems. Courses would be offered by existing training institutions (including University of Sao Paulo, the Getulio Vargas

Foundation, the Foundation for Public Administration Development, the Training Center of SHS and others) and by the project organization itself, by establishing training-service programs in a few hospital and health centers. The latter type of training would include residency programs for medical undgergraduates and graduates, professional seminars, training of trainers and on-the-job training of auxiliary level staff. The existing residency program with the Universities of Sao Paulo and Santa Casa in the Cotia Health Area would be continued and a similar program started in Freguesia do O, in cooperation with the University of Santa Casa. The designated training institutions would have adequate facilities and training capacity to meet the needs of the Project, but they would be complemented with training equipment and transport.

Part D: Health Facilities Network Development

3.13 Units with the functions of primary health care (health posts and centers) and the new approach in service contents, would be named Basic Health Units (Unidade Basica de Saude) UBS. The existing and new health facilities in the five main target areas and the extension points are shown in Annex 3, table 3. In the main target areas, there now exist about 55 health posts or centers, most of them small and obsolete, of which a few are rented - usually in cramped unsuitable quarters. Of these facilities, about 28 would be remodeled, and about 61 new UBSs would be constructed in the five main target areas. About 38 UBSs would be constructed in eight health districts (extension points) of the project. Locations were determined following a mapping exercise, to give access to virtually the entire population within 20 to 30 minutes walking distance. UBS would provide all the services listed in para. 3.05 and Annex 3, Table 1 in a 780 m2 facility. All new and remodeled facilities would be equipped as defined in the detailed functional analysis and technologies study carried out by the PMU.

3.14 The main target areas now have 11 private and one public hospital with a total of 1,651 beds, not counting specialized hospitals for chronic diseases, such as TB, or for high-risk deliveries (Annex 3, table 3). Under the project, 1,483 new beds would be provided, as follows:

(a) acquisition of the Nardini Hospital in Maua, a 226 bed facility completed in 1980 by a private group and never opened because of financial difficulties. This would require only minor modifications to suit it to the project health services. Purchase of this hospital by the Sao Paulo State would be included as part of local counterpart funds for the project;

(b) conversion of about 140 psychiatric beds at the state-owned Juqueri psychiatric hospital to general hospital beds. This requires renovating 1,393 m2 and extending 2,962 m2, in addition to new equipment;

(c) the addition of about 115 beds (4153 m2) to the private, non-profit Cotia Hospital (para. 2.47), together with upgrading of the technical departments (1,234 m2) and additional equipment to accommodate the extra patient load; and

(d) construction of five new local hospitals, all in MSP, and each of about 200 beds.

All the local hospitals would be similar in services - internal medicine, general surgery, obstetrics-gynecology, and pediatrics (para. 3.05 and Annex 3, Table 1). Each hospital would have an emergency care unit but no outpatient department - as most such services would, in the future, be provided at the UBSs with some more specialized functions carried out by an ambulatory referral unit at the hospital. However, there would be some differentiation of services between health area hospitals. A prototype design for local hospitals is being developed that can be modified to suit each site. The planning target of 58/m2 bed (11,660 m2 per hospital), was attained after careful functional and space programming. Also, the equipment was defined after expert analysis of technologies required for basic health care services.

3.15 The target ratio of beds/1000 1980 population is 1.4, in slowly growing areas, ranging up to 2.7 in the most rapidly growing areas. Some of the facilities (for example, Cotia) will also attract patients from adjacent poorly-served municipalities. These ratios compare with the recent CONASP recommendation for 1.8 beds/1000 population for basic hospital care nationwide.

D. Implementation Schedule

3.16 The detailed implementation schedule for both institutional and physical components of the project is shown in Annex 5, Table 1. Functional and physical planning of health facilities and site selection have been completed for the hospitals and virtually for all UBSs. Cost estimates for about 80% of sites for UBSs have been assessed. Purchase or expropriation is underway. Site acquisition would be completed by December, 1985. Sketch drawings will be available before negotiations, and bidding documents would be ready before loan effectiveness. The project would cover a period of four years and main activities in the first six months would be the completion of detailed managerial plans and detailed design of health facilities. Most of the policy and project-related studies as well as training programs would start in the second semester of 1984. The new model of health services would be established with the first group of Health Modules based on existing hospitals, in about one year after starting project operations. Construction of nine UBS began in January 1984; other health units would begin immediately after loan negotiations and the first hospital six months later. Each hospital would require two years for construction.

IV. PROJECT COSTS AND FINANCING

A. Cost Estimate

4.01 The estimated cost of the project is US$126.1 million, which includes approximately US$11.8 million in direct taxes. The foreign exchange cost would be US$26.3 million (21.0% of the total). Details are given in Annex 4, Tables 1-7 and are summarized in Table 4.1. Health facilities development accounts for 79% of base costs, consisting of 28% for hospitals, 25% for UBS, and 27% for equipment. Construction costs are based on functional designs and current construction costs per m2 for these types of buildings in Sao Paulo. Equipment costs were estimated according to the study on hospital and UBS functional planning by PMU staff, assisted by local specialists in ambulatory and hospital care. Based on recent

contracts, Brazilian consultants are estimated to cost US$6,500 per man-month and foreign advisers US$10,000 per man-month (including all overheads). Institutional and manpower development account for 5% and 3% respectively, of base costs. Physical contingencies amount to US$11.1 million (15% of civil works costs and 5% of equipment and vehicles). Price contingencies were based on the following expected rates of increase for international prices: 1984, 3.5%; 1985, 8.0%; 1986 and thereafter 9.0%. The same levels were used for local and foreign costs as it was assumed that Brazil will continue to devalue the Cruzeiro in relation to the difference between domestic and international inflation.

BRAZIL

Table 4.1: SAO PAULO HEALTH PROJECT

Project Cost Summary

(US$ '000)

	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
A. POLICY DEVELOPMENT	1,900.0	100.0	2,000.0	5.0	1.9
B. INSTITUTIONAL DEVELOPMENT	4,798.3	452.2	5,250.5	8.6	4.9
C. MANPOWER DEVELOPMENT	2,880.0	920.0	3,800.0	24.2	3.6
D. HEALTH FACILITIES NETWORK DEVELOPMENT	74,050.8	21,059.9	95,110.7	22.1	89.6
Total BASELINE COSTS	83,629.1	22,532.1	106,161.2	21.2	100.0
Physical Contingencies	9,275.0	1,750.0	11,025.1	15.9	10.4
Price Contingencies	6,837.0	1,994.1	8,831.1	22.6	8.3
Total PROJECT COSTS	99,741.1	26,276.3	126,017.4	20.9	118.7
Front End Fee	-	142.7	142.7	100.0	0.1
Total FINANCING REQUIRED	99,741.1	26,419.1	126,160.2	20.9	118.8

April 18, 1984 19:59

4.02 Recurrent Costs. The operating costs for the existing and new health facilities at the end of the first project year would be about US$9.5 million. At the end of the fourth project year, recurrent costs would be about US$119 million at 1984 constant values. By full development, new hospitals will account for 20% of recurrent costs, health units for 77% and central administration and services for 3%. Incremental salaries in the first year will amount to about US$5.3 million and US$62.4 million in the fourth year of the project, or about 52% of the annual operating costs. Present recurrent health expenditures in GSP are about US$938 million; the value of incremental project expenditures at full service operations would be US$119 million or 12.6%. This proportion can be absorbed by the system. Further details are given in Annex 4, Table 3.

B. Financing Plan

4.03 The proposed Bank loan of US$57.2 million would finance 50% of the total investment costs of the project (net of taxes). The loan would finance the capitalized front-end fee of 0.25% (about US$0.1 million), and all the foreign costs. The loan will finance about 31% of the local investment costs. Financing of local costs is justified on project grounds, because of the key importance of the project in advancing the goals of Brazil in the development of the health sector and also the need to make a reasonably significant Bank contribution to the cost of the project, in view of the low foreign exchange requirement.

4.04 Participation of the State and MSP in financing project investments would be as follows: The State would contribute US$40.0 million (31.7%) and MSP US$28.9 million (22.9%). The State would meet all investment costs (about US$12.2 million) in the three target areas outside MSP (Cotia, Caieiras, and Maua), and would share the costs equally with MSP (about US$30.3 million each) in the two target areas of Itaquera/Guaianazes and Freguesia do O, and in the eight health districts containing the 38 UBSs as extension points. The expected schedule of expenditures is shown in Annex 4, Table 9.

4.05 Both the State and Municipality signed an agreement with INAMPS and MOH to co-finance recurrent costs. INAMPS will reimburse 50% of hospital service expenditures and an amount equivalent to the cost of the total volume of ambulatory service production. MOH would participate with a fixed amount defined each year.

4.06 At negotiations, assurances would be obtained that the borrower would provide or cause to be provided, promptly as needed, all the funds needed to carry out the project and operate all public sector facilities in the five main target areas and in the project extension points, under arrangements satisfactory to the Bank. Also, a further assurance would be sought that the State would consult with the Bank on the financial and manpower implications of major new investments in the health sector in GSP, outside the scope of the project.

C. Procurement

4.07 Procurement arrangements are summarized in the table below:

Table 4.2: PROCUREMENT SUMMARY
(US$ million)

	Procurement Method				
Project Element	ICB	LCB	Other	N.A.	Total Cost
Civil Works	-	76.9	2.0 a/	-	78.9
	(-)	(31.7)	-	-	(31.7)
Furniture, Equipment and Vehicles	7.0	27.6	0.6 b/		35.2
	(7.0)	(9.3)	(0.6)	-	(16.9)
Technical Assistance National Studies & Project-Related Studies	-	-	-	5.0	5.0
	(-)	(-)	(-)	(5.0)	(5.0)
Training	-	-	-	4.1	4.1
	(-)	(-)	(-)	(2.4)	(2.4)
Management	-	-	-	2.9	2.9
	(-)	(-)	(-)	(1.2)	(1.2)
Total	7.0	104.5	2.6	12.0	126.0
	(7.0)	(39.5)	(0.6)	(8.6)	(57.2)

a/ Negotiated purchase of Nardini Hospital.
b/ Local prudent shopping.

4.08 Civil Works. About 15 major civil works contracts for new health facilities and 20 minor contracts for facilities upgrading, amounting to about US$78.9 million would be awarded after LCB. Given the relative small size of contracts (average of US$4.5 million), the strength of the domestic construction industry and the scope and nature of the work, there is little likelihood of interest from foreign contractors, although they would not be excluded. Standard bidding documents acceptable to the Bank would be developed for each type of construction. After their first use, Bank's prior review of bidding documents would be retained only for hospital construction. Prior review of proposed contract awards would be required on all contracts above US$1 million, accounting for at least 90% of all contract values. Other contracts would be subject to post-award reviews.

4.09 Furniture, Equipment and Vehicles. Procurement of more complex items such as X-rays and surgical equipment estimated to cost about US$7.0 million would be subject to international competitive bidding (ICB) in accordance with Bank Group Guidelines. Brazilian supplies whose bids contain components manufactured in Brazil equal to at least 50% of the value of the bid, would be given a margin of preference of 15% or the applicable import duties, whichever is lower. Other equipment, plus all furniture and vehicles, would be subject to LCB procedures, which would have been reviewed and found acceptable to the Bank. Items that cannot be grouped into economical packages which in the aggregate are less than US$600,000 would be procured through prudent shopping after obtaining at least three price quotations. Standard bidding documents acceptable to the Bank would be developed for ICB and LCB. Prior review of proposed contract

awards, whether ICB or LCB, would be required on all contracts above US$1.0 million. Other contracts would be subject to post-award review.

4.10 Consultants and Advisors. Most consultants would be contracted from within Brazil. Selection, qualifications, experience and terms and conditions of employment would be in accordance to Bank policies and procedures.

D. Disbursements

4.11 The proceeds of the loan would be disbursed against all eligible project expenditures except for the purchase of the Nardini hospital and project management. The percentages to be disbursed would be as follows: (a) civil works: 40%; (b) furniture, equipment and vehicles: 100% of foreign expenditures, 100% of local expenditures (ex-factory) for goods procured under ICB, and 40% of local expenditures for other items procured locally; (c) technical assistance, national studies, and project-related studies: 100%; (d) training: 100% of foreign expenditures and 40% of local expenditures; and (e) management: 40% (Annex 4, Table 8). In order to reduce the interval during which the Borrower would finance with its own resources the Bank's share of the projects costs, the Borrower may request the Bank to make an advance deposit of US$5.0 million from the loan account into a Special Account to be opened in the Central Bank. In addition, the borrower would make an initial deposit in Cruzeiros of 2.0 billion (equivalent to approximately three months of project expenditures plus 20%) into a project account in the Bank of Sao Paulo State (BANESPA), the administrator of a special Fund (FUNDES) within which the project account would be opened. This project account would be replenished by disbursements from the Special Account and by monthly counterpart allocations. A special condition of effectiveness for the loan would be that satisfactory by-laws governing the operation of the project account had been issued and the account's administrator appointed. The Borrower would be entitled to make withdrawals in cruzeiros from the Special Account upon submission of withdrawal applications by FUNDES to the Central Bank. Conversion from U.S. dollars to cruzeiros would be made at the exchange rate that prevailed on the date expenditures on the project were made. The Central Bank would forward the withdrawal applications to the Bank, which would then replenish the Special Account. Supporting documentation for salaries and operational expenses would not be submitted to the Bank, but would be retained by the agency responsible for their certification and would be made available for inspections by the Bank during project supervision missions. Standard documentation covering contracted civil works, vehicles, equipment and technical assistance would be made available for Bank inspection. Retroactive financing up to a limit of US$3.0 million of expenditures made after January 1984 on technical assistance, project management and civil works would be accepted. Disbursements would be conditional upon receipt by the Bank of satisfactory evidence that (a) an agreement, satisfactory to the Bank, has been entered into by the Borrower and the owners of the Cotia hospital defining the terms and conditions of the participation to and operation of the hospital under the project for project investments relating to that hospital; (b) each participating municipality has adhered to the CRIS agreement under terms and conditions satisfactory to the Bank, for project investments in such participating municipality; and (c) that the implementation agreement or agreements among the Federal Government through CNRH, the State of Sao Paulo and FUNDAP had been entered into under terms and conditions satisfactory to the Bank for

the National health policy studies component. The loan is expected to be fully disbursed by June 30, 1989. (There are no disbursement profiles available for health projects in general. There is one ongoing health project in Brazil, with a disbursement period of 5-1/2 years, which is disbursing ahead of schedule.)

E. Accounts and Audits

4.12 Participating agencies would maintain separate accounts of project expenditures, which would be audited annually by independent auditors satisfactory to the Bank. Copies of the participating agencies audited statements would be provided to the Bank within six months of the end of the calendar year. These reports would include an opinion (and comments as necessary) on the methods employed in compiling the statement of expenditures, their accuracy, the relevance of supporting documents, eligibility for financing in terms of the project's legal agreements and the standard of record-keeping and internal controls related to the foregoing. The Special Account and the FUNDES project account would be audited by independent auditors satisfactory to the Bank.

4.13 Assurances would be also obtained that the borrower would:

(a) cause FUNDAP to maintain adequate separate accounts in respect of the national policy analyses of the project (para 3.06);

(b) cause the Project Management Unit to maintain adequate, separate accounts in respect of the remaining parts of the project and of the annual, recurrent costs of operating the public sector health system in the project area;

(c) introduce, not later than June 30, 1985, a simple system of cost accounting satisfactory to the Bank for the public sector health system in the project areas;

(d) cause the accounts referred to in (a) and (b), as well as the Special Account and the FUNDES Project Account, to be audited annually by independent auditors acceptable to the Bank; and

(e) furnish or cause to be furnished to the Bank, not later than six months from the end of each fiscal year, copies of the auditors' report on such accounts.

V. ORGANIZATION AND MANAGEMENT

A. Project Organization

5.01 The Ministries of Social Security and Health, the President of INAMPS and the Governor of Sao Paulo signed an agreement in October, 1983, establishing the mechanisms for implementing the CONASP "Program of Comprehensive Health Care" (PAIS) in the State of Sao Paulo. This agreement created an Interinstitutional Commission of Health (CIS) responsible for health policy implementation and management of the public health sector in Sao Paulo State. Its members are the State Secretary of Health (President), the State Superintendent of INAMPS and the Federal Representative of MOH in Sao Paulo. CIS, in turn, has created the Regional Interinstitutional Health Commission (CRIS) for the Health Regions of GSP, and the Municipal Interinstitutional Health Commission (CIMS) for individual municipalities.

The role of CRIS and CIMS is to coordinate the PAIS execution in the Health Regions of GSP and the remaining municipalities of the State. CIS would be also the governing board for the Metropolitan Health Program (MHP) carried out by SES. The Sao Paulo Health project is the central component of MHP and its manager is appointed by CIS (see 5.04 below).

B. Project Management

5.02 Overall responsibility for the project would rest with CIS. It would:

(a) provide health policy guidelines for the Metropolitan Health Program (MHP);

(b) select the Project General Manager who will be approved by the State's Governor;

(c) approve plans and budgets for investments and operations;

(d) sign agreements and "convenios" with health sector and other agencies.

5.03 Major responsibility for project implementation would rest with a Project Management Unit (PMU), which has been established within the cabinet office of SES. The PMU would be responsible for detailed project planning and programming, procurement, construction supervision and project finances (budgets, expenditure control, accounts and improvement of accounting systems). The PMU would have strong liaison functions with the Human Resources Center (para. 3.10) for manpower planning, staffing and training and with the SES and SHS Health Information Units for monitoring and evaluation. Finally, the PMU would liaise with a small unit to be established within the cabinet office of SHS, to coordinate the project with other plans and activities of SHS. The PMU would review the operation of health services in the project areas and extension points to ensure that the new model of health services is implemented as planned, including appropriate adjustments in the light of experience, and that agreed targets for the delivery of services and for improvements in efficiency are met. The PMU was officially appointed in December 1983 by the State Governor's decree No. 21.862. A special condition of effectiveness for the loan would be that the regulations governing the activities of the Project Management Unit be in force.

5.04 The Project General Manager would be the head of the PMU with day-to-day responsibility for all aspects of project implementation and an oversight function for the delivery of health services in the project areas and the project extension points. He would be supported by section heads for Planning, Construction, Finance and Administration. The PMU would have about 20 professional staff, as well as consultants and advisers (para. 5.11). PMU manager functions include:

(a) manage the project;

(b) propose agreements and "convenios";

(c) prepare project plans and reports and submit them to the Interinstitutional Commission;

(d) submit the names of the regional and module managers for approval to the interinstitutional Commission;

(e) supervise and implement the project in the target areas, and extension points;

(f) manage the implementation of the investment and the expansion of health services in the project areas.

5.05 During the first phase of project implementation the largest share of service delivery will take place in the Sao Paulo municipality. In the two health areas within MSP (Freguesia do O and Itaquera-Guaianazes) and in the eight districts where the extension points are located, SHS would assume operational control of all public sector health services. New facilities in these areas would be owned by SHS and, over time, SES facilities; SES staff would also be transferred. In the Caieiras and Maua Areas, SES would continue to be responsible for the operation of public health services but plans would be developed for rapid municipalization of service delivery. In the Cotia Area, the present cooperative arrangements between the State, Municipality and private charitable bodies would continue.

5.06 The Health Module (para. 3.03) would be the basic organizational unit of the new health service for both SES and SHS. A Module would normally include one local hospital and its satellite Basic Health Units, each of which would be an expenditure unit. The Module Manager would have authority in personnel and budgetary matters, including recruitment and training of staff, and division of budgets between ambulatory and in-patient services and among facilities. The Module Manager would be held accountable to the Project Manager for the use of this authority and for performance based on specific health improvement objectives. The Module Manager would be assisted by Directors of Ambulatory Services, In-Patient Services and Administrative Services. Staff would be expected to rotate between ambulatory and in-patient services, where appropriate, to further the integration of basic health care. Each Basic Health Unit Chief would respond to the Director of Ambulatory Services and would be advised by a Community Health Council of elected community representatives. SHS would appoint the 38 UBS chiefs for the project extension points; these chiefs would be responsible for implementing the ambulatory care services according to the project model, and their performance would be monitored by PMU.

5.07 The Health Area office - consisting of one to six health modules - would have rather limited responsibilities and would concern itself mainly with common services such as laboratories, ambulances, drug supply and the like. It would also have a small monitoring and planning capability, to analyze any differences of project impact among Modules. The Area Manager would be advised by a council consisting of the Module Managers and representatives of the municipalities concerned, INAMPS, the private sector and the community.

5.08 The Health Region would coordinate a number of health areas. In the course of expansion of the project, the metropolitan area would be organized in health regions. Given the limited geographic scope of the project at present, the health region concept has not been implemented yet.

5.09 Assurances. By negotiations, the following assurances would be sought:

(a) the borrower would consult with the Bank on any proposed major changes in the PMU or the five Health Area organizations managing the project;

(b) the Borrower would ensure that the PMU and the SES and SHS organizations operating health services in the project areas are fully staffed at all times with suitably qualified and experienced personnel;

(c) physicians and other staff employed by SES or SHS in the project areas would normally be engaged on a full-time basis (eight hours per day) and would be paid adequate salaries and allowances adjusted periodically in line with the January 1984 Law No. 341 on health personnel classification.

C. Technical Assistance

5.10 SES has never previously implemented a large multifaceted project, it has limited planning and construction experience and very few non-medical professional staff. Therefore, there would be a continuing need for consultants to assist the early implementation of the project. Management consultants (about 143 man-months) would be needed to help establish the organization and its personnel, budgetary and management information systems. Architectural consultants would be needed to complete final designs of all project buildings and to carry out construction supervision. Engagement of consultants, in management and in architecture would be acceptable to the Bank, under terms and conditions acceptable to the Bank.

5.11 The project also provides for one long-term and two short-term internationally-recruited advisers (20 man-months in all) to assist project management in the areas of health services organization, delivery and evaluation respectively.

D. Staffing and Training

5.12 The staff requirements of the project are summarized in Annex 5, Table 2. Over the project implementation period, about 9,000 additional staff would be needed, of whom 1,300 would be physicians, 650 nurses and 4,800 other skilled workers (nurse auxiliaries, attendants, health visitors, technicians, bookkeepers, maintenance workers, secretaries and the like).

5.13 No problems are expected in recruiting staff for the project. There are currently over 25,000 physicians in the State of Sao Paulo and their number is growing by about 2,000 per year, compared to the project's requirements of 1,340 over four years. There are about 7,000 professional nurses in the state and the state's schools are graduating 1,600 per year, while the project would need to recruit only 640 over four years. For other skilled workers, supply and demand are now in balance so it has been assumed that most recruits in these categories would be high school

graduates, to be trained under the project. Initially, recruitment would be the responsibility of the personnel divisions in SHS and SES, with HRC gradually taking over the latter role. No problems are expected in increasing recruitment capacity to meet the project's needs.

E. Maintenance

5.14 Under the project, adequate budgetary provision for maintenance would be made and maintenance staff would be fully trained in their jobs in the project training program. During negotiations assurances would be obtained that all facilities in the project areas, including those to be constructed and equipped under the project, would be maintained in accordance with generally accepted standards and that adequate financial provision for such maintenance would be made in the annual recurrent budgets for such facilities, equal to at least 1.5% of the cost/m2 of civil works in the case of buildings and 1.3% of the facility equipment cost. Furthermore, the PMU would prepare a detailed plan, satisfactory to the Bank, for the organization and staffing of a maintenance system for such facilities by June 30, 1985.

F. Monitoring and Evaluation

5.15 Two types of monitoring and evaluation (M&E) activities would be undertaken under the project. The first would be the establishment of a management information system to indicate whether the health system is functioning efficiently and producing the desired benefits for the target population, allowing corrective action by management where needed. The second is longer-term in nature and is called Project-Related Studies (para. 3.08 (k)). Studies of management issues, efficiency of health services, diagnostic technology and project impact are included in the provisional list shown in Annex 3, Table 4. Some of the studies would be directed at improving the data base for project implementation and others at comparing the results of alternative service delivery techniques. Studies would be carried out either by the PMU itself or by local consulting groups. Primary responsibility for monitoring would be with the manager at each level. PMU would coordinate and consolidate these monitoring activities. PMU would submit quarterly progress reports on project activities to the Bank. An evaluation report on project activities as of June 30, 1986 would be submitted to the Bank no later than September 30, 1986. This interim evaluation report would serve as a basis for a mid-term review of project activities to be carried out jointly by the Brazilian Government authorities and the Bank.

VI. PROJECT BENEFITS AND RISKS

6.01 The project is expected to have two major types of impact: on the health status of the project area population; and on the cost-effectiveness of health services delivery. These are quantified in the following paragraphs. In the case of health improvements, quantification is given in physical terms (reduction of mortality, morbidity and the like). However, the financial savings expected from the implementation of the new model of health services can be readily expressed in economic terms and used to calculate a minimum estimate of project's internal rate of return (para. 6.08). Finally, the environmental impact of the project is described and an analysis made of project risks.

A. Impact on Health Status

6.02 A list of Key Indicators is shown in Annex 6, Table 1, with variables related to project implementation, cost-effectiveness and the project's impact on health status in the maintenance areas and the eight health districts. As project implementation begins, similar matrices would be developed for each Area and Module to provide target levels for management performance. For some indicators, special surveys in the first year of the project would be needed to establish area-specific baseline rates.

6.03 Infant mortality is expected to decline by 30% over eight years (including three years of continuous delivery of the new model of health services) and child mortality by about 20%, as a result of the project services as a whole, particularly improved access and the use of home visiting, health and nutrition education, antenatal care, the breastfeeding campaign and improvements in immunization. In other words, about 750 children's lives would be saved each year in the project areas. Infant mortality for the most common diseases, diarrheal and acute respiratory, would decline by about 30%, the main factors here being early dignosis and treatment, health and nutrition surveillance, oral rehydration and the breastfeeding campaign. An increase of 35% in the proportion of mothers breastfeeding for six months is expected. This, plus nutrition education, especially at the weaning stage and improvements in overall health, should lead to a 20% reduction in the prevalence of child malnutrition. By doubling the proportion of children vaccinated, the incidence of measles is expected to decline by half and tuberculosis by a quarter. In the area of chronic diseases, an objective would be to identify and monitor (on an ambulatory basis) 60% of all cases of hypertension. Some of the indicators shown in Annex 6, Table 6.1 are proxies for groups of diseases and interventions but they have been chosen to represent the major dimensions of the health problems of Sao Paulo, to be reasonably independent of each other and to be relatively easy to measure.

B. Impact on Health Costs

6.04 A principal justification of the Sao Paulo project is that it would reduce health-care costs as compared to what they would be without the project. Part of the reduction would be achieved by the elimination of waste, fraud and abuse in the current system. The major cost reduction would result, however, from a systematic change designed to expand primary care and to reduce hospital inpatient care.

6.05 The intent of the project is to improve the coverage of the health system so that both hospitalizations and ambulatory visits are expected to increase in the future, but with fewer hospitalizations than without the project. Hospitalizations for Sao Paulo State in 1980 exceeded CONASP guidelines by 20%, that is, the guidelines provide for 0.1 hospitalization per person per annum whereas 0.12 actually occurred. Separate data for Greater Sao Paulo, which constitutes about 50% of the total population of the state, are not available. Assuming that GSP region exceeds the CONASP guidelines by the same rate as the state as a whole, then the population overuses hospitals by 20%. If CONASP service plan parameters had been achieved in 1980, then there would have been more

ambulatory visits and fewer hospitalizations. Assuming the same service costs would prevail (ambulatory visit = US$6; hospitalization = US$125), a savings of US$22 million or 6% of actual expenditures would have resulted.

6.06 Comparing health costs with and without the new system in metropolitan Sao Paulo, 1984 to 2000, demonstrates the substantial savings to be realized by the combination of the Sao Paulo project and CONASP health policies for GSP (Annex 6, Table 3). The savings that could be achieved, when compared to projected expenditures without the policy reforms proposed by CONASP, rise from about 17% of aggregate health costs in 1983 to about 34% of prospective health costs in 1989.

6.07 It would be inappropriate to attribute all the cost savings to be derived throughout GSP to the project investments which would largely finance physical facilities serving only 20% of the metropolitan population. It may be assumed that 20% of the estimated overall savings shown in Annex 6, Table 3 over the period 1984 through 2000 are attributable to the total project investment of US$126.1 million.

6.08 Assuming a 17-year evaluation period, comparable to the useful life of the project facilities and no shadow pricing of project investments, the internal rate of return of the project would be 23% (Annex 6, Table 4). At a 10% rate of discount, the estimated opportunity cost of capital in Brazil, the net present value of the savings generated by the project over the years 1984-2000 is equivalent to US$71 million.

C. Environmental Impact

6.09 As the project would be directed towards improving the health and well-being of the project area population, it would clearly have a positive impact on the human environment. In addition, by expanding the network of sanitary inspectors and through health education, the project would have a minor impact on the physical environment, though it does not provide the major investments needed to provide safe and convenient water supply and excreta and solid waste disposal to the entire population. No negative environmental impacts are foreseen, either for the project areas or beyond.

D. Project Risks

6.10 On the basis of many documented cases around the world, there is little doubt that the expansion and re-orientation of health services under the project, if carried out as planned, would lead to improvements in health status of at least the magnitude estimated. Based on the experience of Curitiba and Cotia, there is also little doubt that the proposed changes in referral systems, reimbursement formulas and staff utilization would lead to cost savings of the order just described. The remaining risks, which are moderate, are in the area of management and political support -- whether the project management will have the insight, energy and skill (as well as the logistical support) to carry through the changes in health services delivery and financing that will be needed -- along with the ancillary programs of health promotion and education, improvement in employment conditions, staff training and motivation -- in the face of bureaucratic inertia and possible opposition from private sector health entrepreneurs. These risks have been minimized by the strong commitment at the political level in the state government; careful selection of the key

project managers; the inclusion of management consultants; the incorporation into project planning and implementation of INAMPS, which has a strong commitment to reform and a short but impressive record of success elsewhere in Brazil; the inclusion of private sector elements in the project design; and the phasing of project implementation in line with expected management capabilities. However, the project remains somewhat experimental and some degree of risk must be accepted.

VII. AGREEMENTS TO BE REACHED AND RECOMMENDATION

7.01 At negotiations, assurances would be sought that:

(a) the Borrower would designate CNRH as executive agency to carry out a program of policy analyses in the health sector. CNRH will prepare terms of reference for specific studies, and select consultants and institutions acceptable to the Bank for carrying out the studies satisfactory to the Bank. CNRH will coordinate with the health sector agencies the preparation of policy actions derived from the analytical studies (para. 3.06);

(b) the Federal Government through CNRH, the State of Sao Paulo, and FUNDAP, would enter, no later than October 31, 1984, into an implementation agreement satisfactory to the Bank (para 3.06);

(c) the Borrower would provide, or cause to be provided, promptly as needed, all the funds needed to carry out the project and operate all public sector facilities in the five main target areas and the project extension points under arrangements satisfactory to the Bank (para. 4.06);

(d) the State would consult with the Bank on the financial and manpower implications of new major investments in the health sector in GSP outside the scope of the project (para. 4.06);

(e) the Borrower would:

(i) cause the Central Bank to open a Special Account on terms and conditions satisfactory to the Bank. Payments out of the Special Account shall be made exclusively to pay the cost of goods and services required to carry out the project and to be financed by the Bank in accordance to the project schedule of proceeds (para 4.11);

(ii) cause FUNDES to open a Project Account to be administered by BANESPA on terms and conditions acceptable to the Bank. This Project Account would be replenished by disbursements from the Special Account and by monthly counterpart allocations (para. 4.11);

(iii) cause FUNDAP to maintain adequate separate accounts in respect of the national policy analyses of the project; (para. 4.13-a);

(iv) cause the Project Management Unit to maintain adequate, separate accounts in respect of the remaining parts of the project and of the annual, recurrent costs of operating the public sector health system in the project area (para. 4.13-b);

(v) introduce, not later than June 30, 1985, a simple system of cost accounting satisfactory to the Bank for the public sector health system in the project area (para. 4.13-c);

(vi) cause the accounts referred to in (i), (ii), (iii) and (iv) to be audited annually by independent auditors acceptable to the Bank (para. 4.13-d); and

(vii) furnish or cause to be furnished to the Bank, not later than six months from the end of each fiscal year, the auditor's report on such accounts (para. 4.13-e);

(f) the Borrower would consult with the Bank on any proposed major changes in the PMU or in the organization of the five target areas and extension points of the project (para. 5.09);

(g) the Borrower would ensure that the PMU and the SES and SHS organizations operating health services in the project areas are fully staffed at all times with suitably qualified and experienced personnel. In particular, the Bank would be given an opportunity to comment on the qualifications and experience of candidates for the posts of Project General Manager (para. 5.09);

(h) physicians and other staff employed by SES or SHS in the project areas would normally be engaged on a full-time basis (eight hours per day) and would be paid adequate salaries and allowances adjusted periodically in line with the January 1984 Law No. 341 on Health Personnel Classification (para. 5.09).

(i) advisers in health services organization, delivery and evaluation acceptable to the Bank would be engaged on terms and conditions acceptable to the Bank, by April 1, 1985 (para. 5.11);

(j) all facilities in the project areas, including those to be constructed and equipped under the project, would be maintained in accordance with generally accepted standards, and that adequate financial provision for such maintenance would be made in the annual recurrent budgets for such facilities, equal to at least 1.5% of the cost/m^2 of civil works in the case of buildings and 1.3% of facility equipment cost. Furthermore, the PMU would prepare a detailed plan, satisfactory to the Bank, for the organization and staffing of a maintenance system for such facilities by June 30, 1985 (para. 5.14); and

(k) PMU would submit quarterly progress reports on project activities to the Bank. An evaluation report on project activities as of June 30, 1986 would be submitted to the Bank no later than September 30, 1986. This interim evaluation report would serve as a basis for a mid-term review of project activities to be

carried out jointly by the Brazilian Government authorities and the Bank (para. 5.15).

7.02 Special conditions of effectiveness would be that:

(a) satisfactory by-laws governing the operation of the project account had been issued and the accounts' administrator appointed (para. 4.11); and

(b) the regulations governing the activities of the PMU be in force (para. 5.03).

7.03 Special conditions of disbursement would be the receipt by the Bank of satisfactory evidence that:

(a) an agreement, satisfactory to the Bank, has been entered into by the Borrower and the owners of the Cotia hospital defining the terms and conditions of the participation to and operation of the hospital under the project for project investments relating to that hospital;

(b) each participating municipality has adhered to the CRIS agreement under terms and conditions satisfactory to the Bank, for project investments in such participating municipality; and

(c) that the implementation agreement or agreements among the Federal Government through CNRH, the State of Sao Paulo and FUNDAP had been entered into under terms and conditions satisfactory to the Bank for the national health policy studies component (para. 4.11).

7.04 With the above conditions and assurances, the project would be suitable for a Bank loan of US$57.2 million, with repayment over 15 years including three years of grace. The Borrower would be the State of Sao Paulo.

ANNEXES

ANNEX 1

BRAZIL

SAO PAULO HEALTH PROJECT

Supplementary Data on Brazil

Table 1 Population, Health and Nutrition Indicators
Table 2 Infant Mortality Rate
Table 3 Crude Death Rate
Table 4 Ten Leading Causes of Mortality
Table 5 Morbidity Indicators
Table 6 Nutrition Indicators by Region
Table 7 Percentage of Women Age 15-44 at Risk of Unplanned Pregnancy and Corresponding Number of Women in Need of Family Planning Services, Brazil, El Salvador, Guatemala, Panama, and Paraguay
Table 8 Status of Contraceptive Prevalence Information for Latin America
Table 9 Health Expenditures
Table 10 INAMPS Expenditures
Table 11 Percentage Distribution, Five Major Regions (Federal Revenues, SINPAS Revenues, Non-medical Expenditures under Social Security and Medical Expenditures of INAMPS
Table 12 Preventive and Curative Shares of Brazilian Health Expenditures
Table 13 Health Manpower
Table 14 Geographical Distribution of Population and Services
Table 15 Rural and Urban Ambulatory Visits as Registered by INAMPS

ANNEX 1
Table 1

BRAZIL

SAO PAULO HEALTH PROJECT

Population, Health and Nutrition Indicators

Total population (mid-1981)	120,500,000
Population growth rate (1970-81)	2.1%
Project population for year 2000	177,000,000
Crude birth rate (1981)	30/1000
Crude death rate (1981)	8/1000
Total fertility rate (1980)	4.0
Rate of natural increase of the population (1980)	2.1%
Life expectancy at birth (1981)	64 years
Infant mortality rate (aged 0-1) (1981)	75/1000
Child death rate (aged 1-4) (1981)	7/1000
Nutrition (1980):	
Calorie intake as % of requirements	109
Per capita protein intake (g/day)	64.4

Source: World Development Report, World Bank, 1983.

ANNEX 1
Table 2

BRAZIL

SAO PAULO HEALTH PROJECT

Infant Mortality Rate

(per 1000 live births)

	1976	1980		1976	1980
Brazil	97.7	68.1	Southeast	83.9	34.4
North	127.1	89.1	Minas Gerais	84.1	58.2
Rondonia	159.9	87.3	Espirito Santo	83.3	57.5
Acre	100.0	95.0	Rio de Janeiro	91.1	62.4
Amazonas	114.4	63.5	Sao Paulo	81.2	54.2
Roraima	180.5	89.6			
Para	132.7	102.6			
Amapa	87.8	67.8			
Northeast	150.9	107.2	South	67.8	46.1
Maranhao	53.8	39.1	Parana	77.7	53.1
Piaui	70.1	61.2	Santa Catarina	61.2	41.6
Ceara	130.2	108.0	Rio Grande do Sul	57.5	40.6
Rio Grande do Norte	166.6	104.4			
Paraiba	206.1	146.0			
Pernambuco	240.8	196.6	Center West	81.2	45.2
Alagoas	209.7	148.1	Mato Grosso do Sul		60.6
Fdo. de Noronha	81.1	187.5	Mato Grosso	85.5 a/	33.7
Sergipe	65.7	50.1	Goias	79.2	43.1
Bahia	108.4	65.5	Federal District	79.6	43.6

a/ Includes Mato Grosso and Mato Grosso do Sul.
Source: Anuario Estatistico do Brasil, 1981.

ANNEX 1
Table 3

BRAZIL

SAO PAULO HEALTH PROJECT

Crude Death Rate
(per 1000 population)

	1980		1980
Brazil	6.9		
North	5.7	Southeast	7.4
Rondonia	6.7	Minas Gerais	7.4
Acre	5.5	Espiritu Santo	6.6
Amazonas	5.4	Rio de Janeiro	8.3
Roraima	5.9	Sao Paulo	7.1
Para	5.8		
Amapa	4.9		
Northeast	7.0	South	6.5
Maranhao	3.6	Parana	6.5
Piaui	4.5	Santa Catarina	5.7
Ceara	6.5	Rio Grande do Sul	6.8
Rio Grande do Norte	6.5		
Paraiba	9.5		
Pernambuco	10.1	Center West	5.5
Alagoas	9.4	Mato Grosso do Sul	5.9
Fdo. de Noronha	4.7	Mato Grosso	4.8
Sergipe	6.4	Goias	5.7
Bahia	6.3	Federal District	5.2

Source: Anuario Estatistico do Brasil, 1981.

ANNEX 1
Table 4

BRAZIL

SAO PAULO HEALTH PROJECT

Ten Leading Causes of Mortality
by Regions (1977) a/

Cause	Ranking				
	North	Northeast	Southeast	South	Center-West
Enteritis	1	1	1	3	1
Neoplasms	4	3	2	2	2
Pneumonia	2	4	7	4	6
Peri-natal mortality	5	7	8	7	5
Heart ischemia	3	5	5	1	8
Other heart diseases	6	6	4	6	3
Malaria	10				
Other infectious and parasitic diseases	9		6	8	10
Obstetrical causes	8	8	9	9	7
Cerebrovascular disease	7	2	3	5	4
Cirrhosis		10		10	
Meningitis					9
Other respiratory diseases			10		
Tuberculosis		9			

a/ Based on death registrations for representative municipalities.
Source: Anuario Estatistico do Brasil, 1981.

ANNEX 1
Table 5

BRAZIL

SAO PAULO HEALTH PROJECT

Morbidity Indicators (1979):
Case Rates of Some Infectious Diseases
(Cases per 100,000 persons)

Malaria	64.68
Measles	52.51
Whooping Cough	29.40
Tuberculosis	25.64
Meningitis	13.14
Leprosy	7.09
Diphtheria	3.85
Thyphoid Fever	2.98
Tetanus	2.37
Poliomyelitis	2.00

Source: Anuario Estatistico do Brasil, 1981.

ANNEX 1
Table 6

BRAZIL

SAO PAULO HEALTH PROJECT

Nutrition Indicators by Region

and Age Group (1975)

		% of age Group			
	Age Group	Brazil	NE	SE	Frontier
Adequately nourished a/	Birth - 5.99 months	71.3	63.6	76.0	73.9
	6.00 -11.99 "	65.2	53.8	73.6	62.6
	1.00 - 1.99 years	56.1	43.4	64.9	53.2
	2.00 - 4.99 "	47.0	36.5	54.6	41.5
First degree malnutrition	Birth - 5.99 months	17.4	20.4	16.1	13.7
	6.00 -11.99 "	22.3	26.4	19.6	22.4
	1.00 - 1.99 years	32.2	35.5	30.0	33.0
	2.00 - 4.99 "	38.1	40.7	35.8	41.5
Second degree malnutrition	Birth - 5.99 months	8.9	12.3	6.6	8.6
	6.00 -11.99 "	11.0	17.0	6.6	12.7
	1.00 - 1.99 years	11.1	19.6	5.1	13.2
	2.00 - 4.99 "	14.8	22.7	9.6	15.8
Third degree malnutrition b/	Birth - 5.99 months	2.5	3.7	1.4	3.6
	6.00 -11.99 "	1.4	2.9	0.3	2.4
	1.00 - 1.99 years	0.6	1.5	c/	0.6
	2.00 - 4.99 "	0.2	c/	-	1.2

a/ Defined here as weighing above 90% of the median of the FAO/WHO standard distribution of weight by age.

b/ Third degree malnutrition may be underestimated because some children who were obviously far below normal weights were dropped before the final tabulations.

c/ Less than 0.1%.

Source: Brazil, Human Resources Special Report, Annex II, World Bank, July 1979.

BRAZIL

SAO PAULO HEALTH PROJECT

Percentage of Women Age 15-44 at Risk of Unplanned Pregnancy and

Corresponding Number of Women in Need of Family Planning Services, *

Brazil, El Salvador, Guatemala, Panama and Paraguay

Country	Year of Survey	Total Population (millions)	Women 15-44 **	% of Women at Risk of Unplanned Pregnancy	Women 15-44 in Need ***
Brazil					
Sao Paulo	1978	25.0	6,209,000	8.6	534,000
Piaui	1979	2.1	459,000	20.3	93,000
R.G. do Norte	1980	1.9	423,000	10.9	46,000
Paraiba	1980	2.8	594,000	11.9	71,000
Pernambuco	1980	6.1	1,354,000	11.0	149,000
Bahia	1980	9.5	2,007,000	18.3	367,000
Parana	1981	7.6	1,782,000	4.9	87,000
El Salvador	1978	4.8	710,000	16.2	115,000
Guatemala	1978	7.0	1,399,000	26.8	375,000
Panama	1979	1.9	405,000	12.3	50,000
Paraguay	1977	3.3	655,000	24.9	163,000

* In need of family planning services defined as fecund, sexually active women (regardless of marital status) who were not using contraception and who were not pregnant and did not desire a pregnancy at the time of interview (as determined by surveys for which FPED/CDC provided technical assistance).

** For Brazil, from 1980 census; for other countries, estimates for the year of the survey.

*** Rounded to nearest thousand.

Source: Centers for Disease Control, Department of Health and Human Services, US, 1982.

ANNEX 1
Table 8

BRAZIL

SAO PAULO HEALTH PROJECT

Status of Contraceptive Prevalence Information for Latin America a/

June 1982

	Year of Survey Field Work			Percent of Married Women 15-44 Using Contraception b/			Population Estimate (millions)	
	WFS	CPS a/	CPS b/	WFS	CPS a/	CPS b/	1980	CBR c/
Caribbean								
Cuba							10.0	18
Dom. Republic	1975	(1983)	1980 d/	33		43 d/	5.4	32
Haiti	1977			19			5.8	42
Jamaica	1976	1979		41	51***		2.2	27
Puerto Rico		1974	(1982)		61*		3.5	23
Trinidad & Tobago	1977			52			1.2	25
							28.3	
Middle America								
Costa Rica	1976	1978	1981	64**	64	65	2.2	29
El Salvador		1975	1978		22	34	4.8	40
Guatemala		1978	(1982)		18		7.0	44
Honduras		1981			25		3.8	46
Mexico	1976	1978	1979	30*	38	40	68.2	36
Nicaragua		1981					2.6	46
Panama	1976	1974	1979	54**	31	61	1.9	28
							90.5	
South America								
Argentina							27.2	26
Bolivia							5.3	44
Brazil (States)							119.1	32
Sao Paulo		1978			64		25.0	24
Piaui		1979	(1982)		31		2.1	41
Bahia		1980			31		9.5	42
Paraiba		1980			43		2.8	38
Pernambuco		1980			41		6.1	33
Rio Grande do Norte		1980			47		1.9	38
Parana		1981			62		7.6	
Santa Catarina		1981			63		3.7	
Rio Grande do Sul		1981			71		7.9	
Amazonas		(1982)					1.4	
Other States							51.0	
Chile							10.8	22
Colombia	1976	1978	1980	42	46	49	26.7	29
Ecuador	1979	(1982)					8.0	42
Guyana	1975			32			0.9	28
Paraguay	1979	1977		32	24		3.3	40
Peru	1977	1981		31			17.6	41
Uruguay		(1982)					2.9	21
Venezuela	1977	(1982)		46			13.9	32
							235.7	
							354.5	

* Ever married women 15-49
** Married women 20-49
*** Ever married women 14-44

a/ Includes countries with 500,000 or more population.
b/ Includes women in consensual union.
c/ Crude birth rate available for year of contraceptive prevalence data; if no contraceptive prevalence data or contraceptive prevalence data not yet available, the crude birth rate is for the most recent year available.
d/ WFS 2

ANNEX 1
Table 9

BRAZIL

SAO PAULO HEALTH PROJECT

Health Expenditures, Total Federal Expenditures and the Health Share of Expenditures, 1978-1982
(Billions of 1980 US$)

Year	Health	Total Expenditures	Percentage
1978, actual	4.20	19.57	21.5%
1979, actual	4.23	19.82	21.4%
1980, actual	4.19	21.59	19.4%
1981, actual	3.97	20.26	19.6%
1982, budgeted	3.49	20.05	17.4%

Source: SEPLAN, 1982

ANNEX 1
Table 10

BRAZIL

SAO PAULO HEALTH PROJECT

INAMPS Expenditures by Region, 1982

Region	INAMPS expenditures, 1982 (US$ billion)	Population Share %	Expenditures to equalize per capita expenditures (US$ billion)
North	0.09	4.9	0.16
Northeast	0.62	29.3	0.98
Southeast	1.83	43.5	1.45
South	0.59	16.0	0.53
Center-West	0.20	6.3	0.21
General Administration and other	0.31	0.0	0.31
Total	3.64	100.0	3.64

Source: INAMPS; IBGE.

ANNEX 1
Table 11

BRAZIL

SAO PAULO HEALTH PROJECT

Percentage Distribution, Five Major Regions,
(Federal Revenues, SINPAS Revenues, Nonmedical Expenditures
Under Social Security and Medical Expenditures of
INAMPS, 1981, Except as Indicated)

Region	Federal Revenues %	SINPAS Revenues %	Nonmedical Ben., Paid, 1979 %	INAMPS Expenditures %
North	1.5	1.9	2.0	2.4
Northeast	6.2	9.0	16.4	17.2
Southeast	62.7	62.6	63.0	52.6
South	9.7	14.2	15.8	18.8
Center-West	19.9	4.1	2.5	6.0
Other	0.0	8.2	0.3	3.0
Total	100.0	100.0	100.0	100.0

Source: SEPLAN (1982); INAMPS (1982); MPAS, DATAPREV (1980)

ANNEX 1
Table 12

BRAZIL

SAO PAULO HEALTH PROJECT

Preventive and Curative Shares of Brazilian Health Expenditures
(Percentage Distribution, Selected Years, 1949-1982)

Year	Medical-Hospital or Curative %	Primary or Preventive %
1949	12.9	87.1
1965	35.8	64.1
1969	59.2	40.8
1975	70.2	29.7
1978	81.3	18.7
1979	81.9	18.1
1980	84.5	15.5
1981	82.2	17.8
1982 (budget)	84.6	15.4

Note: Resources of Ministerio de Previdencia e Assistencia Social counted as curative health expenditures and all others as preventive.

Source: 1949-75 Knight and Moran (1979), p. 41
1978-82 SPI/CNRH/IPEA

ANNEX 1
Table 13

BRAZIL

SAO PAULO HEALTH PROJECT

Health Manpower

Year	Population	Number of doctors	Ratio Pop./doctor	Number of doctors trained
1971	95,993,400	49,209	1,951/1	3,721
1972	98,690,200	51,700	1,909/1	5,301
1973	101,432,600	55,709	1,821/1	6,613
1974	104,243,300	60,929	1,711/1	7,722
1975	107,145,200	67,128	1,596/1	8,284
1976	110,123,500	73,734	1,494/1	8,641
1977	113,208,500	80,532	1,406/1	9,201
1978	116,393,100	87,720	1,327/1	9,412
1979	119,670,000	94,939	1,260/1	8,929
1980	123,032,100	101,495	1,212/1	9,109

Source: Ministry of Education and Culture; Associaçao Brasileira de Escolas de Medicina; IBGE.

Nursing Personnel

	Nurses		Auxiliary Nurses	
	Number	Ratio Nurse/Pop.	Number	Ratio Aux/Pop.
Brazil (1979)	18,334	1.5/10,000	91,005	8.8/10,000
Latin Am. (1981)	..	2.7/10,000	..	7.9/10,000

ANNEX 1
Table 14

BRAZIL

SAO PAULO HEALTH PROJECT

Geographical Distribution of Population and Services
(1978)

Area	Population	Number of Hospital Beds								Ratio beds/100 pop.
		General	Obstetrics/ Gynecology	Pediatrics	Surgery	Psychiatric	Trauma and Orthopedic Surgery	Others	Total	
North	4,627,200	2,791	1,575	1,558	1,190	921	270	6,002	14,307	3.1
Northeast 1/	34,487,900	13,676	12,913	12,390	8,443	13,914	1,168	16,562	79,066	2.3
Southeast	48,957,800	47,801	25,083	30,496	24,915	66,709	5,555	62,521	263,080	5.4
South	21,142,500	27,984	10,286	11,964	11,442	12,007	1,285	17,329	92,297	4.4
Center-West	7,177,700	2,692	2,120	2,649	1,550	3,859	391	13,371	26,632	3.7
Total Brazil	116,393,100	94,944	51,977	59,057	47,540	97,410	8,669	115,785	475,382	4.1

1/ Excludes Fdo. de Noronha.

Source: Anuario Estatistico do Brazil, 1981.

ANNEX 1
Table 15

BRAZIL

SAO PAULO HEALTH PROJECT

Rural and Urban Ambulatory Visits as Registered by INAMPS - 1980 1/
('000)

Area	Number of Visits				Type of Visits				
	Population	Rural	Urban	Total	Emergency	Internal Medicine	Obstetrics Gynecology	Pediatrics	Others
North 2/	5,893	1,155	4,369	5,524	627	2,027	656	899	1,314
Northeast 3/	34,862	7,376	24,460	31,836	4,439	11,014	3,811	5,480	7,092
Southeast	51,753	6,392	96,216	102,608	26,467	29,429	9,771	12,857	24,085
South	19,036	3,686	28,023	31,709	4,534	12,695	3,597	4,965	5,918
Central-West	7,555	935	7,139	8,074	1,381	2,039	1,037	1,426	2,191
Total Brazil	119,099	19,544	160,207	179,751	37,448	57,204	18,872	25,627	40,600

1/ No data on ambulatory visits available through state facilities.
2/ Excluding Amapa, Rondonia and Roraima.
3/ Excluding Fdo. de Noronha.

Source: Anuario Estatistico do Brasil, 1981.

ANNEX 2

BRAZIL

SAO PAULO HEALTH PROJECT

Supplementary Data on Sao Paulo

Table 1	Project Area Data (1980)
Table 2	Income (1977)
Table 3	Main Causes of Death in Less than One-Year-Olds in the Five Project Areas (1980)
Table 4	Morbidity: Diagnosis of Hospital Discharged Patients in a Four-Month Period (1979)
Table 5	Morbidity Indicators: Case Rate of Some Infectious Diseases (1981)
Table 6	General and Psychiatric Hospitals in Metropolitan Sao Paulo by Bed-Size Category and Ownership (1980)
Table 7	Number of Hospital Beds in Metropolitan Sao Paulo by Type of Ownership (1980)
Table 8	Health Facilities by Ownership in the Metropolitan Area of Sao Paulo
Table 9	Health Manpower Composition in Sao Paulo (1981)

ANNEX 2
Table 1

BRAZIL
SAO PAULO HEALTH PROJECT
Project Area Data
(1980)

PROJECT AREAS	1980 Population ('000)	Population Growth Rate (% p.a.)	Population Density ('000/km2)	Infant Mortality (per 1000 live births)	Access to Piped Water (% Pop.)	Access to Sewerage (% Pop.)	Slum Dwellers (% Pop.)	Poverty Incidence (% Pop.)a/ (1977)
Main Target Areas								
Freguesia do O	584,304	2.86	12.5	38.2	95.0	40.0e	4.3	55.0
Itaquera-Guaianazes	565,325	7.99	4.5	69.2	85.0e	5.0e	3.5	74.0
Cotia	62,952	7.12	0.2	54.4	30.7	12.1	..	54.3
Caieiras	153,972	5.25	0.2	64.8	38.0	26.7	..	50.0e
Maua	282,365	7.55	2.1	61.6	22.0	16.6	..	72.0
Sub-total	1,648,918	5.8	6.4	55.9	71.3	21.7	..	64.0
"Extension Points"								
Tucuruvi	462,800	28.8	5.2	75.5	35.0e	40.0e	2.0	..
Vila Maria	131,000	12.3	11.8	78.0	30.0e	30.0e	8.0	..
Santo Amaro	766,800	103.3	8.1	90.0	15.0e	15.0e	20.2	..
Jabaquara	266,600	36.3	12.1	70.0	15.0e	25.0e	6.4	..
Penha de Franca	142,500	3.4	12.2	65.0	20.0e	35.0e	1.0	..
Butanta	318,400	81.1	5.9	68.0	30.0e	30.0e	14.8	..
Vila Prudente	496,500	38.2	15.7	60.5	40.0e	40.0e	7.5	..
Lapa	134,500	9.8	6.2	55.0	50.0e	35.0e	0.1	..
Sub-total	2,719,100b	39.1	9.6	70.1	30.0	31.2	8.0	70.e
TOTAL:	4,368,018							

a/ % of families with income less than five minimum salaries.
b/ About 0.8 million of this population would be served by project UBS.
e: Staff estimates.

Source: IBGE, CIS, SABESP, EMPLASA

ANNEX 2
Table 2

BRAZIL

SAO PAULO HEALTH PROJECT

Income (1977) a/

	Freguesia do O	Itaquera-Guaianazes	Cotia	Caieiras	Maua	Project Area	G S P b/
% of population earning:							
0-3 minimum salaries	27	38.8	..	..	..	..	23.7
3-5 " "	28	35.2	..	..	..	..	24.9
0-5 " "	55	74.0	54.3	50e	72e	64	48.6
5-12 " "	37	22.7	..	..	..	..	34.0
12+ " "	8	3.3	..	..	..	..	17.4

a/ A family earning less than five minimum salaries is considered below the poverty level. A minimum salary in October 1981 was Cr$ 8,465, equal to US$ 75/month.

b/ Ten municipalities, accounting for about 100,000 people, are excluded.

Source: Pesquisa O-D, EMPLASA, 1977.

ANNEX 2
Table 3

BRAZIL

SAO PAULO HEALTH PROJECT

Main Causes of Death in Less than One Year Olds

in the Five Project Areas - 1980

(Number of Cases)

Causes	Freguesia do O	Itaquera-Guaianazes	Cotia	Caieiras	Maua	Project Area	G S P (1979)
Enteritis	106	270	20	35	168	599	4,788
Pneumonia	147	290	28	56	86	607	3,979
Birth Injuries	160	173	20	64	134	551	5,291
Other Perinatal diseases	84	125	17	28	80	334	2,469
Nutritional deficiencies	31	46	11	28	6	122	1,151
Other infectious diseases	13	38	2	10	5	68	736
Measles	20	30	-	7	7	64	448
Meningitis	8	31	4	2	4	49	264
Sub-total A	569	1,003	102	230	490	2,394	19,126
Congenital abnormalities	41	47	5	17	41	151	1,154
Other ill-defined	*	12	3	20	12	47	463
Other heart diseases	8	13	-	-	5	26	*
Other causes	79	112	9	37	32	269	2,407
Sub-total B	128	184	17	74	90	493	4,024
Total	697	1,187	119	304	580	2,887	23,150
(of which % of A)	81.6	84.5	85.7	75.7	84.5	82.9	82.6

(*) Included in "Other Causes"

Source: CIS

ANNEX 2

Table 4

BRAZIL

SAO PAULO HEALTH PROJECT

Morbidity: Diagnosis of Hospital Discharged Patients

in a Four-Month Period - Sao Paulo Municipality - 1979

Diagnosis	Jan.	Apr.	Jul.	Oct.	Total No.	Total %
Normal Delivery	431	456	409	420	1,716	15.08
Direct obstetrical causes	344	358	349	318	1,369	12.03
Ill-defined signs and symptoms	384	301	270	331	1,286	11.30
Other respiratory tract diseases	225	247	302	263	1,037	9.11
Diseases of other parts of gastro-intestinal tract	149	173	199	162	683	6.00
Intestinal infectious diseases	152	103	95	75	425	3.73
Genito-urinary diseases	112	93	88	122	415	3.65
Neoplasms	77	107	102	101	387	3.40
Pulmonary circulation diseases and other heart diseases	84	106	89	104	383	3.37
Endocrine and metabolic diseases	53	43	56	44	196	1.72
Other causes	781	855	893	953	3,482	30.61
T O T A L	2,792	2,842	2,852	2,893	11,379	100.00

Source: SEADE - Anuario Estatistico do Estado de Sao Paulo - 1980.

ANNEX 2
Table 5

BRAZIL

SAO PAULO HEALTH PROJECT

Morbidity Indicators (1981):

Case Rate of Some Infectious Diseases /a

(Cases per 100,000 persons)

Causes	Freguesia do O	Itaquera-Guaianazes	Cotia	Caieiras	Maua	G S P. (1979)
Measles	8.80	7.48	13.85	23.99	3.07	13.03
Tetanus	0.16	-	-	-	-	..
Diphtheria	0.83	2.38	-	1.26	0.34	0.78
Typhoid Fever	0.49	-	-	2.52	-	0.28
Meningitis (meningococcal)	2.49	0.85	-	2.52	1.71	..
Aseptic Meningitis	8.80	4.59	16.92	8.21	4.09	..

/a As these data are derived from notifications, they probably underestimate the true case rate, especially for measles.

Source: CIS

ANNEX 2
Table 6

BRAZIL

SAO PAULO HEALTH PROJECT

General and Psychiatric Hospitals in Metropolitan Sao Paulo

by Bed Size Category and Ownership - 1980

Bed Size Category	Sao Paulo Municipality								Other Municipalities								Total		
	Proprietary		Nonprofit		Government		Subtotal		Proprietary		Nonprofit		Government		Subtotal				
	Gen	Psych	Gen	Psych	Gen	Psych	Gen	Psych	Gen	Psych	Gen	Psych	Gen	Psych	Gen	Psych	Gen	Psych	All
6-24	3	1	-	-	1	-	4	1	3	-	1	-	2	-	6	-	10	1	11
25-49	15	1	-	-	1	-	16	1	6	-	3	-	2	-	11	-	27	1	28
50-99	27	3	9	1	2	-	38	4	12	2	5	2	2	-	19	4	57	8	65
100-199	25	7	11	3	6	1	42	11	18	2	7	-	1	-	26	2	68	13	81
200-299	9	4	9	1	5	1	23	6	5	3	4	-	1	-	10	3	33	9	42
300-399	3	2	6	-	3	1	12	3	2	2	1	1	-	-	3	3	15	6	21
400-499	2	-	1	-	1	-	4	-	1	2	-	-	-	-	1	2	5	2	7
500+	-	1	5	1	3	-	8	2	-	1	-	-	-	1	-	2	8	4	12
Total	84	19	41	6	22	3	147	28	47	12	21	3	8	1	76	16	223	44	267

Source: Sao Paulo State Health Secretariat, Hospital Division.

ANNEX 2
Table 7

BRAZIL

SAO PAULO HEALTH PROJECT

Number of Hospital Beds in Metropolitan Sao Paulo
by Type and Ownership - 1980

Types of Beds	Sao Paulo Municipality			Other Municipalities			Total	
	Proprietary	Nonprofit	Government	Proprietary	Nonprofit	Government	Number	%
General	10,529	10,699	7,366	6,060	2,438	591	37,683	68.5
Psych.	3,482	1,261	635	3,336	481	5,877	15,072	27.4
Tubercu-losis	-	120	545	-	163	-	828	1.5
Dermatol-ogy	-	-	-	-	-	1,389	1,389	2.5
Total	14,011	12,080	8,546	9,396	3,082	7,857	54,972	100
%	25.5	22.0	15.5	17.1	5.6	14.3	100	

Source: Sao Paulo State Health Secretariat, Hospital Division

ANNEX 2
Table 8

BRAZIL

SAO PAULO HEALTH PROJECT

Health Facilities by Ownership
in the Metropolitan Area of Sao Paulo

	SES	SHS	INAMPS	Private	Other	Total
Health Centers	203	56 a/				259
Ambulatory Care			23			23
Emergency Care		5				5
Hospitals	16	7	5	193	16	237

a/ Municipality of Sao Paulo, plus 96 in other municipalities of the region.

ANNEX 2
Table 9

BRAZIL

SAO PAULO HEALTH PROJECT

Health Manpower Composition in Sao Paulo (1981)
(INAMPS, State and Municipal Health Secretariats)

Direct Services Health Manpower	INAMPS		State		Municipal		Total Health Manpower in Sao Paulo	
							No.	%
Physicians	1,750	57%	2,556	17%	1,826	30%	6,132	25.4
Dentists	96	3%	395	3%	114	2%	605	2.5
Nurses	148	5%	216	1%	384	6%	748	3.0
Other Prof.	143	5%	794	5%	316	5%	1,253	5.0
Technicians	141	4.5%	1,994	13%	0	0%	2,135	9.0
Auxiliaries	611	20%	2,775	19%	1,226	20%	4,612	19.0
Atendentes	193	6%	6,158	41%	2,224	36%	8,575	36.0
	3,082	100%	14,888	100%	6,090	100%	24,068	100.0

ANNEX 3

BRAZIL

SAO PAULO HEALTH PROJECT

Project Services and Facilities

Table 1	Project Services
Tables 2 - 3	Project Facilities
Table 4	Project-Related Research Studies

ANNEX 3

Table 1
Page 1

BRAZIL

SAO PAULO HEALTH PROJECT

Functions and Relative Care Contents of
The New Model of Health Services

FUNCTIONS	RELATIVE CONTENTS a/		
	HEALTH MODULE		Existing Referral Health Facilities
	Basic Health Unit	General Hospital	
Health Problem			
. Common and Nonspecific	3	2	0
. Less Common and Specific	2	3	1
. Rare and Complicated	0	1	3
Site of Care			
. Ambulatory	3	1	0
. In-Patient (General Care)	0	3	1
. In-Patient (Intensive Care)	0	0	3
Referral Pattern			
. Direct Access	3	1	0
. Referral	2	2	3
Extent of Responsibility			
. Continuing Care	3	1	1
. Intermittent Care	1	2	1
. Episodic Care	0	1	3
Information Source			
. Patient and Family	3	2	1
. Epidemiological Data Base	3	2	1
. Biomedical Data Base	1	2	3
Use of Technology			
. Office Laboratory	3	1	1
. Regular Lab and X-Ray	1	3	3
. Complex Equipment and Staff	0	0	3
Orientation			
. Prevention and Health Maintenance	3	2	0
. Early Diagnosis and Disability Containment	3	3	1
. Palliation x Rehabilitation	1	2	3
Training Needed			
. Broad and General	3	1	0
. Concentrated	1	3	2
. Narrow and Highly Specialized	0	1	3

a/ Contents: 3 = high; 2 = medium; 1 = minimum; and 0 = none

See page 2 for a specific example on functions and service contents of a UBS for 0-11 months of age users.

BRAZIL

SAO PAULO HEALTH PROJECT

Example: Health Care For 0-11 Months Age Group In Basic Health Units

Health Problem	(WHAT) Activity	(WHEN) Moment	(WHO) Responsible	(WHERE) Local	Observe
Low Birth Weight (12%)	Control of risk factors	During Pregnancy.	Visitor, nurse doctor	Home BHU	See prenatal care.
	Clinical diagnosis	1st 24 hrs. of life.	Nurse, doctor	Hosp. BHU	Ref. Hospital.
	Medical & nursing care	Following diagnosis.	Nurse, doctor	Home BHU hosp.	
	Complications management	During follow-up	Doctor, nurse	Hosp.	Lab. tests.
	Rehabilitation	During follow-up	Nurse, doctor	Home BHU	G & O tests.
Slow Growth and Development (35%)	Control of risk factors	During pregnancy and lactation	Visitor, nurse doctor	Home BHU	See Prenatal care. in risk.
	Screening	Discretional	Aux. nurse	Home BHU	Factor families.
	Clinical diagnosis	3, 6, 12 month or in any medical visits.	Nurse, doctor	Home BHU	Eventual references to hospital for specialized care of service cases.
	Medical & nursing care	following diagnosis.	Nurse, doctor visitor	Home BHU	
	Follow-up	During 1st year of life.	Nurse, visitor	Home BHU	
	Rehabilitation	During follow-up	Psychologist, nurse	Home BHU	
Respirat. Infection (60%)	Control of risk factors	During gestation and ?	Visitor, nurse doctor	Home BHU	
	Clinical diagnosis	With early respiratory simptomes	Nurse, doctor	BHU	
	Nursing and medical care	Following diagnosis	Nurse, doctor	Home BHU	
	Complications management	Immediately after identification	Nurse, doctor	BHU Hospital	

NOTE: The table has been fully developed for the 10 most important health problems during the child's first year of life.

BRAZIL
SAO PAULO HEALTH PROJECT
FREGUESIA DO O (MSP): EXISTING AND PROPOSED BASIC HEALTH UNITS

ANNEX 3
Table 2
Page 1

alth tule	District	Name of Unit	Size (m2)	Population in Catchment Area (1981)	Operated by State	Operated by Munic.	To Be Rented	To Be Renovated	To Be constructed
	Casa Verde	Casa Verde Baixa	---	29,929					x
		Jardim Laranjeiras	---	10,327	x			x	
		Parque Peruche	568	32,081	x			x	
	Limao	Vila Barbosa I	255	6,824	x			x	
		Vila Barbosa II	---	18,179					x
		Vila Siqueira	---	18,092					x
				subtotal 115,432					
	Nossa Sra.	Vila Albertina	---	18,728	x			x	
	do O	Vila Bancaria/V.Palmeira	--	24,227					x
		Monjolo	---	20,365	x				x
		Itaberaba	---	16,791		x		x	
				subtotal 80,111					
	Cachoeirinha	Vila Dionisia	---	18,640					x
		Vila N. Cachoeirinha	---	13,996					x
	Nossa Sra.								
	do O	Vila Ramos	255	16,810	x			x	
	Limao	Vila Santa Maria	190	25,082	x				
		Vila Espanhola	---	17,320					x
	Casa Verde	Casa Verde Alta	365	24,866					x
		Sitio Mandaqui	---	13,193					x
				subtotal 129,907					
	Nossa Sra.	Jardim Sao Jose	---	19,717					x
	do O	Cruz das Almas	450	21,892		x			
		Vila Zatti	568	20,469	x			x	
		Paulistano	---	10,315					x
	Brasilandia	Brasilandia	469	15,861					x
		Sitio Morro Grande	---	12,268					x
		Vila Icarai	---	11,265					x
				subtotal 111,787					
	Brasilandia	Vila Penteado	---	33,320					x
		Vila Souza	---	18,920					x
		V.Souza/Parque Tiete	146	11,603	x				
		Vila Guarani	847	36,619		x			
		Vila Terezinha	64	14,545					x
		Vista Alegre	847	10,747		x			
		Cohab	615	219		x			
		Parada de Taipas	---	16,742					x
				subtotal 142,715					
				TOTAL 579,952	9	5	7		19

BRAZIL
SAO PAULO HEALTH PROJECT

ANNEX 3
Table 2
Page 2

ITAQUERA/GUAINAZES (MSP): EXISTING AND PROPOSED BASIC HEALTH UNITS

Health Module	District	Name of Unit	Size (m2)	Population in Catchment Area (1981)	Operated by State	Operated by Munic.	To Be Rented	To Be Renovated	To Be Constructed
	Itaquera	Jardim Tiete	198	28,657	x			x	
		Cidade Sao Mateos	480	24,000	x		x		
		Sao Mateus II-III	---	13,319					x
		Sao Mateus I	---	42,135					x
		Jardim Colonial	198	16,742	x			x	
		Cid. Satelite Sta. Barbara	198	8,317	x			x	
		Jardim Carraozinho	318	6,094	x			x	
		Jardim Colorado	476	13,559		x			
1		Parque Sao Rafael	565	26,643	x			x	
		Par.Boa Esperanca	565	18,284	x			x	
		Jardim Santo Andre	198	11,364	x			x	
		Jardim Laranjeiras	---	3,365					x
		Rio Claro	---	5,557	x				
	Guaianazes	Jardim Roseli	568	13,902	x			x	
				subtotal 231,938					
	Itaquera	Cohab I	615	3,267		x			
		Cohab II	615	2,271		x			
	Guaianazes	Jardim Sao Pedro	847	21,286		x			
		Cidade Lider	113	4,000		x	x		
		Cidade Lider A	---	10,087		priv.			x
2		Cidade Lider B	295	10,856		x			
		Sta. Marcelina	---	9,474		x			
		V. Carmosina	---	11,984					x
		N. S. Do Carmo	---	8,756					x
		Jardim Helian	===	3,273					x
				subtotal 85,254					
	Itaquera	Itaquera	904	16,536	x			x	
		Cid. A.E. Carvalho	---	13,160		x			x
		V. Regina	---	9,726					
3		Santana	---	16,359		x			x
		V. Progresso	847	23,110					
		N.S. Aparecida	---	16,524					x
		Parada XV	---	17,917					x
		Jardim Etelvina	---	14,107					x
	Guaianazes	Jardim Robru I	255	15,291	x				
		Jardim Robru II	---	6,601					x
				subtotal 149,331					
	Itaquera	Joao Neri	---	13,186					x
		Jardim Aurora	---	17,655					x
		Lageado	---	8,937		priv.			
4	Guaianazes	Chabilandia	568	18,176	x				
		Guaianazes	180	4,000	x		x		
		Guayánazes A	330	10,679		x			
		Guayanazes B	---	17,901		priv.			
		Jardim Soares + Sao Paulo	847	15,118		x			
		Cohab (Prestes Maia)	615	5,146		x			
				subtotal 110,798					
				TOTAL 577,321	14	12	3	9	15

BRAZIL
SAO PAULO HEALTH PROJECT

ANNEX 3
Table 2
Page 3

COTIA (GSP): EXISTING AND PROPOSED BASIC HEALTH UNITS

Health Module	District	Name of Unit	Size (m2)	Population in Catchment Area (1981)	Operated by State	Operated by munic.	To Be Rented	To Be Renovated	To Be constructed
	Cotia	Rio Cotia	---	12.000					x
1		Caucaia do Alto	185	15.000	x			x	
		Granja Viana	170	12.000	x			x	
	Vargem Gde.	Jardim Belavista	---	9.747					x
			subtotal	48.747	2			2	2

CAIEIRAS (GSP): EXISTING AND PROPOSED BASIC HEALTH UNITS

	Municipality								
	Caieiras	Centro	---	20.000					x
		Vera Tereza	---	12.000					x
		Laranjeiras	---	10.000					x
	Mairipora	Bairro Terra Preta	---	10.000					x
		Centro	558	17.489	x			x	
	Franco da Rocha	Centro	305	20.000	x			x	
		Parque Vitoria	---	15.000					x
1		Vila Rosalina	---	15.000					x
	Francisco Morato	Parque Paulista	---						x
		Centro	285	10.000	x			x	
		Parque 120	---	10.000					x
	Cajamar	Centro	1.020	4.000	x			x	
		Jordanesia	---	12.000					x
		Bairro do Polvilho	---	6.000					x
		TOTAL		161.489	4			4	10

MAUA (GSP): EXISTING AND PROPOSED BASIC HEALTH UNITS

	Maua	Jardim Sonia Maria	---	20.000					x
		Vila Assis Brazil	---	20.000					x
1		Jard. Primavera/Vila Mercedes	---	16.000					x
		Parque das Americas	---	12.000					x
		Parque das Americas/ Vila Florida	---	26,000					x
		Jardim Zaira-I/Gleba C	---	16,000					x
		Jard.Coimbra/B.Feitol	---	16,000					x
		Parque Sao Vicente	---	10,000		x			
		Jardim Itapark	196	4,000		x		x	
		Alex. Fleming	196	8,000		x			
		Maua Centro	1,365	20,000	x			x	
1		Jard. Zaira	618	12,000		x			
		Vila Sao Joao	---	4,000		x		x	
		Jardim Santista	---	9,817					x
		J. Zaira/Gleba C	---	12,000					x
		Jardim Oratorio	---	12,000					x
	Riverao Pires	Centro I	---	13,000					x
		Santa Luzia	---	12,487	x			x	
		Ouro Fino	198	4,000					x
		Vila Nova Suissa	---	14,000					x
		Bairro Alianca	---	13,000					x
	Rio Grande da Serra	Centro	---	12,000					x
		Rio G. da Serra	147	8,102	x			x	
		TOTAL		294,406	3	5		5	15

BRAZIL
SAO PAULO HEALTH PROJECT

Location of "EXTENSION POINTS" (MSP): PROPOSED NEW BASIC HEALTH UNITS

Butantan	3
Tabaquara	5
Vila Prudente	7
Lapa	3
Tucuruvi	3
Penha	6
Sao Miguel Paulista	3
Santo Amaro	8
TOTAL:	38

ANNEX 3
TABLE 3

TABLE 3: EXISTING AND PROPOSED HEALTH FACILITIES

Basic Health Unit (UBS)

Main Project Areas	Population '000	Existing Facilities			Of Which		Proposed UBS			
		State	Municipal	Total (A)	Owned	Rented	New (B)	Remodeling	Total	Grand Total (A + B)
1. Freguesia do O	580	9	5	14	14	-	19	7	26	33
2. Itaquera-Guaianazes	577	14	12	26	22	4	15	9	24	41
3. Cotia	49	3[a]	-	3	3	-	2	2	4	5
4. Caieiras	161	4	-	4	4	-	10	4	14	14
5. Maua	294	3	5	8	8	-	15	6	21	23
Sub-totals	1,661	33	22	55	51	4	61	28	89	116
"EXTENSION POINTS"	2,719	-	-	-	-	-	38	-	38	38
TOTAL	4,380	33	22	55	51	4	99	28	127	154

Hospitals

Area	Existing Facilities								Proposed Facilities						
	State		Municipal		Private		Total		To Be Acquired	To Be Upgraded	To Be Extended	To Be Constructed		Total New Beds	Total Beds	Beds/1000 Population
	Name	No. Beds	Name	No. Beds	Name	No. Beds	No.	No. Beds	No. Beds	No. Beds	No. Beds	Name	No. Beds			
1. Freguesia do O	V.Nova Cachoeirinha [b]	(96)	-	-	Casa Verde	97			-	-	-	Limao	200			
					Santa Clara	33	1	228				Nossa Sra de O Brasilandia	200	600	828	1.42
					Nossa Sra de O	98										
2. Itaquera-Guaianazes	-	-	Itaquera	258	Santa Marcellina	310	2	568	-	-	-	S. Mateus	200			
												Guaianazes	200	400	968	1.71
3. Cotia	-	-	-	-	Cotia	59 [c]	1	59	-	-	115	-	-	115	174	2.70 [d]
4. Caieiras	Juquery	142[e]	-	-	Caieiras	142 [e]	-	14	-	86	56	-	-	142[e]	142	
					Mairipora	55	1	219	-	-	--	-	-	-	219	2.30 [d]
					Cajamar	14	14	-	-	-	-	-	-	-	14	
5. Maua	-	-	-	-	?	246										
					?	123										
					?	190	3	563	226	-	-	-	-	226	781	2.77 [d]
					(Nardini	226 [f]										
	-	142	1	258	11	1,451	12	1,509	226	86	171	5	1,000	1,483	1,126	1.88

a/ Operated by the State - ownership various.
b/ A specialized facility for high-risk maternity cases - not included in total.
c/ Plus a private, specialized (TB) hospital of 275 beds.
d/ To serve other municipalities and rapid population growth.
e/ 142 general beds of the Juquery Psychiatric Hospital.
f/ Completed but not opened.

ANNEX 3
Table 4

BRAZIL

SAO PAULO HEALTH PROJECT

Project-Related Studies

(Provisional List)

I. Manpower Management

a) Health personnel, productivity and career development
b) Labor markets for health workers
c) Management alternatives
d) Employment conditions, motivation and personnel turnover
e) Health workers "rotation" through ambulatory and hospital services
f) Evaluation of training programs

II. Support and Diagnostic Services

a) Feasibility studies on centralized support services
b) Logistics of drug supply and other materials
c) Effectiveness of milk distribution programs
d) Use of diagnostic aids in basic health units
e) Cost/benefit of diagnostic services centralized in Hospitals

III. Health Care Services

a) Criteria for patient referral and hospital admission
b) Quality control of services
c) Anthropometric measures in nutrition surveillance
d) Pilot testing of improved nutrition inteventions

IV. Health Consumers

a) Consumer's preferences, health practices and utilization of services
b) Tracer studies of coverage, treatment and follow-up of special user categories, such as, phychiatric patients, family planning clients, chronic disease sufferers, or alcoholics
c) Special baseline studies for project health indicators

V. Health Finance

a) Evaluation of project cost-effectiveness

ANNEX 4

BRAZIL

SAO PAULO HEALTH PROJECT

Project Cost Estimates and Financing

Table 1	Detailed Cost Table-Central Level
Table 2	Detailed Cost Table-Health Facilities
Table 3	Detailed Cost Table-Operating Costs
Table 4	Summary-Project Component by Time
Table 5	Summary Accounts Cost Summary
Table 6	Summary Account by Project Component
Table 7	Summary Account by Time
Table 8	Proposed Allocation of Loan Proceeds
Table 9	Estimated Schedule of Disbursements

BRAZIL
SAO PAULO HEALTH PROJECT
Table 1. CENTRAL LEVEL
Detailed Cost Table
(Dollars '000)

		Quantity					Unit	Base Costs					Totals Including Contingencies					Breakdown of Totals Incl. Cont (US$ '000)			
	Unit	84/85	85/86	86/87	87/88	Total	Cost	84/85	85/86	86/87	87/88	Total	84/85	85/86	86/87	87/88	Total	For. Exch.	Local (Excl. Duties & Taxes)	Duties & Taxes	Total
I. INVESTMENT COSTS																					
A. NATIONAL POLICY ANALYSIS	Global	-	-	-	-	-		500.0	1,500.0	-	-	2,000.0	504.4	1,587.3	-	-	2,091.7	104.6	1,987.1	-	2,091.7
B. TECHNICAL ASSISTANCE																					
MANAGEMENT & PROCEDURES	m/m	28	115	-	-	143	6.5	182.0	747.5	-	-	929.5	183.6	791.0	-	-	974.6	-	974.6	-	974.6
OTHER ADVISORS	m/m	5	15	-	-	20	10	50.0	150.0	-	-	200.0	50.4	158.7	-	-	209.2	209.2	-	-	209.2
Sub-Total TECHNICAL ASSISTANCE								232.0	897.5	-	-	1,129.5	234.0	949.7	-	-	1,183.8	209.2	974.6	-	1,183.8
C. PROJECT RELATED STUDIES																					
PREPARATION SECOND PHASE	Global	-	-	-	-	-		217.0	217.0	217.0	-	651.0	218.9	229.6	249.2	-	697.7	-	697.7	-	697.7
RESEARCH STUDIES	Global	-	-	-	-	-		233.0	233.0	233.0	-	699.0	235.0	246.6	267.6	-	749.2	-	749.2	-	749.2
MONITORING & EVALUATION SYSTEMS	Global	-	-	-	-	-		83.0	83.0	83.0	-	249.0	83.7	87.8	95.3	-	266.9	-	266.9	-	266.9
Sub-Total PROJECT RELATED STUDIES								533.0	533.0	533.0	-	1,599.0	537.7	564.0	612.1	-	1,713.8	-	1,713.8	-	1,713.8
D. PROJECT MANAGEMENT																					
PROJECT MANAGEMENT UNIT /a	Global	-	-	-	-	-		842.0	560.0	560.0	560.0	2,522.0	891.8	622.2	675.2	736.0	2,925.3	292.5	2,632.8	-	2,925.3
Sub-Total PROJECT MANAGEMENT								842.0	560.0	560.0	560.0	2,522.0	891.8	622.2	675.2	736.0	2,925.3	292.5	2,632.8	-	2,925.3
E. TRAINING																					
TRAINING PROGRAMS	Global	-	-	-	-	-		525.0	1,400.0	1,225.0	350.0	3,500.0	529.6	1,481.5	1,406.7	438.1	3,855.9	771.2	3,084.7	-	3,855.9
OVERSEAS TRAINING	Global	-	-	-	-	-		30.0	80.0	70.0	20.0	200.0	30.3	84.7	80.4	25.0	220.3	220.3	-	-	220.3
EQUIPMENT	Global	-	-	-	-	-		15.0	40.0	35.0	10.0	100.0	15.9	44.4	42.2	13.1	115.7	23.1	86.8	5.8	115.7
Sub-Total TRAINING								570.0	1,520.0	1,330.0	380.0	3,800.0	575.7	1,610.6	1,529.3	476.3	4,191.9	1,014.7	3,171.5	5.8	4,191.9
Total INVESTMENT COSTS								2,677.0	5,010.5	2,423.0	940.0	11,050.5	2,743.6	5,333.9	2,816.6	1,212.3	12,106.4	1,620.9	10,479.7	5.8	12,106.4
Total								2,677.0	5,010.5	2,423.0	940.0	11,050.5	2,743.6	5,333.9	2,816.6	1,212.3	12,106.4	1,620.9	10,479.7	5.8	12,106.4

/a Includes salaries, furniture, materials and services.

April 19, 1984 10:26

BRAZIL
SAO PAULO HEALTH PROJECT
Table 2. HEALTH FACILITIES
Detailed Cost Table
(Dollars '000)

		Quantity						Base Costs					Totals Including Contingencies					Breakdown of Totals Incl. Cont (US$ '000)			
	Unit	84/85	85/86	86/87	87/88	Total	Unit Cost	84/85	85/86	86/87	87/88	Total	84/85	85/86	86/87	87/88	Total	For. Exch.	Local (Excl. Duties & Taxes)	Duties & Taxes	Total
I. INVESTMENT COSTS																					
A. ACQUISITION																					
HARDINI HOSPITAL	Global	-	-	-	-	-		1,977.0	-	-	-	1,977.0	1,994.3	-	-	-	1,994.3	1,096.9	897.4	-	1,994.3
Sub-Total ACQUISITION								1,977.0	-	-	-	1,977.0	1,994.3	-	-	-	1,994.3	1,096.9	897.4	-	1,994.3
B. CIVIL WORKS																					
1. UBS /a																					
NEW	Units	18	81	-	-	99	234	4,212.0	18,954.0	-	-	23,166.0	4,886.2	23,065.7	-	-	27,951.9	2,795.2	23,759.1	1,397.6	27,951.9
ARCH. SUP & MGT FEES	16%	-	-	-	-	-		673.9	3,032.6	-	-	3,706.6	781.8	3,690.5	-	-	4,472.3	-	4,472.3	-	4,472.3
Sub-Total UBS /a								4,885.9	21,986.6	-	-	26,872.6	5,668.0	26,756.2	-	-	32,424.2	2,795.2	28,231.4	1,397.6	32,424.2
2. UBS																					
RENOVATION	Units	10	18	-	-	28	112	1,120.0	2,016.0	-	-	3,136.0	1,299.3	2,453.3	-	-	3,752.6	375.3	3,189.7	187.6	3,752.6
ARCHITECT FEES & SUPERVISION	38%	-	-	-	-	-		425.6	766.1	-	-	1,191.7	493.7	932.3	-	-	1,426.0	-	1,426.0	-	1,426.0
Sub-Total UBS								1,545.6	2,782.1	-	-	4,327.7	1,793.0	3,385.6	-	-	5,178.6	375.3	4,615.7	187.6	5,178.6
3. HOSPITALS /b																					
NEW	Units	0.2	2.8	1.8	0.3	5	4,759	713.8	13,087.2	8,804.1	1,189.7	23,795.0	828.1	15,926.3	11,626.8	1,712.6	30,093.8	5,115.9	20,463.8	4,514.1	30,093.8
ARCHITECT FEES & SUPERVISION	6%	-	-	-	-	-		42.8	785.2	528.2	71.4	1,427.7	49.7	955.6	697.6	102.8	1,805.6	-	1,805.6	-	1,805.6
Sub-Total HOSPITALS /b								756.7	13,872.5	9,332.4	1,261.1	25,222.7	877.8	16,881.8	12,324.4	1,815.4	31,899.4	5,115.9	22,269.4	4,514.1	31,899.4
4. HOSPITAL																					
EXPANSION (COTIA)	Units	0.3	0.8	-	-	1	1,558	389.5	1,168.5	-	-	1,558.0	451.8	1,422.0	-	-	1,873.8	318.6	1,274.2	281.1	1,873.8
RENOVATION (HARDINI)	Units	1	-	-	-	1	380	380.0	-	-	-	380.0	440.8	-	-	-	440.8	74.9	299.8	66.1	440.8
RENOVATION (JUQUERI)	Units	-	1	-	-	1	1,422	-	1,422.0	-	-	1,422.0	-	1,730.5	-	-	1,730.5	294.2	1,176.7	259.6	1,730.5
ARCHITECT FEES & SUPERVISION	38%	-	-	-	-	-		292.4	984.4	-	-	1,276.8	339.2	1,197.9	-	-	1,537.1	-	1,537.1	-	1,537.1
Sub-Total HOSPITAL								1,061.9	3,574.9	-	-	4,636.8	1,231.9	4,350.4	-	-	5,582.3	687.7	4,287.8	606.8	5,582.3
5. BLDG MAINTENANCE	Global	-	-	-	-	-		33.0	209.0	366.0	705.0	1,313.0	38.3	254.3	483.3	1,014.8	1,790.8	179.1	1,611.7	-	1,790.8
Sub-Total CIVIL WORKS								8,283.1	42,425.1	9,698.4	1,966.1	62,372.7	9,608.9	51,628.4	12,807.7	2,830.2	76,875.2	9,153.1	61,016.0	6,706.1	76,875.2
C. EQUIPMENT/FURNITURE																					
UBS-NEW	Global	9	90	-	-	99	53	477.0	4,770.0	-	-	5,247.0	505.2	5,300.0	-	-	5,805.2	870.8	4,644.2	290.3	5,805.2
UBS-RENOVATION	Global	10	18	-	-	28	37	370.0	666.0	-	-	1,036.0	391.9	740.0	-	-	1,131.9	169.8	905.5	56.6	1,131.9
UBS-EXISTING	Global	10	16	-	-	26	37	370.0	592.0	-	-	962.0	391.9	657.8	-	-	1,049.7	157.5	839.7	52.5	1,049.7
HOSPITALS-NEW	Global	0.2	2.8	1.8	0.3	5	3,488	523.2	9,592.0	6,432.8	872.0	17,440.0	554.2	10,657.8	7,780.6	1,146.1	20,138.6	11,076.2	5,034.6	4,027.7	20,138.6
HOSPITALS-EXPANSION	Global	0.3	0.8	-	-	1	1,182	295.5	886.5	-	-	1,182.0	313.0	985.0	-	-	1,298.0	713.9	324.5	259.6	1,298.0
HOSPITALS-REN.HARDINI	Global	1	-	-	-	1	137	137.0	-	-	-	137.0	145.1	-	-	-	145.1	79.8	36.3	29.0	145.1
HOSPITALS-REN.JUQUERI	Global	-	1	-	-	1	1,171	-	1,171.0	-	-	1,171.0	-	1,301.1	-	-	1,301.1	715.6	325.3	260.2	1,301.1
MAINTENANCE	Global	-	-	-	-	-		29.0	181.0	317.0	611.0	1,138.0	30.7	201.1	382.2	803.0	1,417.1	70.9	1,346.2	-	1,417.1
Sub-Total EQUIPMENT/FURNITURE								2,201.7	17,858.5	6,769.8	1,483.0	28,313.0	2,332.0	19,842.8	8,162.8	1,949.1	32,286.7	13,854.4	13,456.4	4,975.9	32,286.7
D. VEHICLES																					
AMBULANCES	Units	24	24	24	-	72	19	456.0	456.0	456.0	-	1,368.0	483.0	506.7	549.8	-	1,539.5	307.9	1,154.6	77.0	1,539.5
OTHER ALCOHOL-FUELED	Units	60	60	60	-	180	6	360.0	360.0	360.0	-	1,080.0	381.3	400.0	434.1	-	1,215.4	243.1	911.5	60.8	1,215.4
Sub-Total VEHICLES								816.0	816.0	816.0	-	2,448.0	864.3	906.7	983.9	-	2,754.9	551.0	2,066.2	137.7	2,754.9
Total INVESTMENT COSTS								13,277.8	61,099.6	17,284.2	3,449.1	95,110.7	14,799.5	72,377.8	21,954.5	4,779.3	113,911.0	24,655.4	77,436.0	11,819.7	113,911.0
Total								13,277.8	61,099.6	17,284.2	3,449.1	95,110.7	14,799.5	72,377.8	21,954.5	4,779.3	113,911.0	24,655.4	77,436.0	11,819.7	113,911.0

/a Construction cost established at US$272/m2 + 10% land preparation.
/b Construction cost established at US$355/m2 + 15% land preparation.

April 12, 1984 13:51

BRAZIL
SAO PAULO HEALTH PROJECT
Table 3. OPERATING COSTS
Detailed Cost Table
(Dollars '000)

	Unit	Quantity 84/85	85/86	86/87	87/88	Total	Unit Cost	Base Costs 84/85	85/86	86/87	87/88	Total	Totals Including Contingencies 84/85	85/86	86/87	87/88	Total	Breakdown of Totals Incl. Cont (US$ '000) For. Exch.	Local (Excl. Duties & Taxes)	Duties & Taxes	Total
I. RECURRENT COSTS																					
A. MANAGEMENT COSTS																					
1. GENERAL MANAGEMENT																					
SALARIES	Module/year	12	12	12	12	48	110.68	1,328.2	1,328.2	1,328.2	1,328.2	5,312.6	1,339.8	1,405.5	1,525.2	1,662.5	5,932.9	-	5,932.9	-	5,932.9
MONITORING & EVAL STUDIES	Annual	12	12	12	12	48	22.6	271.2	271.2	271.2	271.2	1,084.8	273.6	287.0	311.4	339.5	1,211.5	60.6	1,150.9	-	1,211.5
OTHER	Global	-	-	-	-	-		22.0	233.0	406.0	433.0	1,094.0	22.2	246.6	466.2	542.0	1,277.0	63.8	1,213.1	-	1,277.0
Sub-Total GENERAL MANAGEMENT								1,621.4	1,832.4	2,005.4	2,032.4	7,491.4	1,635.5	1,939.0	2,302.9	2,543.9	8,421.3	124.4	8,296.9	-	8,421.3
Sub-Total MANAGEMENT COSTS								1,621.4	1,832.4	2,005.4	2,032.4	7,491.4	1,635.5	1,939.0	2,302.9	2,543.9	8,421.3	124.4	8,296.9	-	8,421.3
B. EDUCATION & SCIENT. DOCS.																					
LIBRARY & INFO SERVICES	Yearly	1	2	5	8	16	22.6	22.6	45.2	113.0	180.8	361.6	22.8	47.8	129.8	226.3	426.7	21.3	405.4	-	426.7
COPYING EQUIPMENT	Yearly	1	2	5	8	16	3.01	3.0	6.0	15.0	24.1	48.2	3.0	6.4	17.3	30.1	56.8	2.8	54.0	-	56.8
CONTINUING EDUC ACTIVITIES	Global	-	-	-	-	-		-	113.0	113.0	113.0	339.0	-	119.6	129.8	141.4	390.8	19.5	371.2	-	390.8
Sub-Total EDUCATION & SCIENT. DOCS.								25.6	164.2	241.0	317.9	748.8	25.8	173.8	276.8	397.9	874.3	43.7	830.6	-	874.3
C. SALARIES INCREMENTAL STAFF																					
UBS	Yearly	4.8	93	153	153	403.8	253	1,201.7	23,541.6	38,709.0	38,709.0	102,161.4	1,212.3	24,911.8	44,451.5	48,452.1	119,027.7	-	119,027.7	-	119,027.7
HOSPITALS	Yearly	1	2	5.3	7.7	16.1	2,891	2,891.0	5,782.0	15,409.0	22,405.2	46,487.3	2,916.3	6,118.5	17,695.0	28,044.7	54,774.5	-	54,774.5	-	54,774.5
Sub-Total SALARIES INCREMENTAL STAFF								4,092.7	29,323.6	54,118.0	61,114.2	148,648.7	4,128.6	31,030.3	62,146.5	76,496.8	173,802.1	-	173,802.1	-	173,802.1
D. MATERIALS																					
1. UBS																					
INITIAL SUPPLY	Yearly	13	140	-	-	153	91	1,183.0	12,740.0	-	-	13,923.0	1,193.4	13,481.5	-	-	14,674.8	1,467.5	13,207.3	-	14,674.8
DRUGS/DENTAL/MEDICAL	Yearly	4.8	93	153	153	403.8	239	1,135.2	22,238.9	36,567.0	36,567.0	96,508.2	1,145.2	23,533.3	41,991.7	45,771.0	112,441.2	11,244.1	101,197.0	-	112,441.2
OTHER OPERATING COSTS	Yearly	4.8	93	153	153	403.8	64	304.0	5,955.2	9,792.0	9,792.0	25,843.2	306.7	6,301.8	11,244.6	12,256.7	30,109.8	1,505.5	28,604.3	-	30,109.8
Sub-Total UBS								2,622.2	40,934.1	46,359.0	46,359.0	136,274.4	2,645.2	43,316.5	53,236.4	58,027.7	157,225.7	14,217.1	143,008.7	-	157,225.7
2. HOSPITALS																					
INITIAL SUPPLY	Yearly	1	1	4	2	8	243	243.0	243.0	972.0	486.0	1,944.0	245.1	257.1	1,116.2	608.3	2,226.8	222.7	2,004.1	-	2,226.8
DRUGS & MEDICAL SUPPLIES	Yearly	1	2	5.3	7.7	16.1	399	399.0	798.0	2,126.7	3,092.2	6,415.9	402.5	844.4	2,442.2	3,870.6	7,559.7	756.0	6,803.7	-	7,559.7
OTHER OPERATING COSTS	Yearly	1	2	5.3	7.7	16.1	294	294.0	588.0	1,567.0	2,278.5	4,727.5	296.6	622.2	1,799.5	2,852.0	5,570.3	278.5	5,291.8	-	5,570.3
Sub-Total HOSPITALS								936.0	1,629.0	4,665.7	5,856.8	13,087.4	944.2	1,723.8	5,357.8	7,330.9	15,356.8	1,257.2	14,099.6	-	15,356.8
Sub-Total MATERIALS								3,558.2	42,563.1	51,024.7	52,215.7	149,361.8	3,589.4	45,040.3	58,594.2	65,358.6	172,582.5	15,474.2	157,108.3	-	172,582.5
E. MAINTENANCE																					
VEHICLES MAINTENANCE & OPER.	Yearly	21	168	252	252	693	4.79	100.6	804.7	1,207.1	1,207.1	3,319.5	101.5	851.6	1,386.2	1,510.9	3,850.1	1,155.0	2,695.1	-	3,850.1
OTHER MAINTENANCE COSTS	Yearly	-	-	-	-	-		138.0	952.0	1,552.0	1,752.0	4,394.0	139.2	1,007.4	1,782.2	2,193.0	5,121.8	256.1	4,865.7	-	5,121.8
Sub-Total MAINTENANCE								238.6	1,756.7	2,759.1	2,959.1	7,713.5	240.7	1,859.0	3,168.4	3,703.9	8,971.9	1,411.1	7,560.8	-	8,971.9
Total RECURRENT COSTS								9,536.6	75,640.1	110,148.2	118,639.3	313,964.2	9,620.0	80,042.4	126,488.8	148,501.1	364,652.2	17,053.5	347,598.7	-	364,652.2
Total								9,536.6	75,640.1	110,148.2	118,639.3	313,964.2	9,620.0	80,042.4	126,488.8	148,501.1	364,652.2	17,053.5	347,598.7	-	364,652.2

Table 4

BRAZIL
SAO PAULO HEALTH PROJECT
Project Component by Time
(Dollars '000)

	Base Costs				Total	
	84/85	85/86	86/87	87/88	Dollars	(US$ '000)
A. POLICY DEVELOPMENT	500.0	1,500.0	-	-	2,000.0	2,000.0
B. INSTITUTIONAL DEVELOPMENT	1,607.0	1,990.5	1,093.0	560.0	5,250.5	5,250.5
C. MANPOWER DEVELOPMENT	570.0	1,520.0	1,330.0	380.0	3,800.0	3,800.0
D. HEALTH FACILITIES NETWORK DEVELOPMENT	13,277.8	61,099.6	17,284.2	3,449.1	95,110.7	95,110.7
Total BASELINE COSTS	15,954.8	66,110.1	19,707.2	4,389.1	106,161.2	106,161.2
Physical Contingencies	1,436.2	7,327.5	1,863.8	397.6	11,025.1	11,025.1
Price Contingencies	152.2	4,274.1	3,200.1	1,204.8	8,831.1	8,831.1
Total PROJECT COSTS	17,543.2	77,711.7	24,771.1	5,991.5	126,017.4	126,017.4
Taxes	878.3	7,109.0	3,351.4	486.8	11,825.5	11,825.5
Foreign Exchange	3,240.5	14,826.1	6,957.8	1,252.0	26,276.3	26,276.3

April 18, 1984 19:57

BRAZIL
SAO PAULO HEALTH PROJECT
Project Component by Time
(Dollars '000)

	Totals Including Contingencies				Total	
	84/85	85/86	86/87	87/88	Dollars	(US$ '000)
A. POLICY DEVELOPMENT	504.4	1,587.3	-	-	2,091.7	2,091.7
B. INSTITUTIONAL DEVELOPMENT	1,663.5	2,136.0	1,287.3	736.0	5,822.8	5,822.8
C. MANPOWER DEVELOPMENT	575.7	1,610.6	1,529.3	476.3	4,191.9	4,191.9
D. HEALTH FACILITIES NETWORK DEVELOPMENT	14,799.5	72,377.8	21,954.5	4,779.3	113,911.0	113,911.0
Total PROJECT COSTS	17,543.2	77,711.7	24,771.1	5,991.5	126,017.4	126,017.4

April 18, 1984 19:57

Table 5

BRAZIL
SAO PAULO HEALTH PROJECT
SUMMARY ACCOUNTS COST SUMMARY

	(Dollars '000)			(US$ '000)				
	Local	Foreign	Total	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
I. INVESTMENT COSTS								
A. STUDIES AND RESEARCH	3,499.0	100.0	3,599.0	3,499.0	100.0	3,599.0	2.8	3.4
B. TECHNICAL ASSISTANCE								
LOCAL	929.5	-	929.5	929.5	-	929.5	-	0.9
FOREIGN	-	200.0	200.0	-	200.0	200.0	100.0	0.2
Sub-Total TECHNICAL ASSISTANCE	929.5	200.0	1,129.5	929.5	200.0	1,129.5	17.7	1.1
C. PROJECT MANAGEMENT UNIT	2,269.8	252.2	2,522.0	2,269.8	252.2	2,522.0	10.0	2.4
D. TRAINING								
OVERSEAS	-	200.0	200.0	-	200.0	200.0	100.0	0.2
LOCAL	2,800.0	700.0	3,500.0	2,800.0	700.0	3,500.0	20.0	3.3
Sub-Total TRAINING	2,800.0	900.0	3,700.0	2,800.0	900.0	3,700.0	24.3	3.5
E. HOSPITAL ACQUISITION	889.6	1,087.3	1,977.0	889.6	1,087.3	1,977.0	55.0	1.9
F. CIVIL WORKS								
BASIC HEALTH UNITS	23,671.8	2,630.2	26,302.0	23,671.8	2,630.2	26,302.0	10.0	24.8
HOSPITALS	22,538.6	4,616.4	27,155.0	22,538.6	4,616.4	27,155.0	17.0	25.6
SUPERVISION	7,602.7	-	7,602.7	7,602.7	-	7,602.7	-	7.2
MAINTENANCE	1,181.7	131.3	1,313.0	1,181.7	131.3	1,313.0	10.0	1.2
Sub-Total CIVIL WORKS	54,994.9	7,377.9	62,372.7	54,994.9	7,377.9	62,372.7	11.8	58.8
G. EQUIPMENT/FURNITURE								
BASIC HEALTH UNITS	6,158.3	1,086.7	7,245.0	6,158.3	1,086.7	7,245.0	15.0	6.8
HOSPITALS	8,968.5	10,961.5	19,930.0	8,968.5	10,961.5	19,930.0	55.0	18.8
TRAINING	80.0	20.0	100.0	80.0	20.0	100.0	20.0	0.1
MAINTENANCE	1,081.1	56.9	1,138.0	1,081.1	56.9	1,138.0	5.0	1.1
Sub-Total EQUIPMENT/FURNITURE	16,287.8	12,125.1	28,413.0	16,287.8	12,125.1	28,413.0	42.7	26.8
H. VEHICLES	1,958.4	489.6	2,448.0	1,958.4	489.6	2,448.0	20.0	2.3
Total INVESTMENT COSTS	83,629.1	22,532.1	106,161.2	83,629.1	22,532.1	106,161.2	21.2	100.0
Physical Contingencies	9,275.0	1,750.0	11,025.1	9,275.0	1,750.0	11,025.1	15.9	10.4
Price Contingencies	6,837.0	1,994.1	8,831.1	6,837.0	1,994.1	8,831.1	22.6	8.3
Total INCLUDING CONTINGENCIES	99,741.1	26,276.3	126,017.4	99,741.1	26,276.3	126,017.4	20.9	118.7
Front End Fee	-	142.7	142.7	-	142.7	142.7	100.0	0.1
Total FINANCING REQUIRED	99,741.1	26,419.1	126,160.2	99,741.1	26,419.1	126,160.2	20.9	118.8
II. RECURRENT COSTS								
Total BASELINE COSTS	83,629.1	22,532.1	106,161.2	83,629.1	22,532.1	106,161.2	21.2	100.0
Physical Contingencies	9,275.0	1,750.0	11,025.1	9,275.0	1,750.0	11,025.1	15.9	10.4
Price Contingencies	6,837.0	1,994.1	8,831.1	6,837.0	1,994.1	8,831.1	22.6	8.3
Total PROJECT COSTS	99,741.1	26,276.3	126,017.4	99,741.1	26,276.3	126,017.4	20.9	118.7
Front End Fee	-	142.7	142.7	-	142.7	142.7	100.0	0.1
Total FINANCING REQUIRED	99,741.1	26,419.1	126,160.2	99,741.1	26,419.1	126,160.2	20.9	118.8

Table 6

BRAZIL
SAO PAULO HEALTH PROJECT
Summary Account by Project Component
(Dollars '000)

	POLICY DEVELOPMENT	INSTITUTIONAL DEVELOPMENT	MANPOWER DEVELOPMENT	HEALTH FACILITIES NETWORK DEVELOPMENT	Total	Physical Contingencies %	Physical Contingencies Amount
I. INVESTMENT COSTS							
A. STUDIES AND RESEARCH	2,000.0	1,599.0	-	-	3,599.0	0.0	0.0
Price Contingencies	91.7	114.8	-	-	206.4	0.0	0.0
Sub-Total INCLUDING CONTINGENCIES	2,091.7	1,713.8	-	-	3,805.4	0.0	0.0
Foreign Exchange	104.6	-	-	-	104.6	0.0	0.0
B. TECHNICAL ASSISTANCE							
LOCAL	-	929.5	-	-	929.5	0.0	0.0
FOREIGN	-	200.0	-	-	200.0	0.0	0.0
Sub-Total TECHNICAL ASSISTANCE	-	1,129.5	-	-	1,129.5	0.0	0.0
Price Contingencies	-	54.3	-	-	54.3	0.0	0.0
Sub-Total INCLUDING CONTINGENCIES	-	1,183.8	-	-	1,183.8	0.0	0.0
Foreign Exchange	-	209.2	-	-	209.2	0.0	0.0
C. PROJECT MANAGEMENT UNIT	-	2,522.0	-	-	2,522.0	5.0	126.1
Physical Contingencies	-	126.1	-	-	126.1	0.0	0.0
Price Contingencies	-	277.2	-	-	277.2	4.8	13.2
Sub-Total INCLUDING CONTINGENCIES	-	2,925.3	-	-	2,925.3	4.8	139.3
Foreign Exchange	-	292.5	-	-	292.5	4.8	13.9
D. TRAINING							
OVERSEAS	-	-	200.0	-	200.0	0.0	0.0
LOCAL	-	-	3,500.0	-	3,500.0	0.0	0.0
Sub-Total TRAINING	-	-	3,700.0	-	3,700.0	0.0	0.0
Price Contingencies	-	-	376.2	-	376.2	0.0	0.0
Sub-Total INCLUDING CONTINGENCIES	-	-	4,076.2	-	4,076.2	0.0	0.0
Foreign Exchange	-	-	991.5	-	991.5	0.0	0.0
E. HOSPITAL ACQUISITION	-	-	-	1,977.0	1,977.0	0.0	0.0
Price Contingencies	-	-	-	17.3	17.3	0.0	0.0
Sub-Total INCLUDING CONTINGENCIES	-	-	-	1,994.3	1,994.3	0.0	0.0
Foreign Exchange	-	-	-	1,096.9	1,096.9	0.0	0.0
F. CIVIL WORKS							
BASIC HEALTH UNITS	-	-	-	26,302.0	26,302.0	15.0	3,945.3
HOSPITALS	-	-	-	27,155.0	27,155.0	15.0	4,073.2
SUPERVISION	-	-	-	7,602.7	7,602.7	15.0	1,140.4
MAINTENANCE	-	-	-	1,313.0	1,313.0	15.0	196.9
Sub-Total CIVIL WORKS	-	-	-	62,372.7	62,372.7	15.0	9,355.9
Physical Contingencies	-	-	-	9,355.9	9,355.9	0.0	0.0
Price Contingencies	-	-	-	5,146.5	5,146.5	13.0	671.3
Sub-Total INCLUDING CONTINGENCIES	-	-	-	76,875.2	76,875.2	13.0	10,027.2
Taxes	-	-	-	6,706.1	6,706.1	13.0	874.7
Foreign Exchange	-	-	-	9,153.1	9,153.1	13.0	1,193.9
G. EQUIPMENT/FURNITURE							
BASIC HEALTH UNITS	-	-	-	7,245.0	7,245.0	5.0	362.2
HOSPITALS	-	-	-	19,930.0	19,930.0	5.0	996.5
TRAINING	-	-	100.0	-	100.0	5.0	5.0
MAINTENANCE	-	-	-	1,138.0	1,138.0	5.0	56.9
Sub-Total EQUIPMENT/FURNITURE	-	-	100.0	28,313.0	28,413.0	5.0	1,420.6
Physical Contingencies	-	-	5.0	1,415.6	1,420.6	0.0	0.0
Price Contingencies	-	-	10.7	2,558.0	2,568.7	4.8	122.3
Sub-Total INCLUDING CONTINGENCIES	-	-	115.7	32,286.7	32,402.3	4.8	1,543.0
Taxes	-	-	5.8	4,975.9	4,981.7	4.8	237.2
Foreign Exchange	-	-	23.1	13,854.4	13,877.5	4.8	660.8
H. VEHICLES	-	-	-	2,448.0	2,448.0	5.0	122.4
Physical Contingencies	-	-	-	122.4	122.4	0.0	0.0
Price Contingencies	-	-	-	184.5	184.5	4.8	8.8
Sub-Total INCLUDING CONTINGENCIES	-	-	-	2,754.9	2,754.9	4.8	131.2
Taxes	-	-	-	137.7	137.7	4.8	6.6
Foreign Exchange	-	-	-	551.0	551.0	4.8	26.2
Total INVESTMENT COSTS	2,000.0	5,250.5	3,800.0	95,110.7	106,161.2	10.4	11,025.1
Physical Contingencies	-	126.1	5.0	10,894.0	11,025.1	0.0	0.0
Price Contingencies	91.7	446.2	386.9	7,906.3	8,831.1	9.2	815.6
Total INCLUDING CONTINGENCIES	2,091.7	5,822.8	4,191.9	113,911.0	126,017.4	9.4	11,840.7
Taxes	-	-	5.8	11,819.7	11,825.5	9.5	1,118.5
Foreign Exchange	104.6	501.7	1,014.7	24,655.4	26,276.3	7.2	1,894.9
II. RECURRENT COSTS							
Total BASELINE COSTS	2,000.0	5,250.5	3,800.0	95,110.7	106,161.2	10.4	11,025.1
Physical Contingencies	-	126.1	5.0	10,894.0	11,025.1	0.0	0.0
Price Contingencies	91.7	446.2	386.9	7,906.3	8,831.1	9.2	815.6
Total PROJECT COSTS	2,091.7	5,822.8	4,191.9	113,911.0	126,017.4	9.4	11,840.7
Taxes	-	-	5.8	11,819.7	11,825.5	9.5	1,118.5
Foreign Exchange	104.6	501.7	1,014.7	24,655.4	26,276.3	7.2	1,894.9

April 18, 1984 19:57

Table 7

BRAZIL
SAO PAULO HEALTH PROJECT
Summary Account by Time
(Dollars '000)

	Unit	Unit Cost	No. of Units	Base Costs 84/85	85/86	86/87	87/88	Total	Foreign Exchange %	Foreign Exchange Amount	Base Costs + Price Cont. on Base Costs (US$ '000)	Total Incl. Cont. (US$ '000)
I. INVESTMENT COSTS												
A. STUDIES AND RESEARCH			-	1,033.0	2,033.0	533.0	-	3,599.0	2.8	100.0	3,805.4	3,805.4
Price Contingencies			-	9.0	118.3	79.1	-	206.4	2.2	4.6	-	-
Sub-Total INCLUDING CONTINGENCIES				1,042.0	2,151.3	612.1	-	3,805.4	2.7	104.6	3,805.4	3,805.4
Foreign Exchange			-	25.2	79.4	-	-	104.6	0.0	0.0	-	104.6
B. TECHNICAL ASSISTANCE												
LOCAL		6.5	143	182.0	747.5	-	-	929.5	0.0	0.0	974.6	974.6
FOREIGN		10	20	50.0	150.0	-	-	200.0	100.0	200.0	209.2	209.2
Sub-Total TECHNICAL ASSISTANCE				232.0	897.5	-	-	1,129.5	17.7	200.0	1,183.8	1,183.8
Price Contingencies			-	2.0	52.2	-	-	54.3	16.9	9.2	-	-
Sub-Total INCLUDING CONTINGENCIES				234.0	949.7	-	-	1,183.8	17.7	209.2	1,183.8	1,183.8
Foreign Exchange			-	50.4	158.7	-	-	209.2	0.0	0.0	-	209.2
C. PROJECT MANAGEMENT UNIT			-	842.0	560.0	560.0	560.0	2,522.0	10.0	252.2	2,786.0	2,925.3
Physical Contingencies			-	42.1	28.0	28.0	28.0	126.1	10.0	12.6	-	-
Price Contingencies			-	7.7	34.2	87.2	148.0	277.2	10.0	27.7	-	-
Sub-Total INCLUDING CONTINGENCIES				891.8	622.2	675.2	736.0	2,925.3	10.0	292.5	2,786.0	2,925.3
Foreign Exchange			-	89.2	62.2	67.5	73.6	292.5	0.0	0.0	-	292.5
D. TRAINING												
OVERSEAS			-	30.0	80.0	70.0	20.0	200.0	100.0	200.0	220.3	220.3
LOCAL			-	525.0	1,400.0	1,225.0	350.0	3,500.0	20.0	700.0	3,855.9	3,855.9
Sub-Total TRAINING				555.0	1,480.0	1,295.0	370.0	3,700.0	24.3	900.0	4,076.2	4,076.2
Price Contingencies			-	4.9	86.1	192.1	93.1	376.2	24.3	91.5	-	-
Sub-Total INCLUDING CONTINGENCIES				559.9	1,566.1	1,487.1	463.1	4,076.2	24.3	991.5	4,076.2	4,076.2
Foreign Exchange			-	136.2	381.0	361.7	112.7	991.5	0.0	0.0	-	991.5
E. HOSPITAL ACQUISITION			-	1,977.0	-	-	-	1,977.0	55.0	1,087.3	1,994.3	1,994.3
Price Contingencies			-	17.3	-	-	-	17.3	55.0	9.5	-	-
Sub-Total INCLUDING CONTINGENCIES				1,994.3	-	-	-	1,994.3	55.0	1,096.9	1,994.3	1,994.3
Foreign Exchange			-	1,096.9	-	-	-	1,096.9	0.0	0.0	-	1,096.9
F. CIVIL WORKS												
BASIC HEALTH UNITS		112-234	127	5,332.0	20,970.0	-	-	26,302.0	10.0	2,630.2	27,569.1	31,704.5
HOSPITALS		380-4,759	8	1,483.3	15,677.7	8,804.1	1,189.7	27,155.0	17.0	4,616.4	29,686.0	34,138.9
SUPERVISION			-	1,434.8	5,568.3	528.2	71.4	7,602.7	0.0	0.0	8,035.7	9,241.1
MAINTENANCE			-	33.0	209.0	366.0	705.0	1,313.0	10.0	131.3	1,557.2	1,790.8
Sub-Total CIVIL WORKS				8,283.1	42,425.1	9,698.4	1,966.1	62,372.7	11.8	7,377.9	66,848.0	76,875.2
Physical Contingencies			-	1,242.5	6,363.8	1,454.8	294.9	9,355.9	11.8	1,106.7	-	-
Price Contingencies			-	83.3	2,839.5	1,654.6	569.1	5,146.5	13.0	668.6	-	-
Sub-Total INCLUDING CONTINGENCIES				9,608.9	51,628.4	12,807.7	2,830.2	76,875.2	11.9	9,153.1	66,848.0	76,875.2
Taxes			-	567.4	4,137.8	1,744.0	256.9	6,706.1	0.0	0.0	-	6,706.1
Foreign Exchange			-	914.9	5,820.7	2,024.9	392.6	9,153.1	0.0	0.0	-	9,153.1
G. EQUIPMENT/FURNITURE												
BASIC HEALTH UNITS		37-53	153	1,217.0	6,028.0	-	-	7,245.0	15.0	1,086.7	7,606.5	7,986.8
HOSPITALS		137-3,488	8	955.7	11,649.5	6,452.8	872.0	19,930.0	55.0	10,961.5	21,793.1	22,882.8
TRAINING			-	15.0	40.0	35.0	10.0	100.0	20.0	20.0	110.2	115.7
MAINTENANCE			-	29.0	181.0	317.0	611.0	1,138.0	5.0	56.9	1,349.6	1,417.1
Sub-Total EQUIPMENT/FURNITURE				2,216.7	17,898.5	6,804.8	1,493.0	28,413.0	42.7	12,125.1	30,859.4	32,402.3
Physical Contingencies			-	110.8	894.9	340.2	74.7	1,420.6	42.7	606.3	-	-
Price Contingencies			-	20.4	1,093.8	1,060.0	394.6	2,568.7	44.6	1,146.1	-	-
Sub-Total INCLUDING CONTINGENCIES				2,347.9	19,887.2	8,205.0	1,962.2	32,402.3	42.8	13,877.5	30,859.4	32,402.3
Taxes			-	267.7	2,925.9	1,558.2	229.9	4,981.7	0.0	0.0	-	4,981.7
Foreign Exchange			-	754.8	8,142.7	4,306.9	673.1	13,877.5	0.0	0.0	-	13,877.5
H. VEHICLES		6-19	252	816.0	816.0	816.0	-	2,448.0	20.0	489.6	2,623.7	2,754.9
Physical Contingencies			-	40.8	40.8	40.8	-	122.4	20.0	24.5	-	-
Price Contingencies			-	7.5	49.9	127.1	-	184.5	20.0	36.9	-	-
Sub-Total INCLUDING CONTINGENCIES				864.3	906.7	983.9	-	2,754.9	20.0	551.0	2,623.7	2,754.9
Taxes			-	43.2	45.3	49.2	-	137.7	0.0	0.0	-	137.7
Foreign Exchange			-	172.9	181.3	196.8	-	551.0	0.0	0.0	-	551.0
Total INVESTMENT COSTS				15,954.8	66,110.1	19,707.2	4,389.1	106,161.2	21.2	22,532.1	114,176.8	126,017.4
Physical Contingencies			-	1,436.2	7,327.5	1,863.8	397.6	11,025.1	15.9	1,750.0	-	-
Price Contingencies			-	152.2	4,274.1	3,200.1	1,204.8	8,831.1	22.6	1,994.1	-	-
Total INCLUDING CONTINGENCIES				17,543.2	77,711.7	24,771.1	5,991.5	126,017.4	20.9	26,276.3	114,176.8	126,017.4
Taxes			-	878.3	7,109.0	3,351.4	486.8	11,825.5	0.0	0.0	-	11,825.5
Foreign Exchange			-	3,240.5	14,826.1	6,957.8	1,252.0	26,276.3	0.0	0.0	-	26,276.3
II. RECURRENT COSTS												
Total BASELINE COSTS				15,954.8	66,110.1	19,707.2	4,389.1	106,161.2	21.2	22,532.1	114,176.8	126,017.4
Physical Contingencies			-	1,436.2	7,327.5	1,863.8	397.6	11,025.1	15.9	1,750.0	-	-
Price Contingencies			-	152.2	4,274.1	3,200.1	1,204.8	8,831.1	22.6	1,994.1	-	-
Total PROJECT COSTS				17,543.2	77,711.7	24,771.1	5,991.5	126,017.4	20.9	26,276.3	114,176.8	126,017.4
Taxes			-	878.3	7,109.0	3,351.4	486.8	11,825.5	0.0	0.0	-	11,825.5
Foreign Exchange			-	3,240.5	14,826.1	6,957.8	1,252.0	26,276.3	0.0	0.0	-	26,276.3

April 18, 1984 19:54

ANNEX 4
Table 8

BRAZIL
SAO PAULO HEALTH PROJECT
PROPOSED ALLOCATION OF LOAN PROCEEDS

CATEGORY	Project Costs (Net of Taxes) (US$ Millions)	Loan Amount (US$Million)	Disbursement Percentage
1. Civil Works	72.2[a]/	25.5[b]/	40%
2. Furniture, Equipment and Vehicles	30.1	14.8	100% of foreign expenditures, 100% of local expenditures (ex-factory) for goods procured under ICB, and 40% of local expenditures for other items procured locally.
3. Technical Assistance	1.2	1.1	100%
4. National Studies	2.1	1.9	100%
5. Project-Related Studies	1.7	1.5	100%
6. Training	4.1	2.0	100% of foreign expenditures; and 40% of local expenditures
7. Management	2.9	1.0	40%
8. Special Account	-	5.0	
9. Unallocated (including front-end fee)	-	4.4	
	114.3	57.2	

a/ Includes purchase of Nardini Hospital
b/ Excludes disbursements against purchase of Nardini Hospital

ANNEX 4
Table 9

BRAZIL

SAO PAULO HEALTH PROJECT

Estimated Schedule of Disbursements
(US$ Million)

Fiscal Year/ Semester Ending	Disbursements Amount	%	Accumulated Disbursements Amount	%	Undisbursed Balance Amount	%
1985						
12/31/84	3.0	5	3.0	5	54.2	95
6/30/85	4.1	7	7.1	12	50.1	88
1986						
12/31/85	8.2	15	15.3	27	41.9	73
6/30/86	9.0	16	24.3	43	32.9	57
1987						
12/31/86	9.1	16	33.4	59	23.8	41
6/30/87	8.7	15	42.1	74	15.1	26
1988						
12/31/87	8.1	14	50.2	88	7.0	12
6/30/88	4.2	7	54.4	95	2.8	5
1989						
12/31/88	1.9	3	56.3	98	0.9	2
6/30/89	0.9	2	57.2	100	0	0

Closing date: December 31, 1989

ANNEX 5

BRAZIL

SAO PAULO HEALTH PROJECT

Project Implementation Data

Table 1	Implementation Schedule
Table 2	Staffing Plan
Table 3	Training Plan

BRAZIL

SAO PAULO HEALTH PROJECT

Project Implementation Schedule

Timeline header: PY 1, PY 2, PY 3, PY 4; 1984, 1985, 1986, 1987, 1988; quarters 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4

Activity	Schedule
Acquisition	
Land	xxxxxxxxxxxx
Nardini Hospital	xxxxxxxxxxxx
Civil Works	
UBS under Construction (9)	xxxxxxxxxxxxxxxxxxxxx
UBS Renewed (28)	xxxxxxxxxxxxxxxxxxxxxxxx
UBS to be Constructed (90)	
Groups of 15: Group 1	xxxxxxxxxxxxxxxx
Group 2	xxxxxxxxxxxxxxxx
Group 3	xxxxxxxxxxxxxxxx
Group 4	xxxxxxxxxxxxxxxx
Group 5	xxxxxxxxxxxxxxxx
Group 6	xxxxxxxxxxxxxxxx
Hospitals: Construction	
Hospital 1	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hospital 2	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hospital 3	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hospital 4	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hospital 5	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hospital: Expansion (Cotia)	xxxxxxxxxxxxxxxxxxxxxxxx
Hospital: Renovation (2)	
Nardini	xxxxxx
Juqueri	xxxxxxxxxxxxxxxxxxxxxxxx
Equipments/Furniture	
UBS (New, Renewed, Existing)	xxxxxxxxxxxxxxxxxxxxxxxxx
Hospitals (5)	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hospital: Exp(1) Cotia	xxxxxxxxxxxx
Hospital: Renovation (2)	
Nardini	xxxxxx
Juqueri	xxxxxxxxxxxxxxxxxxxxxxxxx
Vehicles	xxxxxxxxxxxxxxxxxxx
Information Systems (5)	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Training	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Policy Development Studies	xxxxxxxxxxxxxxxxxxxxxxxxx
Project-Related Studies	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Technical Assistance	
Management	xxxxxxxxxxxxxxxxxxxxxxxx
Architecture	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

ANNEX 5
Table 2

BRAZIL

SAO PAULO HEALTH PROJECT

Staffing Plan

Area	Freguesia do O			Itaquera-Guaianazes			Cotia			Caieiras			Maua			Total		
	P	F	I a/	P	F	I	P	F	I	P	F	I	P	F	I	P	F	I
Basic Health Units																		
Physicians b/	40	282	242	41	108	67	13	32	19	13	88	75	25	146	121	132	656	524
Nurses	5	68	63	5	28	23	2	10	8	1	16	15	2	42	40	15	164	149
Other Skilled	469	708	239	158	314	156	32	95	63	51	259	208	82	428	346	792	1,804	1,012
Unskilled	77	87	10	51	40	-11	3	11	8	3	31	28	14	52	38	148	221	73
Total	591	1,145	554	255	490	235	50	148	98	68	394	326	123	668	545	1,087	2,845	1,758
Hospitals c/																		
Physicians b/	333	139	361	222	28	83	55		83				123	167	983	816		
Nurses	201	84	218	134	17	50	33		50				74	101	593	492		
Other Profess.	72	30	78	48	6	18	12		18				27	36	213	177		
Other Skilled	1,554	648	1,684	1,036	130	388	258		388				575	778	4,589	3,811		
Unskilled	612	255	663	408	51	153	102		153				226	306	1,807	1,501		
Total	2,772	1,156e	3,004	1,848	232e	692	460		692				1,025	1,388	8,185	6,797		
Total Project c/																		
Physicians b/																299	1,639	1,340
Nurses																116	757	641
Other Profess.																36	213	177
Other Skilled																1,570	6,393	4,823
Unskilled																454	2,028	1,574
Total																2,475	11,030	8,555

a/ P = Present; F = Future; I = Increment.
b/ Includes Dentists.
c/ Public Sector only plus Cotia where private hospital is to be expanded under the project.

BRAZIL
SAO PAULO HEALTH PROJECT
Training Plan

Course	No. Courses	Participants Type	Participants No.	Total	Institution *	Duration (Weeks)
I. External Courses						
1. Hosp. Admin.	4	Pub. Health MDs. Hosp. Admins.	40	160	HRC	8
2. Refresh. Courses	6	Clinical Doctors	20	120	Medical School	6
3. Refresh. Courses	6	Other Professionals	20	120	HRC	1
4. Home Care (Visitador Domic.)	19	Nurse Auxiliaries	15	285	Modules + HRC	8
5. Basic Sanitation	6	New Candidates	15	90	USP	8
6. Sup. In Sanita.	2	Sanitary Agents	10	20	USP	8
7. Admin. (Chiefs)	2	Administrators	50	100	FGV /FUNDAP	13
8. Admin. (Directs.)	2	Directors, Mgrs.	20	40	FGV /FUNDAP	13
9. Train./Super. Techniques	5	UBS train teams	5	25	HRC/Cotia/NSO	8
10. Hosp. Admin	2	H. Services Chief	25	50	HRC/USP	13
11. Hosp. Nursing Admin.	2	H. Nurse Chiefs	26	52	HRC/USP	13
12. Organ. and Func. of Laundries	2	H. Laundry Chiefs	13	26	FGV/USP	4
13. Preventive Maintenance	2	H. Maint. Chiefs	13	26	FGV/USP	4
14. Materials Supply	2	H. Mater. Chiefs	13	26	FGV/USP	4
15. Clinical records and Statistics	2	Statis. Clerk	13	26	FGV/USP	4
16. Hospital Costs	1	Module Admins.	20	20	FGV/USP	4
17. Performance Eval.	2	Services Chiefs	30	60	FGV/USP	4
Subtotal	67			1,246		

BRAZIL
SAO PAULO HEALTH PROJECT
Training Plan

Course	No. Courses	Participants Type	Participants No.	Total	Institution *	Duration (Weeks)
II. In-House Courses						
18. Interinstitutional Metro. Seminar	1	INAMPS/SES/SHS	30	30	HRC	0.4
19. Area/Region Workshop	5	Region. Coord. & Technical Teams	20	100	HRC	1
20. Module Workshop	13	Module Tech. Teams	25	325	COORD. MOD	1
21. Local Train. of Professionals	78	Module Profs.	5	380	UBS/Training	1
22. Local Train. of Auxiliaries	78	Module Auxs.	10	780	UBS/Training	3
23. In-Service Train	0	Technicians & Aux.	1	-	UBS HOSP.	0.6
24. Tech./Func. Eval. for Area/Region	10	Area Coords. & Tech. teams	25	250	AREA/REG.	0.6
25. Tech./Func. Eval. for H. Modules	26	Module Directors & Tech. Teams	20	520	COORD. MOD.	0.4
26. Hosp. Attendts. Courses	30	Admitted Candidates	20	600	HRC	13
27. Nurse Auxs. Courses	5	Nurse Auxiliaries	20	100	HRC	4
28. Auxils. Training		Service Auxs.				
- Laundry	13	" "	10	130	DIR. HOSP.	13
- Materials	13	" "	20	260	DIR. HOSP.	13
- Architecture	13	" "	20	260	DIR. HOSP.	13
- Nutrl./Dietet.	13	" "	30	260	DIR. HOSP.	13
- Hosp. Pharm.	13	" "	10	390	DIR. HOSP.	13
- Soc. Services	13	" "	30	130	DIR. HOSP.	13
- Preven. Maint.	13	" "	10	390	DIR. HOSP.	13
29. Admin. Train.	26	Secretaries/Hosp. registrars	30	130	ADMIN. HOSP.	4
30. Hosp. Infec. Ctrl.	13	Docs., Nurses, Administrators	20	260	DIR. HOSP.	4
31. Joint Rooming	13	Docs., Nurses, Administrators	20	260	DIR. HOSP	4
32. Nursing, Pgming., Procds., Services	39	Module Nurses	20	780	ENF. HOSP.	4
Subtotal	428			6,205		

BRAZIL
SAO PAULO HEALTH PROJECT
Training Plan

Course	No. Courses	Participants Type	Participants No.	Total	Institution *	Duration (Weeks)
III. Contin. Education						
33. Quality of Med. Care	78	Clinicians	15	1170	COORD. MODULE	0.2
34. Qual. of Health Care	78	Other Profess.	15	1170	COORD. MODULE	0.2
35. Multi-disciplinary Meetings	26	Module Teams	50	1300	COORD. MODULE	0.2
36. Technical Workshops	5	Area/Reg. Teams	10	50	COORD. MODULE	1
37. Refresher Courses	60	UBS Professionals	5	300	COORD. MODULE	0.4
38. Refresher Courses	120	UBS Auxiliaries	5	600	COORD. MODULE	0.6
39. Refresher Courses	26	Health Visitors	10	260	COORD. MODULE	4
40. Training Evaluation	5	HRC & Teach. Teams	20	100	COORD. MODULE	0.6
Subtotal	398			4,950		
IV. Local Scholarships						
41. Health Visitors Courses (352 hrs)	19	Health Visitors	15	285		9
42. Sanitation Agents Courses (352 hrs)	6	Sanitation Agents	15	90		9
43. Sanitation Supervision Courses	2	Sanitation Specialists	10	20		9
44. Area Workshops	5		20	100		1
45. Module Workshop	13		25	325		1
46. Profess. Training	78		5	390		0.5
47. Auxiliaries Training	78		10	780		3
48. Hospital Attend. Course	30	Hospital Attend.	20	600		9
Subtotal	231			2,590		

BRAZIL
SAO PAULO HEALTH PROJECT
Training Plan

Course	No. Courses	Participants Type	Participants No.	Total	Institution *	Duration (Months)
V. Overseas Training						
49. The Health Care Systems	1		2	2	Minneapolis, USA	12
50. Evaluation & Planning	1		2	2	London, England London School of Hygiene	6
51. Human Resources Development	1		2	2	The John Hopkins Univ., USA	6
52. Health Education	1		2	2	Paris, France	6
53. Health Administration	1		3	3	USA/England	1
Subtotal	5			11		
Total Training Program	1,129			15,002		

* Institutions: HRC - Human Resources Center
USP - University of Sao Paulo (Faculty of Public Health)
FGV - Getulio Vargas Foundation
FUNDAP - Foundation for Development Administration

ANNEX 6

BRAZIL

SAO PAULO HEALTH PROJECT

Key Indicators and Project Impact

Table 1 Key Indicators: Health Impact

Table 2 Cotia Population, Health Services and Health Service Cost (1980)

Table 3 Projected Health Care Costs in Metropolitan Sao Paulo

Table 4 Project Investments Costs and Health Service Delivery Savings 1984-99

BRAZIL

SAO PAULO HEALTH PROJECT

Key Indicators: Health Impact-Mortality
(Provisional estimates to be reviewed after one year of project implementation)

	Unit	Most Recent Estimate Year	Most Recent Estimate Rate	Estimated Rate 1988	Percent Reduction
I. NON-SPECIFIC MORTALITY INDICATORS (Sao Paulo Periphery)					
1. Infant death rate	per 1,000 live births	1980	63	44	30
2. Childhood (1-4 years) death rate	per 1,000 pop. in age group	1980	2.5	2	20
3. Maternal Death Rate	per 1,000 live births	1977	1.8	1.2	35
II. CAUSE-SPECIFIC MORTALITY INDICATORS (Sao Paulo Periphery)					
1. In less than one year old					
(a) Enteritis and other diarrhea	per 100,000 live births	1980	1,266	825	35
(b) Pneumonia and influenza	per 100,000 live births	1980	1,179	825	30
(c) Measles	per 100,000 live births	1980	145	73	50
2. In total Population					
(a) Enteritis and diarrhea	per 100,000 population	1980	39	27	30
(b) Pneumonia and influenza	per 100,000 population	1980	61	46	25
(c) Birth injury, distocic delivery and other perinatal anoxic or hypoxic injuries	per 100,000 population	1980	41	27	35
(d) All accidents	per 100,000 population	1980	37	28	25

* Assuming at least three years of continuous service delivery

ANNEX 6
Table 2

BRAZIL

SAO PAULO HEALTH PROJECT

Cotia Population, Health Services and Health Service Cost, 1980

1.	Municipio of Cotia population, 1980		62,952
2.	Ambulatory visits, 1980		102,327
	Consultations	83,364	
	Child health program visits	14,059	
	Maternal health program visits	4,904	
3.	Ambulatory Service Rate, line 2/line 1		1.62
4.	Hospital release, 1980		4,393
	General medicine	338	
	Surgery	623	
	Pediatrics	847	
	Obstetrics	2,585	
5.	Hospitalization rate, line 4/line 1		0.7
6.	Operational Expenditures, 1980, Cr$ 000		Cr$ 38,264
7.	Exchange rate, 1980, US$		52.7
8.	Operational Expenditures, 1980, US$		US$726,072
	(a) Ambulatory care, estimated cost	US$348,515	
	(b) Hospital care, estimated cost	US$377,577	
9.	Average cost per ambulatory visit, line 8(a)/line 2		US$3.41
10.	Average cost per hospital release, line 8(b)/line 4		US$85.95

Sources: Sao Paulo project document file, 3, Cotia; Cotia project annual reports to Kellogg Foundation.

BRAZIL

SAO PAULO HEALTH PROJECT

Project Impact

1. Table 1 shows Key Indicators related to project implementation targets and impact on health status in the project areas.

2. Table 2 gives information on the Cotia Project. The success of the Cotia project in reducing infant mortality and otherwise achieving health-status improvements was described in para. 2.40 of the main report. This success was achieved with modest expenditures. For example, distributing the total Cotia health-care expenditures between ambulatory visits and hospitalizations on the same basis as the INAMPS Sao Paulo state data, yields estimates of costs per ambulatory visit of US$3.41 and costs per hospitalization of US$85.95 (Working Paper No. C-28). Costs are lower than for the state as a whole because more expensive tertiary level care is referred outside the Cotia system, resources are much more efficiently utilized, and facilities were specifically developed to address the primary health care needs of the population.

3. These efficiencies were achieved with service levels well within the CONASP target levels. In 1980, coefficients of 1.62 ambulatory visits and 0.07 hospitalizations prevailed. Because the Cotia project referred some patients for tertiary-level care outside that system, the total service levels were probably somewhat higher. Nonetheless, these cost and service level data demonstrate the feasibility of offering comparable service systems in other areas. Moreover, the Cotia system maintained an in-service training program along with its health services to the community within the cost parameters indicated.

4. As indicated in para. 6.06 of the main report, it would be feasible, with the help of this project, to immediately reduce per capita health care costs in GSP by 6%. Future gains would be even greater, as shown below. Possible constraints to achieving lower costs include the fact that the GSP population is growing by about 4% annually, that the service parameters for hospitalizations may have to be exceeded because of Sao Paulo's level of development and hence prevalence of chronic diseases, and that it could take some time -- several years at least -- to inculcate the new attitudes necessary to substitute primary for hospital-based care. With these factors in mind, numbers of health visits, hospitalizations and health expenditures by the INAMPS system in Greater Sao Paulo were projected through 1990, assuming no system change and linear extrapolations of the 1976-81 growth patterns. Since real prices of medical services may increase, the resulting estimates of total health expenditures in GSP represent a lower bound of health costs without changing the new health system. These data show costs growing 7-8% annually or 65% in eight years.

5. With the gradual expansion of the lessons of the Sao Paulo project, and the consistent application of the CONASP recommendations in the whole of GSP, the goals of 2.5 ambulatory visits per person per annum, and 0.1 hospitalizations per person per annum could be reached by 1985. The costs of these units of service are then assumed, as with the alternative projection, to be the same as prevailed in 1980.

6. Comparing health costs with and without the new system in metropolitan Sao Paulo, 1984 to 2000, demonstrates the substantial savings to be realized by the combination of the Sao Paulo project and CONASP health policies for GSP (Table 3). The savings that could be achieved, when compared to projected expenditures without the policy reforms proposed by CONASP, rise from about 17% of aggregate health costs in 1983 to about 34% of prospective health costs in 1989. These amounts are arguably a conservative estimate of the likely savings, since prospective costs without these policies would probably be higher than those shown, and the possible cost reductions to be achieved by the Sao Paulo project could be larger than those shown. It should be stressed that implementation of the CONASP recommendations without the institutional and manpower development and physical construction elements of the project would not be feasible, except in those parts of GSP where institutions and facilities are already adequate (primarily the core area of MSP and some of the more developed peri-urban municipalities).

7. Assuming a 17-year evaluation period, comparable to the useful life of the project facilities and no shadow pricing of project investments, the internal rate of return of the project would be 23% (Table 4).

Table 3: PROJECTED HEALTH-CARE COSTS IN METROPOLITAN SAO PAULO
(1980 US$ million)

Year	Projected Costs Without CONASP Goals and Sao Paulo Project	Projected Costs With CONASP Goals and Sao Paulo Project	Net Saving
1983	455.2	455.2	-
1984	482.2	436.3	45.9
1985	509.2	423.8	85.4
1986	536.2	440.2	96.0
1987	563.1	457.0	106.1
1988	590.2	474.1	116.1
1989	617.1	498.8	118.3
1990	644.1	516.7	127.4

Source: Working Paper No. C-28.

Table 4: PROJECT INVESTMENT COSTS AND HEALTH-SERVICE DELIVERY SAVINGS 1984-99
(1984 US$ million)

Year	Investment Costs (1)	Savings a/ (2)	Net (Costs) or Savings (3)
1984/85	20	9.2	(11.8)
1985/86	72	17.1	(54.9)
1986/87	24	19.2	(4.8)
1987/88	9	21.2	+12.2
1988/89	-	23.2	+23.2
1989/90	-	23.7	+23.7
1990/99		254.8	+254.8

Rate of Return: 23.0%

a/ Equal to 0.2x net saving in Table 3 because project covers 20% of GSP population.
NPV = $71 million
i = 10%

ANNEX 7

BRAZIL

SAO PAULO HEALTH PROJECT

SELECTED DOCUMENTS AND DATA

AVAILABLE IN THE PROJECT FILE

BRAZIL
SAO PAULO HEALTH PROJECT
Selected Documents and Data Available in the Project File

Section A: General Reports on Brazil and the Health Sector

A-1 World Bank, "Brazil - Human Resources Special Report", 5 vols., Report No. 2604-BR, July 13, 1979

A-2 Peter T. Knight and Ricardo Moran, "Brazil: Poverty and Basic Needs Series", World Bank, December 1981

A-3 World Bank, "Appraisal Report of a Proposed Nutrition Research and Development Project in Brazil", Report No. 1096-BR, June 7, 1976

A-4 World Bank, "Brazil - Northwest Region Integrated Development Program: First Phase - Health Project", Staff Appraisal Report No. 3537b-BR, November 9, 1981

A-5 World Bank, "World Development Report: 1982", Oxford University Press, New York, 1982

A-6 W. McGreevey, "Brazilian Health Care Financing and Health Policy, an International Perspective", (draft), World Bank, August 26, 1982

A-7 Thomas W. Merrick, "Recent Fertility Declines in Brazil, Colombia and Mexico", Background Paper prepared for the World Development Report 1984, Washington, September 8, 1983 (mimeo).

Section B: General Reports and Studies Relating to the Project

B-1 SES/SHS/INAMPS, Special Commission, "Projeto de Expansao da Rede de Serviços Basicos da Saude do Grande Sao Paulo: 1a. Versao Sintética," (Project for the Expansion of the Network of Basic Health Services in Greater Sao Paulo: 1st. Summary Version), January 1983.

B-2 MPAS/CONASP, Reorientaçao da Assistencia a Saude no Ambito da Previdencia Social, (Reorientation of the Health Services under the Social Security System), 1982

B-3 A. Jatene, E. K. Yamamoto, E. Rosemberg, J. da Silva Guedes, L. Barradas Barata, Assistencia a Saude na Regiao Metropolitana de Sao Paulo-Brasil, (Health Services in the Metropolitan Area of Sao Paulo-Brazil), Regional Meeting WHO/PAHO, Washington D.C., 1981

B-4 Ministry of Education and Culture, Sao Paulo School of Medicine, "Influence of Feeding Practices in the Nutritional Status of Infants and Pre-School Children", 1980

B-5 MPAS/INAMPS, Estrategia de Implementaçao do "Plano de Reorientaçao da Assistencia a Saude no Ambito da Previdencia Social", (Strategy for the Implementation of the "Reorientation Plan for Health Services Provided by the Social Security"), December 1982

B-6 IBGE, Annuario Estatistico do Brasil, (Statistical Yearbook for Brazil), 1981

B-7 EMPLASA, Sumario Estatistico da Grande Sao Paulo, (Summary of Data on Great Sao Paulo), 1981

B-8 SEADE, Anuario Estatistico do Estado de Sao Paulo, (Statistical Yearbook on Sao Paulo State), 1980

B-9 Janowitz, Barbara, John E. Anderson, Leo Morris, Milton S. Nakamura and Joaquin Barreto Fonseca, "Service Availability and the Unmet Need for Contraceptive and Sterilization Services in Sao Paulo State, Brazil", International Family Planning Perspectives, Vol. 6, No. 1, March 1980, pp. 10-19.

B-10 SES/SHS/INAMPS/PMU: Programa Metropolitano de Saude 1ª Fase. Doc. Tecnico, Vol. 1, March 1984.

Section C: Selected Working Papers

C-1 O. Echeverri, "Human Resources in the Brazil Urban Health Sector with Special Reference to Sao Paulo", December 4, 1981

C-2 O. Echeverri, "Working Paper on Health Services", August 5, 1982

C-3 O. Echeverri, "Staffing and Training Working Paper," August 18, 1982

C-4 O. Echeverri,"Health Services Components", January 25, 1983

C-5 O. Echeverri, "Manpower, Staffing and Training", February 1, 1983

C-6 W. de Geyndt, "Management of Health Care Programs", December 1981

C-7 W. de Geyndt, "Working Paper on Evaluation", July 29, 1982

C-8 W. de Geyndt, "Planning and Design of Facilities", August 1982

C-9 W. de Geyndt, "Working Notes", December 1982

C-10 H. Barnum, "Urban Health Sub-Sector Issues Paper, Costs and Financing Issues", 1981

C-11 O. Quintana, "Survey of Health Accounting System", June 1982

C-12 O. Quintana, "Working Paper on Accounting System", August 1982

C-13 O. Quintana, "Cost Accounting", December 1982

C-14 O. Quintana, "Working Paper on Cost Analysis for Hospitals", December 17, 1982

C-15 M. Valdivia, "Staff Working Paper on Training", August 1982

C-16 M. Valdivia, "Working Paper on Family Planning", September 1982

C-17 M. Valdivia, "Staff Working Paper on Community Participation", August 30, 1982

C-18 M. Valdivia, "Staff Working Paper on Nutrition", August 25, 1982

C-19 M. Valdivia, "Staff Working Paper on Health Education and Promotion", August 25, 1982

C-20 B. Hubert, "Working Paper on Physical Planning, Design and Procurement", July 23, 1982

C-21 B. Hubert, "Findings on Facility Planning", January 18, 1983

C-22 B. Hubert, "Recommendations for the Design of Project Facilities", January 5, 1983

C-23 P. Whitford, " Proposed Outline of Staffing and Training Needs", June 22, 1982

C-24 P. Whitford, "Project Preparation Team", July 23, 1982

C-25 P. Whitford, "Project Preparation Report: Proposed Format", August 2, 1982

C-26 P. Whitford, "Cost Estimates", August 5, 1982

C-27 P. Whitford, "Project Organization", October 7, 1982

C-28 W. McGreevey, "Economic Justification", January 25, 1983