

PD CB 397

PROJECT PAPER
PNG CHILD SURVIVAL SUPPORT
879-0017

May, 1989

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PAPUA NEW GUINEA CHILD SURVIVAL PROJECT NO. 879-0017

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AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET	1. TRANSACTION CODE <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____ DOCUMENT CODE 3
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2. COUNTRY/ENTITY REGIONAL DEVELOPMENT OFFICE/SOUTH PACIFIC	3. PROJECT NUMBER 879-0017
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4. BUREAU/OFFICE ANE	5. PROJECT TITLE (maximum 40 characters) PNG CHILD SURVIVAL SUPPORT
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6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 09 30 96	7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4) A. Initial FY 89 B. Quarter 4 C. Final FY 95
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8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY 89			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(300)	(58)	(358)	(6,470)	(2,930)	(9,400)
(Loan)	()	()	()	()	()	()
Other U.S.						
1.						
2.						
Host Country		150	150		4,600	4,600
Other Donor(s)						
TOTALS	300	208	408	6,470	7,530	14,000

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) HE	B533	510				9,400		9,400	
(2)									
(3)									
(4)									
TOTALS						9,400		9,400	

10. SECONDARY TECHNICAL CODES (maximum 5 codes of 3 positions each) 563 530	11. SECONDARY PURPOSE CODE B583
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12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)						
A. Code	R/H	TNG	BWW	TECH	BR	
B. Amount	10%	50%	50%	20%	100%	

13. PROJECT PURPOSE (maximum 480 characters)

To improve maternal and child health delivery services in the rural areas.

14. SCHEDULED EVALUATIONS Interim MM YY MM YY Final MM YY 06 92 09 96	15. SOURCE/ORIGIN OF GOODS AND SERVICES <input type="checkbox"/> 000 <input type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify) _____
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16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

Clearance: HPN:PCL
 CONT:IBP
 AD:JO
 PDO:RS

17. APPROVED BY	Signature Title JOHN B. WOODS REGIONAL DIRECTOR	Date Signed MM DD YY 05 19 91	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
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LIST OF ACRONYMS

ADB	The Asian Development Bank
ADCOL	Administrative College, PNG
AID	U.S. Agency for International Development
AMS	Area Medical Store of the DOH
APO	Aid Post Orderly
ASH	Assistant Secretary for Health in Provinces
AS/RSU	Assistant Secretary, Regional Support Unit
BMS	Bureau of Management Services, Department of Finance
CAHS	College of Allied Health Sciences
CDD	Control of Diarrheal Diseases
CHW	Community Health Worker
CS	Child Survival
DC	Disease Control Division, National DOH
DIP	Detailed Implementation Plan
DOH	Department of Health
EPI	Expanded Program of Immunizations
FAS/PHC	First Assistant Secretary for Primary Health Care
FHS	Family Health Services Division of Department of Health
GPNG	Government of Papua New Guinea
HC	Health Center
HEO	Health Extension Officers
HSC	Health Sub-Center
IMR	Infant Mortality Rate
IST	Ir. Service Training
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
MCH	Maternal and Child Health Care
MOU	Memorandum of Understanding
MSP	Management Support for Provinces (Program)
NO	Nursing Officer
NTSU	National Training Support Unit of Department of Health
OIC	Officer in Charge of a Health Center/Subcenter
OPD	Out-patient Department
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PHO	Provincial Health Officer
POM	Port Moresby
PNG	Papua New Guinea
PHEO	Provincial Health Extension Officer
REU	Regional Epidemiology Unit
RHS	Rural Health Services
RSU	Regional Support Unit
SCF	Save the Children Fund of Great Britain
SPAF	South Pacific Alliance for Family Health
VMW	Village Midwife

ABBREVIATIONS USED FOR SELECTED PROVINCIAL DEPARTMENTS

EHP	Eastern Highlands Province
ENB	East New Britain Province
ES	East Sepik Province
MBF	Milne Bay Province
NCD	National Capitol District
NI	New Ireland Province
NS	North Solomons Province
SHP	Southern Highlands Province
WHP	Western Highlands Province
WNB	West New Britain Province
WS	West Sepik Province

DRAFT

PROJECT AUTHORIZATION

NAME OF COUNTRY: Papua New Guinea
NAME OF PROJECT: Papua New Guinea Child Survival
Support Project
NUMBER OF PROJECT: 879-0017

1. Pursuant to Sections 104(b) and 104(c) of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Child Survival Support Project for the Independent State of Papua New Guinea (the "Cooperating Country") involving planned obligations of not to exceed Nine Million Four Hundred Thousand United States Dollars (\$9,400,000) in Grant Funds over a seven year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs of the project. The planned life of project is through August 31, 1997.

2. The goal of the Child Survival project is to reduce child and maternal mortality in Papua New Guinea. The project's purpose is to improve child and maternal health service delivery in rural areas. The project will finance long and short-term technical assistance; participant training in the United States; in-service training, special studies/operational research in Papua New Guinea; a limited amount of commodities; minor renovations of four buildings; and project operating expenses.

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iv.

3. The project agreement, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. Regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

4. a. Source and Origin of Commodities, Nationality of Services

Commodities financed by A.I.D. under the project shall have their source and origin in the Cooperating Country or in the United States, except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have the Cooperating Country or the United States as their place of nationality, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the project, except as A.I.D. may otherwise agree in writing, shall be financed only on flag vessels of the United States.

b. Conditions Precedent to First Disbursement

Prior to the first disbursement under the Grant or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D.:

9

v.

A statement of the name of the person holding or acting in the office of the Grantee and of any additional representatives, together with a specimen signature of each person specified in such statement.

c. Additional Disbursement

Prior to the issuance by A.I.D. of documentation pursuant to which disbursement will be made for renovations to the Regional Epidemiology Units to accommodate the planned enlarged space for the Regional Support Units, the Cooperating Country shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D. assurances that a new budget vote has been created for the RSUs.

d. Covenants

The Cooperating Country shall covenant, except as A.I.D. may otherwise agree in writing, that:

- (1) It will assure that each long-term advisor funded under the project will have a Papua New Guinea counterpart during the entire length of his or her assignment;

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- (2) Persons receiving training in the United States under this project will return to Papua New Guinea to work in the Ministry of Health in areas for which they have been trained for a minimum of twice the length of time of such overseas training.

EXECUTIVE SUMMARY

The Child Survival Project (879-0017) is a joint effort by the Government of Papua New Guinea (GPNG) and the United States Government to reduce obstacles to improved quality, efficiency, and effectiveness in the delivery of maternal and child survival services in rural areas of PNG. With its commitment to the Project, A.I.D. joins other donors in making a major contribution to relieving a situation characterized by some as the most severe maternal and child survival problems in the developing world.

A.I.D.'s assistance to ten independent countries in the South Pacific (including PNG) is administered by the Regional Development Office in Suva, Fiji. Prior to 1988, the assistance strategy for these countries was essentially one of low-profile, "niche filling" that channeled funds to a basket of projects through regional institutions or programs and intermediaries (i.e., The South Pacific Commission, Forum Fisheries Agency, University of South Pacific, Foundation for the Peoples of the South Pacific, Save the Children Foundation, and Peace Corps). The new five-year strategy calls for a sharper focus on attaining specific development objectives.

This new approach requires not only an increased level of assistance, but also direct involvement and collaboration with national governments (as opposed to working through intermediaries and regional institutions and programs) in the conception, development, and implementation of projects. The PNG Child Survival Project is the first in the series of projects planned to implement the strategy. It is also A.I.D.'s first exclusively health project located entirely in any one country in the region. However, the project benefits from lessons learned in prior and on-going A.I.D. involvement in the MEDEX Project (University of Hawaii), South Pacific Alliance for Family Health (SPAFH), HEALTHCOM and other A.I.D. centrally and regionally funded activities implemented in PNG. The PNG Child Survival Project consolidates A.I.D. assistance in health through project buy-ins and coordination of other A.I.D. funded activities.

The goal of the Child Survival Project is to reduce child and maternal mortality in PNG. The purpose of the project will contribute to this goal by improving service delivery for maternal and child health care in rural areas.

The Project is the product of a comprehensive examination of PNG's child survival and maternal health problems. The first important finding is that skills and information needed to base a viable service delivery approach are lacking. Second, the institutions and structures necessary to sustain viable approaches

are either non-existent or require strengthening. Given this, the project's activities are designed to ensure technical and institutional viability of service delivery.

Project activities will promote the technical viability of services for oral rehydration therapy, EPI, maternal and child nutrition, reproduction, childbirth, and antenatal care. A series of special studies and training will be conducted in these areas. The improved knowledge base and technologies produced by these activities will be used to plan, administer, and evaluate delivery programs and to promote public health education.

Essentially, the activities designed to ensure institutional viability will involve the establishment of Regional Support Units (RSUs) to provide technical support and advice to provincial health offices, the reestablishment of a diploma course in nursing administration for maternal and child health care, and the creation of a mechanism to ensure effective communication between the provinces and the national Department of Health on the role and operation of the RSUs.

Project activities will be implemented in two phases. Phase I will cover the first two full years of project activities and is scheduled to end in 1992. Phase I is designed primarily to develop a minimum level of skills and lay the technical, programmatic, and organizational foundation for Phase II. Phase I activities include special studies to fill critical information and technology gaps, training to develop skills, training modules and courses, and consensus building exercises to form a basis for the effective operation of regional and national structures that support service delivery programs in the provinces.

Phase II will involve bringing into full operation the institutions designed to sustain and promote service delivery. However, Phase II will also continue and build on the Phase I activities designed to improve technical viability. Under Phase II, the design and coordination of technical activities will be transferred from the expatriate advisors to counterparts in the project's local institutions. In this way, formal training is reinforced by practical, problem-solving training. The end of Phase II envisions PNG structures and institutions in place conducting and coordinating research and training, developing training materials, modules, courses and strategies for community education and mobilization, and advising health offices in the provinces on the planning and management of maternal and child survival service delivery.

The total A.I.D. contribution to the project is \$9.4 million over seven years. This money will fund technical assistance, training, special studies/operational research, a limited amount of commodities (vehicles, materials, micro computers), minor renovations, and project operating expenses.

The GPNG will contribute approximately \$4.6 million, primarily for operating expenses and in-service training. Peace Corps is expected to provide 6 volunteers a year over a four-year period at an estimated value of \$600,000.

Implementing Agencies

The implementing agency for the project is the Department of Health (DOH).

Waivers Required

No waivers are anticipated except for right hand drive vehicles for which there is a blanket waiver which includes PNG authorized by the AA/ANE.

Major Covenants and Conditions Precedent

A condition precedent to disbursement for renovation costs concerns establishment of a special vote for fund allocation to the RSUs to ensure adequate funds for operation.

Findings of the Analyses

The various analyses in the Project Paper find the following:

1. The health status of mothers and children is being determined by a confluence of factors including nutrition, parity, female literacy, and the accessibility and acceptability of health care.
2. Significant information, technology, and skill gaps in PNG constrain effective and efficient delivery of maternal and child health care.
3. Improvements in management and planning of service delivery are needed to increase the efficiency and capacity of health facilities.
4. The development and strengthening of key institutions is needed to promote maternal and child survival in PNG.
5. Critical areas for focus of maternal and child health programs are oral rehydration, immunization, nutrition, reproduction and childbirth.
6. Community education, participation and support for health care are needed to sustain service delivery.

E. Project Issues

The PID review (State 375425, Annex A) yielded no major issues for resolution. However, guidance was provided on a variety of design concerns. These concerns are presented below with a brief discussion on how the Project Paper responds to each.

1. Project Financial Sustainability and Recurrent Cost

The Financial Analysis Annex to the Project Paper provides a detailed discussion of recurrent cost implications of the project and the ability of the GPNG to sustain project outputs. The Project requires the expansion of the Regional Epidemiology Units (REUs) to Regional Support Units (RSUs) to advise and support provincial health offices in the delivery of MCH/CS services as well as epidemiology. There are no additional salary costs attributable to the Project. Non-personnel recurrent costs will increase. However, it is expected that the GPNG will be able to accommodate the recurrent costs of this project given the projections over the next 10 years for economic growth at about 3.5% annually in real terms, improved government policies regarding fee collection for health services, and total increase in health expenditures of 13.4% in real terms coupled with the expectation that the bulk of this increase will be allocated to non-salary recurrent expenditures in rural areas.

The project will conduct studies on the financing and budgeting of resources which are to include recommendations on efficient allocation of budgetary resources. Also, at the request of the GPNG, ADB is financing a study which will examine alternative sources of financing health services.

2. Establishment of Linkage Between Institutional Support and Child Survival Targets

The project targets improvement in service delivery for several child and maternal survival areas. These include improvements in antenatal care, EPI coverage, availability of ORT, and treatment of acute respiratory illnesses, diarrhea, malaria and malnutrition. Since the focus of the project is the end-user of services, and the resources and organizations for planning and providing these services are weak, it is necessary to strengthen the capabilities of service delivery structures. Institutional strengthening is needed to improve and sustain service delivery. The extent to which the project funds institutional inputs is circumscribed by this requirement. The Detailed Project Description demonstrates the linkages between project outputs and objectives.

3. Mid-Term Project Evaluation

The project design provides for a mid-term evaluation following Phase I. Targets have been established for both the mid-term and final evaluations.

4. Alternative Delivery Mechanisms

The PP design examined carefully the extent to which non-government entities can increase their role in service delivery. Currently, about 50% of all health facilities are operated by churches and missions. However, these facilities are an integral part of the government's health system and are heavily subsidized by the GPNG. An increased role for the church and mission facilities is not possible absent significant increases in government subsidies, negating largely any savings to the government.

Currently, the role played by PVOs is small, and for the most part involves single purpose activities, e.g., provision of cold chain equipment to a few clinics or training of birth attendants in a specific area. It is unlikely that the PVOs will be able to expand their assistance significantly in the near future. However, the role they play is an important one and the project will look for ways to coordinate efforts during implementation.

Some of the larger private companies have workplace clinics, but are unlikely to expand services beyond that. The PNG Defense Force has its own health service limited to its personnel and their families.

5. Coordination with Other Donors

As designed, the project will supplement and complement child survival inputs from other donors. The organization of a local informal donor group is expected to ensure donor coordination during implementation.

6. Family Planning

PNG has no official policy on family planning. There is survey information available which indicates that women are interested in birth spacing methods. While several obstacles are known to exist (women must have permission of their husbands in order to use contraceptives), it is possible to overcome many of these.

The project will provide education in reproduction for village men and women. Birthspacing will be an important aspect of this activity. In addition, buy-ins with HEALTHCOM, and possibly, SPAFH will be used to promote birthspacing activities.

7. Safety

Although safety is a problem in many areas, precautions can be taken to minimize its impact on project feasibility, e.g., assigning teams of male and female workers in rural health facilities. The project will provide for a study to determine how to mobilize community resources to support and help protect health facility property and workers.

8. Women in Development

The bulk of the immediate benefits to project participants will take the form of training. The project targets one-third of the overseas training opportunities for women and one-fourth of in-country training. Also, women in rural areas will benefit from the project since a major thrust is improving maternal health services. The reestablishment of the diploma course in Community Health Nursing Administration will offer an opportunity for women to upgrade their nursing skills as well as their administrative and managerial ability.

I. PROJECT BACKGROUND AND RATIONALE

A. Background

Papua New Guinea (PNG), located just north of the Australian mainland and bordered to the west by Irian Jaya, Indonesia, is as large as Thailand and contains about 80% of the land area and 75% of the population of the South Pacific. It is a land of islands and atolls, mangrove swamps, rushing rivers, active volcanoes, almost impenetrable rainforests, palm-covered beaches, and snow-clad and vegetation-covered mountains towering more than 5,000 meters in some cases. The mainland is transversed by a mountain range that includes some of the highest peaks in the Pacific.

PNG's geographic diversity is matched by that of its ethnic and linguistic groups. Its 3.5 million people are largely Melanesian and Melanesian with Austronesian and Micronesian admixtures. Within these groups are many cultures and sub-cultures. Over 768 different languages are spoken, few of which have more than 100,000 speakers.

PNG is the world's newest nation, having gained independence from Australia in 1975. Contact between coastal areas of what is now PNG and the modern western world was not made until the 1800s, and contact with the interior did not begin until the 1930s. As late as 1983, new groups of people living very ancient lifestyles were contacted for the first time. It should be emphasized, however, that the people of PNG are resourceful and enterprising, and change occurs with relative speed. For example, nearly all coastal PNG is detribalized; in almost all areas, the barter economy has been replaced by a cash economy.

The country is rich in physical resources including gold, oil, copper and agricultural crops such as cocoa, coffee, tea, rubber and palm oil. In addition, its combination of high rainfall and steep mountains endow it with a tremendous electric power potential.

Economic growth during the 1970s was strong (averaging about 4.7% per annum), but declined to about 0.5% per annum during 1981-1984, increased sharply in 1985 to 5.7% and averaged about 2.7% between 1986 and 1988. Growth has depended largely on changes in world prices for PNG's exports and the domestic production of minerals.

Since independence, PNG has relied heavily on development assistance (largely budgetary support from Australia and loans from the Asian Development Bank). For example, World Bank (IBRD) estimates show that in 1985 receipts of official development assistance in PNG were 12.0% of GNP compared to 7.2% for all developing countries. Australia has reduced its budgetary support to PNG and will continue to do so until 1991 at an annual average rate of 5.0%. Other donors, such as Japan, are increasingly interested in PNG. The country's particular combination of history, geography, people, physical resources and economy present unique opportunities and challenges for development assistance.

B. Project Rationale

Although PNG is classified by the IBRD as a middle-income country (because its annual per capita income of some \$700 is above the \$400 cut-off for low-income countries), the nutritional status and health status of most of the country's peoples are lower than or about equal to that for low-income countries. For example, IBRD data show that in 1983, the average daily per capita supply of calories in PNG was 2140 compared to 2339 for low-income countries. Life expectancy at birth for men is 51 years and for women is 54 years in PNG compared to an average of 60 years for men and 61 years for women in low-income countries. The indicators also show that during the 1960s mortality rates for children under 5 were significantly higher in PNG than in low-income countries, and in the 1980s about equaled the average rates for the poorest countries.

In Papua New Guinea, 20 of every 1000 pregnant women in rural areas, and about 2 of every 1000 in urban areas die in child birth. Although infant and child mortality are reported to have declined in the 1980's, their rates remain unacceptably high. Officially, infant mortality (IMR) is estimated to have declined from 134/1000 in 1971 to 72/1000 live births in 1981, and child mortality from 79/1000 in 1971 to 42/1000 live births in 1981. The A.I.D. Health Section Assessment team recorded data which led them to conclude that the present IMR figure is closer to 130 infant deaths per 1,000 live births.

Notwithstanding their discrepancies, both official and donor estimates show that the health situation for women and for children between the ages of 0 to 5 is bleak. The resulting impact on productivity and drain on human and material resources have a deleterious effect on the development of the country.

There is considerable evidence of the Government of Papua New Guinea's (GPNG) commitment to health. Between 1975 and 1987, GPNG expenditure for health increased from 2.8 to 3.4 percent of

GDP, and from 8.4 to 9.1 percent of total government expenditure. This level of expenditure is quite high. For example, during 1985 health expenditures averaged 3.7% of total expenditures in low-income countries and 4.4% of total expenditures in middle-income countries. Further, the GPNG has produced its second National Health Plan covering the period 1986-90. According to the Plan, the rate of growth in health manpower between 1973 and 1986 surpassed the rate of population growth.

As structured, health services in PNG are comprised of provincial hospitals (staffed by doctors, nurses, nurses aides, and orderlies), health centers (staffed by health-extension officers, nurses, nurses aides, and orderlies), and aid posts (staffed by an aid post orderly who has 1-2 years training in basic curative treatment and health promotion). About 50% of rural health facilities are operated by churches and missions. The Plan notes that: (a) there were 133 more health centers and subcenters in 1984 than in 1973, and 684 more aid posts; and (b) by 1985, 96% of the population lived within reasonable access to a health facility.

The Plan is service delivery oriented and concludes that further improvements in access to health cannot be brought on by expanding quantity alone and "...that activities must be directed toward:

- improving the quality and efficiency of existing health services and infrastructure;
- increasing emphasis on self-reliance and community participation in health and development activities; and
- providing more effective health education and information to assist all members of the community to prevent illness and to lead healthier lives."

A main program thrust of the Plan is child and maternal health (particularly supervised births). The Plan also emphasizes increasing the number of women involved in service delivery.

The GPNG has taken several actions to support its emphasis on maternal and child health. For example, a national Child Survival Advisory Group has been formed for planning and coordinating the government's program. An inter-agency sub-committee for EPI acceleration was formed by the Department of Health.

PNG is divided into 19 provinces contained within four regions. Unlike the provinces, the regions are not administrative units but rather are geographic groupings. The GPNG has

decentralized the administration of public services. In terms of health services, this means that each province, through an Assistant Secretary for Health, administers the delivery of health services within the province. In addressing program efficiency and effectiveness, the national Department of Health has adopted a plan to provide comprehensive technical support to the provinces from the regional level rather than the national level.

Support to provincial health offices is provided from central DOH headquarters, with support in epidemiology from Regional Epidemiology Units (REUs) in each of the four regions. A needs assessment conducted during the design of the Project verified that management, administration, and technical skills must be strengthened in provinces as a precondition to bringing about improvements in the utilization of available resources and the quality and effectiveness of child survival and national health services.

The major constraint remains: lack of an effective institutional mechanism of support to provincial health offices. (See Technical Analysis for a detailed discussion.) There are three immediate alternatives: (1) continue supporting provinces largely from national DOH headquarters with REUs providing regionally based specialized support; (2) strengthen staff resources, skills and size in each of the 19 provinces so that they can operate independently of any central or regional support; or (3) expand regional units to provide the technical support and advice needed by the provincial health offices. The first option is the current arrangement. It has proven not to be very effective since comprehensive support needs to be more localized than what headquarters (even with REUs) can provide. The second option would be prohibitively expensive, would duplicate effort and waste scarce resources, and would increase the difficulties in coordinating national policies, targets and goals since it would encourage fragmentation in health programs among the provinces. The third option has been selected by the GPNG. It certainly seems to be the best alternative since it would bring the support closer to the provinces, and requires the establishment of only four units as opposed to the nineteen that would be required under the second option. Essentially, the DOH has adopted a plan to expand the REUs to cover other key health areas in addition to epidemiology (including maternal child health and child survival). The expanded units are referred to as regional support units (RSUs).

As stated in the A.I.D. April 1988 South Pacific Regional Health/Population/Nutrition Assessment, the U.S. has a comparative advantage in providing PNG the type of assistance needed to attain

its objectives in maternal and child health service delivery. The major obstacles to increasing efficiency and effectiveness are lack of skills, knowledge, and planning and management capabilities.

The focus of the present project on maternal and child survival and program efficiency and effectiveness is consistent with the A.I.D. RDSS for the South Pacific. The stated goal of the RDSS is to increase income opportunities for men and women within the islands through means which enhance the conservation and management of natural resources. The RDSS recognizes that poor health exerts a deleterious effect on the ability of people to take advantage of income opportunities. The health portion of the strategy identifies two major health constraints: lack of adequately trained personnel and public ignorance of basic health and family planning. The country focus within the region for health is PNG, since it contains approximately 75% of the region's population, has recognized health as a major constraint to development, and has assigned priority to maternal and child survival.

This project will build on and complement other A.I.D. activities. The Detailed Project Description discusses these complementarities. In some cases, buy-in arrangements will be used in order to maximize the return on A.I.D. dollars in the region and to promote program coordination.

The project is also consistent with the A.I.D. Child Survival Strategy. The project focuses on developing a sustained capacity to deliver services that address primary health problems of children in the 0-5 age group. ORT, immunization, and nutrition are important aspects of the project. In order to address these problems effectively, maternal health is also emphasized. Maternal health in PNG is alarmingly poor. Unhealthy mothers generally give birth to dead or unhealthy babies, and their children are usually unhealthy. To ensure technical and institutional sustainability, the project includes activities in training, institutional development and strengthening, operational research, and public health education.

Also consistent with the Child Survival Strategy, the project relies heavily on coordination of donor inputs for child survival in PNG. The U.N. agencies are major donors in this area and are meeting supply needs for ORT and EPI in addition to some assistance in planning and management. The Detailed Project Description and the Annex should be consulted for a discussion on other donor activities.

II. DETAILED PROJECT DESCRIPTION

A. Goal

The goal of the Child Survival project is to reduce child and maternal mortality in Papua New Guinea.

B. Purpose

The project's purpose is to improve maternal and child health service delivery in rural areas. The weaknesses in the delivery of health services are well documented and are discussed in the Technical Analysis of this paper. There seems to be agreement among both the GPNG and the country's major donors that lack of adequately trained workers, together with a limited capacity for problem identification and analysis, planning, management and implementation of programs are the primary constraints to improving service delivery. Consequently, investments in these areas are likely to yield some of the highest returns in the health sector. Other high priority areas for improvement in service delivery include service utilization and financing. The discussion below on project activities outlines how the project will respond to these weaknesses. (The Technical Analysis should be consulted for a more detailed discussion).

C. Project Strategy and Purpose - Goal Linkage

1. Project Strategy

a. Project Viability: The project design is governed by three important development assistance program tenets, i.e., quality, efficiency and effectiveness in the delivery of maternal and child survival health care. The basic premise of the design strategy is that viability of child survival and maternal health services delivery depends largely on adequate skills, know-how, and information base, and the degree to which these are institutionalized. Therefore, a two-step process of strengthening capacity and institutionalizing it has been adopted. Accordingly, each project activity serves one of the following objectives:

ensure technical viability of service delivery; or
ensure institutional viability of service delivery.

Activities designed to ensure technical viability will improve skills, information, and technologies. Key activities will focus on upgrading of technical skills of service providers as a means of improving overall quality and program efficiency. Special studies and interventions will be undertaken to increase knowledge of planners and providers on non-technical factors (e.g., cultural

and social) which impact on the viability of programs. Pilot interventions will be undertaken to improve child survival technologies most relevant to PNG, (e.g., experimentation with flavored ORS). It is the nature of these outputs that their associated benefits survive (to some degree) both the termination of the project and changes in particular plans and strategies.

Institutional viability has two parts: (i) program sustainability; (ii) financial sustainability. Program sustainability is achieved through the permanent establishment of local structures and operations that maintain and advance technical capacity. Project activities designed to do this include the establishment of training courses, technical support units, and mechanisms for program coordination. Financial sustainability is achieved where local capacity exists (including assistance from other donors) to maintain viable child survival and maternal health programs. Several project activities are concerned with this aspect of sustainability. Training and technical assistance will be provided to improve management and planning of programs. This improvement will lead to greater efficiency, thereby effectively increasing the availability of resources to conduct programs. In addition, in close coordination with the work of other donors, such as the Asian Development Bank (ADB), the project will explore alternative means of financing child survival and maternal health care.

Finally, a set of activities will focus on increasing the affordability and access of child survival and maternal health services to the villager. These activities include research to develop remedies based on local physical resources (e.g., sweet-potato based ORS) and greater mobilization of community resources to meet needs (e.g., training of village women as volunteer birth attendants).

b. Health Education and Utilization of Services: In PNG, lack of knowledge is a major constraint to improving program effectiveness and program utilization. PNG's geographic and social characteristics serve to reinforce the problem.

However, reproductive services provides a good example of how these obstacles can be minimized. Traditionally, according to most of the country's cultures, a woman delivers a baby unassisted by anyone, or at most with the aid of a sympathetic female relative. (See Social Soundness Analysis) This practice is deeply rooted in the belief that child birth fluids and placenta are poisonous, particularly to men. Improved knowledge in the community about the reproductive process has played a major role in overcoming this social obstacle. Since the 1970s, there has been an increasing demand for maternity care throughout the

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country. Institutional deliveries increased 170% between 1972-1982 and from 8.4% to 18.1% of total hospital and health center admissions during that period.

Although health education is not a cure-all for low demand, the experience of supervised deliveries certainly demonstrates that returns from education can be high in PNG. This may be particularly true in a case like ORT where surveys have shown that most village households are totally void of knowledge about ORS, the principal ORT technology promoted by donors. A very similar kind of analogy can be made for nutrition and other services targeted by the project.

The project will promote health education to stimulate demand where it is low relative to supply capacity. Health education will also play an important role in enabling community members to participate in their own health care primarily through preventive health measures.

The front line health worker will be a primary vehicle for educating the community. All training modules developed and applied in the Project will include a component to instruct health workers in ways to improve communications with community members.

In addition, the project will develop health education materials and work with the A.I.D. centrally funded HealthCom project through a buy-in to promote innovative ways of communicating with villagers.

The project will not assist in the development of health education units. The provinces do not have such units. Rather than creating them, the project will work with existing officers to strengthen their communication skills. This approach is cost-effective since it averts the need to add new staff, and still provides for a mechanism to disseminate health information. Health education units often rely on front line service deliverers to get the message out anyway. As mentioned above, the technical assistance and RSUs will produce and test health education materials and communication methods in conjunction with HEALTHCOM.

Physical access is another key factor in utilization of services in PNG. According to the National Health Plan 1986-1990, about 96% of the population in PNG lives within two hours of a health facility. The Child Survival project activities are designed to improve the quality of services delivered at these facilities. It is the policy of the GPNG to delegate as much responsibility as possible to the lowest levels of the health care structure.

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This policy, combined with the distribution of health care facilities means that access has improved steadily in recent years. In addition, the training of birth attendants in villages supported by this project will increase the outreach of maternal and child health care.

c. Private Sector: Churches and missions provide about half of rural health services, employ some 16% of all health workers, and make considerable contributions to training of rural health workers in PNG. These operations are fully integrated into the national health system, and where they exist, substitute for rather than compete with government run facilities. The churches and missions receive government subsidies to carry out their services. In interviews during the design of this project, officials at church-run facilities indicated that they could not expand their operations absent significant increases in subsidies from the government. Church-run facilities are an integral part of the project. During implementation, areas where these facilities have attained greater efficiencies and effectiveness than government run facilities will be examined, and findings will be incorporated in the advice provided to provincial managers.

Health services outside the integrated government church system are not extensive. The PNG Defense Force has its own health service for its personnel and their families. Some of the larger private enterprise organizations (e.g., mining companies) have their own workplace clinics. There are about 50 private doctors in the country. All of these additional health facilities operate in urban environments and have little impact on rural populations.

In addition to church-run facilities, private voluntary organizations (PVOs) are playing an increasingly important role in the delivery of health services in the provinces. The Save the Children Fund of the United Kingdom is funding a resident health expert to study the potential large-scale use of solar powered refrigerators in health centers. UNICEF and Rotary International have donated a few solar refrigerators to test their viability prior to committing substantial resources to the technology. U.S. PVOs, e.g., Project Concern International (PCI), conduct small area service-specific programs such as the introduction of trained village midwives as a locally available resource for improving mothers' access to antenatal and delivery care. Under the Child Survival Project, PCI and other organizations conducting village midwife training programs will be invited to a national workshop to exchange experiences and knowledge in order to develop a viable and effective program in this area. The results of the PCI program, along with similar experiments by A.I.D. and other

organizations will provide valuable input to the DOH for formulation of a national policy on village midwifery.

In PNG, all pharmaceuticals, medicines, and drugs are imported. Off-shore ordering from international distributors to meet the government's needs is currently handled by the Department of Health satellite unit in Sydney, Australia. However, consideration is being given to relocating this function in PNG. Within the country, distribution of drugs and medicines is handled by the Department of Health. Currently, private sector involvement in the sale and distribution of pharmaceuticals is small and limited to urban sector consumers usually the more prosperous nationals and expatriates. There is no evidence that this role can be expanded in the near term to address the needs of rural health service delivery. Nevertheless, if this situation should change, project activities designed to improve drug supply and distribution will explore whether greater private sector involvement is possible.

d. Coordination with Other Donors: A major feature of the project's strategy is the extent to which it depends on coordination with other major donors in child survival. The project has been carefully designed to avoid duplication of donor effort. (See discussion of other donor assistance in Project Description, Financial Analysis, Annex I and Annex N summarizing donor programs). Much of the material inputs needed to meet the end of project targets set out below are presently being supplied by other donors, and will continue to be so supplied during project implementation. Complementarity in donor input is consistent with the A.I.D. Child Survival Strategy which articulates the U.S. support in the global effort as part of an international collaborative effort among donors. The donors in PNG providing major assistance to maternal and child survival programs contacted during the design of this project agreed that an informal local coordinating mechanism should be created, particularly given the recent increases in donor aid to child/maternal health programs. Prior to or early on during the implementation of this project, A.I.D. will initiate or support another donor in the initiation of the informal coordination mechanism.

e. Phasing of Project Activities: Project activities will be implemented in two phases. Phase I is approximately two activity years and covers the period 1989-1992. It is designed to lay the technical, programmatic, and organizational foundation for Phase II. The activities conducted during Phase I (e.g., training, operational/research) will ensure that minimum skill and knowledge levels essential to strengthening capacity exist, and that conditions required to establish operative mechanisms for

institutionalizing capacity are met. The institutional outputs of Phase I (e.g., training courses) will be used in Phase II to put in place structures to support services delivery in the provinces and to carry out the promotion, planning, and management of maternal and child health services. Those Phase I activities (e.g., operations research) designed to produce technical outputs will continue under Phase II and serve to generate information that will feed into the programming and evaluation of service delivery.

The phasing of activities highlights the reinforcing relationship between the technical strengthening and institutional strengthening aspects of the project. Those activities aimed at technical viability will produce program information and data that will be organized and structured by the activities aimed at institutional viability in such a way that effective strengthening of technical capacity and knowledge can take place.

2. Purpose and Goal Linkage; End of Project Status

The basic assumption underlying the purpose and goal linkage is that increased viability of service delivery of child survival and maternal health care will ultimately contribute to reductions in maternal and childhood mortality. This seems reasonable, particularly in light of the broad scope for improvement in service delivery. End of project targets that serve as measurable indicators of progress towards reducing child and maternal mortality are the means by which the purpose - goal linkage is verified. The following end of project indicators are established for this purpose:

a. Increase by 15% the Number of High Risk Pregnancies with a Supervised Delivery: According to the UNICEF estimates, only about 40% of women have supervised deliveries by a doctor or a nurse. This, however, represents a significant increase in recent years. As noted above, institutional deliveries increased 170% between 1972 and 1982 and rose from 8.4% to 18.1% of total hospital admissions.

b. Reduce by 20% the Institutional Case Fatality Rates for Acute Respiratory Infections (ARI), Diarrhea, and Malaria: Pneumonia is the leading cause of deaths among children aged 0 to 5, responsible for about 37% of all deaths in that age group. It also accounts for about 62% of morbidity in the 0 to 1 age group and approximately 34% of mortality in the 1 to 5 age group. Diarrheal diseases are responsible for about 2% of infant deaths and 18% of infant morbidity as well as 9% of deaths, and 25% of morbidity in children between 1 and 5. Malaria accounts for about 25% of child

morbidity and 10% of child mortality. A major constraint to meeting the target is that certain portions of Papua New Guinea are hyperendemic for malaria. To address this constraint, A.I.D. has recently provided a grant to the Institute of Medical Research in Papua New Guinea to carry out a major malaria vaccine trial at a field site in East Sepik Province.

Relevant targets officially set by the GPNG in its National Health Plan (1986 to 1990) include the following: (1) reduce mortality due to pneumonia from approximately 25% to 15% by improving in patient and out patient management and education of the public sector about the early signs of pneumonia; (2) reduce mortality in children under five due to diarrheal diseases by 10% each year from the 1985 level; (3) reduce morbidity in children under five due to diarrheal diseases by 5% each year from the 1985 level; (4) reduce malaria mortality by 5% each year from the 1985 level; (5) reduce the number of severe cases of malaria by 5% each year from the 1985 level; and (6) reduce malaria morbidity by 3% each year from the 1985 level.

c. Increase Immunization Coverage for Measles by 25% (to 60%) and for Third Dose of Diphtheria, Pertussis and Tetanus by 20% (to 60%): Cold chain management is a major obstacle to increasing immunization coverage. In discussions during the design of this project, officials at health facilities stated that they could improve coverage at least 25% (even in areas where coverage is relatively high) if cold chain problems were addressed. The UNICEF target for EPI coverage is 80% to 85% of all children under 5 by 1992. The National Health Plan sets a target for the period 1986 to 1990 of increasing vaccination coverage with triple antigen, tetanus toxoid, polio, pigbel, measles and BCG among the target groups by 5% each year for the prescribed dose, starting from the 1985 performance.

d. Increase the Availability of ORT by 100%: PNG imports about 250,000 ORS packets annually. There are about 500,000 children under five in the country. Therefore, about one half packet is available per child annually. The target is to increase this availability to at least one packet per child. In addition, a small survey carried out as part of the PNG Diarrheal Disease (CDD) Program, found that only 19% of households knew about the ORS packet, and that none could prepare it properly. The survey also found that only 63% of households had salt and only 47% had sugar for home-made preparation of oral fluids. Coordinating with other donors, the project will implement activities in education, management of ORS, and research on flavored and food-based ORT for selected regions.

e. Increase the Number of Children Aged 0 to 5 Under Surveillance for Diagnosis and Treatment of Malnutrition by 50%:

The National Nutrition Survey for 1983/84 concluded that protein energy malnutrition (PEM) in children is the most significant nutrition disorder in Papua New Guinea. 38% of the children aged 0 to 5 are less than 80% of standard weight for age; over 50% are under the 80 percentile in six provinces. One of the nutrition targets set by the National Plan for 1990 is to reduce the proportion of children under five years of age less than 60% weight for age by 20% from the 1985 level. This project will build on these efforts already underway to achieve the 50% increase.

3. Activities to Achieve Targets - Phase I

As discussed above, the project's activities serve either technical or institutional objectives related to service delivery for MCH/CS health care. Those activities directed at institutional viability will take the form of either advisory services, special studies, or coordination/ consensus building exercises. The activities directed at technical viability will take one of the following forms: (a) training and technical advice to improve the skills of health workers and their ability to communicate with the community; (b) health education to increase community awareness of and ability to participate in its health care; and (c) operations research, special studies, and pilot interventions to improve information and knowledge base.

The operations research, special studies, and pilot interventions address a major obstacle to improving the viability of delivery of MCH/CS services, i.e., the dearth of information on what works best and how to go about finding out. These activities test and develop models, methods and delivery packages, examine how best to equip service providers with the practical technical skills needed to improve MCH/CS service, and identify workable techniques for mobilizing community resources to participate in service delivery. Lack of data and information gaps can be especially crippling in a country like PNG because of its vast geographic, cultural, economic and social diversity.

The operations research, special studies, and pilot interventions are designed to respond to this need. The modus operandi of these activities is as follows. First, the project's Coordinating Committee comprised of the Assistant Secretary for Family Health in the DOH, the Chief-of-Party for the technical assistance team, and a representative of A.I.D. will decide which research topics to undertake and design of the research. This will be followed by the information gathering stage which consists

of a special study. The third stage involves the decision by the Coordinating Committee on whether or not to launch a pilot intervention to test findings of the investigative phase. The final step by the Coordinating Committee is dissemination of the results of the research or pilot intervention to the provinces.

a. Oral Rehydration Therapy (ORT)

Major Constraints

- unacceptable taste of ORS and PNG custom is not to force children to eat or drink, and the unavailability of containers in most village homes to mix ORS;

- lack of understanding of the benefits of ORS, particularly since ORS does not stop diarrhea immediately;

- workers lack training in the management of ORS, i.e., supplies of ORS are irregular and health workers need training in the importance and effectiveness of ORT in the management of diarrhea, case management, preparation of ORS, and teaching mothers how to manage at home;

- little development of home based ORT has been done, although the PNG Institute of Medical Research has tested a sweet-potato based ORT and found it to be effective.

Project Activities Directed at Technical Viability

- special survey which examines the cultural, economic and other factors inhibiting greater use of ORS;

- operations research on the development of a flavored ORS and evaluation of acceptance;

- support for the testing and development of a home-based ORT, such as the sweet-potato based ORT developed by PNG Institute of Medical Research;

- training of mothers in the use of an acceptable food-based ORS.

Project Activities Directed at Institutional Viability

- test and develop an ORT module to be used by health extension officers (HEOs) to train aid post orderlies (APOs) and community health workers (CHWs), emphasizing health education to strengthen communication skills;

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- advisory services to assist in identifying and developing procedures to improve supply and distribution of ORS.

Key Activities of Other Major Donors or A.I.D. Projects

- UNICEF is providing ORT packets;
- the A.I.D. funded Healthcom project has a pilot activity which trains mothers in how to manage diarrhea at home.

b. Nutrition Training and Assessment

Major Constraints

- lack of awareness by mothers and families of their role in improving their own nutrition;
- inadequate systems for planning nutrition services and monitoring nutrition education;
- lack of nutritionists trained in skills required to plan and analyze results of nutrition surveys, and identification of local foodways;
- lack of adequate skills among health workers in the use of weight graphs to identify nutritionally at risk children, counselling in nutrition education, use of visual aid in nutrition education;
- poor clinic organization and development of staff;
- shortage of food and other resources in some populations.

Project Activities Directed at Technical Viability

- pilot intervention which gives regional and provincial nutritionists practical, hands-on training in nutrition survey methods.

Project Activities Directed at Institutional Viability

- development of region-specific nutrition education materials to promote appropriate weaning and child feeding strategies using locally available foods;
- advisory services to identify ways to improve clinic organization and staff deployment.

Key Activities of Other Major Donors

- WHO provides funds for short-term training in Manila for about 3 provincial nutritionists per year;
- Australian International Development Assistance Board (AIDAB) is expected to fund the first phase (1989-1990) of a maternal and childhood nutrition project that focusses on public education and nutrition planning and monitoring.

c. Reproductive Health Education and Village Midwifery

Major Constraints

- most health workers are not trained properly in management of normal and complicated labor;
- village women lack access to a delivery facility;
- high percentage (almost half) of health centers and sub-centers are not adequately prepared for obstetric and new born emergencies (delivery ward, available parenteral oxytocic drugs and suction for cleaning new born's airway);
- lack of community understanding of reproduction;
- lack of information on experience with trained birth attendants in PNG;
- lack of trained birth attendants at the village level.

Project Activities Directed at Improving Technical Viability

- evaluation of experiences in PNG with trained birth attendant programs, i.e., conducting a workshop to share information and recommend guidelines regarding the implementation and monitoring of trained birth attendant programs;
- pilot intervention to develop and conduct simple, effective communication with village men and women concerning reproduction, self ante-natal care, child birth, and the value of trained birth attendants;
- training of MCH nurses in tools developed to gather information on traditional beliefs and practices concerning child birth.

Project Activities Directed at
Institutional Viability

- long term and short-term advisory services in health management;
- advisory services in logistics management to address the severe constraint posed to EPI programs by the cold chain problems;
- RSU Task Force established to prepare a detailed plan for implementation of the RSUs etc.;
- GPNG organizes administrative and logistical resources to ensure that basic procedural and physical requirements are met.

Key Other Donor Activities

- WHO is currently funding activities with the following objectives: (i) to support a national health information system, and epidemiological, social and economic data analysis; (ii) to support health education, i.e., training and research and development of appropriate media support for health education; (iii) to strengthen development of EPI/CDD action plans at the national and provincial levels, training of provincial and district health personnel in management and supervision skills, purchase of cold chain equipment; and (iv) to strengthen regional epidemiologists by developing a training manual in acute respiratory infections.

- AIDAB is exploring options for assistance to strengthen planning and management skills at the provincial level.

e. Establishment of a Diploma in Community
Health Nursing Administration

Major Constraints

- lack of training course which develops MCH/CS technical skills in a way that is highly relevant to the social, cultural, economic, and geographic problems faced by the rural service providers in PNG;

- insufficient number of nurses with specific updated MCH training.

Project Activities Directed at Improving Technical Viability

- one year overseas training for individual designated as instructor for the newly established diploma course in Community Health Nursing at the College of Allied Health Sciences.

Project Activities Directed at Improving Institutional Viability

- long-term TA advisor in MCH services to facilitate establishment of a course in community health nursing administration at the College of Allied Health Sciences (CAHS).

Key Other Donor Activities

- AIDAB will provide technical support to strengthen the curriculum development and teaching skills of the CAHS faculty.

f. Health Financing

Major Constraints

- lack of sufficient information to assess efficiency in allocation of resources internally within the health system;

- lack of sufficient data on alternative means of financing health services;

- lack of sufficient data and policy on financing of church run health facilities.

Project Activities Directed at Improving (Financial) Institutional Viability

- one or more of the following studies will be undertaken: (a) the allocation of existing resources for support of maternal and child health services; (b) the financing of church health services by the government; and (c) alternative for collecting revenue for rural health services.

Key Other Donor Activities

- The Asian Development Bank will conduct a study (from June-September 1989) to assess financing for health sector activities, costs of hospital services, and non-government sources of financing health services. The final decisions on which financial studies to fund under this project will consider findings of the ADB study.

4. Activities to Achieve Targets - Phase II

a. Oral Rehydration Therapy (ORT)

Project Activities Directed at Improving Technical Viability

- pilot intervention instructing mothers in the preparation of food-based ORS that was tested and developed by IMR under Phase I;

Project Activities Directed at Improving Institutional Viability

- development of communication strategies, materials, and accompanying training materials based on Phase I analyses of factors inhibiting use of ORS.

b. Nutrition Training and Assessment

Project Activities Directed at Improving Technical Viability

- nutrition training course refined based on feedback from Phase I course participants and second course held for an additional 12 provincial and regional nutritionists.

Project Activities Directed at Improving Institutional Viability

- development of education materials to promote better weaning practices.

c. Reproductive Health Education and Village Midwifery

Project Activities Directed at Improving Technical Viability

- conduct national workshop to coordinate and share information and lessons learned from trained birth attendant activities;

- pilot training course for village birth attendants.

Project Activities Directed at Improving Institutional Viability

- design a training course for village birth attendants

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incorporating information from Phase I activities (e.g., workshop, child birth practices survey, village education).

d. Improving Aid Post Management of Common Illnesses

Major Constraints

- skills of most aid post orderlies (APOs) are outdated in terms of addressing many illnesses that are common today among children and mothers.

Project Activities Directed at Improving Institutional Viability

- train trainers of APOs in the following: (a) diagnostic skills regarding mild, moderate, and severe pneumonia; (b) penicillin and chloroquine existence and referral protocols; and (c) the use and construction of the height stick for determining proper drug dosage (include development of a pamphlet in Pidgin, Motu, and English which explains the construction and use of the height stick).

e. Social Problems in Communities and Health Services

Major Constraints

- health services are disrupted by violent acts against health workers and vandalism of health facilities;

- the concept that the community needs to mobilize its own resources to improve health care has met with mixed success, particularly where voluntarism has been promoted.

Project Activities Directed at Improving Institutional Viability

- special study to examine community reaction and perceived relationship to health services delivery including (a) examination and assessment of church-run health facilities and outreach programs; and (b) investigation and evaluation of MCH/CS health projects or their analogues in various parts of the country to document the history of the projects' development, and key factors leading to success or failure.

f. Operations Research Projects to Address Critical Aspects of Maternal and Child Health Services

Major Constraints

- a dearth of information and know-how regarding key areas of maternal and child health such as ante-natal care, maternal anemia, maternal malnutrition, mobilization of community for child and maternal health care, and clinical procedures related to child and maternal health services.

Project Activities Directed at Improving Technical Viability

- studies and pilot interventions will be conducted in at least 8 of the following areas: (a) screening and referral policies for high risk pregnancies; (b) development and use of action oriented antenatal record cards; (c) an appropriate way of screening for maternal anemia in busy village clinics; (d) an appropriate way of screening for maternal undernutrition in MCH clinics; (e) a cost effective approach to the management of maternal anemia in village women; (f) ways to improve the management of maternal anemia in village women; (g) ways to improve the management of MCH clinics so that more time is available for counselling of high risk families; (h) inclusion of quality of care indices in MCH reporting system; (i) a simplified cervicograph form for use in health centers and sub-centers; (j) strategies for mobilizing community members for maternal and child health care; and (k) supervisory checklists for maternal and child health services and facilities.

Key Other Donor Activities

- several other donors are working in areas that are complementary to these studies. (See annex for full description of other donor activities).

g. Preparation of Training Modules and Training of RSU Family Health Assistants

Major Constraint

- lack of technical skills in MCH/CS at regional and provincial levels.

Project Activities to Improve Technical Viability

- in-service training for provincial officers in MCH/CS areas delivered by RSU Family Health Advisors.

Project Activities Designed to Improve Institutional Viability

- advisory services to institute training modules on MCH/CS strategies, design workshops and develop teaching plans e.g., for nutrition surveillance and counselling, nutrition education materials for educating families on improved weaning diets, construction and use of the height stick for estimating drug dose, use of the family health information system for evaluating and planning family health services at district or health center level, antenatal care including screening and referral of high risk pregnancies, management of malaria, anemia, undernutrition and other complications of pregnancy, management of labor including the use of the cervicograph, management of common complications of labor and the puerperium, organization and management of static and mobile MCH clinics, and mobilization of community resources for maternal and child health care.

Key Other Donor Activities

- WHO is providing the following support: (a) the regional epidemiologist to develop a training manual on ARI; and (b) manpower and management studies, training fellowships, and support to national training institutions which provide post-graduate training in health and community development.

h. Preparation of Training Modules and Training of RSU Management and Planning Assistant Secretaries.

Major Constraint

- lack of management and administrative skills at the regional and provincial levels.

Project Activities to Improve Technical Viability

- in-service training for provincial officers in program and financial management, including logistics management and data analysis for planning.

Project Activities to Improve the Institutional Viability

- develop training modules and materials on program and financial management;

- design workshop to develop teaching plans for management;

- technical assistance to advise RSU Management Advisors in conducting training.

Key Other Donor Activities

- WHO is providing long term technical assistance in EPI/CDD to strengthen development of action plans at the national and provincial levels, training of provincial and district health personnel in management and supervision skills, and in purchasing of cold chain equipment.

i. Implementation of the Regional Support Units (RSUs)

Project Activities to Improve Institutional Viability

- advisory services to the RSU will continue under Phase II to guide the development of the units, organize the units' activities, and facilitate communication with the provinces;
- the RSU Task Force will meet quarterly to review activities, agree on broad parameters for the next quarter's activities and ensure sharing of information among regions;
- the Project Coordinating Committee will guide special studies and ensure that results are disseminated and utilized.

Project Activities Directed at Improving Technical Viability

- RSUs will conduct or coordinate several activities designed to generate information, models, and materials needed to carry out the units' support functions to the provinces. The results and lessons learned from these activities will be organized and incorporated into in-service training and other activities to strengthen the package of services offered by the RSUs.

D. Project Outputs and Linkage to Objectives

The relationship between outputs and project objectives is an important one. The validity of the project rests on the goal to purpose linkage, i.e., improvements in delivery for MCH/CS health services will contribute to reductions in maternal and child mortality. This relationship should hold as long as the delivery system suffers from inefficiencies and ineffectiveness so that it lends itself to improvement (See Technical Analysis). The outputs are the indicators that the delivery system has improved, i.e., proof that the purpose of the project was achieved. For example, if at the beginning of the project only 34% of all health centers or sub-centers are providing vaccinations and by the end of the

project this proportion has risen to 50%, the output is objective evidence of improvement in service deliveries; and to the extent this and other project improvements reasonably can be calculated to contribute to saving lives of children under 5 and mothers, the output to purpose and goal linkage is verified, all other assumptions holding. The following briefly describes the outputs (in terms of the objectives they serve) needed to effect the purpose to goal linkage. Annex D2 includes a detailed listing of outputs and their timing, and should be read in conjunction with the description of project activities for a complete understanding of the logical progress from inputs to outputs to purpose and goal achievement.

1. Outputs to Improve Technical Viability

a. Improved technologies and approaches to planning, management and delivery of child survival and maternal health care which will promote the viability of service delivery through increase in program efficiency and effectiveness.

b. Trained health service providers capable of delivering effective and efficient maternal and child survival services.

c. Improved approaches to mobilizing communities to support and participate in their health care.

2. Outputs to Improve Institutional Viability

a. Institutional mechanisms created or strengthened at the national, regional and provincial levels which promote and sustain viability in service delivery.

b. Village level mechanism for improving maternal health services delivery.

c. Increased efficiency in the effective delivery of child and maternal survival health services.

E. Project Inputs

1. A.I.D.

A.I.D.'s inputs to the project include long-term and short-term technical assistance, off-shore and in country training, a limited amount of commodities, minor renovations, and costs for research, and monitoring and evaluations.

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a. Technical Assistance Contract

A.I.D.'s major input to the project will be in the form of technical assistance. Detailed scopes of work for the technical assistance are included in Annex O. The technical assistance contract includes 17 person years of long-term technical assistance, 12 person months of short-term technical assistance, 12 person-years of administrative and secretarial support.

Health Management Advisor (6 years)

The Health Management Advisor will serve as Chief-of-Party for the technical assistance contractor. The Advisor will help the Department of Health and provincial health offices implement and coordinate MCH/CS activities during the life of the project. Specifically, the advisor will provide assistance in the following areas: (a) advise Family Health Services Division in the Department of Health on how to institute procedures in planning and managing of the Department's support to the provinces, particularly EPI, communicable disease, acute respiratory infection management, and maternal care, (b) advise on the coordination and organization of resources to make the regional support units operational; and (c) help guide the research and training activities of the project.

Maternal Child Health Specialist (MCH) (6 years)

The MCH Specialist will be the principal advisor to the Department of Health on all project activities dealing with MCH/CS. Major areas of focus are the following: (a) advise on the design of MCH Clinical protocols; and (b) advise on the development and content for the formal instruction of PNG health professionals in the MCH area and in-service training of all health workers, particularly for front line workers (i.e., CHWs and APOs).

Logistics Advisor (2 years)

The Logistics Advisor will inventory systems needs and resources in supply management (focussing on cold chain capability) and assist the DOH in formulating and implementing required changes in the management of materials needed to support services delivery at more than 500 rural health centers and over 2,000 aid posts.

Community Health Nursing Advisor/MCH Trainer (3 years)

The Community Health Advisor will advise the College of Allied Health Sciences on the establishment of a course to provide

provincial nurses with skills needed to plan and conduct effective MCH/CS programs in rural PNG. The specialist's principal responsibilities will include advising on curriculum development, course content, pedagogical methods, and assistance in teaching.

Short-term Technical Assistance (1 year)

Short-term technical assistance will be used to support the long-term experts, particularly in relatively specialized areas of MCH/CS and management and planning. It is anticipated that short-term assistance may be needed in the following areas: (a) applications of health information system for program planning, financial management, budgetary analysis, medical equipment and supplies, development of laboratory facilities for MCH diagnostic and referral support, and health education.

Contract Administration and Support (12 years)

The technical assistance contractor will be responsible for providing advisors, coordinating all short-term technical assistance, research, training and administering the activities carried out in conjunction with the A.I.D. centrally funded projects. Given this workload, funding is included for six years each for a locally hired administrative assistant and a secretary to work for the contractor.

b. Training

The project will finance three participants for long-term training in the U.S. One participant will undertake a one-year course in the development of an MCH training program for nursing administration. Upon return to PNG, this participant will serve as the instructor for the MCH Nursing Course at the College of Allied Sciences. On-the-job training will continue for 2 years through the advice of the contracted Community Health Nursing Advisor. The two other U.S. trainees will complete a master's in public health. Short-term U.S. training funded by A.I.D. will consist of courses in nursing administration for the community health nursing advisor for each of the four RSUs. At least one-third of these training opportunities are targeted for women.

A.I.D. will also fund costs associated with in-country workshops and in-service training (i.e., airfare, per diem, short term technical assistance, printing costs, etc.). Over the life of the project, about 168 individuals will receive direct, organized in-country training and about 179 will attend various workshops; at least 20% should be women.

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c. Commodities and Renovations/Maintenance for RSUs

The project will finance four vehicles (one each for the four RSUs), microcomputers (one for each RSU), office equipment for RSUs and the project contractor and renovations of RSU buildings.

d. Special Studies and Evaluations

The project will finance special studies. In addition, two external evaluations, one at mid-term and one at the completion of the project will be funded.

e. A.I.D. Coordination of Project (9 Years)

The A.I.D. staff in PNG consists of one A.I.D. direct hire and local support staff. Health activities are backstopped from Suva. Current A.I.D. direct hire staff are working at full capacity, so that the additional work created by this project will be met through a personal services contract. This will include a full time generalist personal services contractor hired locally (6 years) and half time services of a health personal services contractor on the Suva staff (3 years). This support is required to serve as liaison with the institutional contractor, ensure that A.I.D. requirements are met, liaison with the DOH, and participate in the Coordinating Committee when necessary.

2. Inputs from Other Donors and Other A.I.D. Projects

A.I.D.'s inputs for this project are designed to supplement and complement inputs available to PNG from other donors and other A.I.D. projects. A key consideration during the design was the avoidance of waste and duplication of effort. Consequently, the inputs of other donors and A.I.D. projects are important elements in the overall program which this project supports. As mentioned above, the project anticipates that an informal donor coordination group will be established for child survival activities in PNG. Good relationships already exist between A.I.D. and other donors in health; all of the major health donors consulted during the design of the project supported the idea of the coordination mechanism.

Annex N details inputs from other donors. The United Nations agencies are the most active donors for child survival project activities. UNICEF is providing assistance in EPI, ORT, disease control with extra support for MCH, nutrition/food production and midwife training in the Southern Highlands Province and the Kila Kila Community in the national capital district. UNICEF is willing to provide solar refrigerators to address the cold chain

problem. UNICEF is expecting to increase its annual program funding for PNG (from about \$400,000 in 1988 to almost \$900,000 in 1989).

UNFPA will provide \$183,444 in 1989 to train 3 nurse-midwives. By 1992, 4 additional nurse-midwives will be trained and placed.

Between 1988-89, WHO is committed to providing \$1.4 million to support health systems development, research and development on community participation in health care, health manpower and management studies, and assistance to public information and health education. In addition, during 1988-1989, WHO will provide \$249,500 to support specific nutrition training, technical assistance in EPI and disease control, and support to address acute respiratory infections (ARI). WHO's current level of funding is expected to continue for the 1990-91 period.

The Asian Development Bank (ADB) will provide more than \$14.9 million between 1986-89 to support capital development of hospitals, health centers and sub-centers, staff housing, radios, in-service training, water-systems and demonstration latrines, and enlargement of the village midwife program in the South Highlands province. The program also includes technical assistance in manpower planning, and curriculum development. In addition to the village midwifery program, of particular interest to this project is a health sector financing study the ADB will complete by summer of 1989. The results of this study, if appropriate, may be used to determine the design of health financing activities under the present project.

The Australian International Development Assistance Bureau (AIDAB) is expected to provide about \$20.9 million in grants to the health sector over the next five years. About \$1.6 million of these funds will support management improvement at the provincial level and at about \$250,000 will be used for nutrition planning. The remainder will support programs of the College of Allied Health Sciences, urban health, pathology services and cancer/tumors prevention and treatment.

Between 1988 and 1990, Japan is expected to provide about \$44.5 million in grant aid to support hospital development (\$40 million) malaria vector control (\$1.5 million) and medical equipment (\$3.0 million).

The U.S. Peace Corps plans to provide approximately 6 volunteers per year for 4 years to implement this project. The volunteers will assist with the implementation of the nutrition education and training, community mobilization development and

dissemination of health education materials, and the trained birth attendant program. The value of the Peace Corps contribution is approximately \$600,000.

Several other A.I.D. projects will either contribute to the implementation of this project or support complementary activities. Currently a 2 year program of technical assistance, training, and material support is being provided through Healthcom (No.879-0249). The objective of this assistance is to promote the integration of systematic communication, planning, design and evaluation into health education. Mass media and face-to-face interventions will be developed to obtain more widespread adoption of behaviors (especially with regard to diarrheal disease and nutrition) that lead to decreases in child mortality. Currently, HEALTHCOM focusses on the central province and will add one additional province in the future. The project plans are to "buy into" HEALTHCOM, to promote health education efforts, particularly for reproductive services, nutrition, and ARI. Materials development and dissemination as well as innovative methods of communicating will be included as project activities.

A.I.D. provides funds to the South Pacific Alliance for Family Health (SPAFH), Project No. 879-0019. SPAFH is an organization of islanders that provides input to policy and training in family planning for countries in the region. Between FY1989 and FY1993, A.I.D. plans to provide \$2.2 million to SPAFH. The A.I.D. funds will help SPAFH to provide a full range of family planning and reproductive services.

An A.I.D. grant of \$7-8 million has been made to the PNG Institute of Research to test malaria vaccines. The results of this research will be incorporated into activities under the present project.

A.I.D. provides funds to MEDEX to coordinate with ADB in supporting the National Training Support Unit (NTSU) to modify curricula for education of community health workers (CHWs) in PNG.

3. Government of Papua New Guinea's Contributions to the Project

The GPNG's contributions to the project will be in the form of salaries, support to in-country training for community health nurses, vehicle maintenance and fuel, travel and subsistence, building and equipment, utilities and materials. The total estimated contribution is \$4.6 million or about 33% of total estimated project cost of \$14.0 million, (exclusive of Peace Corps contribution).

III. COST ESTIMATE AND FINANCIAL PLAN

The total estimated cost of the Project is \$14.0. Of this amount, the estimated A.I.D. contribution is \$9.4 million and the GPNG contribution is \$4.6 million. In addition, the U.S. Peace Corps will provide volunteers at an estimated value of \$600,000.

A. A.I.D. Contribution:

Technical Assistance: The cost of expatriate long-term advisors is estimated at \$250,000 per year per person. This includes salary, overhead, fee, the usual reimbursable expenses, allowances, as well as business travel within PNG. The short-term TA is budgeted at \$15,000/month, also all inclusive. The administrative/operating costs include two local staff people hired by the contractor (\$300,000); office equipment for the contractor's use such as PCs, printers, photocopy machine, FAX, typewriters (\$50,000); office supplies and communications (\$60,000).

Training: A.I.D. will finance off-shore and in-country training as follows:

1. One participant to take a nine-month training course in the U.S. in curriculum development for nursing administration at a total cost of \$25,000.

2. Two participants to take a one-year M.S. degree in public health program at a U.S. university at a cost of \$25,000 for each.

3. Four RSU community health nursing advisors to take short-term training in the U.S. at a cost of \$10,000 per participant.

4. An estimated 179 individuals to attend various project-sponsored workshops in PNG and 168 to attend in-country training courses in management, maternal child health and other subjects. About 16 training modules will be prepared for use in informal training activities. Total cost of these efforts will be about \$865,000.

Commodities and Renovations: A.I.D. will finance a limited amount of commodities for the four RSUs: one vehicle, FAX, and micro computer or PC for each RSU (\$100,000) plus some typewriters or other office machinery as needed (\$50,000). No consumable office supplies or equipment operating/maintenance costs will be financed by A.I.D. The renovation of the office facilities of the four REUs will also be A.I.D. financed

(\$100,000). These estimates were based on a review of the facilities and information obtained from local sources about renovation costs.

Special Studies: Over the life of the project about five special studies will be financed by A.I.D. at an estimated cost of \$250,000. Details are in Annex J.

Evaluations: The two external evaluations will be made at an estimated cost of \$100,000 each.

Audits: Primary responsibility for audits of A.I.D.-financed projects lies with the Regional Inspector General for Audit (RIG/A). However, an external auditing firm may be contracted for the purpose. In the event external audit services are used, \$50,000 has been budgeted for non-Federal audit services for the mid-point and final audit reviews. These reviews should cover the financial and compliance aspects of the project.

Method of Implementation and Financing: The following chart summarizes the methods of implementation and financing to be used for A.I.D.-financed inputs. Once funds are obligated under the project, earmarking, contracting, commitment and disbursement will follow depending on the project's pace of activity. The flow of A.I.D. funds, both local and foreign currency, will be subject to standard rules and regulations. Since probably all project inputs will be provided by one contractor (evaluations, audits and project coordination will be by other contracts), A.I.D. will reimburse that contractor monthly using standard procedures for costs of TA, training, commodity, sub-contracts, etc.

The imported commodities to be provided by the project to the four RSUs will result in some recurring cost obligations to the GPNG. However, given the limited amount of commodities to be provided, these recurring costs can be provided through the regular GPNG budgetary process without being a major financial burden.

B. GPNG Contributions:

The Government of Papua New Guinea will contribute about \$4.6 million in kind to cover GPNG operating costs related to the project, in-service training, construction and some renovation. This estimate does not include in-kind contributions for institutional support for the technical assistance team, such as office space to be provided by the Department of Health. (See Annex J).

C. Peace Corps Contributions

The estimated value of the U.S. Peace Corps contributions is \$400,000 for 24 person years of volunteers.

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**PNG Child Survival Project
Table 1**

**Summary Cost Estimate
(U.S. \$000)**

Source	<u>AID</u>		Total	<u>GPNG</u>	<u>Project Total</u>
	FX	LC		LC	
<u>Technical Assistance</u>					
Long-term (17 P/Y)	3,400	850	4,250	-	4,250
Short-term (12 P/M)	140	40	180	-	180
Adm/Operat. Costs	50	360	410	-	410
	<hr/>	<hr/>	<hr/>		<hr/>
Sub-total	3,590	1,250	4,840	-	4,840
<u>Training</u>					
U.S.	115	-	115	-	115
In-country	400	465	865	545	1,410
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Sub-total	515	465	980	545	1,525
Special Studies	200	50	250	-	250
Commodities for RSU	150	-	150	-	150
Renovations	-	100	100	550	650
Project Coordination	450	450	900	-	900
Project Operations ¹	-	-	-	2,725	2,725
Evaluations & Audits	250	-	250	-	250
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Sub-total	9,155	2,315	7,470	3,820	11,290
Contingency	510	230	740	-	740
Inflation	805	385	1,190	780	1,970
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Grand Total	6,470	2,930	9,400	4,600	14,000

¹ See Annex J for list of GPNG contributions.

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<u>Method of Implementation</u>	<u>Method of Financing</u>	<u>Estimated Amount (\$000)</u>
Technical Assistance A.I.D. Direct Contract*	A.I.D. Letter of Commitment	4,840
Training*	A.I.D. Letter of Commitment	980
Special Studies*	A.I.D. Letter of Commitment	250
Commodities*	A.I.D. Letter of Commitment	150
Renovation*	A.I.D. Letter of Commitment	100
Project Coordination Two PSCs	Direct Pay	900
Evaluations and Audits A.I.D. Direct Contract [8(a)]	Direct Pay	250
Inflation		1,190
Contingency		740
		<hr/> 9,400

*All under same A.I.D. direct contract.

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IV. IMPLEMENTATION PLAN

A. How Project Is To Be Implemented:

A.I.D. funds will be obligated by a bilateral project agreement to be signed with the GPNG. Almost all project inputs will be provided through one A.I.D. direct contract with a U.S. organization. With the exception of two small contracts, all funds will be disbursed through an A.I.D. direct letter of commitment to the prime contractor. The contractor will be based in Port Moresby with frequent travels throughout the country. The GPNG counterparts will be from the Department of Health and from the four REU/RSUs.

All the contracts will be direct A.I.D. contracts. Host country contracting is not feasible in PNG since the government has had no experience with A.I.D. contracting and the A.I.D. procurement rules. Also the DOH does not have the staff resources to train or assign to contract management.

1. Coordination:

A Coordinating Committee will be established to guide project implementation. The Committee will consist of the contract Chief-of-Party, the DOH counterpart, and the A.I.D. project officer. In addition to providing overall guidance, the committee will be responsible for research selection, review, dissemination and utilization. Another key role to be played by the committee is review of quarterly progress reports and assessment of progress annually.

The Committee will work closely with the provincial officials to promote project implementation. The Regional Task Force, comprised of all provincial assistant secretaries of health, will provide a mechanism for the Coordinating Committee to communicate with the provincial officials and for provincial officials to participate in decisions on the operation of the RSUs. The Coordinating Committee should review progress reports with the Task Force.

2. Technical Assistance Contractor:

The prime contract will be awarded on an open, competitive basis. Proposals from eligible U.S. organizations such as private firms, non-profit organizations, universities or joint ventures of such entities will be solicited through a notice in the Commerce Business Daily. The target date for the arrival of the chief of party is February, 1990. The services of the A.I.D. Regional Contracts Officer in Manila will be used for this contracting action.

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The prime contractor will provide all long and short term technical assistance (most or all of which would be from the United States); arrange all long and short term training in the United States; design and carry out or work with the DOH in conducting all in-country training and workshops including preparation of special training modules; conduct all in-country special studies either with own staff or through sub-contracts with local organizations; arrange for all commodity procurement with own staff or through a sub-contract with a procurement service agent; and supervise and pay for all renovations of the RSUs offices.

The technical assistance contractor will be headed by a Chief-of-Party (COP) who will be the principal individual working with a DOH counterpart. (See Annex O for Scopes of Work). It is expected that the Assistant Secretary for Family Health Services in the DOH will serve as the counterpart for the COP. The two will be principally responsible for ensuring project implementation. The contractor will advise the counterpart on the implementation of the project.

The contractor will follow the rules of A.I.D. Handbook 10 for overseas training; Handbook 14 for sub-contracting; and Handbook 15 for commodity procurement.

The COP and all long and short term advisors will work out of offices to be provided by the DOH within its main building. However, the contractor will buy with project funds all office equipment and supplies needed to carry out the work. Local travel around Port Moresby will be by DOH vehicles, taxis or personal vehicles. If the latter two, costs will be paid with contract funds. Travel to the provinces will be on commercial airlines while travel within the provinces will be by local health office vehicles or rented cars. The contractor will hire two local people for its administrative staff.

The contractor, along with the RDO/SP's PSC, will coordinate or administer any A.I.D. central or regional projects related to this project.

3. Personal Services Contractors:

RDO/SP will use two personal services contractors to carry out the day-to-day coordination and supervision of the contractor and other entities involved with project implementation. One PNG national, to be recruited and hired by RDO/SP, will be based in Port Moresby in the RDO/SP/PNG office. One American PSC, who is either already on the RDO/SP staff or will be recruited through the usual procedures, will be based in the RDO/SP office in Suva.

The American PSC's involvement with this project will include technical guidance to the contractor, coordination of other A.I.D. financed activities (central or regional), and general monitoring of project implementation. One half time of the American PSC will be devoted to and charged to this project. The other half of his time and costs will be for other health, and population projects.

4. Evaluations:

The two formal evaluations will be made by U.S. firms with indefinite quantities contracts, preferably 8(a) firms. If possible the same firm will be used for both evaluations to ensure continuity. The contractor and GPNG would participate fully in the evaluations.

5. Peace Corps Involvement:

The U.S. Peace Corps plans to provide at least six volunteers to help implement the project, starting in 1992. The volunteers would assist in the surveys, community education and mobilization activities, and management strengthening efforts. The regular costs of the volunteers would not be financed by the project. The relationship of the volunteers to the contractor will be worked out at the appropriate time. Annex N is a letter of intent from the Peace Corps.

B. Role of A.I.D.:

The A.I.D. mission in Suva, Fiji is responsible for managing the South Pacific Program. In 1988, A.I.D. adopted a new strategy for program countries in the region that includes the implementation of comprehensive development activities. The strategy requires organizational changes and an increase in the level of A.I.D. resources in the region.

One staff member from Suva was transferred to Port Moresby in November, 1988 to provide overall management of activities. Technical backstopping for health activities in PNG is performed by the Health, Population and Nutrition Office in Suva. Given the nature of activities and responsibilities of A.I.D. under this project, a locally hired project liaison officer PSC in PNG is required to assist the A.I.D. Suva and PNG staff. The Suva project officer will be a personal service contractor (PSC) devoting one-half of his/her time to this project. Working with both the A.I.D. PNG and Suva offices, this contractor will be primarily responsible for ensuring that all A.I.D. procedures and regulations are followed.

Examples of A.I.D. responsibilities are as follows:

1. Coordinate assistance from other U.S. (e.g., Peace Corps) and A.I.D. resources required for the implementation of the project.

2. Select and contract for technical assistance to be provided under the project.

3. Assist in the selection of participant trainees, in the review of scopes of work for operations research and other studies, and in the development of in-country training courses and materials funded under the project.

4. Provide support to the contractor's long-term technical assistance team, in accordance with the terms of the contract and A.I.D. policies and regulations. The PNG PSC will serve as the primary contact point for the Chief-of-Party and will be responsible for obtaining decisions on contract and project matters. The PSC will work closely with the contractor on the development and implementation of annual work plans and the monitoring of the contractor's responsibilities under the project.

5. Participate in regular meetings of the Project Coordinating Committee, through which project progress will be reviewed by A.I.D. and PNG, and other donor efforts to improve MCH/CS delivery of health services.

6. Monitor compliance with conditions and covenants of the Project Agreement, and process any approvals required by A.I.D. regulations.

7. Participate in other managerial, implementation and monitoring activities of the project as necessary to achieve project objectives.

C. Role of Government of Papua New Guinea (GPNG):

The Institutional Analysis (Annex F) provides a detailed discussion of the GPNG institutions involved in project implementation and assesses their capabilities to carry out assigned roles. The Department of Health (DOH) is the implementing agency for the project. However, the provincial health offices are key actors in project implementation. An important component of the project is concerned with strengthening and expanding the REUs so that they can increase their support to the provinces. The extent to which the regional units are effective in this role will depend in large part on utilization of

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the units by the provinces. The Regional Task Force discussed above is designed to facilitate communication between the provinces and regional units.

The DOH will be responsible for coordinating several actions key to project success. Examples include designation of counterparts, arrangements for office space, designation of positions in the RSUs, selection of trainees, selection and preparation of office space and housing for RSUs, and procedural requirements for re-establishing the Community Health Nursing Course at the College of Allied Sciences. Early during project implementation, the DOH in conjunction with the contractor will develop a workplan for project actions. This plan will be maintained throughout implementation and serve as an integral part of quarterly and annual reviews.

The DOH will assign counterparts at the national and regional levels and within the College of Allied Health Sciences.

D. Implementation Schedule:

The project takes a two phased approach. Phase I ends in 1992. There are key activities which must be completed during Phase I or within a few months of its completion. These include: (a) certain studies that produce baseline and basic information for pilot interventions, training courses, training modules, and community mobilization strategies; (b) overseas training; (c) re-establishment of course for MCH nurses on nursing administration; and (d) staff organization and arrangement for office space and housing for the RSUs. A full term work schedule plan will be developed early in implementation.

The following is a proposed implementation schedule covering the first 18 months after project obligation.

PROJECT IMPLEMENTATION SCHEDULE

<u>Action</u>	<u>Completion Date</u>	<u>Responsible Party</u>
1. Project Agreement Signed	August 1989	RDO/SP/Suva - DIR & GPNG
2. PIO/T issued providing funds and SOW for TA Contractor	August 1989	RDO/SP/Suva - PDO and HPN
3. PIO/T issued providing funds and SOW for RDO/SP/PNG and for RDO/SP/Suva PSCs	August 1989	RDO/SP/Suva - PDO and HPN
4. Release of CBD Announcement inviting Request for Proposals; issue RFP for TA Contractor. Pre-proposal conference in PNG closing date for submission in Suva.	September/October/ November 1989	RDO/SP/Suva - PDO and HPN Contracts Officer Manila; RDO/SP/Suva
5. Contracts Selection Committee meets in PNG to begin technical evaluation of proposals and selection of prime TA.	November 27, 1989	RDO/SP/ and GPNG;
6. Negotiations with successful TA firm completed and contract executed.	December 1989	RDO/SP Contract Office
7. Negotiations completed with two PSCs, one each for contract positions RDO/SP/PNG, and RDO/SP/Suva.	December 1989	RDO/SP Contract Office

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8. PSCs for RDO/SP/PNG and for RDO/SP Suva. Commence work.
9. COP for TA team arrives in PNG; meets with GPNG counterpart and other Department of Health officials.
10. TA COP and PSC in RDO/SP/PNG office have familiarization tour of 2 or 3 regions, to visit REUs and provincial authorities
11. Project Coordinating Committee established, terms of reference agreed upon.
12. COP develops an 18 month work plan including a schedule for involving national and provincial offices in completing an RSU Implementation Plan for Coordinating Committee review and approval.
13. COP to develop a 2-3 day national workshop for Provincial ASHs and PHEOs to lay groundwork for their participations in RSU Implementation Plan.

Completion Date

Responsible Party

- | | |
|---------------|---|
| January 1990 | RDO/SP/HPN and RDO/SP/PNG;
RDO/SP/Suva. |
| February 1990 | RDO/SP/PNG and GPNG
Counterpart. |
| February 1990 | RDO/SP/Suva - HPN and
RDO/SP/PNG |
| March 1990 | RDO/SP/Suva - HPN, COP, and
GPNG Counterpart to COP. |
| April 1990 | COP, Coordinating Committee. |
| April 1990 | COP |

<u>Action</u>	<u>Completion Date</u>	<u>Responsible Party</u>
14. Logistics Advisor arrives PNG. Has orientation and introduction to PNG Project counterpart and other appropriate MOH officials.	May 1990	COP, RDO/SP/Suva HPN and RDO/SP/PNG.
15. Logistic Advisor to initiate and conduct systematic analysis of 6 area medical stores and sample service sites in 4 regions with the objective of designing an improved logistic management system.	May/June 1990	Logistics Advisor
16. National workshops conducted on Strengthening Regional Units Implementation Plan. Agenda to include update on status of project team in country, in-country training planned, studies underway and in planning stage.	May 1990	COP, PNG Counterpart AS's of Province, RDO/SP/Suva HPN; MOH; PNG officials.

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<u>Action</u>	<u>Completion Date</u>	<u>Responsible Party</u>
17. Maternal and Child Health Physician arrives in country; has orientation and introduction to PNG project counterpart and other appropriate DOH PNG officials.	June 1990	COP, PNG Counterparts RDO/SP/Suva - HPN and RDO/SP/PNG
18. COP begins to identify PNG suppliers who can provide TA for project special studies. Identifies start date schedules for at least 2 of them.	June 1990	COP
19. Two special studies on delivery CS/MCH services designed and local suppliers identified.	June/July 1990	TA/MCH; COP
20. Identification of candidates for long-term overseas PNG training 3 persons - 2 for MCH and 1 in Curriculum development for nursing administration.	June 1990	COP; GPNG Project Counterpart and RDO/SP/PNG
21. COP submits first quarterly progress report for review by Coordinating Committee.	July 1990	COP Coordinating Committee

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<u>Action</u>	<u>Completion Date</u>	<u>Responsible Party</u>
22. Logistics Advisor to review findings of analysis of 6 area medical stores and sample service sites with COP, PNG counterpart and the Project Coordinating Committee.	July 1990	Contract, DOH Counterparts Coordinating Committee
23. Logistics Advisor to develop (in coordination with COP) workplan to carry out his/her responsibilities over 24 month contract period including an improved logistics system.	July 1990	Logistics Advisor, COP
24. MCH physician develops an 18-24 month workplan in coordination with COP.	July 1990	MCH physician, COP
25. Community Health Nursing Advisor arrives in country. Has orientation, meets PNG counterpart and other appropriate officials.	July/August 1990	COP; PNG Project Counterpart RDO/SP/Suva - HPN

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Action

Completion Date

Responsible Party

- | | | |
|---|------------------|---|
| 26. Regional Task Force (already organized for REUs) develops work schedule to translate workshop recommendations into detailed RSU Implementation Plan. Technical support to the Task Forces to be given by COP and Logistics Advisor reporting to FAS, PHC and ASH for Family Health and Disease Control. | August 1990 | Regional Task Force and Project Coordinating Committee. |
| 27. Short term consultants (6-12 weeks each) arrive to provide advice as follows:

1. to MSP on curriculum design for budgeting (resources allocation techniques);

2. to Family Health Services and Education Divisions on in-service content/course design in MCH (8-12 weeks).

3. to study decision making criteria in DOF's allocation of funds (items 2-12) of provincial health budgets 6-8 weeks in year 1. | July/August 1990 | COP; PNG Project Counterpart |

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<u>on</u>	<u>Completion Date</u>	<u>Responsible Party</u>
28.	Initiate plans for inclusion to agenda item for the August annual meeting of ASHs for health on "Status Report on RSU".	July/August 1990 COP
29.	Initiation of 2 special studies.	August 1990 COP
30.	Initiation of in-service courses in the regions with course content developed by LT TA.	August 1990 COP
31.	Annual ASHs meeting. Prepare for distribution at meeting: "Status Report on RSUs", include Interim Staff of Task Force's Detailed Implementation Plan on "RSU Strengthening". Participate in meeting on this agenda item to meet with the ASHs and respond to inquiries.	August 1990 COP, Logistic Advisor, MCH RDO/SP/Suva - HPN; PNG Project Counterpart.
32.	Quarterly progress report submitted to Coordinating Committee for review.	October 1990 COP/Coordinating Committee.
33.	First Annual Progress review (emphasis on progress in implementing RSUs).	January 1990 Coordinating Committee USAID/PNG, USAID/Suva Contractor.

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V. PROJECT MONITORING AND EVALUATION

A. Monitoring:

A.I.D. project monitoring will be facilitated through field trips, quarterly reports and annual progress reviews that track program and administrative performance. As a basis for these, the contractor will develop annual workplans consistent with the implementation schedule.

The contractor will submit the quarterly progress reports to the Coordinating Committee for review. The A.I.D. project officer and contractor will develop the format for these reports. It should be a simple format, which, in addition to information on project activities and finances, directed at questions such as the following:

1. Is the project exceeding budgeted costs?
2. Is the project departing from schedule? If so, recommend remedial actions.
3. What are the foreseeable bottlenecks? What has been learned about addressing such problems?
4. What new actions need to be taken? What are the next steps?

The quarterly progress report for the fourth quarter of each year will serve as the basis for the annual progress review. This review will involve the Coordinating Committee plus other non-project individuals designated by A.I.D. and the DOH.

The project's special studies and pilot interventions will play an important role in program monitoring in that they will produce certain baseline data and progress indicators.

The studies will be reviewed by the Coordinating Committee to ensure that relevant findings are incorporated into implementation decisions, quarterly reports, and annual reviews. These studies will provide key indicators of movement toward project objectives.

B. Evaluation:

Two external evaluations will be conducted during the implementation of the project, i.e., a mid-term and a final evaluation. These evaluations will assess progress towards project objectives, validity of key project assumptions, and the

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availability, installation, utilization of inputs and production of outputs. A detailed evaluation plan will be developed by the COP and reviewed by the project's Coordinating Committee.

The mid-term evaluation will be conducted upon completion of Phase I in 1992. Little project impact will have resulted by that time, but there should be some indication of progress or the direction of the project in meeting EOPS. The mid-term evaluation will identify such indicators. However, the main thrust of the evaluation should be directed at assessing whether Phase I outputs indicated in the Detailed Analysis of Outputs, Annex D. 2 have been produced.

The final evaluation will assess whether end of project status targets and output targets have been achieved. Annex D also includes output targets for Phase II.

VI. SUMMARY ANALYSES

A. Summary of Technical Analysis:

Both the April 1988 A.I.D. Health Sector Assessment in PNG and the rapid assessment carried out in February 1989 reviewed national data sources which confirmed the vulnerable status of the health of children under 5 years old and women in reproductive age. PNG's maternal mortality rate of 10 deaths per 1000 live births, even compared with the poorest Asian and African countries, is considered to be among the highest in the world. Mortality rates in children under one are likewise dramatic, ranging from PNG's official figure of an Infant Mortality Rate (IMR) of 72 deaths per 1000 births to as high as 130 deaths/1,000 births, estimated by the A.I.D. health sector assessment team. Contributing to the IMR picture is the incidence of low birth weight associated with 25 percent of all infant deaths in PNG.

The number of infant deaths due to the synergism of pneumonia, measles and whooping cough would be lower if vaccination levels for these preventable diseases could be raised above the 1988 recorded vaccination coverage levels of 39 percent for measles and for the third dose of DPT for children less than 1 year old. Substantial evidence exists of under reporting of vaccinations, as much as 40-50 percent in several provinces. Diarrheal diseases contribute to childhood mortality and morbidity but their incidence is not fully recorded at health centers and aid posts. It is reported that mothers do not generally make use of provincial health services when diarrhea occurs in children, often relying upon indigenous remedies or home made sugar water. The demand for ORS packets at health facilities is therefore small, and current levels of ORS supply from UNICEF are providing coverage of less than 1 packet per year for each PNG child under 5 years old. With better ORT education for health workers and mothers, and fitting the mechanics of ORT preparation with containers commonly available in PNG households, demand and effective use of ORS packets is expected to increase. UNICEF is prepared to double the supply of ORS packets per year beginning in 1990.

As one of the world's newest nations, PNG is as yet unfamiliar with many aspects of public services administration. The decentralization of responsibility for the delivery of health services resulted in authority being transferred from the National Department six years ago and the transfer of such responsibility to the 19 provincial health departments. The provinces continue to require technical support in order to delivery child survival services effectively. The National DOH has not been effective in reaching out to provide the required technical assistance and

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guidance required. The provinces' performance level in delivering health services is one of low productivity. This is due to insufficient training and supervision of health workers, inadequate preparation of staff for management tasks (few provincial Assistant Secretaries were given adequate management instruction), insufficient travel funds for rural outreach and supervision and underdeveloped support systems, e.g., for the effective distribution of vaccines. The proposed Child Survival project will set up a permanent mechanism in 4 Regions to train staff to manage scarce budget resources, to increase the frequency and the quality of supervision at service locations and improve the flow of needed supplies.

In 1984 National DOH attempted a partial response to the need to place technical support close to the provincial offices. Four Regional Epidemiology Units (REU) were created. The REUs have not been uniformly strong in adapting resources to strengthen family services delivery, although several are better known for disease control support. The national DOH intends to upgrade the level of technical expertise available to the provinces and make the focus of the support on child survival and maternal health care, particularly EPI, CDD and of the development of a long-term strategy for a program of reproductive health services for women. The REUs are to be redesignated Regional Support Units (RSU) with expanded functions and staff and will be established in 2 phases over a 6-year period. During the two year start-up phase, consensus by National DOH will be built with provincial officers on the scope of work, staff duty statements and detailed implementation plan for the RSUs. During that time, the project will require the preparation of formal training and in-service courses in key skill areas in the delivery of child survival and maternal care delivery as well as out-of-country advanced skills training for future RSU leaders. Long term technical assistance will support the project during this phase. Phase II begins with the staffing of the RSUs, adequately supported with office facilities, housing, equipment and travel funds. The development of multi-year work plans for the RSUs will gradually establish a permanent technical support capability.

During Phases I and II the technical capacity of the Provincial Health Offices and the RSUs will be strengthened by the presence of 4 long term advisors who will work with national and provincial counterparts for 2-6 years. A Health Management Advisor will assist the Family Health Services division to institute systematic procedures in planning and managing the DOH's support for the delivery of child survival and maternal care services in the provinces, especially EPI, CDD, ARI and safe motherhood components. She/he will help the DOH to guide the Phase I process during which provincial and national authorities

prepare for establishing the Regional Support Units and arrive at a consensus on the role and work plan for the RSUs. The advisor will help national resources to strengthen the formal training for health managers throughout PNG.

The MCH Advisor is to serve as a focal point at the DOH which centers attention on planning and implementing child survival and maternal care programs targeted at reducing the high death rate among mothers and children. The expert will assist with the design of MCH clinical protocols, and develop content for the formal instruction of PNG health professionals in the MCH area as well as in-service training for all levels of health workers, particularly courses intended for the front line workers, CHWs and APOs.

Over a 24 month period the Logistics Advisor will inventory systems needs and resources in supplies management, devoting primary attention to improving the DOH's cold chain capability. This advisor will assist the DOH in formulating and implementing required changes in the management of materials needed to support services delivery at more than 500 rural health centers and over 2,000 aid posts. A procedural manual and training course are to be designed for Area Medical Stores Supply Chiefs to improve efficiency in shipment of vaccines and pharmaceuticals nationwide.

The job of the Community Health Nursing Administration Advisor is to help the College of Allied Health Services revitalize a discontinued teaching program which provided provincial nurses with skills needed to plan and deliver effective nursing services at rural field services. From among the best graduates of the new course, the permanent Family Health Advisors will be chosen to staff that unit in the RSUs.

The project will address the need for training provincial health leaders in management and planning practices, notably helpful techniques for allocating financial resources effectively under budgetary constraints. In the main, national and expatriate advisors or private firms will design the instructional packages for skills building in the Family Services delivery and health services management areas.

In-service training will be conducted first on a regional basis in order to develop the capacity of key provincial staff as trainers. With trainers established in each province, the courses can be replicated for district level HEOs and Nursing Officers in health centers. When fully operational, each of the Regional Support Units will be a permanent resource for both maintaining continuous surveillance of health workers' training needs and the implementation of the training.

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To promote child survival technologies in a focussed way so as to draw the attention of health workers at many levels to using these service techniques, the project will commission pilot studies in the provinces. Consultants and/or PNG firms and institutes will employ applied research techniques to look at such topics as the training of village level midwives and the modification of protocols on drug dosage management for childhood illnesses. Results of the special studies will be disseminated and discussed by national as well as provincial health authorities in considering ways to extend the lessons learned to large service population and, as appropriate, for use in national health policy formulation.

B. Social Soundness and Role of Women:

Papua New Guinea, the second largest island in the world, is a colorful configuration of Melanesian and Polynesian peoples distributed among 700 indigenous language groups spread across a mainland and some 800 small islands and atolls. Most of the country consists of steep forest covered mountains, impenetrable rainforests, rivers and enormous tracts of swampland. Animal foods are scarce; pigs are raised for ceremonial use, secondarily for meat. Yams, taro and cassava are staples. The diet contains no cereal grain.

The extreme isolation occasioned by the topography inhibited any cross-clan group socialization, except warfare and arms-length cargo trading. Pacification during the colonial administration removed some restrictions on mobility around traditional settlements. Inter-area migration is a contributing factor to the increased incidence of communicable diseases nationwide. Dispersed family homesteads now develop in response to migration necessitated by crop production at different sites, pursuit of non-agricultural employment outside traditional areas, or to escape warfare, quarrels or the ever-present threat of sorcery. PNG society possesses an ethic of equalitarianism which advocates sorcery, sabotage, property destruction and sexual violence as level mechanisms.

Both literacy and numeracy have a time depth of only one generation for the majority of PNG's population. Only items of exchange, pigs or shells, were ever counted up to a maximum of 20. None of the nation's people knew of the wheel, the plough, writing systems or weapons more advanced than bows and arrows until the last century. The technology and skills of large group management which accompany relatively complex social organizations were never developed beyond a minimal level. The notion of multi-clan associations is less than one hundred years old. Despite the recency of capitalized systemized mainstream 20th century infrastructure, a small but growing number of native entrepreneurs and government managers is visible. However, since independence PNG continues to depend on expatriate managerial talent in both the public and private sector.

Leadership is hereditary only on certain islands; mostly the clan's elders, or "big men", mobilize community support. Government builds on this natural structure of decision-making by vesting leaders with civic duties. Ward Councillors, representing 10 villages, report to young educated men who form Local Government Councils. Health committees, formed to police hygiene in villages and protect aid posts, have a varied history and, except in a few instances, have been largely ineffective.

PNG society is dominated by men, first and last. Even where a small tradition of matrilineal societies exist, a woman's status is bargained by men for her brideprice. Males are favored in access to education, although data indicates that less than 2 percent of males entering first grade will complete 12 years of schooling. The school drop out rate for females is twice that of males.

Domestic violence is commonplace in PNG. Tribal clashes among warring clans continue to dominate public attention in the Highlands where it is motivated by land disputes and revenge. For as long as 2 months per year access to Highland villages can be interrupted by clan skirmishes.

A more pervasive law and order problem throughout the country is the incidence of vandalism, sexual harassment and, in its extreme forms, sexual assault. Gangs of young men (raskols), unemployed and disaffected from traditional values, are the main perpetrators. The police are generally ineffective in controlling the gradually escalating law and order breakdown. Wife beating, a culturally sanctioned behavior, is reported to be almost equally prevalent across income groups as well as in urban and rural settings.

Health facilities are not the only public services affected by the violence; it applies also to schools, churches and law enforcement offices. Female health workers are often vulnerable when traveling on mobile clinic patrols. The risk is a major obstacle for outreach to provide effective EPI coverage since female staff are inclined to travel only short distances from which they can return safely in less than one day. The attrition rate for female health workers, for this and other causes is as high as 50 percent. Through trust building with communities, health authorities hope to instill the value of responsibility in villagers to protect health staff and property against assault and vandalism. The history of the religious missions over the last century in PNG is testimony that it is feasible to foster some notion of local "ownership" by the community.

Role of Women:

Traditionally, women have held very low status in Papua New Guinea. (See the Social Soundness Analysis Annex for a full discussion). Within the family, males have been favoured over females. For example, larger portions of food, and generally, the only portions of animal foods are given to males, especially adult males. The sex ratio of males to females in PNG is high, an indication that men have better health care than women. In rural life, women's workload is markedly greater than that of men.

It should be noted that improvements have been made for women over the past 20 years. For example, IBRD data show that in 1965, 53 percent of males and 35 percent of females in the appropriate age groups were enrolled in primary school. By 1984, there was a slight narrowing of the gap since 68 percent of males were enrolled compared to 55 percent of females.

Where overall improvements in nutritional status have occurred over the past 20 years, females have made greater gains than males. This is not to say women are better off nutritionally. They are not. Maternal anemia and low birthweight are widespread in areas of endemic malaria. Activities under this project will address these health problems. In addition, reproduction (including birth spacing) and childbirth will be important subjects for health education. Village men and women will be targets for these activities. The goal and purpose of the project are intended to benefit women and their children.

In addition to targeting women as primary project beneficiaries, the project will encourage and promote the participation of women in project activities. One-third of the overseas training and one-fourth of the in-country training have been targeted for women. Although the pool of training candidates for women is smaller than that for men, there are several women involved in health care at the lower levels, particularly nurses who can be considered for training. The reestablishment of the diploma course in Community Health Nursing Administration will offer an opportunity for women to upgrade their nursing skills as well as their administrative and management abilities. In addition, the GPNG has set a priority on training women as community health workers. The DOH will be encouraged to place increasing numbers of women in higher positions as well.

C. Summary Economic and Financial Analysis

1. Economic Analysis: As is the case with most social sector projects, it is difficult to calculate a rate of return to the PNG Child Survival project since the outputs, for the most part, are not quantifiable. Benefits such as technical support units, improved health education strategies, or guidelines and recommendations for a successful trained birth attendant program does not have market value in the classic sense.

Some of the project's outputs, however, are quantifiable, at least in theory. For example, individuals will be trained as part of the project. The benefits of this training can be measured in terms of the increased earning potential over the working life of the trained person. This increased income would also represent the return to society, if income were equal to productivity.

However, this is not so in a country like PNG since wage increases (particularly in the public sector) are not tied to increases in productivity. It is therefore, meaningless to attempt to calculate a social return for the training.

The project intends to result in increased efficiency in the delivery of health services. These efficiencies will come primarily from decreases in vaccine wastage, improvements in drug supply, improved program analysis and planning, and improved supervision. It is expected that efficiencies of approximately 2 percent per year will result, yielding a rate of return on efficiencies of about 7 percent. This would be additional to any return on the non-quantifiable benefits.

A cost effective design was selected for the project. Both mothers and their children were chosen as targets to ensure program effectiveness, i.e., there is a strong linkage between the health of mothers and children. The choices for institutional and technical strengthening were also based on likelihood of success at the level of minimum input requirement.

2. Financial Analysis:

The World Bank estimates that gross domestic product (GDP) will grow at an annual average rate of 3.5 percent in real terms between 1985 and 1995. This is a significant increase over the average per annum rate of 0.5 percent between 1981-1984. Due in large part to this improved growth, it is expected that declines in government expenditures for health between 1985-1987 of 1.5 percent per annum will be reversed. Projections are that a 13.4 percent real increase in government expenditure for health over the 10 year period will occur, but a decline by 6.9 percent in per capita terms will take place. This per capita decline, however, is expected to be offset by increased fees for services that will result from adoption of specific policies regarding collection and use of fees.

The recurrent costs associated with the Child Survival project are all non-personnel costs since no new salaried positions will be created. Currently, the REUs utilize about 18 percent of the non-personnel operating funds for malaria. The RSUs would utilize from 28 to 37 percent of current combined Primary Health Services and Malaria non-personnel operating budgets. Reallocation of some of the needed funds from headquarters to the regional units is possible as some of the activities being carried out at headquarters will become the responsibility of the regional units. In addition, it is likely that a large share of the growth in health expenditure over the next ten years will be allocated to

non-salary recurrent expenditures in rural areas. If this happens, the recurrent costs should not constrain implementation of this project and other planned rural health investments.

Notwithstanding these relatively positive indicators, the GPNG recognizes its resource constraints. It is therefore pursuing ways to improve efficiency in utilization of current levels of government resources for health. A major output of this project will be increased efficiency. The project will also examine ways to expand sources of health financing and the upcoming ADB financed study on alternative source of funds for the health sector will be reviewed carefully for opportunity for further study if appropriate.

D. Environmental Analysis:

A categorical exclusion to exempt this project from Initial Environmental Examinations, Environmental Assessments or Environmental Impact Statements was authorized in the PID. A copy of this authorization is in Annex P.

VII. CONDITIONS AND COVENANTS

Conditions Precedent: In addition to the usual condition concerning authorized representatives, the grant agreement will contain one condition precedent for disbursement of funds for renovation of four office buildings:

Prior to the release of funds for renovation of the office buildings for the Regional Support Units (RSUs), the Grantee will provide evidence that the Government of PNG will provide government funds specifically earmarked by Parliamentary vote for the operational costs of the four RSUs.

Covenants: In addition to the usual covenant concerning evaluations, the grant agreement will include one covenant:

The Grantee covenants that each person who goes to the United States for training under the Project will agree to return to PNG and work for the Grantee on project activities for a period of time at least twice the length of time spent in A.I.D.-financed training.

The Grantee covenants that each long-term advisor funded under the Project will have a GPNG counterpart during the entire length of his or her assignment.

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