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AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D.C. 20523

PROJECT PAPER

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INDONESIA - Health Training, Research & Development

AID/W  
February, 1978

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PROJECT PAPER

PROJECT NUMBER: 497-0273

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Development

CLEARANCES:

DIR: TCNiblock         /s/ face sheet 1/20/78        

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PHD: ESVanderhoof         [Signature]        

USAID/Indonesia  
December, 1977

**HEALTH TRAINING RESEARCH AND DEVELOPMENT  
PROJECT**

**Indonesia**

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AGENCY FOR INTERNATIONAL DEVELOPMENT  
**PROJECT PAPER FACESHEET**

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 A ADD  
 C CHANGE  
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**3**

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8. ESTIMATED FY OF PROJECT COMPLETION  
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9. ESTIMATED DATE OF OBLIGATION  
 A. INITIAL FY:    
 B. QUARTER:   
 C. FINAL FY:   (Enter 1, 2, 3, or 4)

10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$1 - )

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L. C.	D. TOTAL	E. FX	F. L. C.	G. TOTAL
A.D. APPROPRIATED TOTAL	612	195	807	3338	1112	4450
GRANT	612	195	807	3338	1112	4450
LOAN						
OTHER U.S. 1						
OTHER U.S. 2						
HOST COUNTRY		4552	4552		33541	33541
OTHER DONORS						
TOTALS	612	4747	5359	3338	34653	37991

11. PROPOSED BUDGET APPROPRIATED FUNDS (\$00)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH CODE		E. 1ST FY <u>78</u>		H. 2ND FY <u>79</u>		K. 3RD FY <u>80</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
1. PH	B530	510		807		1418		1075	
2.									
3.									
4.									
TOTALS				807		1418		1075	

A. APPROPRIATION	N. 4TH FY <u>81</u>		O. 5TH FY <u>82</u>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULED
	U. GRANT	V. LOAN	W. GRANT	X. LOAN	Y. GRANT	Z. LOAN	
1.	645		505		4450		<input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="9"/>
2.							
3.							
4.							
TOTALS	645		505		4450		

13. DATA CHANGE INDICATOR: WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET

1. NO  
 2. YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: *Thomas C. Niblock*  
 TITLE: Director, USAID/Indonesia

DATE SIGNED:

15. DATE DOCUMENT RECEIVED IN AID # OR FOR AID # DOCUMENTS, DATE OF DISTRIBUTION

**B. Recommendation:**

USAID recommends this Project Paper be approved on grant terms for total five year funding of \$4,450,000. USAID will execute annual Project Agreements with the Government of Indonesia's (GOI) Ministry of Health (MOH). Funds will be sub-obligated for specific purposes such as technical assistance, commodities, training, and local costs through Project Implementation Orders (PIOs) and Letters of Agreement (LOAs) which will contain sub-project details.

The GOI contribution to the specific activities funded by this PP is very difficult to define precisely, in that this is an institutional development project. The GOI will budget roughly US\$ 33,000,000 under the "development" heading to several areas each of which is at least indirectly affected by one or more of the activities of this project.

Over the life of this project, five additional USAID/GOI supported health projects (described in separate PPs) are expected to be implemented. Rural Sanitation Manpower Development projects, already underway, will (1) assist the building and equipping of 11 Rural Sanitation Schools and through them, to train 360 sanitarians per year to work in rural areas. (2) The Primary Nurse Training Project will help establish and staff 150 schools that will produce 4,500 nurses per year to work at the village level. (3) The Outer Island Malaria Project will expand the malaria control program to relatively densely populated areas outside Java and Bali. (4) A National Immunization Program will be undertaken, beginning in 1979. (5) A Nutrition Planning/Surveillance Project will begin in CY 1978 to investigate ways of dealing with Indonesia's serious malnutrition problems.

The Health Training Research and Development Grant will enhance the management, research, planning and educational skills needed by the GOI to successfully implement these other priority health projects.

As specified in the Financial Analysis, USAID inputs consist primarily of technical assistance services for management, planning and research, and of a large block of local currency to fund specific priority research projects,

the selection of which will be made by the MOH working closely with the USAID consultants. It is hoped that these two inputs will make possible the targeting of research more toward the needs of the poor than might otherwise occur.

### Summary Statement

The Indonesian Government is showing increasing concern for the health and wellbeing of all of its citizens. This is demonstrated by the emphasis placed on various health programs in Repelita II, and the much more extensive plans that are being developed for Repelita III (1979 - 1984). Through the use of INPRES funds, the President has greatly expanded the amount of funds available for improvements in rural health facilities and the procurement of medical supplies. Sensing the potential for participating in dramatic improvements in living standards for multi-millions of extremely poor people, a sizable number of donor nations/organizations are showing increased interest in contributing to Indonesia's health improvement activities.

AID assistance described in this project is tailored to strongly support all improvement efforts. Its focus is on strengthening MOH's Management, research and planning capabilities with emphasis on expending its capabilities to provide meaningful services to the rural poor. Success with most of the sub-projects activities described above will make immediate and highly beneficial contributions to the entire range of public health activities - including those financed by other donors.

### C. Description of the Project

This project evolved from, and in a sense represents a continuation of AID Project No. 230 entitled Health Research and Development. In another sense, however, it is a much broader project, more oriented toward institutional development, and its approach is quite different from that followed in the former project.

In brief, the results of efforts to implement Project No. 230 have produced some significant revelations to both USAID and officials of the Ministry of Health (MOH). Foremost among these is the fact that the capabilities of the

research staff of the National Institute of Health, Research and Development (NIHRD) are not equal to the demands of a changing and rapidly growing health program. Almost equally important is its underscoring derived from this experience of the urgent need for a sound research base before large inputs of personnel and money are authorized for new health programs. These findings have caused the Ministry of Health to ask AID to refocus and substantially increase our efforts to help strengthen the Ministry's own research and development capabilities.

To underscore the importance attached to the GOI request for continued R & D assistance, the Secretary General of MOH has assumed primary responsibility for the reorientation of this project toward meeting recognized priority needs. It was largely his initiative that caused the project described in this paper to be focused on strengthening technical resources in several MOH organizations. He requested extensive help in areas of improved management systems, manpower planning, personnel management and technical training. He recommended that a major portion of our inputs continue to be devoted to strengthening the research capabilities of NIHRD, but shifted monitoring and reporting responsibilities for this project from that organization to the Bureau of Health Planning.

Another revelation from experience with Project No. 230 has been the discovery that there are health related research talents in Indonesian Universities that are not being exploited. The project described in this PP has addressed this situation. Several different offices in MOH will receive direct assistance in research and/or development activities. This is being done to expedite high priority programs such as: Primary Health Nurse Training, Health Education, a National Immunization Program, improved resource management and better planning.

Each of the subproject activities described herein relate to urgent needs that are directly related to high priority undertakings in Pelita III (the next national planning cycle) and beyond. Success with planned activities will impact favorably on a number of large and expensive health and nutrition projects that will be loan financed by AID, IBRD and perhaps others. Most importantly, the improvements strived

for will bring increased and improved health services to the rural poor much more quickly than might otherwise be the case.

The project will be implemented in cooperation with the Government of Indonesia's Ministry of Health and coordinated by the Ministry's Bureau of Health Planning. Specific activities will be carried out by implementing bodies of the Ministry: the Bureau of Health Planning (BHP), the National Institute of Health Research and Development (NIHRD), the Directorate of Health Education, the Center for Education and Training, and the Communicable Disease Center (CDC). USAID believes this project will promote more efficient use of the resources already allocated to the health sector and may also permit the MOH to present a stronger case for additional health sector resources in the future.

#### D. Summary Findings

This project is ready for implementation. The project builds on a base of three years of experience of USAID assistance to Ministry of Health programs and is an expansion and acceleration of past USAID health assistance activities. The GOI is developing the managerial and administrative capacity to integrate activities under this project into its overall health effort, and specific sub-projects under this grant should augment its capacity to do so. The project does not duplicate GOI or other donor activities. The project meets all applicable AID project statutory criteria.

#### E. Project Issues

Issues were raised by AID/Washington regarding this project in the PRP approval telegram State 001421 dated January 5, 1977. The issues and where they are addressed in this PP are noted below:

<u>Issues</u>	<u>FP Page where addressed</u>
1. Priority and Relevance	2, 7, 8.
2. Definition of Purpose/Sub-Purpose	2, Annex D.
3. Criteria for Sub-Project financing	3, 4, 5.
4. Social Soundness Analysis	33, 35, 42, 45, 48.
5. Research emphasis	33, 35, 42, 45, 48.

<u>Issues</u> (cont'd.)	PP Page <u>where addressed</u> (cont'd)
6. Nutrition activities	2
7. Relevant experience	2, 3, 14, 18, Annex B-2
8. Evaluation	Annex B-2; Annex D.
9. Implementation arrangements	2, Annex B
10. (1) Broad foundation for trainees	Annex B-2
(2) Physician in rural areas	Annex B-1
11. Project development requirements	Annex B

## PART II - PROJECT BACKGROUND AND DETAILED DESCRIPTION

### A. Background

Since the preparation of the DAP in 1974, very little data has become available to indicate any dramatic changes in the health status of the Indonesian population. As far as is known, the picture remains one of excessive ill health concentrated in rural populations. Causes of morbidity and mortality apparently continue to be the pneumonitis-diarrhea complex of diseases; tuberculosis; and vector-borne diseases such as malaria, filariasis, dengue hemorrhagic fever, etc. Current estimates are that over 260,000 cases of malaria; 5,000 of dengue hemorrhagic fever, and uncounted thousands of cases of cholera and typhoid occur every year. Jakarta had an epidemic of cholera in August 1977 in which there were a number of deaths and the health centers ran out of vaccine. WHO is preparing and will publish in the near future a new country profile which will include all available new data on morbidity and mortality.

Throughout the second five year plan period (Pelita II), the GOI Ministry of Health has emphasized strengthening of rural ambulatory health care services and the integration of health care programs at the sub-district level. Approximately 3,500 new health care centers have been built, roughly half of these with funds provided under the Special Presidential Instruction Program (INPRES). Staffing is improving. A requirement of compulsory rural area service of two to five years for newly graduated physicians has been decreed. The GOI is committed to a program of training for large numbers of primary health nurses (PKs) who will work in rural communities and provide guidance in health improvement to auxiliary workers. Ten schools of nursing have already been converted to train PKs for these purposes, and an additional 17 schools are planned for conversion in the current fiscal year. A total of 150 schools have been targeted for conversion by 1980. They will graduate 4500 PKs per year when fully operational. INPRES funds also have been allocated to procure more adequate supplies of drugs and medication for health centers and a number of rural water supply projects have used INPRES funds to pay part of construction costs.

At the village level, local initiatives have led to

community involvement in several different kinds of primary health care schemes, including locally sponsored village health insurance plans. Many of the schemes are in relatively early stages of development and cannot yet be evaluated for impact on health services or for replicability.

A national health plan, which is being processed and will be submitted to the Bappenas, focuses on ten main programmes for the MOH to be undertaken during Repelita III, as follows:

1. Further improvement and expansion of health services delivery through Puskesmas system.
2. Further improvement of Hospital services system.
3. Improvement of communicable disease control.
4. Nutrition programme development.
5. Widespread improvements in environmental health.
6. Health education.
7. Improved drug, narcotics and food inspection and control.
8. Health manpower development.
9. Improved management and efficiency of all health programmes.
10. Expanded and improved research and development

The MOH is still identifying health and health-related problems and developing strategies for solving them. More detailed information about priorities should be forthcoming from time to time.

In the current fiscal year, funds (including INPRES funds) expended through the MOH will total approximately Rp. 54 billion, or about US \$1 per capita. This represents a doubling of the DAP estimate of US \$0.50 per capita for Java and Bali and US \$0.35 - \$0.40 for the outer islands. Health expenditures of provincial and local governments, and of the private sector, are difficult to estimate but may amount to an

TABLE 1  
HEALTH RESOURCES IN DEVELOPING COUNTRIES

Country	Population per hospital bed	Percentage of government hospitals in total number of hospitals	Population per physician	Percentage of government-employed physicians in total number of physicians	Population per non-physician primary health workers	% of National Budget Expenditures on Health
Indonesia	1,724	83	23,367	49	10,230	2.0%
India	1,612	-	4,805	-	11,500	Not available
Thailand	847	94	8,397	61	1,700	4.7%
Philippines	855	45	9,097	-	7,800	3.3%
Malaysia	380	-	4,347	-	1,730	Not available

Sources: Derived from World Health Organization. World Health Statistics Annual - Vo. III: Health Personnel and Hospital Establishments, Table 1. Geneva: WHO, 1974. World Health Organization. World Health Statistics Report, (26(3)). Table 2. Geneva: WHO, 1973.

additional \$1.00 per capita.

The health budget for Repelita III will be Rp. 130 billion annually, or about 50% increase over Repelita II. Although government expenditures for health are increasing, the amounts are still insufficient to meet needs. On the other hand, there have been a few cases where the implementing units of the MOH have not had the administrative capability to absorb available funds.

As can be seen in Table I, the relative health infrastructure support in Indonesia is quite low even by Asian standards. This Five Year Project seeks to provide institutional support to the Ministry of Health, through the office of the Secretary General, in terms of technical assistance, training, and funds for improved and increased effectiveness of its priority programs. It is believed that demonstrated improvements in management skills, research capabilities and planning know-how will lead to stronger financial support from both GOI and foreign donor sources.

#### B. Detailed Description

The project is composed of five sub-projects which will be described separately below. They are designed to improve the planning and management information systems, manpower development, and staff training for various key offices in the MOH, and research and development to support and assist all health program undertakings.

##### 1. Health Planning (See Annex B-1)

Justification for allocating additional resources to the MOH by the GOI will depend largely upon the adequacy of planning and skilled manpower within the Ministry. Improvements in the planning process are taking place with assistance from both AID and WHO. The health planning subproject will assist efforts to strengthen both national and provincial planning capabilities. While WHO is providing three long-term consultants to assist with planning for the Third Five Year Plan (Repelita III), this project proposes to assist the Bureau with manpower development and the improvement of MOH's personnel management system. Two long-term consultants, local training courses and long-term fellowships for training abroad

will be provided. The sub-project will focus on the problems of identifying manpower needs, timely transfers of doctors and other personnel from Java to the Outer Islands and the strengthening of provincial planning units to enable them to produce effective annual and five-year plans at the provincial level.

The process itself, however, is hampered by 1) a lack of health information including the types, characteristics and geographic occurrences of diseases; 2) a lack of management information on productivity and costs of current patterns of health service deliveries as well as those of alternative approaches which may be suitable to Indonesia. Although the direction of the MOH program during Pelita II, and in the preliminary planning for Pelita III, appears to be focused on meeting the needs of the rural poor, much information that is needed for planning rational, feasible and affordable rural health services is still lacking.

A few examples of major areas requiring further investigation are: (a) reasons for apparent under-utilization of available rural health facilities; (b) health worker productivity; (c) the appropriate role of sub-district hospitals in rural health programs; (d) methods of adaptation of health services delivery patterns to make them suitable for application in various regions of the country; (e) ways to increase outreach and non-institutional services; (f) improved information on incidence, prevalence and geographic distribution of important diseases; (g) development of simplified technologies for diagnosis and treatment in rural facilities.

## 2. Health Research and Development (See Annex B-2)

The Health Research and Development Sub-Project administered through the National Institute for Health Research and Development (NIHRD), including its six research centers, will address major research areas while upgrading the Institute's staff. Technical research expertise will be provided through long and short term consultants, and funding contributions to priority policy research activities over the next five years.

The obvious great need for improved health services in rural Indonesia is not reflected in current rates of use of

health center facilities. It is roughly estimated that only about 20% of the total population in service areas patronize health centers.

The primary purpose of this sub project is to strengthen the capability of the NIHRD to undertake high quality research geared toward high priority planning and policy issues and toward development of health services delivery technology appropriate to the Indonesian environment.

It is expected that by the end of this sub-project the following conditions will have been met:

Appropriate numbers of NIHRD staff will be adequately trained both in substantive fields and in research methodology to insure NIHRD's ability to carry out increased amounts of high-quality research.

An appropriate number of high-priority research projects, both in the planning and policy area and in the services delivery area will be completed or in progress at NIHRD, and the quality of these research projects will be improved.

Data processing procedures adequate to support these research projects will be operational and routinely in use.

Extramural research resources (for example, universities) will be being utilized routinely whenever their use is consistent with objectives of NIHRD, and with research quality standards.

Three general strategies will be employed by the sub-project to achieve its purposes:

An extensive program of research manpower development will be undertaken to improve staff capabilities within NIHRD.

Technical assistance in development of data processing capabilities and procedures will be provided.

Specific assistance will be provided to substantive research instigated by NIHRD.

3. Health Education (See Annex B-3)

An effective health education program is essential for stimulating community and individual interest in health facility utilization and to prepare communities for massive public health programs, such as community immunization and spraying programs for malaria control. The impact of improved knowledge, attitudes and behavior on health matters is direct and highly constructive.

The Directorate of Health Education is under the Director General for Community Health. It is a newly staffed organization, both at the national and at the provincial levels. The Health Education Sub-Project described in this PP seeks to improve the planning, operations and evaluation capacity of the National Directorate and a few selected key provinces. It will: 1) develop, evaluate, and keep relevant, at all times, a National Health Education Plan which will serve the Ministry of Health and the provinces as a blueprint for the growth and development of extensive village-level health education activities.

2) assure that the National Plan will have a measurable impact by establishing health education outputs, indicators and measures; and by using such outputs and indicators to determine the level of national health education prior to Repelita III (baseline data) during and at the end of Repelita III.

3) improve the capability of the Directorate of Health Education to evaluate and keep relevant, at all times, health education policies, programs, management systems, and manpower development programs which will enable the National program to have a measurable impact at village levels.

4) demonstrate in selected provinces how certain well-defined health education techniques can be implemented so as to be replicable, or at least adaptable, in other provinces. The results of these trials will be used to influence the health education curricula of training institutions.

4. Primary Health Nurse (See Annex B-4)

This project paper also provides support for two development components of planned larger programs. A primary health nurse training program, which eventually will graduate approximately 13,000 nurses (PK s) annually, began operations last year with the introduction of combined in-service and academic training programs in ten schools. It is expected that the nurses, when graduated, will be placed in rural health centers and in rural hospitals. With their community health services orientation they will bridge an existing gap between the villages and the health centers. Demands on the PKs will be heavy because in many cases they will need to be able to fulfill diagnostic functions in communities where there are no medical doctors before referring patients to other health facilities. The Primary Health Nurse Training and Evaluation Sub-Project, which will be administered by the Center for Education and Training, is being undertaken to help ensure that graduates will have sufficient knowledge to perform the duties that will be assigned to them in health centers and sub-centers of rural communities.

5. Immunization (See Annex B-5)

The GOI will undertake an Expanded Immunization Program (EPI) to substantially reduce the occurrence of small-pox, tuberculosis, tetanus, and neonatal tetanus by the end of Repelita III. A preparatory phase of the EPI will be undertaken through this sub-project to work out technical problems in the cold chain and to improve local vaccine production capacities. The expanded community immunization preparatory sub-project described in this PP will be administered through the Directorate of Epidemiology and Quarantine. It will provide one long-term consultant who will work with officials of the Directorate of Epidemiology and Quarantine. Several short-term technical consultants will be provided from other sources (WHO and UNICEF) to assist with detailed planning and testing of methods that will be used when the massive program begins in 1979.

Each of these sub-projects is further described, along with their implementation plans in attached referenced annexes.

In addition, a small amount of funds is being requested in this PP for activities that can not be identified at the present time. The amount requested is believed justified because of expected evolvement in activities that cannot now be fully identified during the Project Formulation Stage for Repelita III, January 1978 - March 1979.

## **PART III - PROJECT ANALYSIS**

### **A. Technical Analysis**

During the past year, the Secretary General gave the Chief of the Bureau of Planning a mandate to increase the capabilities of all high-level staff by the end of Repelita III in 1984. Consequently, the Bureau of Planning is stressing manpower development at every opportunity. This grant is being given special attention by this Bureau because of its manpower focus.

In September 1976, the Bureau of Planning of the MOH was designated by the Secretary General as the body responsible for reviewing USAID PRPs and PPs that concerned assistance to Health programs. The Directorate General of this Bureau was given the responsibility for checking the design and phasing (implementation plan) for administrative, policy and technical acceptability of these project documents. The overall project design has been carefully reviewed by the Secretary General and members of his staff.

By providing a broad-based institution-building focus, this grant will contribute to the proper development of health plan and policy formulation. The research and development activities which will be supported will affect the status, scope and quality of the entire health delivery system. USAID believes that specific sub-project designs and the focus by the overall project are appropriate to meet some of the MOH's current pressing needs for institution building and manpower development.

Most of the implementation plans attached to sub-project descriptions suggest the need for phasing, i.e., initially nine provinces for improved health planning, four provinces for health education demonstrations, etc. This approach is necessary because of a shortage of administrative manpower and budgetary constraints. Major issues involved in assessing the replicability of pilot undertakings will be addressed in all project activities.

The Bureau of Planning delegated major responsibility for assessing the technical soundness of each of the sub-

Projects to the appropriate technical/administrative offices. The same offices had originally proposed these sub-projects for USAID funding during the PRP stage. The sub-projects have been further defined by GOI and USAID funded technical consultants and USAID staff members during the PP stage.

1. Health Planning Sub-Project

The Bureau of Planning is a recently established office but has shown admirable initiative in health planning and its efforts are being strongly encouraged by BAPPENAS. There is a keenly felt need on the part of this Bureau for both long and short term technical assistance, which will help them to meet their expanding responsibilities for both improvements in present operations and planning to meet future public health needs.

This sub-project was developed by the Bureau Chief and the technical staff of the Bureau of Planning and has been reviewed during a six weeks consultancy by a team made up of one public health physician and one management specialist. Based on the findings of these short-term USAID consultants and USAID staff members, the long-term consultant to the Bureau of Health Planning provided for in this PP should be able to work effectively with three long-term WHO consultants who are presently assigned there. The nine provincial planners who have been selected for long term training overseas and the six provinces whose planning personnel have been selected to receive in-country health planning training, have been systematically selected through the use of criteria that has been validated by consultants and USAID staff.

2. Health Research and Development Sub-Project

In June 1977, during a consultant team visit, a wide variety of options were considered in discussing the development of this sub-project. These ranged from discontinuing AID assistance with research and development efforts to significantly increasing the budget over what had been proposed in the PRP submission. The proposal submitted in this PP follows the latter approach which is based on an optimistic projection of a rapid expansion and improvement of health services, especially to the rural poor. USAID and several consultants concluded that discontinuing AID assistance toward the creation of an effective research and development capacity within the NIHRD would be throwing away opportunities created by Project 230 with experience that we did not have when 230 was originally designed. It is impossible for the Ministry of Health of the GOI to rapidly develop the interest, understanding or the means to reach Indonesia's rural poor without an effective research institution and process. Project 230 at least represented a start in this direction. This proposed Project 273 will build on this experience and initiative. Nevertheless, USAID recognized that the two major remaining

constraints to research and development performance, low salaries and the honorarium system, may not be overcome in the next few years, and that they may have negative impacts on the effectiveness of all external assistance efforts. Some existing constraints, however, can be reduced or removed by the assistance proposed in this PP. These constraints are:

- Lack of skills in research design and methods
- Lack of sufficient research manpower
- Inadequate research support staff
- Problems in data processing
- Insufficient utilization of extramural research resources

### 3. Health Education Sub-Project

General needs of the Directorate of Health Education have been painstakingly identified by the Health Education Directorate staff. This sub-project was developed over a 1½ month period with the assistance of a USAID-funded health educator/planner consultant. The idea of developing a national health education plan has been strongly supported by the Secretary General of the Ministry of Health.

### 4. The Primary Nurse Evaluation/Training Sub-Project

This project was developed by the staff of the Primary Nurse Training Program with the assistance of two WHO nurse educator consultants who have been assisting with curriculum development for the PN (Primary Nurse) program. The sub-project activities which were described in the PRP are now scheduled to be funded by the IDRC, International Development Research Center of the Canadian Government, hence this sub-project is designed to accomplish another high priority objective with the technical assistance of USAID. This long-range program is especially desired by the GOI because of its recognition of the relative excellence of American nursing education.

### 5. Expanded Immunization Sub-Project

This proposal was developed by the staff that will be responsible for implementing an expanded immunization

program beginning in 1979. USAID technical staff have worked with MOH counterparts in developing this sub-project, and are convinced that its activities are important to the large immunization program that will be undertaken during Repelita III beginning in 1979.

B. Financial Analysis and Plan

Total AID bilateral inputs into this five-year project (exclusive of USAID direct-hire monitoring) are \$4,450,000. The GOI contribution to these activities is very difficult to specify in that this is basically an institutional development project. For all of the activities this project assists, the GOI will budget roughly US\$ 33,000,000 under the "development" heading. USAID funded consultants will work to improve ongoing functions and processes.

<u>Sub-Project</u>	<u>USAID</u>	<u>GOI</u>
*Sub-Project Coordination	\$ 450,000	\$ -
Health Planning	738,000	1,020,000
Health Research & Development	2,211,000	11,670,000
Health Education	176,000	15,563,000
Primary Nurse Training Evaluation	445,000	2,715,000
Community Immunization Feasibility Study	430,000	2,573,000
	<hr/>	<hr/>
TOTAL	\$4,450,000	\$33,541,000

Since this is largely an institution building project to support key MOH units at the national or provincial levels and to support feasibility studies for larger delivery programs during Repelita III, USAID expects the GOI to provide the support required.

The Ministry of Health is fully committed to supporting all of above sub-projects and has agreed to provide the necessary inputs. Estimated GOI contributions are projections based on Repelita II figures with varying percentages of annual increases. Repelita III budget planning has not yet been completed, but the overall health budget is expected to be \$860 million, which would represent a large increase over Repelita II inputs.

Unit costs include allowances for contingencies and

inflation. The in-country training costs are based on cost experiences of NIHRD. Technical research and management consultants have sought to design the sub-projects to obtain both technical efficiency and high quality outputs. Therefore, the unit costs per output, as defined in the body of the project appears to be satisfactory.

USAID BUDGET - HEALTH PLANNING SUB-PROJECT  
(000's)

	Year 1**		Year 2		Year 3		Total	
	FX	LC	FX	LC	FX	LC	FC	LC
Long Term Consultants @ \$100,000 per year	60	-	100	-	40	-	200	-
*Short Term Consultants @ \$10,000 per month	100	-	140	-	110	-	350	-
Long Term Fellowship @ \$12,000 per year	36	-	36	-	36	-	108	-
Long Term Fellowship @ \$10,000 per year (2 month)	10	-	-	-	-	-	-	-
Translator for Consultants	-	-	-	-	-	-	-	1
In-Service training at Agency/Provincial Workshops	-	-	-	23	-	-	-	23
In-Service Training in Software	-	4	-	-	-	-	-	4
Block Grant for data processing and storage	-	36	-	-	-	-	-	36
Commodities	6	-	-	-	-	-	6	-
	212	41	276	23	186	0	674	64
	186		299		186		756	

\* others as needed through APHA

\*\* "Year" refers to Project Year: April 1 - March 31

USAID Budget - Health Research and Development Sub-Project  
(000's)

	Year 1***		Year 2		Year 3		Year 4		Year 5		All Years	
	FY	LC	FY	LC	FY	LC	FY	LC	FC	LC	FY	LC
Long Term Consultants @ \$100,000/yr	160	-	140	-	100	-	100	-	-	-	500	-
*Short Term Consultants @ \$10,000/month	150	-	150	-	100	-	20	-	20	-	440	-
Fellowships **@ \$1,000/month	114	-	120	-	76	-	32	-	10	-	362	-
18 x 25 mth.	(88)	-	(110)	-	(63)	-	(22)	-	(-)	-	(283)	-
3 x 12 mth.	(36)	-	(-)	-	(-)	-	(-)	-	(-)	-	(36)	-
4 x 10 mth.	(-)	-	(10)	-	(13)	-	(10)	-	(10)	-	(43)	-
In-Country Consultants 2 @ \$6,000	-	34	-	18	-	-	-	-	-	-	-	52
13 @ \$3,000	-	(13)	-	-	-	-	-	-	-	-	-	(13)
Local Consultants @ \$1,000/month	-	4	-	-	-	-	-	-	-	-	-	4
Research Projects	-	280	-	150	-	130	-	170	-	167	-	847
Internal Fellowships @ \$2,000	-	6	-	-	-	-	-	-	-	-	-	6
<b>TOTAL</b>	<b>434</b>	<b>294</b>	<b>410</b>	<b>148</b>	<b>276</b>	<b>130</b>	<b>152</b>	<b>170</b>	<b>30</b>	<b>167</b>	<b>1302</b>	<b>909</b>
	728		568		406		352		197		2211	

\* others as needed through APHA

\*\* additional fellowships available from WHO and Japanese Government

\*\*\* "Year" refers to Project Year: April 1 - March 31

USAID Budget - Health Education Sub-Project  
(000's)

	Year 1 *		Year 2		Year 3		Year 4		Year 5		All Year	
	FX	LC	FX	LC	FX	LC	FX	LC	FX	LC	FX	LC
Short Term Consultant	30	-	30	-	30	-	15	-	15	-	100	-
Commodities	11	-	-	-	-	-	-	-	-	-	11	-
Total	41	-	30	-	30	-	15	-	40	-	176	-
	41		30		30		15		40		176	

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\*"Year" refers to Project Year: April 1 - March 31.

USAID Budget - Nurse Training Evaluation Course Sub-Project  
(\$000's)

	Year 1*		Year 2		Year 3		Year 4		All Years	
	FY	LC	FY	LC	FY	LC	FY	LC	FY	LC
In-Country training Courses	-	57	-	18	-	44	-	-	-	99
Local Consultants	-	15	-	10	-	5	-	-	-	30
Super-ann. Consultants @ \$10,000/mth	80	-	80	-	60	-	20	-	140	-
Fellowships (5) @ \$12,000/yr	-	-	-	-	60	-	-	-	60	-
Pre-Fellowship (10)	-	4	-	-	-	-	-	-	-	4
Commodities	0	-	-	6	-	-	-	-	6	6
	80	56	80	54	120	49	20	-	306	159
			114		169		20		440	

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\* "Year" refers to Project Year: April 1 - Mar. 31.

USAID Budget - Community Immunization Feasibility Sub-Project  
(\$000's)

	Year 1*		Year 2		Year 3		All Years	
	FX	LC	FX	LC	FX	LC	FX	LC
Long term Consultant (@ \$100,000 per year)	80	-	100	-	20	-	200	-
Short Term Consultant	120	-	60	-	-	-	180	-
Commodities	50	-	-	-	-	-	50	-
Total	250	-	160	-	20	-	430	-
	250		160		20		430	

\* "Year" refers to Project Year: April 1 - March 31.

Breakdown by Inputs and Sub-Projects

	Year *					All years
	(1)	(2)	(3)	(4)	(5)	
<b>Total Project</b>	<b>1434</b>	<b>1161</b>	<b>811</b>	<b>357</b>	<b>237</b>	<b>4000</b>
<b>Total Tech. Asst.</b>	<b>800</b>	<b>800</b>	<b>460</b>	<b>155</b>	<b>60</b>	<b>2275</b>
<b>Sub Project</b>						
1 Planning	160	240	150	-	-	550
2 R + D	310	290	200	120	20	940
3 Ed	50	30	30	15	40	165
4 Nurse	80	80	60	20	-	240
5 Immunization	200	160	20	-	-	380
<b>Total Participants</b>	<b>170</b>	<b>156</b>	<b>172</b>	<b>32</b>	<b>10</b>	<b>540</b>
<b>Sub Project</b>						
1 Planning	46	30	30	-	-	106
2 R + D	124	120	70	32	10	356
3 Ed	-	-	-	-	-	-
4 Nurse	-	-	60	-	-	60
5 Immunization	-	-	-	-	-	-
<b>Total Commodities</b>	<b>73</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>73</b>
<b>Sub Project</b>						
1 Planning	6	-	-	-	-	6
2 R + D	-	-	-	-	-	-
3 Ed	11	-	-	-	-	11
4 Nurse	6	-	-	-	-	6
5 Immunization	50	-	-	-	-	50
<b>Total local Costs</b>	<b>391</b>	<b>205</b>	<b>179</b>	<b>170</b>	<b>167</b>	<b>1112</b>
<b>Sub Project</b>						
1 Planning	41	23	-	-	-	64
2 R + D	254	148	130	170	167	969
3 Ed	-	-	-	-	-	-
4 Nurse	50	34	49	-	-	139
5 Immunization	-	-	-	-	-	-
<b>Summary</b>						
Total Foreign Exchange	1043	956	632	187	70	2888
Total Local Currency	391	205	179	170	167	1112

\*"Year" refers to Project Year: April 1 - Mar. 31.

ESTIMATED \*GOVERNMENT OF INDONESIA CONTRIBUTION TO PROJECT 273  
(\$000's)

Sub-Project	Year(1)	Year(2)	Year(3)	Year(4)	Year(5)	All Yrs.
Health Planning:	237	356	427			1,020
% increase over previous year	(70%)	(50%)	(20%)			-
Health Research & Development:	1,568	1,882	2,258	2,710	3,252	11,670
% increase over previous year	(30%)	(20%)	(20%)	(20%)*	(20%)*	-
Health Education: (development & operating):	1,534	2,301	3,222	3,866*	4,640*	15,564
% increase over previous year	(20%)	(50%)	(40%)	(20%)*	(20%)*	-
Nurse Training	506	607*	728*	874*	-	2,715
Evaluation Course:						
% increase over previous year	(30%)	(20%)*	(20%)*	(20%)*	-	-
Community Immunization Feasibility:	707	848*	1,018*	-	-	2,573
% increase over previous year	(20%)*	(20%)*	(20%)*	-	-	-
<u>TOTAL PROJECT 273</u>						
GOI Contribution	4,552	5,994	7,653	7,450	7,891	33,541
Proposed USAID Contribution	1,434	1,161	811	357	237	4,000
Total USAID and GOI	5,986	7,155	8,464	7,807	8,128	37,541
GOI percent of Total	76%	83%	91%	95%	97%	89%

NOTES: 1. Figures for "GOI Contribution" include only Development Budget figures, not Regular Budget.  
2. GOI Contributions are in all cases over the full five years, but for those subprojects which AID funds for only three or four years, GOI Contributions are shown for only the years in which AID will contribute under this project; if there are follow-on AID projects, the GOI Contribution will not be double-counted.

\*Asterisk indicates USAID estimate; other estimates are by GOI Bureau of Health Planning.

## C. Social Analysis

We have chosen to address social soundness issues separately for each sub-project so that the analyses relate more closely to each project's purposes and institutional frameworks.

### 1. Health Planning Sub-Project

#### a. Sociocultural Feasibility

##### (1) Organization and Motivation:

This project will strengthen manpower planning and improve personnel management within the MOH through the provision of assistance to the Bureau of Planning and Bureau of Personnel. The Chief of the Bureau of Planning has received instructions from the Secretary General to mount a health manpower planning program for the MOH during Repelita III. Its goal will be to assure much better trained health manpower will be in place by the beginning of Repelita IV. The Bureau of Planning currently has three long-term WHO consultants who are providing support, especially in Repelita III planning: one economist, one health planner, and one statistician. For manpower planning, however, the Bureau recognizes a need for both a health manpower planner consultant and a personnel specialist at the Personnel Bureau.

The central portion of this sub-project is narrowly focused on the manpower issue. Manpower planning is receiving high priority. Moreover, BHP has developed direct links with the MOH Bureau of Personnel, which is also directly under the Office of the Secretary General.

The head of the Bureau of Health Planning has been involved with the planning and implementation of Indonesia's young doctor INPRES program. In this program, all "young doctors" (new graduates of medical schools) must spend a period of time working in the government's health program. In implementing this program, the BHP has recognized a need to establish a personnel management system in the framework of health manpower development (planning, employing,

training and managing health manpower) that will encourage participants and otherwise invigorate efforts to provide improved health services to the rural poor. At present, the system of health manpower planning and management is not functioning efficiently.

In order to implement manpower planning improvements, the Bureau of Planning (BHP) has had to "struggle" with other GOI units over proposed changes in assigned positions. The desired changes are from those designated according to organizational structure to positions designed to complement functional structures. The MOH has succeeded in getting some of its positions so changed.

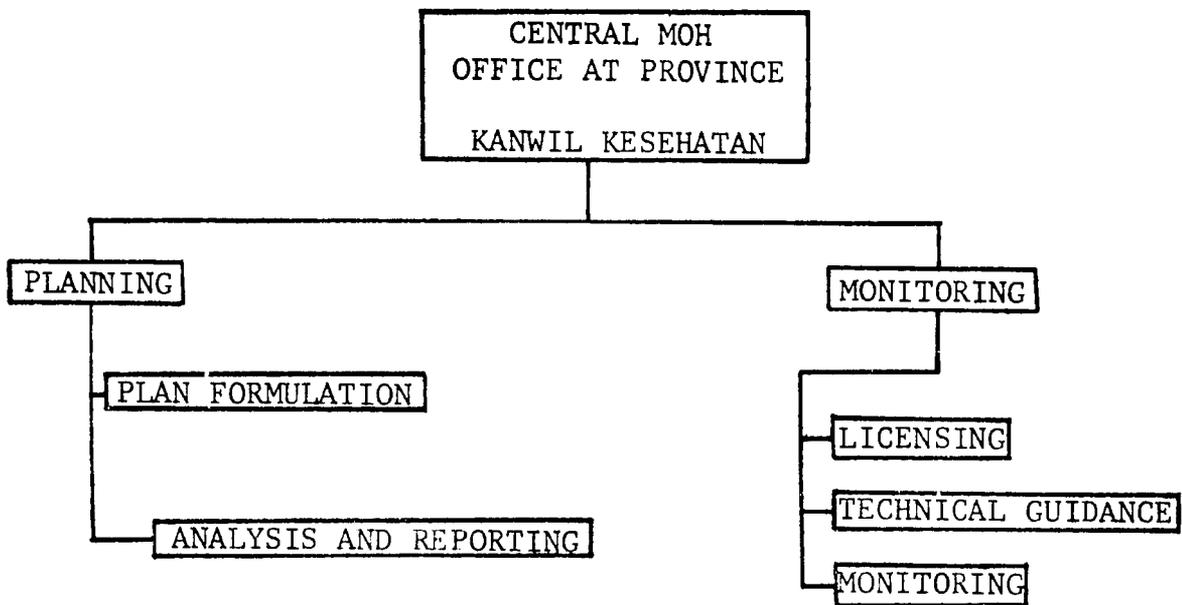
(2) Provincial Planning Activities:

Six to ten provinces\* that are located in various parts of the country (and at various levels of development) will be selected to receive planning assistance. These provinces will be linked with other locations for regional development. At least two provinces will be chosen from each of the three regions. This will strengthen both the regional planning system now being set up and will support general measures to increase decentralization of planning as well as program administration to the provinces.

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\*Tentatively they are East, West and Central Java, Aceh, Sulawesi Tenggara, Nusa Tenggara, Timur.

Since November, 1976, the BHP has had a direct link with the MOH Central Office of each Province (Kanwil Kesehatan). The Kanwil has a health planner on his staff. Following is a description of the functions of the KANWIL KESEHATAN:



Responsibilities of Central MOH and Provincial Level:

The KANWIL KESEHATAN executes MOH functions in the provinces.

- The function of the provincial planning unit is to formulate provincial plans, collect, analyze and process data, to coordinate the formulation of tactical guidance and to prepare a number of reports.

- The monitoring unit gives technical guidance on the implementation of health programs, the granting of licenses, the provision of health education and on health care delivery.

Since a reorganization of the Ministry of Health in 1975, there has been a slot for a planner at the Provincial Office of the Ministry of Health (KANWIL KESEHATAN). This position, which serves as a functional link between the Bureau of Planning at the Central level and the Provincial Health Office, was made operational in late 1976.

Improvements in the skills of provincial planners with the KANWIL KESEHATAN will in turn improve overall planning at the provincial level. Also, it will strengthen the ability of the current planning unit to coordinate plans of individual implementing units, such as CDC, Maternal/Child health, family planning, etc. Currently, the implementing sections send their annual plans directly to the provincial planning unit of the KANWIL KESEHATAN. Many of the planning units, however, are not yet strong enough to develop integrated provincial plans, although they have the responsibility to finalize provincial plans and to integrate them into provincial health activities, along with the plans of other departments. In each province, the KANWIL planning officer has a planning team (usually consisting of eight members) to assist him. The team is made up of all the program units at the provincial level, CDC, etc. from the KANWIL KESEHATAN and DINAS KESEHATAN offices. The DINAS KESEHATAN assists only in accumulation of information. The Kabupaten level is seen as the source of this information.

The National annual health plan incorporates inputs from the province into its Submission to BAPPENAS in the following way: In May-June-July each year the planning units of each of the directorates general send guidelines to the

Central Bureau of Planning. During the period September-October-November, the provinces draft annual plans and send them to the various units of the Directorate General. These units write the DUP submissions. The Central Bureau of Planning is trying to strengthen itself further so that it can coordinate proposals from the directorates general, while also trying to strengthen the provincial units for the KANWIL KESEHATAN so they can assume a similar function at the provincial level.

(3) Participation:

The participants in this project at the national level will be staff members of the Bureau of Planning and the MOH Bureau of Personnel. Since most of the MOH staff members will be doctors, special efforts will be made to include non-medical health personnel in project activities. The Health Education Planner consultant who will be working in the Health Education Sub-Project may be able to assist with this.

(4) Obstacles:

There do not seem to be any political or bureaucratic obstacles to the implementation of this activity. The sub-project calls for the training of nine provincial planners. The Bureau of Planning and USAID are eager to insure that persons who are trained return to assigned positions. According to staff members of the Bureau of Planning, there are compensations for working in the local areas and once employees become adjusted to rural communities they become aware of incentives that help to keep them there.

b. Spread Effects

In the final year (3rd year) it is possible that the personnel system developed may be extended to cover non-MCH (local government) health personnel as well, though details have not yet been worked out. The pace of the spread effect to other provinces will, of course, depend on the ability of BHP and the Center for Education and Training to undertake in-service training of planners on a regular basis.

c. Social Consequences and Benefit Incidence

The ultimate beneficiaries of a sound manpower planning program for the MOH and local government public health infrastructures will be the entire population of Indonesia. It is hoped that this manpower program will remove one of the main constraints to improved health services; i.e. lack of trained manpower, and that the people (especially the rural poor) who use public health services will receive the benefits resulting from higher quality and more readily available health services provided by better trained and more highly motivated MOH employees. The implementation plan specifies strategies to improve health care of the rural poor. The manpower planning strategies will cover a wide range of health extension workers who will provide outreach services.

This sub-project is also intended to assist MOH Provincial Planning Units to improve the allocation of scarce manpower resources. Since the decentralization of planning capability should improve the annual plans of the 6 - 10 pilot provinces, their budgets may increase vis-a-vis those of other provinces because of their more complete plans.

2. Health Research Sub-Project

a. Sociocultural Feasibility

(1) Organization

Assistance provided through this sub-project will be directed toward the creation and improvement of the research and analysis capacity of the National Institute of Health Research and Development (NIHRD) which is the research arm of the Ministry of Health. NIHRD's relations with the Ministry and its agencies are good. Because of its still limited research and analysis capacity, however, the NIHRD is unable to provide the kinds of information needed for good planning and implementation of rural health services. While there may be some disappointment over this situation, there are no severe inter-bureaucratic rivalries that seem likely to hamper this project.

There have been rivalries between NIHRD and universities,

however, because the NIHRD has competed with universities for research funds. Recent meetings between the consortium of medical schools and NIHRD to discuss research needs and the relative roles of NIHRD and university departments indicate that detente is possible. The NIHRD will directly benefit from training, consultants and research project support, and probably gain some influence by the expansion of grants to universities and by obtaining clearance for university fellowship applications. Gains for universities include expanded research support at a time when funds for this purpose are very short, and the possibility of obtaining fellowships and in-country training grants. Losses to universities occur primarily in their having to have NIHRD approval for research and fellowship candidates.

### (2) Motivation

Dr. Sulianti, Chief of NIHRD, considers this project very important to her organization. She is sincerely interested in undertaking research which supports national health policy, and this grant will provide both short term (research funds, consultants) and long term (development of manpower) assistance to that end.

The operating arms of MOH and the Bureau of Planning definitely believe this subproject will be of direct benefit to their planning needs and to the welfare of the people of Indonesia - a large number of whom will be the rural poor.

### (3) Obstacles

This project includes a large fellowship component. Finding candidates with sufficient English language ability will be difficult. There are, however, no political or bureaucratic obstacles to effective project implementation.

#### b. Spread Effects

The intended effect of this project is ultimately to provide appropriate GOI officials with needed information for health decision-making. In the short run, the impact will be one of permitting and promoting adequate quality research to support health sector planning. Thus,

the first effect will be on NIHRD itself through the project's institution-building activities. Second-level effects will be on the planning and operating units of the MOH, including the improvement of health service programs and policies that effect rural populations.

The impact at NIHRD will occur through direct assistance in personnel training and support of research activities. Expected secondary effects will occur through the research that is achieved. There seems to be a general climate of support in the MOH and in local universities for this activity. No opposition was encountered in the GOI circles contacted in sub-project development.

The severe constraints on the mobility of government personnel that seemed to exist a few years ago have, to some extent, eased up. NIHRD personnel move around with relative freedom and do a reasonably good job of talking with potential research users at national, provincial and peripheral levels. Thus, once quality research is accomplished, little difficulty is foreseen in its dissemination.

This second research and development project will concentrate on the spread of knowledge and techniques: knowledge of the incidence and patterns of diseases and disabilities; of the effects of morbidity, of alternative approaches to the provision of health services and of techniques for disease control. Methods of using community resources and ways to simplify procedures will also be areas of investigation.

c. Social Consequences Benefit Incidence

Initially, this project should tend to increase advancement opportunities for technicians and to improve the stature and prestige of the NIHRD as an institution. Effective research performance can be expected to give the Institute a greater voice in MOH decisions on an institutional basis rather than on an individual basis (i.e. NIHRD as an influential organization v. Dr. Sulianti as an influential person). However, in the relatively short run (5 years or so), some of the information and techniques acquired through research should begin to have an effect on the accessibility and effectiveness of health services to the ultimate beneficiaries - the rural poor.

One area of research interest and need is a proven method for promoting community participation in improving health facilities and their environment in general. Participation implies some loss of centralized control, so, in the long run, there could be unanticipated conflicts between communities and health professional, or other government groups responsible for community development. Even so, in the long run, this project should go far toward helping the MOH be responsive to the basic health needs of the poor majority of its population who are presently receiving woefully inadequate health services.

### 3. Health Education Sub-Project

#### a. Sociocultural Feasibility

##### (1) Organization

The Directorate for Health Education, Directorate General of Community Health, Ministry of Health and USAID will cooperate in implementing this sub-project. A USAID-provided health education consultant recently outlined for the MOH Secretary General, the Chief of the Bureau of Planning, and the Director of Health Education the discrepancies between responsibilities of the Directorate and its current Ministry position. Organizationally, the Directorate is strictly a line organization within the Ministry with responsibilities at the community level, yet it also has been assigned supporting staff responsibilities for all health units. The Secretary General has stated that while the Directorate of Health Education's current organizational position within the Directorate General for Community Health will be kept the same for the foreseeable future, it will be functionally responsible for supporting health education components of all programs of the MOH. The Directorate is now planning, with USAID technical planning and management assistance, to take over these responsibilities toward the end of Repelita II.

Currently, the Directorate of Health Education is trying to establish its national identity vis-a-vis other units within the central MOH. The Directorate was recently reorganized under the Director General for Community Health and

most of its staff are newly returned MPH health education graduates from U. S. Universities who have been working for the Directorate one or two years. In fact, all professional health educators in the country, totaling approximately 60, have recently received training in the U.S. and are now assigned either in Jakarta or in one of 20 provinces throughout Indonesia. The head of the Directorate has been in charge of placing returned participants in either positions on the staff at the national office or in one of the provinces. This undertaking has been difficult because of insufficient forward planning. The Chief of the Bureau of Planning and the Secretary General share the opinion that the lack of proper forward planning on the part of the Directorate, plus the selection of non-health personnel as health educator trainees, has been the major cause for placement difficulties.

The Directorate's confidence in its ability to plan programs that are relevant to programs of other divisions within MOH needs to be strengthened. However, with the help of technical assistance provided by a USAID Consultant, the Directorate has expeditiously begun work on a wide range of plans for Repelita III. The outline of these plans has been presented to and received enthusiastically by the Chief of the Bureau of Planning. The Secretary General has given the Directorate of Health Education a mandate to present a draft master health education plan, with alternatives, for discussion at the Annual National Health Conference that will be held in January 1978. It appears, therefore, that past difficulties between the Directorate of Health Education and the other divisions of the Ministry of Health are being overcome.

In the past, the Directorate was a division within the Center for Education and Training. Since their division into separate units, operations have suffered from vaguely delineated responsibilities (i.e. the Directorate would take care of health education related to the community, and the Center would be responsible for in-service health education staff training). These two units have now met and agreed to work out a plan for clear separation of responsibilities and for coordination of activities where appropriate.

(2) Motivation

The Secretary General, the Chief of the Bureau of Planning, and the National Directorate of Health Education have reached a consensus that this sub-project will upgrade the capacity of the Directorate to undertake the full range of its responsibilities and that all health programs will benefit from a greatly strengthened health education program. The Bureau of Planning supports in principle the policy that in the future all health education activities shall be under the supervision of the Directorate of Health Education. The Chief of this Bureau has stated that should some of the Directors General decide not to cooperate they will be running the risk of being penalized by having reductions made in their GOI development budget allocations.

The directors of the other health programs, such as CDC, the immunization program, the malaria program, as well as the Bureau of Planning appear to be aware of the benefits that may be derived from health education. In fact, in the absence of a strong, well-coordinated health education program, most Directors General have developed within their own divisions a capacity for undertaking health education activities. Also, during the past several years, a large percentage of the budget for health education has been allocated directly to the various Directors General, rather than to the Directorate of Health Education.

The health educators in various provinces will be visited by health educator/planner teams during the life of this project, and several provinces will be chosen for demonstration activities. Already identified as potential pilot study provinces are West Java, East Java, South Sulawesi, and West Nusa Tenggara. Each of the first three provinces were visited by a study team during the Project Paper preparation phase and are quite receptive to participating in the planning of demonstration activities within their provinces.

The sub-project calls for coordination with the National Institute for Health Research and Development since this institute will be expected to cooperate in the development of baseline data on health knowledge, attitudes and practices through inclusion of appropriate questions in upcoming household and community surveys funded by the R & D sub-project described above.

### (3) Participation

At the operational level, program participants will be personnel from the various units of the national and provincial health offices. Training demonstrations to be carried out in up to four provinces will require health education staff participation in training sessions for both local health workers and volunteer workers in the communities.

The "West Java" health education model will be used to test methods for "training of trainers" which will require the strong motivation of health education coordinators at the regency level along with the health center doctors and their staffs. The strength of the health center systems in the provinces will be very important to success with dissemination of health education to the community. The "East Java" health education model centers around the training of primary health nurses (PK) to become health center coordinators for health education activities at the community level. The success of that program will depend largely on the ability of the PK to relate to community health problems and the readiness of the community to participate in health community development activities. As medical professionals who have received community based training, the PKs should be ideal for this type of task. The communities chosen for demonstration activities in three of the four pilot provinces will be chosen with high enough levels of development to recognize health as an important aspect of well-being and with sufficient resources to utilize public health facilities and undertake community activities in health.\* A fourth province, which will be a less developed outer island community, will be chosen to explore the difficulties associated with implementing health education programs in lesser developed areas.

### (4) Obstacles

There do not appear to be any political, bureaucratic, religious, economic or cultural obstacles to the effective implementation of this project.

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\*It is believed that people from these communities should participate in the health education activities, and the test will center around developing procedures and methods for training various levels of health education staff.

(5) Communications Strategies

The health education communication strategies, media, and materials to be developed during Repelita III will become components of a national health education plan to be drafted by the Directorate and other relevant agencies within the MOH with assistance from the pilot communities. The findings from experimentation in pilot communities will be disseminated through a series of national health conferences and special health education meetings to be funded by the GOI at the end of this pilot undertaking in 1981/82.

(6) Spread Effects of the Sub-Project

The development of a national plan for health education will involve the participation of other relevant groups, especially those involved in health activities at community levels.

The nature and scope of the intended impact of this sub-project is primarily to bring about an improvement in health education plans, programs and techniques, particularly those focusing on manpower development at the national, provincial and regency levels. The organizational impact should be considerable. The degree and rapidity of the spread effect from developments in the pilot provinces will depend to a large extent on the institutional capabilities and the budget of the Directorate of Health Education. Improved capabilities of other agencies involved in health education and community development at the village level to plan and administer their programs will also be important. Increased budget for health education program expansion can come from several sources: MOH, Interior, local funds.

The Initial beneficiaries of this project will be the administrators, planners, health educators and researchers who will be directly involved in producing the outputs of the project, both in the MOH and other agencies, but the benefits will quickly spread to organizations that utilize improved health education plans for Repelita III, and eventually to the masses of people who need the knowledge this program will bring to them.

In the West Java health education model, all health center

personnel will receive in-service training from the Regency-level health education coordinators: the health center doctor will be expected to create the necessary motivation and supervision to assure the success of training activities. The impact of the health center on the community will be determined by the general quality of community services it provides. The present system of home visiting and other outreach efforts should also affect the impact of improved health education services on the community.

In the East Java health education model, the direct spread effect to the community is faster since one health education sub-coordinator at the Health center will be assigned specific responsibility to disseminate health education in the community. The PK, or primary health nurse, will receive community work experience during their formal training. The impact on communities that use this model will be more direct, and in the short run is likely to be more effective than the West Java model.

In the South Sulawesi health education model the major focus of activities has been through programs of the Ministry of Interior. LSDs (village social groups) coordinate all activities for community development with support from all ministries. Village heads, informal leaders, and private groups such as women's groups are also actively involved. Private groups are very influential throughout Indonesia and appear to be especially so on the outer islands.

The hierarchical system of government down through the village head from the regency and sub-district officers seems to be especially strong. The ultimate spread of health education ideas and activities will require firm support by the communities, hence the coordination of health education activities through a central group, such as the LSD, is important. The LSD is a formal unit, newly established over the last two years, which is responsible for all activities which promote social and community development. As the LSD becomes stronger, the success of community health development in the village should also improve. Past projects of a similar nature have indicated that the community is interested in coordinated development efforts, not just those related to health or family planning. Therefore, in order to maintain the interest of whatever community participation

groups that may be formed to undertake health development, health education coordinators will be called upon to respond to other areas of need.

The Health Education sub-project includes some audio-visual support for health center staffs, and the national health education plan will include specific project designs for improving communications and participation in media programs during the next Pelita (five-year plan). The time necessary to achieve the intended comprehensive spread effects is uncertain. Certainly the ultimate impact on the community in terms of changed ideas and behavior patterns is a show process, but it is expected that changes will be sufficient to be measured every two years or so during Repelita III (prior, mid and at the end of Repelita III).

c. Social Consequences and Benefit Incidence

The initial organizations to be helped under this sub-project have been defined under section b., above. There are no adverse effects expected from project implementation, since the improvement of health education should improve the access of individuals and communities to public health services. Also, with a better understanding of personal and community hygiene, the rural communities should be better able to prevent illness. With increased knowledge about the availability of services at the health centers and in the public health system in general, the utilization of health facilities by the rural population should increase perceptibly. The health education coordinators will circulate within communities where less educated and modernized groups live, and will provide them with information concerning health facilities which they may not have known about before. Health education activities of the MOH which have formerly been focused on the provinces of East and West Java should now be extended as rapidly as possible to cover the entire country. This project will help the GOI to move toward the attainment of that objective.

Health education activities to date in East Java, using the present Health Education specialists in approximately 40 villages, have shown excellent results over the past 18 months and are indicative of potential benefits to be derived from this type of program. During the past 18 months

five areas (including 45 villages) in East Java have been subjected to intensive health education activities. Achievements include the following:

Latrines built	194 (each serves 5-10 people)
Trash areas selected	148
Improved ventilation	114 (homes)
Wells dug	40
Bathrooms constructed	11
Health Post constructed	1
Drainage pipes installed	39
Excreta pits constructed	11
Hedges planted	11

45 villages x 25 households per village x 6 people per household = 6,750 people as beneficiaries in this project area. As the health education project proposed here succeeds and is applied on a nationwide basis, millions of rural Indonesians will become direct beneficiaries.

#### 4. Primary Health Nurse Training Evaluation Sub-Project

##### a. Sociocultural Feasibility

##### (1) Organization

This subproject will be administered through the existing primary nurse training program of the MOH Center of Education and Training, and training will be done in the Primary Nurse (PK) schools throughout Indonesia. Therefore, no new organizations will need to be created. The nurse trainees will be recruited from the areas where they now live and where they will later be assigned. They will go to PK schools in their local regions, hence will be trained in the vicinity of the communities in which they will serve.

The concept of "a primary health nurse" is an innovative one which the GOI/MOH promoted through a national decree in 1976 that established minimum criteria for all future nurse training. Rural medical care will largely be the responsibility of the PKs, Indonesia's version of China's "barefoot doctors".

(2) Motivation

The PK program staff and the Director of the Center for Education and Culture want this subproject because it will expand manpower training and improve evaluation techniques within the PK program. Eventually, it is expected that people taught under this training program, together with those trained overseas, will have the skills necessary to undertake more general and continuing development of the PK program.

Participants to be included in an evaluation course that will be scheduled under this project will represent the important elements of both internal and external evaluation teams: nurse educators (training trainers), PK teachers, nurse education administrators at the national, provincial and school levels, including representatives from the Center for Education and Training staff who will be responsible for the program within the MOH, as well as members of social organizations concerned with the relevance of the PK to community welfare and, of course, the students themselves.

The evaluation training course, once designed, will be introduced into the curriculum of all PK schools.

There appears to be no obstacles to the effective implementation of the several elements of this sub-project.

b. Spread Effects

The intended impact of this activity will be on the National PK nurse training education system. The evaluation techniques taught in the course referred to above should improve the quality of teaching and provide trainers and administrators with a more innovative and dynamic approach to both teaching and curriculum development. Through changes in course content and teaching methods, brought about by this subproject, it is expected that the PK nurse will receive continuously improved and more relevant training and that his/her services to the community will be of increasingly higher quality.

The key leaders with whom this subproject will deal are the Director of the Center for Education and Training and

officials who have direct control over the development of PK curriculum and the conversion of existing nurse education academies and schools into PK schools. The success of nurse educators in applying evaluation techniques within their schools will be influenced by the motivation of the administrative heads of the schools. The understanding and enthusiasm of the PK trainers for community-based medicine, its composition and application, will be important to the success of the program.

The support of the community for the PK program will depend not only on the quality of PK performance, but also on support of their work by local civil government officials, village leaders, and community groups such as women's groups. In the past, the preparation of the community for receipt of the PK concept seems to have been adequate. To date, ten schools have been converted into PK re-training centers, and the community response to the newly graduated PKs has been good. Continued success of the larger program, however, will depend on the development and implementation of an effective continuing program evaluation process carried out in large part by PK nurses themselves in the communities to which they are assigned.

c. Social Consequence and Benefit Incidence

The initial beneficiaries of this project will be PK nurse educators and PK trainees. Community recipients of PK services, however, will be the ultimate direct beneficiaries of a continually self-improving primary health nurse program based on effective self evaluations. There do not appear to be any potential adverse side-effects to the implementation of this sub-project as proposed. Any problems which the overall PK program may face will be lessened as a result of planned evaluation activities which will lead to immediate efforts to correct weaknesses found in the program.

5. Expanded Community Immunization (EPI) Preparatory Subproject

a. Sociocultural Feasibility

### (1) Organization

The Directorate General of Communicable Disease Control (CDC) will implement an Expanded Immunization Program. At the provincial and local levels, the program will use the existing MOH structures. At provincial levels, CDC directors and immunization program directors will be in charge and at health center levels, health center doctors and vaccinators from prior smallpox programs will be involved. (PKs, Family Planning workers, malaria workers and sanitarians may also be used). Thus, the implementation infrastructure is essentially already in place and no new organizations will be required.

### (2) Motivation

The Ministry of Health strongly supports this subproject and the plan for a nationwide EPI program. The EPI Program Staff sponsored a provincial workshop in July, 1977 in which provincial officials had opportunities to discuss details of the planned EPI program. In order to ensure full cooperation of the provincial officials, those provinces requesting the EPI program in their area will receive first consideration. The program is later expected to include all provinces.

At the village level, recent reports have indicated that there is a rising reluctance on the part of the community residents to receive immunization. This situation is due to some adverse side effects of previous programs, such as the BCG program in which some vaccine was too potent for babies, causing swelling of the arm lymph nodes. The EPI, therefore, will require careful field preparation before implementation, with emphasis on health education.

Because all ethnic tribal and language groups of Indonesia eventually will be serviced through this program, the adaptation of field preparation activities to local conditions is very important. It is planned that health education specialists in the relevant provinces will assist the EPI program technicians to develop health education materials adapted to each region and preliminary discussions have been held between the EPI leaders and the Directorate of Health Education to make the necessary plans. The

Directorate of Health Education will be focusing on substantive aspects of this field preparation in planning workshops to be held in January 1978 and later.

The EPI Director and staff has requested from USAID the assistance of one long-term consultant who is an expert in management of immunization programs and epidemiology to assist with the preparatory stage of this EPI program. The person selected should be attuned to the importance of the broad range of cultural differences that will be encountered in Indonesia.

### (3) Participation

During its preparatory phase, the EPI program will test various organizational and logistics strategies and undertake technical research believed to be necessary for the actual beginning of a large EPI program in 1979. The primary participants during this initial phase will be the central MOH staff of the EPI and the provincial MOH/CDC staff members. By the end of the two year commitment of the long term USAID sponsored Epidemiologist and Management Consultant, most of the provincial organizations should have been tested and administrative constraints to program implementation should have been worked out. If so, the GOI EPI central staff should be able to implement the program without further long-term consultant assistance. Follow-up activities in terms of short term consultants and commodity support are planned under a large USAID grant-loan to be used in the EPI program beginning in FY 1979.

#### b. Spread

The Director and Staff of the EPI program will disseminate knowledge gained during a community immunization preparatory phase subproject to all parts of the national health system. Plans for the possible involvement of other government organizations, such as the military for logistical support, are still incomplete. The implementation of such coordinated support will have to be worked out at ministerial levels, if not higher.

The EPI program itself will be implemented at the local level by vaccinators trained by the MOH. In order to reach

the target recipient population, the vaccinators will normally request all villagers to meet in one spot, such as the village social hall. The village head and informal leaders may assist in recruitment so all of the people of the community will be available to receive the shots. Massive cooperation will be required if full coverage of Indonesia is to be achieved by the end of the Repelita III in 1984.

Other AID-assisted projects which will assist this program are the PK Nurse Training Project and the Health Education subproject. The PK Nurse project will train primary health nurses who will undertake field preparation of communities and will assist with the vaccinations. The Health Education subproject will coordinate with the EPI program as stated above. Health Education specialists will assist with field preparations through the use of mass media and facilitator groups.

c. Social Consequence and Benefit Incidence

Primary beneficiaries will ultimately be the entire rural population of Indonesia. The EPI program in general will greatly increase access of the poor to immunizations against smallpox, tuberculosis, tetanus, neo-natal tetanus, whooping cough and diphtheria. By the end of Repelita II, the EPI program will have reached approximately 20% of the population, and by the end of Repelita III, it is expected that at least 80% of the population will have been vaccinated against these diseases.

#### D. Economic Analysis

The major objective of this project is to improve the institutional capacity of the Ministry of Health to deliver the basic health services needed throughout Indonesia and thereby improve the quality of life and the economic efficiency of the population. The underlying purposes of the major activities can be identified as: institutional development research, manpower development, evaluation, pilot project activities, and project design. The individual activities have been selected on the basis of two criteria: the potential impact of the activity on the Ministry of Health and its effectiveness; and the opportunity factors, or set of conditions that creates a set of circumstances that makes this an appropriate time to initiate action. Because the main thrust of the project is institutional development, it necessarily deals with an intermediate product, i.e.: the development of the Ministry of Health or the institution that is ultimately responsible for improving the delivery of health care. When a project is focused on institutional development and the ultimate benefits of the project are not readily identifiable, it is generally recognized that benefit/cost and internal rate of return analysis are not generally useful. For similar reasons, cost effectiveness or least cost types of analysis are not entirely appropriate. The project has been designed with a concern for cost effectiveness but the considerations have been more implicit rather than explicit. Each project activity has been designed to effectively and economically address the identified problem; however, in designing the subprojects, the costs of alternative methods were not explicitly calculated for comparative purposes because the approach selected for each sub-project is direct and uncomplicated.

## PART IV: IMPLEMENTATION PLANNING

### A. Administrative Arrangements

The Secretary General of the MOH through the Ministry's Assembly of high level policy makers, whose acronym is RAKORPIM, has delegated administrative authority for the implementation of this project to the Bureau of Health Planning. Further, the mechanisms that are being established for handling this project will be used for all future foreign donor assistance to the MOH.

The Bureau of Health Planning (BHP) will review all Project Agreements before they are referred to the Secretary General for signing. The progress of foreign donor assisted projects will be recorded through periodic technical progress reports that will be submitted to the BHP by the administering unit. These reports will be expected to deal with any implementation problems that are being encountered, hence will provide an early warning to BPH when projects are lagging behind their schedules. Copies of reports will be submitted to USAID as specified in implementation and evaluation plans contained in the PP. Hence, should a project fall far behind with scheduled activities, further disbursements from both USAID and the GOI may be jeopardized.

The Secretary General of MOH will be kept fully informed about progress (or the lack of it) in all foreign donor assisted projects. This will enable him to take corrective action when such is indicated. It will also help him to better synchronize allocations and disbursements of GOI development funds to improve the overall impact on health problems.

This new method for handling foreign donor assistance represents quite a step forward from past procedures. Heretofore, the Secretary General's office did not maintain a central file on foreign donor assistance. Now he has stated that it will be the responsibility of his office to fit together various project components and to review and evaluate project progress.

Participant Selection and Placement:

In response to USAID expression of concern about participant selections and their placement after they complete their training, the Secretary General has taken affirmative action. During a recent workshop for Repelita III planning, he stated that the Chief of the Planning Bureau should assist other bureaus in planning for participant selection, and that participants should each be interviewed by him before being chosen.

The Bureau of Planning has agreed in principle with USAID that placement of participants who are to be sent abroad for training should take place before they depart for training. USAID is aware that the three provincial planner participants who have been selected for training in FY 78, under the Bureau of Planning sub-project, have been carefully chosen. The same is true for the Health Research and Development Sub-Project participants for FY 78.

Contractor Support:

Included in this project are funds for a Personal Services Contractor to assist the GOI in managing the various components and in developing procedures for coordinating and implementing the diverse sub-projects outlined in this Project Paper. Budgets include funds for long-term consultant housing and support costs.

Consultant Contracts:

Contracts will be signed directly between AID and the Technical Consultants and/or consulting firms.

Sub-Project Cancellation:

Should any project be cancelled, unexpended funds will be returned to USAID.

Final Reports:

The final three months of sub-project investigator Technical Services fees will be withheld until receipt of final reports.

## B. Implementation Plan

As noted above, each of the sub-project descriptions (Annex B) includes an implementation plan and an evaluation plan developed by specialists in conjunction with the project description. Coordination among the provinces selected for health research, health planning, and health education activities might have occurred during PP preparation, but this did not appear to be administratively feasible. Actual decisions were made separately for each sub-project by the various technical units implementing each part of the grant, even though the Bureau of Planning was in charge of coordinating the whole grant. The major aspect of Bureau of Planning coordination was the "Manpower aspects" of each activity. No mention was made of coordinating time schedules between the various technical units, yet there does appear to be a good deal of informal communication among the various health technical offices. USAID believes that coordination at the technical level can also be achieved through close communication with and among USAID consultants.

## C. Evaluation Plan

The project will be evaluated annually in accordance with Agency evaluation procedures which require that an annual PAR be submitted for the project. Month-to-month evaluations will be made through study and analysis of MOH and consultants' reports. As planning, evaluation, and management information systems get on track, more useful monitoring tools will become available.

In addition to the above, USAID plans extensive in depth field evaluations for 1979, 1981 and 1982 which will review overall project progress.

### In-Depth Evaluation Schedule

#### First Evaluation. November, 1979

The experimental nature of this project makes frequent in-depth field evaluations, at the purpose level, highly desirable.

Because sub-projects vary in length from 2½ years to

5 years, and there must be an evaluation prior to the end of each sub-project to allow for corrective action, the first evaluation (apart from "Beginning of Project Status" - BOPS) will be at 18 months. Scheduling it at this time will provide guidance to USAID and the MOH at the very outset of Repelita III with respect to specific problem areas.

Second Evaluation: November 1981

A second in-depth field evaluation will be held at the end of 3½ years. At this point:

- The Health Planning sub-project will be completed and final reports prepared.
- The Health Research and Development sub-project will be entering its final stages and outputs should be apparent.
- The Health Education Sub-Project will be preparing for its third participation in household and community surveys.
- The Primary Health Nurse sub-project will have been completed and efforts will be being made to expand the use of training and evaluation findings to other areas of health education.
- The Community Immunization Feasibility Study Sub-Project will have been completed and the Expanded Immunization Program should be underway. Problems encountered in implementing the larger program will permit this evaluation to assess the value of the feasibility study.

Third Evaluation: November 1982

The Third Evaluation, at 5 years, will assess Project Purpose realization and progress toward goals.

Evaluation Teams

Field evaluations will be conducted by teams made up of AID/Washington, USAID and MOH representatives, plus a

member from a private or academic group in the United States. In addition, USAID will recommend that one or two Indonesians not directly associated with the Ministry of Health be asked to participate in the evaluation. These team members might be well-known individuals from academic, or non-government institutions, or perhaps from another government body such as BAPPENAS.

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ANNEX A  
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ACTION: AID-15  
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SUBJECT: HEALTH TRAINING, RESEARCH, AND DEVELOPMENT  
 PRP

RR

REFS: (A) JAKARTA 14931 (B) STATE 189665

1. SUBJECT PRP APPROVED. APAC IDENTIFIED FOLLOWING ISSUES TO BE ADDRESSED IN PP:
2. PRIORITY AND RELEVANCE - AS DESCRIBED, PROJECT WOULD STRENGTHEN CAPABILITIES OF MINISTRY OF HEALTH AT ALL ADMINISTRATIVE LEVELS BUT WITHIN ITS PRESENT ORGANIZATIONAL FRAMEWORK AND PROGRAM ORIENTATION. PP SHOULD IDENTIFY MOST CRITICAL CONSTRAINTS TO EXPANDING/IMPROVING HEALTH SERVICES AND DISCUSS WHY SUBJECT PROJECT REPRESENTS BEST ALTERNATIVE FOR ADDRESSING THESE CONSTRAINTS AND IMPROVING HEALTH STATUS OF INDONESIA'S POPULATION, ESPECIALLY POOR MAJORITY. WHY, FOR EXAMPLE, DOES PROJECT FOCUS ON BROAD INSTITUTIONAL CAPABILITIES RATHER THAN ASSIST IN EXPANSION/IMPROVEMENT OF DELIVERY SYSTEM AND BASIC HEALTH SERVICES? WHAT IS POSSIBILITY OF INCLUDING ADDITIONAL SUB-PROJECT(S) THAT ARE MORE DIRECTLY CONCERNED WITH DELIVERY SYSTEM? GIVEN

SECTOR-WIDE OBJECTIVES OF PROJECT, PP SHOULD SUMMARIZE AID'S HEALTH SECTOR STRATEGY CONSISTENT WITH DAP AND LINKING SUBJECT PROJECT TO OVERALL STRATEGY.

3. DEFINITION OF PURPOSE/SUB-PURPOSE - FOR SEVERAL SUB-PROJECTS, SUB-PURPOSES AS DEFINED DO NOT APPEAR ACHIEVABLE WITHIN TIME-FRAME OF THIS PROJECT. FOR EXAMPLE, SUB-PROJECT ON PRIMARY NURSE TRAINING PROGRAM COULD NOT REALISTICALLY EXPECT TO PRODUCE UNIFORM CADRE OF NURSES TO PROVIDE IMPROVED SERVICES IN A THREE-YEAR PERIOD. PP SHOULD SET REASONABLE EXPECTATIONS FOR END-OF-PROJECT STATUS FOR OVERALL PROJECT AND INDIVIDUAL SUB-PROJECTS. USAID SHOULD WEIGH ADVANTAGES OF FIVE-YEAR TIME FRAME VS. THREE YEARS DEPENDING UPON DEFINED PURPOSES. IF USAID LONGER-RANGE DEVELOPMENT STRATEGY INCLUDES POSSIBLE FOLLOW-ON PROJECTS TO ASSIST IN REPLICATING SUCCESSFUL RESULTS OF THIS PROJECT, SUCH INTENTIONS SHOULD BE MADE EXPLICIT IN PP.

USAID ROUTING		
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MGT, C&R		

4. CRITERIA FOR SUB-PROJECT FINANCING -- SUB-PROJECTS, THOUGH WELL-DEFINED, ARE STILL CONSIDERED ILLUSTRATIVE BY USAID PER REF A. PP SHOULD DEFINE CRITERIA FOR APPROVAL OF SUB-PROJECT FINANCING. ONE SUCH CRITERIA SHOULD BE RELEVANCE OF SUB-PROJECT TO IMPROVING DELIVERY OF HEALTH SERVICES TO POOR MAJORITY.

5. SOCIAL SOUNDNESS ANALYSIS - PP SHOULD DISCUSS HEALTH ATTITUDES AND PRACTICES OF TARGET POPULATION, ROLE OF TRADITIONAL HEALTH SERVICES AND LOCAL PRACTITIONERS, AND LIKELY EFFECT ON PROGRAM IMPROVEMENTS INTENDED BY SUBJECT PROJECT. TO WHAT EXTENT WILL, FOR INSTANCE, SOCIOLOGISTS HAVE A ROLE IN MOH AND ON AID-FINANCED CONSULTING TEAMS?

6. RESEARCH EMPHASIS - IN LINE WITH STRONG CONGRESSIONAL VIEWS CITED PARA 6 REF B, PP SHOULD BE ABLE TO DEMONSTRATE THAT AID-FINANCED RESEARCH UNDER PROJECT WILL HAVE PRIMARY CONCERN FOR IMPROVED HEALTH SERVICES, ESPECIALLY TO RURAL AREAS AND TO POOREST SEGMENTS OF INDONESIAN POPULATION.

7. NUTRITION ACTIVITIES - TO WHAT EXTENT IS MALNUTRITION A FUNDAMENTAL HEALTH CONSTRAINT IN INDONESIA? HOW WILL NUTRITIONAL ISSUES AND THE INTERDEPENDENCE OF NUTRITION AND HEALTH BE ADDRESSED IN SUB-PROJECTS?

8. RELEVANT EXPERIENCE - PP SHOULD DESCRIBE RELATIONSHIP BETWEEN SUBJECT PROJECT AND OTHER AID-FINANCED ACTIVITIES IN HEALTH SECTOR IN INDONESIA, E.G., RURAL SANITATION MANPOWER DEVELOPMENT. ALSO, NATURE OF PROJECT'S INTERFACE WITH OTHER DONOR ACTIVITY IN HEALTH SECTOR, PARTICULARLY EXTENSIVE PROGRAM OF WORLD HEALTH ORGANIZATION.

9. EVALUATION - PP SHOULD CONTAIN SUMMARY OF RESULTS OF PLANNED CY 1977 EVALUATION OF EXISTING HEALTH RESEARCH AND DEVELOPMENT PROJECT AND SHOW HOW DESIGN OF SUBJECT PROJECT HAS INCORPORATED EXPERIENCE FROM EARLIER PROJECT. FOR PURPOSES OF EVALUATING SUBJECT PROJECT, END-OF-PROJECT STATUS AND OUTPUT SECTIONS OF LOGICAL FRAMEWORK MATRIX SHOULD BE MADE CONSISTENT WITH PURPOSE/OUTPUT STATEMENTS FOR INDIVIDUAL SUB-PROJECTS.

10. IMPLEMENTATION ARRANGEMENTS - PP SHOULD DISCUSS ADMINISTRATIVE PROCEDURES TO BE USED BY AID AND MOH TO IMPLEMENT PROJECT, INCLUDING SUB-PROJECT APPROVAL AND FINANCING PROCEDURES. WHAT OFFICE OR OFFICES WITHIN THE MOH WILL BE RESPONSIBLE FOR ADMINISTERING PROJECT. WHAT ARE ITS CAPABILITIES? WHAT DISBURSEMENT PROCEDURES WILL BE USED?

11. INITIAL ENVIRONMENTAL EXAMINATION (IEE) -- IEE FOR SUBJECT PROJECT BEING PREPARED IN AID/W. WILL ADVISE.

12. COMMENTS ON SPECIFIC SECTIONS OF PRP - (1) PAGE 4, LAST PARA. STRESSES THAT ALL TRAINEES WILL BE EXPECTED TO ACQUIRE BACKGROUND IN STATISTICS. WE BELIEVE THAT BROAD FOUNDATION SHOULD ALSO BE PROVIDED IN HEALTH ADMINISTRATION AND FOR RESEARCH STAFF, MANAGEMENT OF RESEARCH; (2) QUESTION PRACTICALITY AND COST-

EFFECTIVENESS OF TRYING TO PLACE PHYSICIAN SPECIALISTS  
IN RURAL AREAS PER LAST PARA OF PAGE 9; ALSO  
QUESTION VALUE OF GIVING HONORARIUM TO TRAINEES PER

LA

ST PARA OF PAGE 13.

13. PROJECT DEVELOPMENT REQUIREMENTS - REQUEST USAID  
PROVIDE ADDITIONAL GUIDANCE ON CONSULTING REQUIREMENTS  
FOR DEVELOPING PP. IN THIS REGARD, SUGGEST USAID  
ASSESS POSSIBLE NEED FOR ASSISTANCE IN (1) EXAMINING  
CONTINUED RELEVANCE OF DAP AND (2) DESIGNING SUB-  
PROJECT FOR IMPROVEMENT OF DELIVERY SYSTEM.

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Health Planning Sub-Project

1. Background

a. Role and Structure of the Bureau of Health Planning

The role of the Bureau of Health Planning (BHP) has steadily increased since the start of Pelita I, the first five-year plan, in 1969. At that time, the number of qualified manpower with planning skills was very limited. Since then, and especially since a reorganization in April 1975 which placed the BHP within the office of the Secretariat General of the Ministry of Health (MOH), this growth has resulted in a staff of 21 professionals within the BHP.

The main tasks of the BHP, as mandated in 1974, are as follows:

- (1) to formulate the long term, medium term, and short term (annual) health plans
- (2) to coordinate the health planning process with the overall national planning process at central, regional and provincial levels.
- (3) to prepare the annual health budget in cooperation with the Ministry of Finance
- (4) to monitor and evaluate the implementation of health projects
- (5) to plan, in cooperation with the Bureau of General Affairs, for improved efficiency in MOH operations by analyzing internal management procedures within MOH
- (6) to collect, analyze, and present data needed for health planning and evaluation

To accomplish these tasks, the BHP is organized into four divisions: Data Collection and Processing, Routine Planning, Development Planning, and Evaluation and Reporting.

The BHP also has supervisory and guidance responsibility over planning units that now exist in the central MOH. At the provincial level, there exists a centrally funded planning group concerned with provincial planning, who also receive technical supervision and guidance from BHP. The local level for management in Indonesia is the Regency, where the Regency Health Officer (Dokabu) plans and supervises the implementing units - the health center (Puskesmas), the hospital, and the outreach services.

b. Current Planning Problems

The BHP is now heavily engaged in early preparation for the five year plan for Repelita III which begins in 1979. As they have analyzed their workload over the next few years with regard to this major activity, the following problems and constraints for the health planning process have emerged<sup>1</sup>:

- (1) an insufficient number of trained health planners exists, especially at the provincial level
- (2) the detailed comprehensive management system for planning, implementation, and evaluation is not yet completed for the central as well as the provincial levels
- (3) existing planning methods and procedures are not technically adequate to meet the demands on the BHP, especially with regard to provincial and regional planning
- (4) the existing information data base is not sufficient for good planning and existing information is often not relevant or reliable
- (5) there is not adequate coordination between health planning and other sector planning nor is there an integrated problem-solving approach for beginning such a coordinated effort

As noted in problem (4), there exist major gaps in information for planning. High priority areas include the following:

1. Hapsara, Health Planning in Indonesia, paper prepared for ASEAN meeting, Jakarta, March 15, 1977. (Dr. Hapsara is the Chief of BHP)

- (1) information about health services through the health center system
- (2) information about measures of health status which will be used for long term evaluation of the burden of illness on the population
- (3) information about the current manpower situation and future needs
- (4) information about financing, especially unit costs of various activities

Other related information needs include the following:

- (5) what is the present and expected future role of the private sector in the supply of health services?
- (6) what is the estimated level of expenditures for private sector services now and what are estimated future trends?
- (7) what is the productivity of health workers by type and how do changes in productivity affect future manpower needs?
- (8) what should be the role of the community in health planning?

The BHP has also been asked by the Secretary General of Health to pay technical attention to manpower development. Specifically, the BHP is required to establish a data system for the monitoring of manpower and facilities. As part of the manpower monitoring, the BHP has been asked to create a Career Development System for its health manpower, particularly for doctors, as recruitment and retention of young doctors for rural service is difficult. The Career Development System should eventually be expanded to all health workers and should include not only career development but also closer attention to personal needs to enhance morale and productivity.

c. Proposed Solutions to the Problem

The BHP has attempted to solve its problems in a number of ways. There now exists a series of projects (some USAID-assisted) to meet some of the problems, and this PP proposes to assist in solving others. The BHP itself is actively working to improve its function, and has requested a number of consultants to supplement this process. Some WHO consultants are now working in the BHP. Listed below are the major problems, proposed solutions, and current status:

<u>Problem</u>	<u>Proposed Solution</u>	<u>Status Now</u>
1. lack of trained planners	in-country & U.S. training	request to USAID: See "Detailed Description"
2. incomplete management system for planning, implementation and evaluation	consultant	request to USAID: See "Detailed Description"
3. inadequate planning methods and procedures especially in provincial and regional planning	consultant	request to USAID: See "Detailed Description"
4. insufficient and unreliable data base for planning		
a. information on health center system	a.1. Brebes project of NIHRD	3rd year of research
	a.2. Serang MIS project of NIHRD	1st year of research (USAID funded)
b. health status indicators	b.1. Indonesian consultant (Dr. Pardoko)	project underway (USAID funded)
	b.2. Serang MIS Project of NIHRD	1st year of research (USAID funded)

- |  |   |   |
|--|---|---|
| c. manpower information system   | consultant  | request to USAID:<br>See "Detailed Description" |
| d. financial information system  | d.1 Study by Office of Inspector General            | begins 1977                                     |
|  | d.2 Serang MIS Project of NIHRD                     | 1st year of research funded by Project 230      |
| 5. inadequate coordination and lack of methodology for cross-sector planning         | consultant  | request to USAID<br>See "Detailed Description"  |
| 6. lack of good personnel management for health workers (Career Development Program) | research project proposed to NIHRD                  | request to USAID:<br>See "Detailed Description" |
| 7. research problems   |   |   |
| a. role of private sector in provision of health care services and expenditures      | research project proposed to NIHRD                  | early planning stage                            |
| b. health worker productivity  | research project proposed to NIHRD (WHO consultant) | early planning stage                            |
| c. role of community in health planning  | possible research project to NIHRD                  | not started                                     |

As can be seen above, the BHP is relying on USAID assistance. The three consultants provided by WHO will be assisting in many projects but their specific assignments do not conflict with proposals to USAID. One of the consultants (a statistician) is working to assist the development of

management information and data management systems within the BHP. Another, (a health planner) is specifically working on the next five-year plan, and the third ( a health economist), is working on the financial aspects of planning.

d. History of Health Planning Training in Indonesia

The first in-country training in health planning and related health services management topics began in 1971. At the present time, three different courses have been given in these areas. They are described below.

Health Planning Course

The Institute for Health Services Research in Surabaya offered a course in health planning from 1971 to 1974. This course lasted 4 weeks. Most participants were provincial health officials during the first two years and regency level officials in the latter two years. The course content was general in nature. Principles of health planning were taught along with general development subjects, health problems of Indonesia, and principles of public administration. A practical exercise in regional planning was included.

Because the state of health planning was rudimentary in Indonesia at that time and because provincial officials had not had previous training in planning, detailed planning methods were not taught. There were no subject areas such as forecasting, manpower, or evaluation and, in fact, the information base to conduct realistic training in these areas was lacking.

The courses were formally discontinued in 1974.

OR/SA Courses

A successor to the Health Planning Courses has been offered in Surabaya over the last two years. The OR/SA courses (operations research/systems analysis) have been developed and tested as a WHO-assisted project. There are two courses plus an introductory program.

Course 1: Management Science Course

This series of 9 problems teaches classical operations research techniques applied to the health field. The course participants have been central and provincial level officials. The course content is very technical and many of the problems use linear programming methods of a highly advanced nature. The focus is on operational planning, scheduling, transportation problems (shortest path), and other OR subjects.

Unfortunately, the problems are not closely tied to the actual jobs of the participants and it is presently difficult to apply these advanced techniques in the planning process at either central or provincial levels. The Bureau of Health Planning does not feel that this course specifically helps it meet its present planning problem of lack of trained planners.

Course 2: Field Management Course

This course is offered to regency level personnel and most participants have been physicians. The course content is focused on specific kinds of issues important in operating a health center such as health education strategies, nutrition strategies, how to diagnose and manage an infectious disease epidemic, and so forth.

There is one problem on working with the community and its leaders that could, if adapted, be helpful in defining community interests for "community-based" planning.

Course 3: Management Training Course

The center for Education and Training (CET) of the Ministry of Health offers a three week course in principles of management. The participants are regency level personnel and the course content is devoted to the human aspects of management. The philosophy of the training is that people who are included in decisions are happier and more productive workers. The techniques used in the course include group sensitivity training and the objective is to sensitize managers to the needs of their workers. No specific functional skills are taught.

## 2. Detailed Description

### a. Strengthening Health Planning and Evaluation at the National Level

#### Functions to be performed by the Bureau of Health Planning:

to formulate short/medium/long term plans

to coordinate the health planning process at the National/Central and Provincial level

to prepare the annual health budget

to monitor and evaluate the implementation of health projects

to assist in planning for improved efficiency in MOH operations

to collect, analyze and present data needed for health planning

The BHP undertakes general comprehensive planning functions as a staff organization to the Secretary General of the Ministry of Health. In this capacity at the National level, the BHP must coordinate with groups both within and outside the Ministry of Health. Specifically, the BHP is required to work in conjunction with the National Planning Board and the Ministry of Finance to coordinate health plans with National development plans and finances. Within the Ministry, the BHP must work with planning units in each of the Ministry's Directorates and with Provincial planning units located in each of the 27 provinces. These planning units are not under the BHP's direct control and therefore require a great deal of coordination and negotiation.

The focus of this subproject is the institutional strengthening of the health planning process. Section 2 reviews this institution building at the provincial level; the focus is primarily on the development of better planning methodologies and on the training of provincial health planners.

At the national level, institutionalization of the planning process is also the main focus of activity. Here international donors are providing inputs to augment the staff capabilities at the BHP in order to develop better planning methodologies, to design a comprehensive data system and to assist in the management of the planning process itself (see Table 1). The major source of assistance, the World Health Organization (WHO), is providing assistance in:

- the development of the five-year plan
- the economic considerations in national planning
- the development of a planning data system

AID is being asked to help the planning process by providing expertise in:

- manpower planning
- personnel management systems (career development systems)

Dr. Hapsara, the Chief of the Bureau of Health Planning, believes that the overriding constraint on the functioning of the health system in Indonesia at the present time is the shortage of trained manpower at all levels of organization. It is this need, rather than the lack of any other resources (e.g. money) that has limited the health system's effectiveness.

Simply put, manpower planning is the process by which future demands for manpower are matched against future supply of personnel in order that there is neither an under-supply nor an abundance of health staff. While manpower planning is not difficult in concept, formulation of the plan often proves to be a tedious task. This is true primarily because planning must rely on accurate information which, in most countries, is not forthcoming. To understand the components of the manpower planning process let us look at a model suggested by Baker, et. al.<sup>2</sup>:

1. Supply analysis: measuring the current supply of all types of health workers in some detail.
2. Baker, T.D., "Health Manpower Planning", Chapter 10 in Health Planning, William A. Reinke (ed.), The Johns Hopkins University School of Hygiene and Public Health, 1972.

2. Projection of supply: projecting the supply of health workers forward to target dates 10 to 20 years in the future, with anticipated additions of new graduates and estimated subtractions for death, migration, retirement and change of profession.
3. Demand analysis: evaluating the effective economic demand for health services from both the private and public sector.
4. Projection of demand: projecting the effective economic demand forward to the 10 to 20 year target dates.
5. Productivity: estimating the average number of services per health worker per unit of time.
6. Will future supply match demand? Recommendation to effect a balance: comparing the projected supply with the projected demand and recommending necessary adjustments to effect a balance.
7. Constraints: describing the limiting factors inherent in any recommendations made.

If accurate information about the current state of affairs is not known or cannot be estimated or if projections are not based on a firm understanding of the country's future path, the manpower planning process will be useless. Since this planning is so vital to the development of the health infrastructure in Indonesia, AID intends to provide a long term consultant to assist in its establishment.

In addition to manpower planning, manpower management within the Ministry has also proven to be a constraint on the development of an adequate cadre of workers.

In new initiatives such as the "young doctors" program, for example, the operational aspects of the program may invalidate what otherwise may be a solution to critical manpower needs. For this reason, the second part of AID's input is addressed not primarily at planning, but rather on the development of a functioning personnel system to coordinate with and support new health manpower planning initiatives. Technical assistance, therefore, will be offered to the

Bureau of Personnel, the responsible agency for all personnel management within the MOH.

Currently, the Bureau of Planning is assisting the Bureau of Personnel with data on supply and utilization of health personnel because adequate personnel records are not kept. Doctors who have been assigned to rural areas for a three-year tour are often lost in the personnel record system and are not transferred on time; the result is that many leave Government service in frustration. Personnel placements are not systematically undertaken since there is not enough information available to allow for reviewing of eligible applicants.

To correct this situation, AID intends to assign a long term consultant to the Bureau of Personnel and the BHP. In conjunction with the manpower planning task, the consultant will assist in the design of an operational personnel system that will track each employee in the Ministry, catalogue their skills and status and provide timely health manpower planning information. The primary focus of this system is on management, the operation and control of manpower working within the Ministry, although a secondary, but important benefit of this personnel system is information needed for manpower planning.

### End of Project Status

An improved manpower plan exists for Repelita III and will have been integrated into the overall plan. Indicators of this will be:

- Detailed job descriptions exist for each health worker.
- Completed analysis of needs/demand, utilization and supply of health power which is comprehensive and quantified.
- Alternative manpower plans are developed and evaluated in terms of both effectiveness and cost.
- Repelita III has quantified targets for manpower recruitment, placement and training.

Capability exists at the BHP to continue the manpower planning activity. Indicators of this are:

- Manpower section of annual budget is developed exclusively by BHP staff with no loss in quality or analytic content.
- BHP staff undertake on-going analysis of manpower alternatives.

There is an improved personnel management system functioning at the Bureau of Personnel. Indicators of this will be:

- An up to date file on all MOH personnel.
- Regular personnel statistics are produced for management and planning purposes.
- Personnel assignments and transfers are carried out with the assistance of the personnel system.
- A "tickler" file report of upcoming personnel action is produced monthly or quarterly.

### Planned Outputs

The project outputs will include:

.A functional analysis of the operations of each health facility

.Job descriptions for all health workers including:

- functions to be performed
- training necessary
- standard activities
- interactions with other personnel

.An assessment of:

- the needs/demand for health personnel, both those funded centrally and those funded by the Provinces.
- the countrywide supply/utilization of health personnel.
- distribution of personnel by province and regency.
- the sources of manpower in the country, both formalized education/training organizations and traditional healers (midwives, etc.).

.Analysis of alternative strategies for manpower utilization including:

- more efficient organization structures.
- redefinition of job descriptions.
- use of traditional healers.
- use and development of allied health personnel (extension workers, etc.).

.Financial analysis of manpower strategies at the central and provincial level.

.Projection of education/training needs.

.Development and analysis of strategies for recruitment and maintenance of personnel including incentive schemes for rural service.

.Descriptive analysis of personnel system focussing on:

- recruitment policies
- transfer policies
- payment/incentive mechanisms
- civil service procedures and restrictions

.Recommendations within the constraints outlined, for modification of personnel procedures at the Bureau of Personnel.

.Specification for a manpower management information system (in conjunction with the manpower planning analysis).

.Design of a personnel management information system. At a minimum, the system will include personnel records on employees by:

- name
- category
- function
- skill level
- training
- location
- status,
- etc.

- .Implementation of the system through coding and manual operations for all central personnel.
- .Specifications for the computerization of the above system focussing on time requirements and cost of implementation.
- .Implementation of the computerized system.
- .Development of reports for management and planning including total personnel by category and location.
- .Job openings by category, etc. Extension of the system to include health personnel not directly controlled by the Ministry.

### Planned Inputs

#### Personnel

##### Long Term:

one manpower/personnel specialist with experience in the development of manpower plans for a health system in a developing country. Ideally, this person should have experience in the implementation of a personnel system as well as planning experience.

##### Short Term:

Definition of the short term inputs needed is dependent on the specific backgrounds of the long term consultants, their strengths and deficiencies, and the absorptive capacity of the BPH, since short term consultants can prove to be a drain on understaffed Ministries. The following consultants are the most likely inputs needed:

- one health manpower planner who has worked on the problems of health manpower development in developing countries.
- one health economist who has assisted in the analysis and financial assessment of international health projects.

TABLE 1

ASSISTANCE TO BUREAU OF HEALTH PLANNING

<u>TASKS</u>	<u>ORGANIZATION</u>	<u>PERSONNEL ASSIGNED</u>
1. Formulate Plans (Formulate Manpower Plans)	WHO	Dr. Lopez-Heacth
2. Coordinate at National/ Center/Provincial	AID	Health Planner/Man- power Training of Provincial Planners and development of Health Information System Economist
3. Prepare Annual Budget	WHO	
4. Monitor and Evaluate Implementation		
5. Assist in Planning for Improved Manage- ment Efficiency in MOH	AID	Management/ Personnel Specialist
6. Collect, Analyze and Present Data	WHO	Mr. Sadek - Statistician
7. Collect and Analyze Data	NIHRD	Dr. Pardoko/Central Bureau of Statistics Study
8. Management Infor- mation System De- velopment	NIHRD/AID	Long-term consultant

- one personnel specialist who has developed personnel systems for developing countries and, if possible, has worked in a health setting.
- one management information systems specialist/programmer who has assisted in the design of manual and computerized systems for governmental agencies.

### Local Costs

Data processing services - lump sum for procurement of computer time for data analysis, and storage, either for planning measures being generated from the annual surveys at the Biro Pusat Statistik (Central Census Bureau) or through a personnel data collection system to be established in the project. This sub-project grant includes \$36,000 for data processing costs (processing and storing).

### Fellowships

One long term (9 months) in statistics - collection and analysis

#### b. Strengthening Health Planning & Evaluation at the Provincial Level

This part of the project proposes to strengthen the health planning and evaluation systems at the provincial level in two ways:

- By strengthening the health planning and evaluation approaches and methodologies at the Provincial level.
- By the training of provincial planners and program directors (e.g. CDC, community health, medical care) and their staffs in the improved approaches and methods.

### End of Project Status

The project purpose is to strengthen health planning and evaluation approaches and methods at the province level. Conditions which will indicate that the purpose has been achieved are the following:

End of Project Status Conditions

.An improved quality of plan exists for Repelita III planning and for Annual planning. Indicators of improved quality include the following:

- relevant targets are quantified and a greater number of realistic impact and health status targets are set
- targets are put in priority rankings
- improved manpower forecasting takes place
- improved forecasting of demand for health services takes place
- improved financial analysis takes place

.Repelita III and Annual Plans will be completed on time

.Improved quality of evaluation through improved evaluation methods exists. Indicators of this include the following:

- a complete evaluation plan and schedule exists and is being followed.
- progress-to-date information is current, is displayed in a clear and concise format, and is being used to make management decision.

Planned Outputs

The project outputs include the following:

1. An improved management system for planning and evaluation within the provincial health offices. Indicators of this improved management are the following:
  - more precise job descriptions exist for all persons within the provincial health office who are involved in planning and/or evaluation
  - more precise work schedules exist for all persons involved in provincial planning and/or evaluation

- precise critical completion dates' exist for all aspects of the provincial plan
  - precise monitoring schedules exist for all evaluation workers
2. An improved data collection system for the gathering of planning and evaluation information. Indicators for this will mainly include:
- more specific indicators in the provinces for areas such as:
    - .health status
    - .physical and biological environment
    - .cultural factors in health
    - .health delivery outputs and inputs
    - .expenditures
    - .policy needs at province and local levels
  - more specific indicators for the central level from the provinces in areas such as:
    - .demographic trends
    - .special social and environmental factors
    - .economic trends
    - .health manpower
    - .policy needs at central level
3. Improved methods for forecasting of provincial health problems and needs. Indicators for this are:
- improved information on need and demand for health services in the provinces

- an improved method for manpower forecasting in the provinces to include precise information on manpower demand, stocks, utilization
  - precise information on revenue and expenditures by health units (hospitals, health centers) in the provinces including cost estimates by program type (e.g. MCH, CDC) and financial trends
4. Improved methods and approaches for the setting of objectives and targets. Indicators for this will be:
- target setting methods start with the effects to be achieved and work backwards to service outputs, methods to achieve outputs and then inputs
  - targeting methods develop clear relationships between effects and outputs, and between outputs and inputs including time and cost factors as well as technology requirements
  - target setting includes participation from the implementing units as well as the community
5. Improved methods and approaches for evaluation. Indicators for this will be:
- baseline data is gathered on all areas that are to be evaluated and is expressed in quantified and time-phased form
  - an improved evaluation plan that includes the data collection schedule for each indicator, how the information is to be collected and who will collect it, and the costs of the evaluation process.
6. A planning and evaluation manual for provincial level workers (draft) is developed.
7. At least 72 provincial health officials from at least six different provinces are trained in the improved planning and evaluation methods.

8. At least six provincial training courses will be held, each in a different province (including not less than two provinces outside of Java) on the subject of the improved planning and evaluation methods. A follow-up workshop will be held for participants from provinces.
9. At least nine health planners from the provincial level will receive training in U. S. institutions in health planning.

### Planned Inputs

#### Personnel

The following personnel will be required to do an effective job.

- One part-time Indonesian staff person of the Bureau of Health Planning with interests in applied management science with emphasis on planning and evaluation.
- One long-term consultant with specific skills in planning and evaluation, manpower, financial planning and general forecasting; operational management; information systems. This person should have health-related experience with an international focus.
- One short-term consultant with specific skills in training course development to include expertise in all aspects of curriculum development (objective setting, teaching methods, education evaluation). This person will be needed for three person-months in years one and two person-months in year three (one trip in year 1, two trips in year 2 and 3).
- One short-term consultant with specific skills in health planning and evaluation content in the developing country situation to collaborate in determining specific planning and evaluation indicators at the provincial level. This person will be needed for one man-month per year of the project.
- Two persons from each provincial health office for two months during the year their provinces are the main focus for improved methodology.

C.

(a)	24 man-months of long term consultants 2 consultants x 1 year x \$100,000/yr. 1 health manpower planner 1 health manpower management specialist	\$200,000
(b)	35 man-months of short-term consultants* 5 consultants x 7 mm x \$10,000/mo. 1 health economist 2 health planners 1 statistician 1 health planner/statistician	\$350,000
(c)	9 long term fellowships x 12 mo. ea. x \$1,000 per month	\$108,000
(d)	1 long term fellowship in statistics x 9 months x \$10,000 per year	\$ 10,000
(e)	In-service training at regency/ provincial workshops	\$23,000
(f)	Translators for consultants at provincial level	\$ 1,000
(g)	In-service training in software	\$ 4,000
(h)	Block grant* for archiving of data and development of health data module - 300 hours x \$120/hour	\$36,000
(i)	Commodities	\$ 6,000
	Sub-total (a - i)	<u>\$674,000</u> \$64,000
	TOTAL	\$738,000

\*others as needed through APHA

### 3. Implementation Plan

#### a. National Planning

In order to strengthen health planning and evaluation at the national level, this project is supporting two essential activities: the development of a manpower planning capability to be coordinated with the overall health plan; and the development of a personnel management support system. Since the Bureau of Health Planning is currently in the process of writing Repelita III, the National five-year plan, it is important to link this project's schedule with that of Repelita III. The health manpower plan should be an integral part of the overall health plan. However, the project timing will make it exceedingly difficult to have as much impact as desirable. The Bureau of Health Planning is expected to finish the program formulation phase of Repelita III by April 1, 1978 and the project formulation phase by April 1, 1979. The earliest date that AID can provide consultants is in February 1978. Although this leaves barely enough time to have an impact on the program planning process, the AID Consultant will be able to assist the BHP with annual short-term planning. While coordination with the personnel management system is necessary, the linkages are not quite as vital and this effort may more easily proceed at its own pace.

#### Operational Year One

Assuming that this project is initiated with sufficient time to impact on the five-year plan, the health manpower planner and a short term manpower consultant initially will undertake a functional analysis of the health system and will develop job descriptions for each of the health personnel. Since time will be a constraint, the analysis may have to be done in two phases, the first, a "quick and dirty" phase to insure inclusion of some manpower inputs in Repelita III, the second a more refined and methodologically pure analysis. Beginning in April, the health manpower plan may be more closely coordinated with the project formulation for Repelita III. Projections will be developed and utilized to form an initial set of manpower alternatives that subsequently can be analyzed, prioritized and selected.

During the first operational year, analysis will be made of the current personnel system both within the Ministry and within the GOI structure as a whole. A descriptive analysis will be completed within six months. The remaining six months will be used to carry out two tasks: the specification of policy alternatives for improved personnel functioning; and the development of the initial specifications for the personnel management system. At this stage, there will be a need to link the manpower planning requirements with the new personnel management system.

### Operational Year Two

The formulation of Repelita III will be finished during the first third of operational year two with project inputs focusing on the manpower aspects of the project formulation during this year. In the remainder of this year, more detailed operational plans will be developed for those projects selected for implementation. Focus also will be upon the development of recruitment/incentive schemes for rural health service.

The personnel management system will enter the detailed design and implementation phase. Six months will be needed to develop design specification, detailed forms, procedures and operational orders, leaving six months for implementation of the systems. The personnel systems initially will focus on staff directly under the control of the MOH and then, depending on the feasibility, expand to encompass all health workers. A decision will be made early in operational year two as to whether computerization is cost effective, with the actual computer programming (if this is the decision) to be carried out during the last half of the year.

### Operational Year Three

There will be continued need to refine and revise the health manpower plan, as will all health plans, during the annual budget exercise. Operational Year Three will be the first year in which all the manpower planning methodology will be in place. AID inputs will focus on problems that occur and on modifying unworkable or cumbersome techniques. Documentation of the health manpower planning process will be completed during this year.

The personnel management system will be operational, but will still need support as decision makers within the Ministry become familiar with its use. The operational procedures for modification and revision of the system will be analyzed along with the ongoing process of file maintenance and reporting in order that more efficient procedures may be instituted. Continued support will be necessary as (if) the system expands to encompass all health personnel. In this case, the level of management and complexity of the system will increase and will, therefore, require increased support.

b. Provincial Planning

Six to ten provinces will be chosen by the Bureau of Planning to receive assistance under the Health Planning Sub-Project, either through U. S. participant training or through provincial planning courses. The actual scheduling by year will depend on each province according to the criteria to be worked out by the MOH/BHP.

Operational Year One

The first year will be spent in development of the improved planning and evaluation methods. Two provinces will be selected and project staff will make at least two trips of not less than three weeks each to these provinces. They will do an in-depth analysis of planning and evaluation problems and from this analysis determine priority areas where improved planning and evaluation methods can be most helpful. Following this analysis, design work and pretesting of the new approaches will occur, and then further revisions will be made to fit the methods specifically to the problems uncovered. In support of this effort, necessary data for provincial planning will be identified and initial steps in the establishment of a planning and evaluation data system within these two provinces will begin.

To assure that a wide range of problems is uncovered, the two provinces will be at different stages of development. One province will be a "most developed" province and the other will be a "least developed" province.

In the last one-third of the first operational year, the development of training materials will begin so that training

courses can be offered in the second operational year. The training course material will rely heavily on the work earlier in the year on improved methods. Close collaboration between curriculum designers and planners will insure that the training material is specifically designed for the improved methods skills needed by provincial officials in their planning and evaluation work.

### Operational Year Two

Four major activities will take place during this year. In the early weeks of operational year two, a formal training course of ten teaching days will take place. At least twelve participants from each province analyzed in year one will be trained in the improved methods, and the training will assure that the skills required to use the new methods are imparted to the participants. The second activity will be to visit two new provinces and repeat the process used in year one: conduct an in-depth analysis of their planning and evaluation problems, design improved methods to help solve these problems, and conduct pre-testing of these approaches on a small scale. As before, information needs for planning and evaluation will be determined and initial steps in implementation of a planning and evaluation system for these two provinces will begin. Since the specialist methods should be more efficient during this second iteration, another formal training course can be given in this second group of provinces before the end of operational year two.

The third major activity will be to revise the curriculum and learning activities of the first training course based on an evaluation. Since planning and evaluation problems may be different in the new group of provinces, new material may also need to be developed which has special application in the second training course.

The fourth activity will be to revisit the first group of provinces on a periodic basis to help with the application of the improved methods and approaches to the actual planning so far undertaken. This revisiting process will also help clarify any problems encountered in the application of the new skills to the "real world." Further implementation of the data system will be assisted during these visits.

### Operational Year Three

The third operational year will be similar in work plan to the previous year. Two more provinces will be analyzed and improved methods for planning and evaluation will be developed. By the end of year three, this third group of provinces will receive the formal training course. The first and second group of provinces will continue to be revisited. Both groups one and two will be convened together in a workshop during this year to discuss planning and evaluation issues that they face in their respective four provinces. Central Bureau of Health Planning personnel will also attend this workshop.

During this year, planning and evaluation methods specialists will concentrate on improving the actual management of the planning process within the provincial health offices with specific tasks of insuring that precise job descriptions exist for planning and evaluation workers, and precise work schedules exist for all planning and evaluation tasks including critical completion dates for plan sections and detailed monitoring schedules for evaluators.

This year will also focus heavily on further refinement of this data system for planning and evaluation at the provincial level and for information needed from the provinces for central planning.

From the aforementioned work and from the training course materials, a provincial planning and evaluation manual for provincial level staff will be produced in draft by the end of year three.

### Participants

Nine provincial health planners will be sent for long term training (12 months) in health planning. Selections will be made very carefully by set criteria: current position in health planning, eligibility for transfer, eligibility for overseas training, etc. Three have been selected for 1978, and it is estimated that three will be sent in 1979 and 1980.

c. Evaluation Plan

The evaluations of this project will occur annually and will consist of establishing that the project is progressing according to plan. At the beginning of the three year project, baseline data will be gathered on indicators that are to be re-measured at the end of the three years (see "end-of project status" and "outputs" indicators in the logical framework.) The following baseline data should be collected by the 6th month of the project.

An assessment of two sample provinces in the following areas:

- (1) An assessment of the quality of planning including:
  - present target setting process
  - present manpower personnel and forecasting process
  - present forecasting methods for future services-planned and unplanned
  - present financial data system for planning
- (2) An assessment of the quality of evaluation provinces including:
  - existence of an evaluation plan and schedule
  - quality of evaluation plan and extent to which it is followed
  - display and use of evaluation information for management decisions
- (3) An assessment of management of the planning and evaluation process in the provincial health offices including:
  - present job descriptions
  - present work schedules for planning

-present monitoring schedules for evaluation

(4) An assessment of the present data collection system including:

- present indicators for provincial planning and their collection, accuracy and estimated cost
- present indicators for central planning sent by the provinces to the Bureau of Health Planning and their collection, accuracy and estimated cost
- present indicators for evaluation monitoring and their collection, accuracy and estimated cost

This baseline data collection will require two person-months of work including site visits to two provinces and report writing. The follow-up evaluation will also require two person-months of work near the end of the project.

d. Analysis of the Bureau of Health Planning's and AID's Administrative Arrangements

Bureau of Health Planning

The Bureau of Health Planning will assign one staff person to each long term consultant in this project. They will be ultimately responsible for the implementation of the project and will be assisted by the long-term consultant, provincial officials and the short-term consultants. Close collaboration will be maintained with the Center for Education and Training of the MOH in the areas of curriculum development and educational evaluation. It is hoped that the Center for Education and Training can supply some consultant help in the actual work of the project, but realistically, CET has a very heavy commitment to its own present training responsibilities and that is why a short-term consultant in curriculum development is needed.

The BHP will also be coordinating its efforts with the National Institutes for Health Research and Development with regard to its data system needs as the Serang and Brebes Information System projects will be developing reports and information flows that will strengthen the provincial planning and evaluation information base.

The development of the personnel system will be done in conjunction with the Bureau of Personnel. Close cooperation will be needed between the BHP and the Bureau of Personnel since the system developed will serve both these organizations. The Bureau of Personnel has been in full agreement with the initial planning for the personnel system.

The World Health Organization has input into this project through its consultants now in the BHP and a training expert who visited Indonesia in the summer of 1977 to review training needs at the central level specifically related to strategic planning for Repelita III.

Since this project involves a relatively small number of personnel, no particular problems are expected in coordination of these inter-organizational relationships.

The BHP is well qualified to carry out its role in project implementation. The BHP and the CET were named by the Secretary General of Health as the two best administered departments in the MOH last year. The BHP has become the focal point of central MOH planning as well as coordination of planning with the provinces. The BHP has also done most of the resource allocation planning and maintains a working relationship with the Ministry of Finance.

#### A.I.D.

The AID role in this project does not entail major administrative responsibilities. AID/Jakarta will monitor progress through yearly evaluations and will offer administrative assistance to the consultants or consulting groups. The burden of coordination with the other international donors, primarily WHO, will fall upon AID. At present, although there are a substantial number of consultants in the Bureau of Health Planning, all donors have been cooperative.

Health Research and Development Sub-Project1. Backgrounda. The Organization of the NIHRD

The 1974 DAP describes the genesis of the research arm of the MOH. In the 1974 ministerial reorganization, the research branch became the National Institute of Health Research and Development with the "ultimate purpose...to assist decision-making regarding strengthening of health services."

General plans for research activities of NIHRD as determined by the policies of the five year development plans and work actually proposed to or by NIHRD is said to be judged by its relevance to national health policy. A workshop in July 1973, prior to the implementation of Pelita II, outlined some nine general areas for research. These were: a) development, adaptation and testing of methods for planning, programming, management and evaluation of projects; b) implementation of action oriented epidemiologic studies on diseases of actual or potential importance leading to the development of control measures; c) development of health information systems; d) study of health care delivery to identify and test alternative approaches, develop medical care and other technologies (service packages), improve referral systems, identify and test administrative procedures, study the role of the private sector, study and identify the role of traditional treatment practices and their relationships to the public health sector; e) identification of ways to improve community awareness and participation in health programs and measurement of community behavior and satisfaction in relation to services provided; f) development of training procedures including task analysis, definition of educational objectives, development of teaching aides and methods of evaluating results of training; g) study of inter and intrasectoral relationships; h) studies to identify organization, administrative and managerial problems in order to improve the functioning of all levels of the health system; and i) study and develop methods for drug supply management, including pricing mechanisms.

Similarly, general areas for research emphasis have been tentatively identified in the preliminary process for Pelita III.

The NIHRD, as such, is now only three years old, although some of its constituent Centers antedate its establishment. The current organizational structure was set up in 1974. As a whole, the institute should still be considered in a developmental phase. Some of the Centers did not come into existence until 1975 and some have not yet reached authorized staffing levels.

The components of NIHRD are:

a) Office of the Director NIHRD. This office has responsibility for overall direction of NIHRD, for coordination with the operating sections of the MOH and for cooperation with research units in universities. The director is a physician with Director General functions who reports to the Minister of Health and has direct working relationships with the Secretary General, the Inspector General and the several Directorates of the MOH. The director of NIHRD serves on key committees of the MOH that are concerned with planning for Pelita III.

b) The Secretariat. This unit serves the administrative needs of NIHRD providing budget, finance and personnel services. It also processes documentation for intra- and extramural research, manages the administrative aspects of international assistance, assures that reports are received and issued, produces documentation for meetings and handles the Institute's central library. A small data processing unit is also included within the Secretariat to serve research centers in Jakarta. The head of the data processing unit maintains liaison with data processing firms in Jakarta.

c) The Center for Biomedical Research. This Center is primarily involved in laboratory research although, through its relationship with the Communicable Disease Directorate, it also provides laboratory backup for epidemiologic surveillance. It is responsible for biological standardization and is currently involved in standardization of DPT and BCG vaccines to be used in a national

immunization effort that is planned for Pelita III. The Center does work on development and standardization of laboratory techniques (e.g. for tuberculosis detection and for water quality control) for use in rural health centers. Major efforts that are either under way or planned include basic research and training on the immunology of filariasis and hookworm and on control of dengue hemorrhagic fever. In addition to close working relationships with CDC, the Center works in collaboration with the Ecology Center of NIHRD and with NAMRU.

d) The Center for Ecological Studies and Research in Health Management. This Center contains a number of disparate responsibilities, interests and functions, as follows:

1) The Disease Ecology Division is concerned with investigation into field methods for control of common health problems like hookworms and vector borne diseases such as malaria. Control methods may include various combinations of environmental sanitation, engineering and health education approaches. The Center assists in describing and monitoring the occurrence of diseases in transmigration areas as well as with studies of human factors influencing disease occurrence in these areas.

2) The Division of Physical Environment. This division supports the CDC Directorate's Research efforts to help improve rural water supply and waste disposal systems. It develops and tests standardized designs for these systems under a variety of environmental conditions. The Division is also responsible for developing strategies for monitoring environmental pollution in cities and industrial areas.

3) The Division of Health Management Studies. This division is responsible for investigating and developing ideas for management of health services at the national level which may have later applicability at the local level. Thus, the Division is assessing health insurance schemes and other methods and sources for financing of health services along with such matters as the effect of physicians' incomes on their satisfaction

with assignments in rural areas.

4) The Division of Evaluation and Systems Development. This division conducts surveys and studies (such as the national household survey on need, demand and patterns of usage of health services). They also conduct studies on causes of mortality and morbidity. This Division is currently working on the development of health planning and also in the development of a management information system.

e) The Institute of Health Services Development. This institute is located in Surabaya, East Java. It is concerned with investigations into methods of health service delivery at the regency and local levels. Research is currently under way on the potential role of village health promoters in primary health care. Investigation is also being conducted into factors which appear to contribute to the success of and to the institutionalization of primary health care schemes. A management information system is being developed by this institute. A WHO consultant who is presently working with the Institute has completed a manual on child care as a part of a proposed series of health care packages. This Institute also conducts courses in health planning and in operations research and systems analyses for designated Health Ministry personnel and university staff members.

f) The Center for Nutrition Research and Development. The Center conducts epidemiologic, biochemical and

adverse reaction monitoring program and investigates the possible utility and the toxicity of herbs, plants and other treatments used by indigenous practitioners. In cooperation with other Institutes, this Center is developing a manual for auxiliary outreach workers that describes symptom complexes of various health problems and suggests appropriate age-specific treatments to be used.

h) Center for Research on Cancer and Radiology. This Center is newly developed within NIHRD and is in the process of developing a coherent work program. The staff has begun collecting information on the incidence of diagnosed cases of cancer in Jakarta hospitals and intends to expand this effort. It is also interested in the immunology of malignant lymphomas; in alternative forms of treatment for naso-pharyngeal carcinoma; and in the epidemiology of cervical carcinoma.

b. The Research Process within NIHRD

This section deals with the process of research in NIHRD - the generation of ideas, handling of proposals, implementation of projects and dissemination of research results. Details for each of these steps may vary slightly from Center to Center. The intent of this section is to describe the procedures generally followed. These are:

1) Idea generation - Specific research ideas may be obtained in a variety of ways. The Head of NIHRD and staff members of the various Centers, through their formal and informal contacts with the user community, identify topics requiring investigation. The NIHRD also holds conferences and workshops during which research ideas or requirements may be identified. Annually, the NIHRD circulates a letter to MOH directorates and bureaus and to universities requesting identification of high priority health research proposals. The letter indicates the areas in which NIHRD itself is interested, and invites reactions to its proposals. Members of the various centers also submit ideas and proposals. Ideas may arise from reports of ongoing health programs in other countries, or from experiences of individuals during training

assignments abroad. External organizations such as WHO may also propose research of various types.

2) Handling of proposals - Proposals for research are submitted in a standard format which has been adapted by NIHRD from forms used in research institutions in other countries. Proposals originating within one of NIHRD's centers are screened by the center director prior to being submitted to the director of NIHRD. Proposals from other MOH bureaus, or from Universities, are sent to the central office of NIHRD where they are screened by the Director, or are assigned to the staff of one or more institutes for review and screening. Proposals may be submitted at any time during the year but projects requesting funding in a given fiscal year must be submitted seven to nine months in advance of the start of the fiscal year. Project review does not appear to be handled uniformly by all centers. In some, reviewers use structured review forms and are asked to rate the proposal in terms of its relationship to priorities of the national health program, expected results, possible utilization of results and adequacy of the proposed research approach. In other centers, the review is less structured and appears to be more concerned with relevance to national health policy, but with little consideration of methodology, adequacy or feasibility. Only limited consultation on methods is available internally within NIHRD. In-country consultation seems to be rarely requested, however there is a WHO statistician who is currently providing consultation on requests and USAID consultants, when available, are sometimes asked for advice. NIHRD, together with WHO consultants, have devised a proposal review format ; however, it appears to be not totally satisfactory and NIHRD is still seeking ways to improve its review process.

A final selection of proposals for funding is made after the budget ceiling for NIHRD is made known by the Ministry of Finance and Bappenas. Funding is never sufficient to cover all research proposals. In the final re-screening process, preference is given to continuation of projects already in process and to externally assisted projects for which the GOI is committed to provide counterpart funds. Remaining funds are then

allocated for new projects with preference given to proposals that have the greatest relevance to national health priorities.

At present, proposal review and approval is entirely internal to NIHRD. The annual research plan of NIHRD is submitted to and cleared by the Ministry of Health, but review at this point does not appear to be substantive. Review of the plan by Bappenas appears to be largely fiscal and procedural.

3) Project implementation - After a project is funded, a detailed research protocol must be prepared and reviewed within the hierarchy of NIHRD. Protocols may be returned to the principal investigators for revision. Assistance in protocol preparation or revision may be available from the NIHRD staff. When the protocol and project budget are finally approved, a sort of contract is issued by NIHRD approving the protocol, budget and staffing, and outlining quarterly and final reporting requirements. For research grants made to investigators outside NIHRD (e.g. universities), a limited advance of funds is made with further funding contingent upon monthly financial reports and quarterly progress reports. The quarterly reports, however, tend to be more concerned with budgetary and administrative matters than with technical issues arising in the course of the project.

Each approved project has a principal investigator, one or more co-investigators, and a varying number of support staff. The principal investigator for intramural projects is usually at the level of at least a sub-division head. Under present regulations, an individual can be principal investigator for only one project and a co-investigator for two additional projects, although this pattern is uncommon. Many members of the NIHRD staff have administrative duties which can be very time consuming, hence their full-time involvement with a single project is rare.

Under the GCI system, research workers receive an honorarium for each research project in which they are involved, with a sliding scale of payment for principal, co-investigators and support staff. Thus, there is

incentive for involvement in a number of projects simultaneously.

4) Dissemination of research results - The contract, or authorization, for undertaking a research project usually specifies that a final report will be prepared. Results may be published with the consent of NIHRD which seems to be freely given. NIHRD itself publishes a semi-annual journal, Health Studies in Indonesia. Project results thought to have wide interest may be offered to other professional journals. The NIHRD sponsors many workshops or seminars, such as the June 1977 workshop on "Appropriate Technologies" at which descriptions of research in progress or completed were discussed. Audiences at these seminars vary with the topic, but may include individuals from the MOH, from other Ministries, and from universities.

c. Major Constraints to Research Performance in NIHRD

The lack of competent support staff places a heavy burden on investigators since they, themselves, frequently have to do literature reviews, define samples, or arrange to have this done, arrange for conduct of field work (the actual work is frequently "sub-contracted" to provincial health service personnel), make arrangements for data processing and analysis, interpret results, and prepare final reports.

Delays in project implementation are common. Sometimes funds are not released according to the planned schedules and external events, such as national elections, alter proposed plans for field work. The project planning phase sometimes does not give sufficient attention to data processing and analysis requirements so that final project reports are delayed while processing and analyses are arranged.

Although many investigators are well qualified in their substantive fields, expert consultation in research methodology is not routinely available. Therefore, problems with project design and with analyses prevent the investigators from utilizing the data obtained from a study to maximum advantage.

There are other perennial problems which, realistically, probably will not be resolved in the next few years and upon which external project assistance will have relatively little impact. The major one is low salaries. Following the April 1, 1977 increase in salaries, the range of monthly take home pay now varies from \$32.10 to \$320.96 per month. Most civil servants feel that they must work at more than one job. Under these circumstances, full-time involvement in research is impossible and there is a resulting loss of productivity.

Some existing constraints on both the quality and quantity of health research, however, will be materially reduced by the assistance proposed in this PP. These are:

a) Lack of skills in research design and methods. The majority of senior investigators in NIHRD have been trained abroad in substantive fields, but not in research methods. The lack of these skills within NIHRD affects research at every stage of the process, but perhaps most crucially at the proposal and protocol review stages, when critical decisions are made which will govern project implementation, analysis, interpretation and, ultimately, the potential applicability of research results.

b) Lack of sufficient manpower. There is a dearth of trained middle level manpower in NIHRD. Some of the heads of units have had technical academic training, but others have had only on-the-job training with guidance from senior staff, and are in need of academic training in substantive and methodologic fields. Since Institute and Division Chiefs must spend large amounts of time on management and administrative matters, middle level personnel must

be strengthened to provide for continuity of current projects and, in the future, to allow middle level staff members to assume the roles of principal investigators.

c) Lack of research support staff. There are approximately 60 individuals in NIHRD with baccalaureate or technical school educational backgrounds who perform a variety of support functions for research staff. Most have received on-the-job training but few have had specific training in skills needed to adequately support the work of professional researchers. Increased skills are needed in such areas as training, supervision and quality control of field work, as well as in data handling (including code book preparation), manual data tabulations and use of packaged soft ware. Abilities in these fields would relieve investigators of a great deal of routine work and increase the productivity of NIHRD.

d) Problems in data processing. A recent report of an AID consultant, Mr. Duane Thomas, outlines some of the problems faced by NIHRD in research computing. In synthesis, the problems include insufficient understanding of analytic methods of data processing requirements, and lack of knowledge about available alternative methods of handling data, such as the use of standardized packaged software versus specially prepared computer programs.

e) Insufficient utilization of extramural research resources. Thus far in the evolution of NIHRD, emphasis has been on the development and utilization of intramural research skills. This approach unnecessarily narrows the base of research efforts. The potential contributions of Indonesian universities to the acquisition of information needed for implementation of the national health policies has so far been insufficiently exploited.

## 2. Detailed Description/Background

The Health Research and Development sub-project is a five-year grant activity. Components of the project have been developed by USAID and NIHRD based on the experience gained under the current Health Research and Development Grant (Project 230, FY 75-76), and on recommendations of a NIHRD.

The 1977 Evaluation of Project 230 concluded that progress toward achievement of the original project purpose was slight. Project 230 was not, however, a failure. The evaluation concluded that USAID, in effect, had invested \$373,000 "in order to gain a better understanding of the present capacity of NIHRD for undertaking policy based-research. This project represents funds well-spent for the identification of future programming needs although the original project purpose has been met only in part." The GOI was slower in developing proposals than anticipated during the first part of the project. A variety of managerial and technical reasons may have contributed to this, including the lack of clear guidelines for development and selection of sub-projects. Prior to completion of the project, at least general guidelines should have been established for prioritization of various studies and pilot testings.

In its summary of unexpected benefits obtained under Project 230, the 1977 evaluation concluded, nevertheless, that the project had, "highlighted the need within NIHRD for extensive staff upgrading to develop the basic research skills and capabilities that were assumed to already exist in the original PROP. In reviewing the progress of sub-project activities, it is apparent that the absorptive capacity of the NIHRD to utilize foreign assistance to carry out research is limited by four major factors: (1) a shortage of qualified research manpower, (2) a need for facilities (software, technical staff and hardware), (3) an inadequate compensation scheme that would encourage research personnel to devote full time to a manageable number of projects, and (4) a responsive and competent management/administrative system to support research and development activities. Thus, the primary purpose of the PRP for Fy 78-80 for Health, Training, Research and Development will be to strengthen the NIHRD's capacity to perform its assigned responsibility by addressing each of the limitations above. An extensive research manpower development program and U.S. and in-country training, along with research apprenticeships, will be used to accomplish this purpose. Sub project purpose, outputs, and inputs are discussed below.

### a. Sub-project Purpose

The overall goal of Project 273 is to improve the health status of the Indonesian people with emphasis on assistance to lower income groups in rural areas. Experience in Project 230 has shown that the types

of research undertaken by NIHRD are vital to effective and efficient delivery of health services, given the constraints under which those services have to be delivered in Indonesia. The major purpose of this sub-project is to strengthen the capability of NIHRD to undertake high quality research geared toward high priority planning and policy issues and toward development of health services delivery technology appropriate for the Indonesian environment.

It is expected that by the end of this sub-project the following conditions will have been met;

Appropriate number of NIHRD staff will be adequately trained both in substantive fields and in research methodology to insure NIHRD's ability to carry out increased amounts of high-quality research.

An appropriate number of high-priority research project, both in the planning and policy area and in the services delivery area, will be completed or in progress at NIHRD, and the quality of these research projects will be acceptable.

Data processing procedures adequate to support these research projects will be operational and routinely in use.

Extramural research resources (for example, universities) will be being utilized routinely whenever their use is consistent with objectives of NIHRD, and with research quality standards.

Three general strategies will be employed by the sub-project to achieve its purposes:

An extensive program of research manpower development will be undertaken to improve staff capabilities within NIHRD.

Technical assistance in development of data processing capabilities and procedures will be provided.

Specific assistance will be provided to substantive research instigated by NIHRD.

b. Sub-project Inputs

The research manpower development activity will include fellowships for long-term training of NIHRD staff in substantive and methodologic fields both in-country and in the United States, as well as short in-country training courses supported initially by short-term consultants. Preliminary planning in both these areas has been completed by NIHRD, with assistance from USAID. Although these plans cannot at this time be considered final in their minute details, illustrative inputs are as described as follows:

Long-term training fellowships are expected to be of two types:

research method education, usually of twenty-two months duration and equivalent to the course work for a PH.D., Dr. P.H., or D.Sc.

substantive training in critical fields, usually of twelve months duration plus field observation possibly leading to an M.P.H. degree.

In the twenty-two month course, the participant's time is expected to be divided as follows:

one month orientation and English language training

nine months (academic year) of study

three months of practical field observation and research protocol development

a second nine months of academic study including preliminary oral examinations usually required for Ph.D. candidates.

On return to Indonesia, the participant will be expected to carry out a research project relevant to an Indonesian health problem which hopefully will be acceptable as a doctoral thesis.

The twelve month course may vary according to the particular institution chosen for study, but is also expected to include both orientation and English training, academic study and field observations.

An illustrative list of methodologic fields of study is as follows:

survey methods  
behavioral science in health research  
systems analysis/operations research  
health fiscal analysis  
multiple variable analysis  
epidemiology  
data processing

An illustrative list of substantive areas is:

health services  
vector control/entomology  
rural environmental health  
drug management policy



It will of course be some time before the effects of long-term training will be felt in the research results of NIHRD. In the short-term, however, a comprehensive series of short courses in research methodologies is planned. Some of these courses will require the services of short-term AID consultants both in course development and teaching. It is anticipated that as participants return from long-term training, they will take over training and counseling functions performed by AID short-term consultants during the first three years of this sub-project.

Short-term courses will be given in the following methodologic fields:

- design of field experiments (research process)
- survey method
- behavioral science in health research
- analytic epidemiology
- health fiscal analysis
- multiple variable analysis

The students for these courses will be either principal investigators or their research assistants, or, in some cases, both.

USAID inputs to this short-term training program will include both short-term and long-term consultants plus coverage of some local costs.

The second important component of assistance to NIHRD will be the development of data processing capabilities within the institute. In order to adequately support research activities, NIHRD's Research Data Processing Sub-Division requires increased capability in the areas of sampling, fieldwork, coding, and data processing. These skills are to be developed through "hands on" experience processing data, using standard "canned" software. Currently, all NIHRD data processing is contracted out to external organizations, since NIHRD does not have computer facilities capable of handling social science survey data analysis.

In order to obtain first-hand data processing experience and training, it is expected that the NIHRD will utilize time on computer facilities in Jakarta, which are large enough for

analysis of social science surveys. A block grant for purchase of computer time will be provided to support NIHRD data analysis activities. This grant also will help ensure the rapid analysis of data and will assist in accelerating the completion of on-going research projects.

In addition, a short-course will be given in the methodologic field of data processing. As with most other short courses, outside consultant assistance will be required both in design and teaching.

Also, four apprenticeships in U. S. research institutes in data handling and methodological statistics are planned over the life of this project.

Through in-service courses and technical assistance on specific projects a cadre of "research" assistants will be trained. One type of research assistants will be able to handle data inputs into computers and obtain the outputs. They should also serve as resource persons on other technical matters, such as the format of codebooks, the method of verifying a tape, key punching, etc. Another type of research assistants comprises employees who are in charge of finding the best techniques for survey sampling. They also handle field travel logistics and perform related functions. After the development of this type auxiliary staff, research workers will have much more time to work on model design and data analysis than under the present situation where principal investigators must do almost everything.

The third component of assistance that is being provided in this sub-project will be specific assistance to substantive NIHRD research projects. This assistance will include grants to cover local costs and commodities as well as short and long-term consultants.

Among on-going projects (financed under Project 230) which will receive continued assistance from the Project are the following:

The Health Management Information System (MIS) project, which is developing systems to improve management at the local, regency, and provincial levels for the puskesmas (rural health center) program.

Epidemiologic research in dengue hemorrhagic fever.

Research on the application of programmed learning techniques for teaching simple health functions to village-level personnel

It is, of course, not possible to identify all the new research projects which NIHRD will undertake with USAID assistance during the five-year course of this project. Preference will be given to activities with direct applicability to improved rural health services which can be expected to achieve results in a short to medium time frame.

Major areas will include:

Action-oriented epidemiological studies which describe patterns of diseases, suggest effective methods for control, and measure the effectiveness of control efforts and treatments.

Health service delivery research that is concerned with improved methods and infrastructure for delivery of those services; and with health services management and financing.

Examples of possible new research projects are as follows:

A second national sample household survey with refined methodology: It is suggested that such a study be undertaken in 1978 or 1979 to provide baseline data for Pelita III. This would be a national sample survey that would be useful to health planning, transmigration planning, etc.

Descriptions of prevalent disease patterns by areas, particularly for use in planning health services in transmigration areas.

Epidemiological studies to identify appropriate intervention measures to interrupt transmission of important communicable diseases such as malaria and enteric fevers.

Measurement of effectiveness of oral rehydration programs for childhood diarrhea and potential rehydration activities of Health Centers and satellite facilities.

Development and testing of appropriate technologies for rural health and environmental services. Such studies might include technologies for water supply including special problems encountered in water systems for coastal and tidal areas.

Comparative studies of existing pilot projects to identify key factors for effective community participation in health programs.

Appraisal of safety, relative costs and effectiveness of drugs to develop useful formulary for non-medical health auxiliaries.

Study of existing patient referral systems to identify ways of improving them.

Operations Research studies of functions and staffing patterns of health centers and sub-centers.

Studies of unit costs in health centers.

Studies of the reasons for low utilization of health centers in face of obvious needs. (to be linked to Household Surveys).

Based on experience gained in Project 230, and on the judgement of USAID short-term consultants, it is estimated that the average yearly cost of these research studies (excluding long and short-term consultants and including a

block grant for purchase of computer time) will be in the order of \$170,000.

Two long-term consultants for NIHRD, to be funded under this PP, are being requested. The first of these will be a research design and analysis specialist, whose responsibilities will include assistance on specific NIHRD research projects, on the job training of research personnel and coordination of the work of short-term consultants who will be requested from time to time. The second long-term consultant will be a specialist in management science, whose responsibilities will include assistance with a Management Information Systems project and with other management-related activities.

It is also expected that short-term technical assistance will be required for other specific projects. Some of this assistance may be provided by short-term consultants.

The current plan for short and long-term consultant assistance for the Health Research and Development sub-project is illustrated in the following chart:

CONSULTANTS

S.T.C.

Experimental design	5 m.m.
Survey method	5 m.m.
Data processing	5 m.m.
Multiple variable Analysis	5 m.m.
System Analysis	3 m.m.
Behavioral science	5 m.m.
Health Fiscal Analysis	5 m.m.
Epidemiology	7 m.m.
Undesignated	<u>4 m.m.</u>
TOTAL	44 m.m.

Cost 44 x 10,000 = \$440,000

L.T.C.

Research design & analysis	4 x 12 m.o.
Management science	<u>1 x 12 m.o.</u>
TOTAL	5 x 12 m.o.

Cost 5 x 100,000 = \$500,000

TENTATIVE CONSULTANTS' SCHEDULE

		1978	1979	1980	1981	1982
		J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D
Design Field Exp.	5 mm					
Survey Method	5 mm					
Data Processing	5 mm					
Multi.Var.Anal.	5 mm					
Systems Anal.	3 mm					
Behavioral Science	5 mm					
Health Fiscal Anal.	5 mm					
Epidemiology	7 mm					
Undesignated	4 mm					
<b>TOTAL</b>	<b>44 mm</b>					
	<u>\$ 440,000</u>					
Research Design & Analysis	4 yrs.					
Management Science	1 yr.					
<b>TOTAL</b>	<b>5 yrs.</b>					
	<u>\$ 500,000</u>					

The illustrative budget for the entire Health Research and Development sub-project, then, is as follows:

Budget sub-project R & D

1. Short term consultants	\$440,000
2. Long term consultants	500,000
3. Fellowships	362,000
4. In-country courses	51,200
5. Research projects	847,000
6. Local consultants	4,000
7. Internal fellowships	<u>6,000</u>
TOTAL	\$ 2,210,200

c. Sub-project Outputs

The following tangible outputs are expected from the Health Research and Development Sub-project:

Nine NHRD staff members trained in research methodologic areas at the doctoral level

Thirteen NHRD staff members trained at the master's level

Sixty NHRD staff members trained in substantive and methodologic areas through the short course program

Thirty research assistants will be trained in data processing and survey methods

Improved data processing procedures (use of

packaged computer programs for analysis of data, reduced time lag in processing of research data, increased use of middle and lower level staff for data processing) in routine use

Completion of ten high priority research projects approved by USAID, with results made available to the operating branches of the Ministry of Health.

Expanded use of extramural research facilities (local universities) by NIHRD where appropriate.

The health services delivery system of Indonesia, especially in rural areas and the outer islands, is still very much in the development stage. Experience in previous projects has shown that answers to the type of research questions described in this PP are needed to guide the development of a comprehensive, heavily utilized, services delivery system, and that a necessary prerequisite to answering those questions is the strengthening of research capabilities within the Ministry of Health. This sub-project represents a major step toward achieving the ultimate goal of providing badly needed health services for Indonesia's hordes of poor people.

### 3. Health Research Sub-Project Implementation Plan

#### a. Introduction

In considering an implementation plan for health research, one must recognize that planning this type activity is not comparable to a health clinic building program where outputs, inputs and purposes can be specified in precise, concrete terms. Health research is largely motivated by uncertainty, lack of information and unanswered questions that have been found to be barriers to action programs to improve health care. For this reason, an implementation plan that does not provide for flexibility is either ill-conceived or a product of ignorance.

This plan has been prepared by the Head of the National Institute of Health Research and Development, NIHRD, (the recipient implementing organization), her Research Center directors, members of AID's health division staff, and short

term consultants (a Medical Director from the USHPS/Indian Health Service Research unit and a professor of International Health from Johns Hopkins University).

1) Responsible Parties:

a) The NIHRD will be responsible for:

Nominating trainees from within the institution and from the universities to undertake long term training in essential areas of research methods and in substantive fields of health research; and providing training to improve their proficiency in the English language.

Proposal development and implementation of high priority health research projects with major focus on health problems in rural communities.

Encouraging universities to suggest health research proposals to NIHRD, and monitoring of extramural research to encourage sound implementation and completion on schedule.

Providing office space for consultants, handling management aspects of short training courses and encouraging extensive use of consultants as advisers by NIHRD staff members on research project design and implementation. The NIHRD is responsible for both intra and extramural health research, as well as for in-country research training that will be financed under this project.

b) USAID/Indonesia's Health staff will be responsible for:

Review and final approval of NIHRD-selected participant trainees under this project.

Initiating PIO/T's for short term and long term consultants, advising AID/W in detail about their required competence (to be developed in conjunction with NIHRD) and for providing logistic support as required.

Review, final approval, funding, and evaluating the progress of specific health research projects. (Consultants may be used to carry out technical review of project protocols).

Review, approval, and funding of short training courses.

c) AID/W will be responsible for:

Arranging placement of participant trainees in appropriate U. S. training institutions.

Contracting with individual consultants, or institutions for services of consultants.

b. Evaluation Arrangements:

AID/Indonesia will be responsible for monitoring the magnitude and timing of inputs. NIHRD will be responsible for annual progress reports on magnitude and timing of outputs. Consultants, on their second and third visits, will prepare reports on the extent, quality and significance of utilization of research results. They will also submit reports on changes in institutional capability. The project will utilize the PES evaluation process at 12 months, at 2 years, and at 4 years. Special evaluation teams may be called upon for evaluations at the third and fifth years.

c. Monitoring:

Consultants will report routinely to USAID/Indonesia/Health staff to advise on any changes of plans and to discuss any project redesigns or other modifications. Project monitoring responsibilities will be vested in the USAID designated project officer.

d. Negotiation and contracting status:

Problems which remain in reaching agreement on details: The nature of research requirements and research training needs may make it essential to revise plans from time to time, including those for consultants and participants. Plans are available now (December 1977) for the first year of operations (probable start of expenditures, May 1978). Plans for succeeding years should be available in May, 1978, May 1979, etc. The coordination of household surveys and/or community surveys with measurement of health education outputs must be negotiated further.

## Health Education Sub-Project

### 1. Background

#### a. Development of the Sub-Project:

USAID provided consultant services to the Ministry of Health during July and August, 1977, to assist the Directorate of Health Education to develop a sub-project, within the framework of the Health Research and Training Project, which would be relevant to national/provincial health education needs. The purpose of this consultancy was to:

- (1) Assist the Directorate of Health Education to develop national and provincial level plans for health education as a supporting service to various health programs; assist with planning for coordination with other related activities (such as the management information system and a program of community health activities (the PKMD program); and to help clarify the role of the Directorate of Health Education vis-a-vis other MOH sections as well as with related programs in other departments.
- (2) Assess the progress that has been made under previous Health Education Manpower Development Grants of USAID (Project #188.1 - 1972-76) and WHO, especially in the provinces of East and West Java.
- (3) Assess problems and constraints in development of both provincial health education programs and central MOH health education program guidelines.
- (4) Help identify guidelines to be followed in project development, including an implementation plan; to identify types of consultant assistance that might be needed for development of provincial health systems; identify types of in-country training required for specific participants; and identify support commodities needed.

The consultation centered around the drafting and refinement of a National Health Education Plan which could be followed by the Directorate from the present time through the

end of Repelita III - 1984. The plan that was drafted embodies several important features, such as:

- (1) A determination of measurable health education outputs, or results, at the village level, with indicators for measuring the quality and quantity of output production.
- (2) The development, refinement and coordination of communications and participation programs, within MOH and cross-sectoral, for effecting health education outputs. The health education theme for Repelita III is "Communication and Participation."
- (3) The development and refinement of basic models in health education which will be demonstrated in key provinces. If successful, these models will be replicated in other provinces and used to improve the health education curricula of a number of national health manpower training institutions.
- (4) The development of systems that are designed to coordinate and integrate the activities of the Directorate of Health Education with complimentary developmental efforts at all levels and geographic areas. These systems include: planning, management, health education information, dissemination and utilization, manpower development, program evaluation, and policy analysis.
- (5) The design and implementation of a national survey to determine the effectiveness of health education efforts during the five years of Repelita III. This would include the collection of Pre-Repelita III baseline data, a mid-Repelita III measurement, and a final end of Repelita III survey. No other country has ever undertaken such an effort, but the GOI has an excellent opportunity to include it as a part of its program.
- (6) A study to determine health education manpower needs will continue through Repelita III, which will include alternative strategies for meeting those needs.
- (7) The development of "National Standards for the

Preparation and Practice in Health Education" to improve practices and to be used as a basic policy instrument for the guidance of training institutions.

(8) The design and implementation of organizational problem-solving processes which will enable change implications of the Plan to take place in a constructive manner.

(9) The resolution of some special issues which underscore the need for improved integration and coordination of health education at all levels. The Plan incorporates developmental activities to be carried out by a number of Directorate work groups and national/provincial task forces, including the programming of several key health education conferences which will be focused on programs, progress reporting and future steps to be taken.

b. Previous Training and Experience of Health Educators in Indonesia (1972 - 1976)

Under the Health Specialists Manpower Development Project, 188.1 (FY 72 - FY 76), USAID funded part of the training of a cadre of MPH/Health Education Specialists both in-country (at the University of Indonesia School of Public Health) and in the U. S. Thirty-six of the thirty-seven participants trained in the U.S. have now returned to Indonesia. An additional eleven have completed training programs at the University of Indonesia. By the end of 1978, approximately 60 health educators will have been trained. One health education specialist was to have been placed in each of the 27 provinces by the end of CY 1976. Such specialists are now located in all provinces except West Nusa Tenggara, Lampung, South Sumatra, South Kalimantan, Bengkulu, South East Sulawesi, Irian Jaya and E. Timor.

Prior to overseas degree training, each participant underwent three phases of in-country training: (a) a basic orientation course in fundamental principles and theories underlying public health concepts and health education, (b) a work experience in health education and (c) English language training. The work experience was located in the province of West

Java. With half of the students in Bandung (population 1.25 million) and the balance in the rural areas adjacent to the city, their training evolved into a four-phase program with three major objectives:

- (1) To provide the students experience in the duties and functions of health education specialists:
- (2) To extend and expand the health education component of current health programs; and
- (3) Strengthening the development and organization of a Health Education unit within the office of the Provincial Health Department in West Java.

Student training was focused on the community with the health center as the focal point. The project was coordinated by Project Field Service Directors in cooperation with the Director of Community Health, in the Provincial Health Service Unit, and using effectively the Provincial Health Education Unit to administer the activities. Students worked together with staffs of eight health centers. A primary objective was to build health center staffs and community volunteer workers into functional teams which could analyze and define their own health problems. A secondary objective was to assist in the implementation and evaluation of various community health programs. During this training, students worked with a health center worker and conducted a functional analysis of the worker's job to explore possibilities for a greater health education component. Prior to this project in 1970, Health Education units in the provinces were established with Ministerial Decree, and a staff was appointed to be responsible for the Health Education development activities, within the limitations of health activities and facilities. In particular, each regency was assigned one health education coordinator who was responsible for health education in the area. Usually these coordinators were male nurses or health controllers. Some had BS degrees, but none had adequate training in health education. An evaluation of this program demonstration in the Bandung area revealed that health center/community relationships were improved and that the fourteen health centers taking part registered increased clinic attendance. Several conclusions may be drawn from this

**Health Education Specialists Manpower Development Project:**

- (1) Provincial Health Services should be provided with sufficient funds and personnel for the delivery of effective health education services;
- (2) Health Education should be integrated into the planning, implementation and delivery of all health services; and
- (3) A viable national health education program within the Ministry of Health would materially improve the effectiveness of all delivery systems.

The USAID Consultant's appraisal of Project 188.1, Health Education Specialist Manpower Development (HESMD) can be summarized as follows:

- (1) High level of retention of trained personnel in Health Education

Of the 64 health education specialists trained through the above project, and six others trained previously, only one person has dropped out of health education-related work. This is a remarkable retention record.

- (2) Trained health educators are training others.

The trained personnel who have been placed in the three provinces visited by the Consultant are conducting many workshops to train others in health education methods. Activities discussed during provincial visits included the following:

- (a) Training programs for health education coordinators and support staff at the provincial staff level - up to three months of intensive training and supervised field experiences.
- (b) Short-term (2-day) workshops for the following health personnel:

- Regency health officers
- Puskesmas health officers
- Selected staff from several puskesmas
- Total puskesmas staffs, trained as a group

These activities were done to increase and develop the capacity, knowledge and skill of the Health Staff at the various administrative levels, for total integration of health education in each level.

(c) Health education inputs into training programs for Family Planning, Nutrition, Sanitation, etc.

(d) Involvement in the training of volunteer health cadres at the desa level.

(e) Training of medical students in health education.

In addition, personnel placed in FKM, the MOH Directorate of Health Education, the Center for Training and Education, and medical schools are conducting courses and seminars in Health Education and are using health education techniques in teaching a variety of other personnel.

(3) There are staffing problems that have not been resolved.

There are seven provinces that have not yet been assigned a health education specialist, because of unresolved staffing issues.

Even in some provinces where specialists have been placed, the resolutions of organization and staffing issues are not complete.

(4) Lack of previous experience with the Ministry of Health has hampered on-the-job effectiveness of some trainees.

Most of the trainees came from outside the field of health or medicine. Even after their Bandung, MPH in-country post-graduate training, (called SKM) and their U.S. training experiences, they are having problems getting oriented to health work - especially in establishing good working relationships with other health staff members. As a result, there is an inclination within MOH not to recruit from outside the field of health in selecting future candidates for training in the U.S.

(5) Lack of local-level health education experience.

Most of the trainees have not had "local level" experience in health education (regency/puskesmas level). This lack of basic experience may be difficult to overcome as they attempt to train others in health education or to supervise health education personnel at lower levels. Ideally, a plan should be worked out to have such people spend part of their time working at puskesmas-levels to obtain needed experience, while functioning in a regency, provincial or national level assignment.

(6) Basic cadre of young health personnel

Most of the trainees are young - - late 20's to early 30's. With retirement age at 55, they can be expected to provide long service to their country. The preponderance of youth, however, could create some problems. Most of them now occupy top existing positions in health education in the country. Still, enough of them remain in secondary positions to fill other top spots as they are created, thus making it difficult for newly recruited people to reach top level assignments for many years to come.

(7) General Conclusion

Project 188.1 (HESMP) has made a significant contribution to the development of health education in Indonesia and has provided a base on which a more substantial program can be built.

c. Priority of Health Education for Repelita II and III

The Ministry of Health established health education as a high priority during Repelita I and II, and plans the same for Repelita III (1979 - 1984). This decision is based on recognized needs for improved health and environment efforts as a component of all developmental undertakings as evidenced by:

- (1) Recognition of health as being interrelated with all other aspects of development plans
- (2) Integration of health education services across health programs, in particular, and across in other developmental programs where it is practical at national, provincial and local levels.
- (3) The organization and delivery of health services are decentralized to the provincial/regency/puskesmas levels of government, with some administration relationships and management of systems retained by the Central Ministry.
- (4) Promotion of the concept that prevention and primary health care will eventually become the major thrust in solving national health problems although, at present, the immensity of existing health problems requires that a major portion of health resources be used for the treatment of diseases in clinics and hospitals.
- (5) The fact that "health education of the people" always has been a high priority within the Ministry of Health, as has been evidenced by repeated statements of national leaders.
- (6) The fact that health workers, particularly at the provincial/regency/puskesmas levels, are expected to be health educators.
- (7) The recognition of health education as a profession within the Ministry, and the emphasis that is placed on the development of qualified professionals.

(8) The fact that while health education is regarded as a function of all health workers, and is urged as a component of all health training and educational activities, the maintenance of a professional health education focus within MOH is assigned high priority.

d. Current Assessment of Health Education at the National, Provincial and Regency Levels.

The recent USAID Health Education Consultant developed an assessment of health education activities based on "problems" and "strengths". These are as follows:

(1) Problems:

(a) There is an absence of a "master" plan for health education.

The MOH Directorate of Health Education does not have an overall plan for the development and management of health education at the central and provincial levels. The absence of such a plan has seriously constrained program progress. A Five Year Development Plan developed in 1971 emphasized strengthening health education services and there is also a National Plan for Training in Health Education. The implementation of the plan has been hampered by manpower problems such as a lack of trained personnel, widespread use of part-time workers, and poor quality control. Health organizational changes and geographical shifts in manpower during Pelita II also created problems in the continuity of former plans.

(b) Health education policies are not clearly formulated.

Differences in the ways health education is implemented at the province/regency/puskesmas levels studied suggest that national policies either have not been formulated as clearly as they should be, or are not being implemented consistently throughout the provinces. Also, there are issues at the central level regarding which functions of health education belong to which units, and these issues require policy clarification.

Although there are "points" that are considered as policies, those points are not organized and formulated in a way that is well understood throughout the system. The existing variety of perceptions towards health education adds to the difficulties of integrating health education into planning and operational systems.

(c) Basic administration systems and procedures are under-developed.

Many of the key elements of a health education "system" have not yet been developed or, if developed, have yet to be integrated into other existing systems within MOH. For example, the Bureau of Planning is developing a planning capability for short and long-range health program development, including manpower development and budgeting. The National Institute for Health Research and Development is developing indicators and measurements of health outputs. AID is providing technical assistance to MOH for the development of a Management Information System and Self-Learning Programmed Instruction modules and there are plans to assist the Ministry of Education in developing a massive capability for producing audio-visual learning materials for all sectors, including health. None of these projects, however, address the needs of health education. Once these "systems" are operational, it may be difficult to modify them to fit health education needs. For this reason, health education's inputs should be made while such systems are being developed.

(d) There are serious trained manpower shortages.

Currently, the FKM (University of Indonesia School of Public Health) is training one SKM (master's degree) student for health education. This is contrasted against a requirement for all health personnel who will be assigned at the provincial and regency levels to have some health education training. In order to achieve this goal, major changes will have to be made in both the curriculum of training institutions and at the personnel "infra-structure" level (approval of new and upgraded positions). These changes, of course, have budgeting and planning implications that must be worked out over the next few years.

- (e) If a goal of health education personnel is to train others to be health educators a form of "transfer of technology" - then there is a need to upgrade the capabilities of provincial health education specialists and regency health education coordinators.

These personnel should be provided with in-service courses on "training skills and methods", in order to better fulfill their primary function. In addition, careful study needs to be made of the curriculum being taught to other health personnel in general. Instead of introducing a general course on health education, knowledge about their subject should be interwoven into the entire program.

- (f) There are attitudinal barriers to the further development of health education which should be resolved, including:

(1) Terminology used to identify health education personnel is being reviewed. Their job title should be reflective of their responsibilities - especially for field positions.

(2) A negative feeling that was left by the HESMD Program of 1972 - 1974 needs to be overcome. Unresolved position classification and assignment standards has adversely affected the morale of key health education personnel.

(3) The fact that most of the HESMD Program personnel (AID Project No. 188.1) were recruited from outside the field of health continues to be regarded as a barrier to their effectiveness in working with other health personnel.

(4) There is a strong preference for having physicians trained as health education specialists, in order to relate better to the other physicians.

(5) Resentment that was generated when health education was taken out of the National Center for Training and Development, in order to establish it as a separate organization has not fully dissolved.

(6) Health education programs are being developed in several important areas - but without the Directorate's involvement. This produces confusion and lowers the prestige of this relatively new Directorate.

(g) There is not a generalist health worker on the puskesmas staff at this time who could be trained to function as a community health organizer.

The basic staffing pattern of the puskesmas includes physicians, nurses, midwives, sanitation assistants, and - sometimes - a worker whose primary functions are with nutrition or family planning. The absence of a community health worker makes it most difficult to introduce functions at this critical level. Alternatives are: (1) depend on the puskesmas health officer (normally a doctor) to carry out this function; (2) depend upon another health education person (such as the health education sub-coordinator of East Java) to fill this gap, or (3) training rural development workers (or other non-health sectoral workers) to perform the function until such time as primary health nurses (PKs) are trained and assigned to rural areas.

(2) Strengths in the Indonesian Health Education Situation

Despite the problems discussed above, there are important strengths in Indonesia's health education program which support problem-solving efforts. These are:

(a) There is a strong national commitment to resolve health education problems.

This commitment is reflected throughout the Ministry of Health. The National Center for Training and Development, in particular, is expressing willingness to resolve program overlapping issues, especially as they relate to who does what kind of training. The MOH Secretary-General and the Director General of Community Health are both giving the Directorate of Health Education the encouragement and support needed to overcome obstacles and fulfill its functions. All other key health department personnel interviewed also expressed commitments to assist the Health Education Directorate to fulfill its responsibilities.

- (b) The philosophy of health education expressed in Indonesia is in keeping with current WHO and USA philosophies.

The definition of health education, as applied in Indonesia, is the same as that of WHO and USA health education leaders. This is, generally: "health education is a process of learning and change, exhibited in the attitudes and behaviors of people; that all health workers can be helped to become more effective health educators by understanding the methods and techniques of health education; and that professionally-prepared health educators possess certain resources which can be utilized by other workers in facilitating health educational or change processes."

- (c) Health education usually occupies a high priority in Indonesian developmental considerations.

The need for people to be more health-conscious is reflected in most Ministry of Health directives and planning documents of other sectors. Health Education, as such, has been assigned top priorities during Pelita I and II, and will continue its high priority during Pelita III.

- (d) Health education has general acceptance, as a specialized profession.

An M.P.H. degree in Public Health Education, or its equivalent is a mark of distinction. Support has been given by the GOI to past and current MOH training programs which have produced a number of specially-trained professionals and has strengthened training institutions.

- (e) There is a cadre of well-trained professionals in the country.

An AID-assisted training project in 1972 - 1974 resulted in the production of approximately 60 M.P.H. or equivalent professionals, most of whom now occupy key health education positions.

- (f) The models of health education that were observed in the provinces visited by USAID consultants and staff provide enough insight to permit sound analyses of future organization and manpower needs.

Health education at the provincial/regency/puskesmas levels in Indonesia is relatively new, since most of the professionally trained personnel have only been assigned from one to two years. Still, enough developmental efforts have been made to suggest patterns of services and needs, depending on conditions which are unique to each province or regency.

- (g) There is potential external donor assistance available from several sources if sound plans are developed.

These include USAID and WHO, both of which have assisted significantly in the past and are assisting in various ways currently.

(h) There are many other foreign donor-assisted development projects underway in Indonesia, some of which are highly relevant to health education.

## 2. Detailed Sub-Project Description:

### a. Purpose of this Sub-Project

After a careful review\*, the Health Education Sub-Project has been modified to reflect the following, more relevant purposes:

(1) To develop, evaluate, and keep relevant at all times, a National Health Education Plan which will serve the Ministry of Health and the provinces as a blueprint for the growth and development of extensive grass-root level health education activities in rural as well as urban areas.

(2) To assure that the National Plan will have a measurable grass-root level impact by establishing health education outputs, indicators and measures; and by using

\* by USAID Consultant Paul Mico

such outputs and indicators to determine the level of national health education prior to Repelita III (baseline data) during and at the end of Repelita III.

(3) To improve the capability of the Directorate of Health Education to evaluate and keep relevant, at all times, health education policies, programs, management systems, and manpower development programs which will enable the National program to have a measurable impact at village levels.

(4) To demonstrate in selected provinces how certain well-defined health education techniques can be implemented so as to be replicable, or at least adaptable, in other provinces. The results of these trials will be used to influence the health education curricula of training institutions.

### 3. Implementation Plan

#### a. The outputs and respective inputs of this sub-project are identified as follows:

##### (1) Output (No. 1)

##### The development and implementation of a national health education plan for Repelita III:

A health education plan which integrates national and provincial efforts will be developed for the MOH, focusing on the Directorate of Health Education, and including related activities of other organizations such as MOH's Center for Education and Training; the Bureau of Health Planning, the National Institute for Health Research and Development, and the School of Public Health (FKM), Faculty of Health Education of the University of Indonesia.

The plan will include the following components, all related specifically to health education:

- (a) Policy Development and Analysis
- (b) Outputs and indicators for the measurement of health education effectiveness, particularly as it impacts at the village level.
- (c) Systems Development, with particular emphasis on relating the health education Directorate to the Bureau of Health Planning's efforts and to current management information systems development efforts.
- (d) Manpower Development with respect to personnel needs.
- (e) Macrosystem and organizational structures as these relate to facilitating the implementation of the National health education plan.
- (f) Program Development, including provincial demonstrations and the development of basic communications and participation activities.
- (g) Ad hoc problem solving, dealing specifically with improving the integration and coordination of health education activities among various programs and sectors at national and provincial levels.

(2) GOI Inputs for Output No. 1

(a) Working Groups

The plan and its components will be developed by task forces and working committees of the Directorate for Health Education, in conjunction with representatives from other relevant agencies. Working committees have already initiated planning efforts, to be followed up by national provincial task forces. These task forces will meet in workshops and as part of the National Health Conference in January 1978, (whose theme is "Health Education"), and will continue to meet in workshops from time to time throughout Repelita III (the life of the project).

(b) National Conferences on the effectiveness of health education in Indonesia.

These discussions will take place in regular national ministerial level meetings, scheduled as follows:

- 1 - National Health Conference, January 1978
- 2 - Pre-Repelita III Meeting (to establish outputs, health educational baseline data for Repelita III, and basic program plans for Repelita III).
- 3 - Mid-Repelita III Meeting (to discuss results of mid-Repelita measurements of health education effectiveness, and make program modifications if indicated for the rest of Repelita III).
- 4 - End-Repelita III (to discuss the results of Repelita III health education efforts, and start planning for Repelita IV.)

It is expected that the MOH will hold important policy and technical discussions on the effectiveness of health education in Indonesia, based on results of health education evaluation surveys (described below). These conferences will include participants from MOH national and provincial levels, as well as from other relevant groups, such as the women's groups (PKK), the health community, and development workers from other ministries.

(3) Inputs from USAID

The GOI has asked for the services of one health educator/planner to assist the Director of Health Education develop, refine, and solve problems in the implementation of the national health education plan as it progresses. The consultant will:

- (a) Assess implementation progress
- (b) Analyze functioning components related to: policy, systems, manpower development, and program implementation, at all levels.
- (c) Help solve problems that are inhibiting the effectiveness of plan implementation.
- (d) Help revise plans from time to time for the remainder of Pelita III.
- (e) Where appropriate, to determine the implications of program development on planning for Pelita IV.

Special attention will be given to manpower development plans; to the creation of national health education standards; and to job descriptions for all health education positions.

To facilitate systems development, the consultant will meet with the National Task Force, with provincial health educators, and with staffs of provinces representing differing levels of development, in order to provide consultations and in-service training in health education planning. Six provinces are to be visited in FY 1978, six in FY 1979, three in FY 1980, and three in FY 1981. USAID's input of up to \$165,000 will provide 440 workdays of consultant services.

(4) Output No. 2.

The development of Output Measures for Health Activities (knowledge and behavior):

One of the priority tasks of the Directorate of Health Education is to identify national output measures and indicators for activities undertaken at national, provincial, local, community and household levels. Once these are established, basic health education services can define 1) the areas of responsibility of various programs and sectors as determined by policy and 2) the health education functions of both specially-trained health education personnel and regular health personnel.

It is expected that outputs for health education (measures of health knowledge and behavior) will be developed in coordination with other activities related to health indicator development being undertaken by the NIHRD and health planning units.

(5) The Inputs for Output No. 2.

(a) from the GOI:

Ongoing work of the Directorate's Health Education Working Groups and staff working groups on "Outputs and Baseline data"

(b) from USAID:

One health educator/research consultant will assist the Directorate of Health Education to:

- 1 - Refine and finalize output indicators and measures for the determination of health education (health behavior status) at grass-roots level.
- 2 - Refine and finalize outputs and measures of efforts of health education personnel.
- 3 - Assess suitability of existing indicators, measures and data for determining baseline status of health education for Repelita III.
- 4 - Design basic health education research and evaluation programs to be carried out respectively by the NIHRD and the Directorate of Health Education.

The length of this consultancy will be 60 workdays, November - January 1978, and will be funded by Project Development Support Funds.

(6) Output No. 3: Development of Health Education Output Measurements.

Pre, mid, and at the end of Repelita III: This activity will be of major importance to the developing of a clear understanding of the effects of health education activities in the field, nationwide, by all relevant agencies and groups. Output measures will identify significant changes in health knowledge, attitudes, and most importantly, behavior. By the end of Repelita III, it is expected that a single group of outputs will have been specified, refined, and accepted by other Directorates General of the MOH and by other agencies as representing the desired results of health education.

Although the outputs for health education will be designed during the period March - May 1978, the surveys will not be designed until later. As this study will center on the community, it appears to be closely related to a household study which is being planned as a major 1978 research activity of NIHRD. It is therefore expected that the community and household studies be designed and implemented in a coordinated manner, using national consultants from the Directorate for Health Education to focus on specific education concerns, and the USAID consultant to design health education outputs. The USAID consultant will return to Indonesia during the period June - December 1978 to assist in the survey design. Subsequent evaluations in the middle and at the end of Repelita III will be assisted by the general health educator/planner and by the NIHRD research staff with the assistance of research consultants in the field of survey design and analysis.

(7) The Inputs for Output No. 3.

- (a) GOI: National Health Education consultants, NIHRD research experts and field staff.
- (b) USAID: One short term consultant for one month (part time) to design the health education survey in cooperation with NIHRD's nationwide household survey, June - December 1978.

A research grant to NIHRD to be earmarked for a nationwide household study and a community study to be undertaken pre, mid and at the end of Repelita III (i.e., 1978, 1980/81, 1982/83)

The incorporation of health education measures into this more broadly focused survey will be assisted by the health education USAID-funded consultants described above. USAID inputs will be about \$10,000 (one month consultancy), and \$300,000 for the three time surveys. These funds are included under the Research and Development sub-project.

(8) Outputs #4.

Development and Implementation of Provincial Demonstration Exercises in Health Education

End of Project Status: A minimum of one specific health education project will have been undertaken in each of four different provinces. These projects will be capable of being replicated directly or indirectly (with appropriate modifications) in other provinces. The details of these three-year demonstrations will be developed with the assistance of USAID consultants, and will be funded beginning in FY 1978. The probable demonstrations and their goals/outputs are as follows:

(a) West Java Provincial Demonstration:  
"Transfer of Health Education Technology from health education personnel to other health personnel"

Discussion: The GOI national policy is that all health workers are to become health educators in the performance of their functions, and that a major function of specially trained health education personnel is to help the other health workers improve their knowledge and skills in health education. The activities observed in the West Java Province are more in keeping with the national policy than those observed in the other provinces visited, but nowhere is the "transfer of technology" being demonstrated as effectively as needs be if the national policy is to be realized. The approach to be used will be to select one

particular regency that lends itself best to a demonstration (there are not enough trained health education personnel in West Java to make the demonstration province wide); develop an agreement as to exactly which health workers at the provincial, regency and/or puskesmas levels are to be the focus of the national policy; study the health education functions of these workers; design and test training programs which will equip those workers with the health education technology they need; refine training programs into specific "courses" and develop appropriate training manuals and curricula; explore the desirability of conversion of those manuals and curricula into Programmed Learning Modules (for guided and/or self-learning purposes); design and conduct program evaluations; demonstrate the replication of the resulting efforts in other regencies of West Java, with particular emphasis on the training needs of other health education personnel who are to carry out replication; and determine the implication of the demonstration for other provinces and for other national training programs.

Purpose: To contribute to the implementation of the national policy that "all health workers should be health educators", by developing and/or modifying the training methods and materials which would enable appropriate technologies of health education to be transferred from health education personnel to the other health workers.

Output: Trained provincial health education personnel who are equipped to train other health workers with the technology they need in order to perform their health education responsibilities.

(b) East Java Provincial Demonstration: "PKs as puskesmas-level health education generalists"

Discussion: One observed deficiency in the staffing pattern of puskesmas has been the absence of a worker to carry out community organization/education activities at the village level. Workers in such programs as sanitation, nutrition and family planning for the most part pursue their own specific duties. Any notion that the puskesmas health officer (the dokabu) should be the health education coordinator overlooks the fact that this position is

already overloaded with clinical and administrative responsibilities. Involvement at this level in health education appears to be based more on personnel interest than on professional responsibility. In East Java, this staffing deficiency has been resolved by the use of specially trained health education sub-coordinators, under the direct supervision of the Provincial Health Education Specialist and Regency Health Education Coordinators. These may be sanitation, nursing or mid-wife assistants who devote 25% of their time to general health education activities - primarily assisting village leaders (LSD) in carrying out the four-phase educational approach for health improvement. (the four phase educational approach is a specific health education training project (USAID Project #188.1). Recently, there has been a national MOH determination that the PK (public health nurse) is to be made a part of the puskesmas staff, and should be responsible for carrying out general health education, along with other assigned public health nursing activities. Plans are underway to establish a large number of PK training institutions throughout Indonesia, which will train several thousand such workers each year. The first sizable group of PKs will be graduated in 1980. The strategy, then, is to use the strengths of the East Java experience with sub-coordinators in order to determine what specific health education functions the PKs should carry out, and how they should be trained in order to carry them out. In all likelihood, the specific function to be taught would be the four-phase educational approach. If all PKs know how to do this one activity well, the cause of village-level self-determination in health matters (with carryover into meeting non-health needs) could be advanced significantly by the end of Repelita III.

The training program for current sub-coordinators will be analyzed and refined, as a part of the East Java demonstration. These will be converted into specific manuals, programmed learning modules (for guided and self-learning uses), and curricula. One regency will be selected to demonstrate this approach with their puskesmas health workers and with PKs now under training in East Java. Different approaches to such training will be demonstrated. The implications for improving the curricula and methods of the PK training institutions will be determined, as will be the training needs of other provincial health education personnel. By the end

of the demonstration, the current use of sub-coordinators will be ended and they will be replaced by the PKs.

Goal: To enable PKs to carry out the four-phase educational approach effectively in the villages they serve.

Output: The methods, materials, and capacities for training of PKs in the four-phase educational approach will be improved.

(c) Demonstrations in two Outer Island "Class B" Provinces

Discussion: West and East Java are regarded as "Class A" provinces because of such factors as large populations, greater health resources, and better national/provincial systems of communications. There is a need to select two "Class B" provinces for special demonstrations, since this represents the largest category of provinces. While it is assumed that some of what is learned in Class A provinces may be replicated in Class B provinces, there is a greater chance of assuring that the priority needs of the Class B provinces will be met by performing demonstrations under Class B province conditions.

As with the Class A demonstrations, the details of the Class B efforts will be developed when the USAID consultant is available to assist the MOH Health Education Directorate.

(d) Diffusion and Adoption of New Ideas:

Discussion: The replication of the four provincial demonstrations in other provinces and in other training institutions constitutes the final stage. This involves several related activities: the possible changing of national policies affecting other MOH directorates, other sectors, and such training institutions as FKM, the Center for Education and Training, Medical Schools, and the Ministry of Education; the training of health education trainer personnel, and other personnel who teach health education; and the "show-and-tell" results of demonstrations at conferences, seminars, and provincial workshops. The details of this component will also be assisted by the USAID Consultant and will be considered for possible funding beginning FY 1978.

(9) The Inputs for Output #4

GOI: National and provincial health education staff will develop, design and specify the purpose of the demonstrations through an October 1978 workshop and the national health conference in January 1978.

USAID: One short-term consultant, a health educator, to help design demonstrations in two provinces on Java and in two outer island provinces.

Length of consultancy: 60 work days in early 1978.

Commodities:

A small amount of money is reserved for books, supplies, and teaching aids, the precise amount and nature of which will be determined as the project progresses.

Negotiation Status:

The sub-project description and implementation plan has been developed by the Office of the Secretary General, the Bureau of Planning, and the respective technical office of the MOH with the assistance of USAID-funded consultants and AID/Indonesia staff. This sub-project, as presented, represents as firm an action plan as is possible to develop at this time. Details of some activities must be determined from experimentation and after consultations with USAID Consultants.

## E. Primary Health Nurse Training and Evaluation Study

### 1. Background

The Primary Health Nurse (Perawat Kesehatan) educational program in Indonesia was conceived and developed by the Government of Indonesia in response to identified community health needs during Pelita I (First five-year plan 1969 - 1974). It was found that basic health care services were not available, accessible, nor acceptable to more than 80% of the population who lived in the rural area of this 3,000 plus island archipelago. As their training had been disease-oriented and narrow in scope, most of the existing health workers were not capable of dealing effectively with health problems that were compounded by social, cultural, environmental, and economic problems. Ability to plan, manage and evaluate health programs responsive to community needs was also weak. In the nursing field, there were 24 different categories of nursing and midwifery personnel being trained in narrow functions which required that multiple personnel meet the multiple health needs of the people. Service was fragmented and added to the total economic and management burden.

The major goals of the Primary Health Nurse Education Program are to reduce the 24 categories of nurses to one standardized basic type which has the motivation to improve the general health and welfare of the population of Indonesia, which is skilled in carrying out multipurpose functions, and which has the ability to work cooperatively with people. Retraining existing nurses and midwives in the health centers to become Perawat Kesehatan (PKs) has been started in one province. Future plans include the development of more specialized nursing personnel with advanced clinical, administrative, teaching, and research skills.

Implementation of this national program began during Pelita I with the establishment of 4 teacher-training schools to develop teachers for the Perawat Kesehatan. Conversion or closure of existing nursing/midwifery schools began in Pelita II (1974 - 1979). Ten schools were converted to the new program by 1976 and 17 more will be by the end of 1977. It is expected that there will be 150 schools converted by 1983. Technical and budgetary assistance for the program is

coming from the Government of Indonesia, WHO, World Bank, Netherlands, New Zealand, and Canada. With even more assistance, however, the possibility of more rapid development is likely.

There are many weaknesses in the present Primary Health Nursing Program that need strengthening, but one of the most obvious is the need for a simple, reliable evaluation system that could be carried out by Indonesians with their present resources. Valid feedback regarding the effectiveness of program inputs, process, outputs, and impact is vitally needed to determine whether objectives are being reached and what needs to be changed and improved. Currently, most of the evaluations being done are at the level of individual impression - - highly subjective. Some knowledge tests, subjective rating scales, and a self-evaluation skills checklist have been devised, but a more comprehensive evaluation system is needed to demonstrate the effectiveness of the Primary Health Nurse Program and to provide feedback for program planning.

One of the main constraints to the development of such a system has been the lack of expertise at the Central Government level, the teacher training level, the teacher level, and the service level, to design and carry out comprehensive evaluations. Other constraints have been a lack of manpower and time to devote to this area because of other priorities. It has now been determined by the MOH that comprehensive evaluation can no longer be deferred and that manpower, time, and financial resources must be obtained to accomplish this vital task.

This sub-project is a component of a larger multi-donor effort to provide a uniform cadre of primary health workers throughout Indonesia. USAID is currently planning assistance (under a separate project) in curriculum development, management, administration, teacher training, books, equipment, vehicles, and some construction/renovative funds. New Zealand plans to assist in retraining of existing nurse-midwives into the PK mold. The Netherlands will provide equipment, technical assistance, and books for support for the construction of 8 schools and 4 teacher training centers. The IBRD has already funded retraining programs and a regular 3 year program at one of the new schools, and will fund

construction and equipment of four more schools this year. The WHO is providing technical assistance in nurse education and administration, as well as books, fellowships, and equipment. UNICEF will pay for bicycles, jeeps, teaching aids and hospital and health center equipment. UNFPA is funding short courses, part of the program operating budget, and part of student nurse stipends. Other assistance is under consideration: teacher training fellowships, building funds, equipment, and technical assistance by Japan, auxiliary nurse retraining by CARE/MEDICO, and a model/demonstration school in Central Java by the IDRC (Canada).

## 2. Detailed Description

This sub-project is designed to take place over a period of three and one half years. It consists of four distinct phases. The first phase will consist of preparation for the three training phases (Basic evaluation techniques, more advanced techniques, and university fellowships abroad). The overall goal of this project is the development of an evaluation system by which the Center for Education and Training (CET), Teacher training schools, PK schools, and services can monitor and evaluate their various activities in implementing a new training program. To accomplish this goal, expertise is needed at all levels. This goal is in line with policies expressed in Repelitas I and II, as reliable evaluation feedback will improve the educational system and a more capable and effective primary health nurse will result. The Sub-project objectives are as follows:

a. By the end of the first year, 30 Indonesians from different levels of the MOH, who have undergone a four-week training course on basic evaluation techniques and tool construction, will have acquired the basic skills necessary to devise and use simple and valid evaluation tools to monitor student progress from admission to graduation (internal evaluation) and post graduation (external evaluation).

b. By the end of the second year 15 to 20 Indonesians who have undergone a second four-week training course on advanced evaluation techniques will be able to provide advisory services to PK schools and Teacher Training schools regarding how to construct tools to evaluate performance and will also assist in planning and conducting training

**sessions on evaluation at the schools.**

c. By the end of the third year, 3 to 5 Indonesians who have completed all of the above plus formal University courses on evaluation techniques, will be able to provide consultative services on all aspects of evaluation and to train other nationals.

The main purpose is to increase the ability of the Ministry of Health at the central, provincial and local levels to carry out valid and relevant evaluations of the entire health nurse education system and thereby increase the likelihood of producing nurses suited to the task of meeting community basic health needs. This project could be the beginning of a more comprehensive project to assist the development of the entire Perawat Kesehatan Program.

The expected inputs for this sub-project include the international and domestic short-term consultants who are experts in the fields of evaluation, curriculum development, system analysis, sociology, educational psychology and clinical nursing; funds for a series of workshops of approximately one month duration on evaluation techniques for from 15 to 30 people; funds for travel expenses of a four member team to approximately 10 schools; funds for books and references, miscellaneous general support, stenciling, and secretarial help; and funds for fellowships in advanced evaluation techniques. The host country plans to provide support throughout the life of the project. After the project is completed, the trained manpower will continue to maintain the evaluation system and develop more manpower.

The outputs expected from this project are as follows:

PHASE I - Components of the education system including inputs, process, outputs, and impact requiring evaluation will be identified. Existing tools, resources, and obstacles to development of an evaluation system will be identified. Guidelines and steps for implementation will be developed.

PHASE II - Thirty Indonesians will be skilled in basic evaluation techniques and simple tool design. The original 30 to be trained:

Pusdiklat - 3 nurses, 3 health educators	- 6
Teacher trainers - 2 from each school	- 8
PK Teacher - 1 from each of 10 schools	- 10
Province	- 2
Services - 2 from hospitals, 2 community	- 4
TOTAL:	<u>30</u>

Evaluation manual started and sections pre-tested.

PHASE III - 15 to 20 Indonesians will be knowledgeable and skilled in advanced evaluation techniques and tool design. Trainees will be selected on the basis of motivation and ability.

Evaluation Manual modified, completed and distributed.

Training sessions on use of manual will be held at TT and PK schools.

PHASE IV - 3 to 5 Indonesians can provide consultation services on all aspects of evaluation. Trainees will be selected from prior group on the basis of motivation and ability.

The initial beneficiaries of this project will be the approximately 30 Indonesians in the Ministry of Health at the central, provincial and local levels who will be trained in evaluation techniques and evaluation system design. Results of the evaluation system will be used to improve and strengthen the national on-going Perawat Kesenatan program. The ultimate long term beneficiaries will be the student nurses who will become more capable deliverers of basic health services. The final beneficiaries will be the people of Indonesia, especially the rural poor, who will be the main consumers of the services of these primary health nurses.

### 3. Implementation Plan

#### a. Administrative Arrangements:

The Center for Education and Training (CET) of the Ministry of Health (MOH) will be the unit primarily responsible for:

- (1) Planning, implementing, monitoring and evaluating the project.
- (2) Creation of committees, including setting up criteria for membership, to carry out program preparation and implementation activities.
- (3) Preparing and soliciting requests for internal services and, with the assistance of USAID, for external services.

An evaluation Project Team within the CET is responsible for the planning, execution, and evaluation of the project. This team is composed of the following members:

Pusdiklat - 2 nurses, 1 health educator  
3 administrative personnel  
2 WHO nurse educators

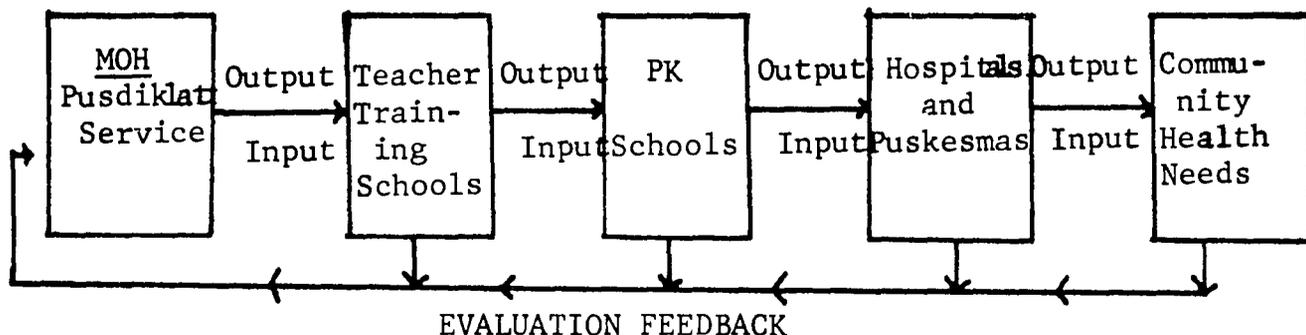
Other Agencies -

1 nurse MOH Community Health Nursing  
1 nurse MOH Hospital nursing service  
1 MOH BPPPK  
1 MOH IKIP  
1 University Educational Psychologist  
1 USAID

Coordination of relationships with other GOI and International agencies and community organizations

b. Overview

This project on evaluation aims at the development of an evaluation system by which the CET, Teacher Training Schools, PK Schools, and services can monitor and evaluate its various activities in implementing and improving the PK Program and the other training activities. In order to understand the scope of the task involved, we need to examine the relationships of the different components in the Perawat Kesehatan educational system. This system can be diagrammed as follows:



The output of one component is the input to the next component. By increasing the evaluation expertise at the MOH level, Teacher Training level, PK school level, and service level, valid continuous in-the-system evaluation feedback can be obtained from all components regarding the effectiveness of each component's output and improvements in the educational program can be made accordingly. To be comprehensive, evaluation in the Teacher Training and PK schools must contain internal evaluation of all their inputs, process output, as well as external evaluation of the impact of their products.

To attain the development of such an evaluation system, the development of national expertise is vital. The development of this manpower is envisioned to take place in four phases:

- PHASE I - Preparation by identification of problems, needs and development of a plan to meet needs.
- PHASE II- Training in basic evaluation techniques, testing tools and begin development and testing of evaluation manual.
- PHASE III- Training in advanced evaluation techniques, testing tools and complete development and testing of the evaluation manual. Distribution of manual and conducting of training sessions for its use in various schools made.
- PHASE IV- Training in formal university courses on evaluation techniques and research in methodology. Provision of consultation and training of nationals begun in all aspects of evaluation techniques.

c. Evaluation Plan:

The main indicators for evaluation of the success of this project will be the following:

PHASE I:

1. Local resources for evaluation system development will be identified.
2. Possible obstacles to development of a system will be identified.
3. Components of an evaluation system will be identified.
4. Plans for development of Indonesian manpower and an evaluation system will be made.

PHASE II:

1. Outside consultants will be oriented to PK program, MOH, CET, and Indonesia.
2. Specific plans for training sessions, trials of evaluation tools, and criteria for selections of students for basic training will be made.
3. Training sessions No. 1 will be held.
4. Participants will be able to use principles of evaluation, knowledge regarding methodology to construct simple curriculum evaluation tools.
5. Tool trials will be held at PK schools.
6. Results of tool trials will be analyzed and tools improved.
7. Accepted tools will be distributed to all PK schools.
8. A manual containing principles of evaluation, various methodologies of tool construction and statistical measurements will be started.

PHASE III:

1. Selected 15 to 20 Indonesians will receive more advanced knowledge on evaluation techniques and methodology, use of computers, research.
2. Participants will construct evaluation tools for whole educational system, test analyze and improve.
3. Manual will be completed, printed and distributed.
4. Participants will assist in planning and conducting evaluation sessions for SGP and SPK teachers.
5. 3 to 5 participants will be selected for fellowships in advanced evaluation techniques.

**PHASE IV:**

1. Three to five Indonesians will receive advanced training in evaluation techniques, new technology and research methodology.
2. After return from fellowships, the Indonesians will be able to provide consultation services, train other Indonesians in evaluation techniques.

TIME SCHEDULE

Duration of the Project

The entire project will last 3½ years and includes the following phases:

- 1) Preparation phase.....6 months
- 2) Basic Training phase.....1 year
- 3) Advanced Training phase.....1 year
- 4) Fellowship phase.....1 year

<u>Project Activities/Quarter</u>	<u>1977</u>				<u>1978</u>				<u>1979</u>				<u>1980</u>			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
PHASE I:																
1.Members of Evaluation Committee selected and appointed		1														
2.Terms of reference, scope of responsibilities and tasks defined.		2														
3.Budget/financial plan provided for		3														
4.Detailed work plans/schedule developed		4														
5.Monitoring and evaluation procedures defined.		5														
6.Seminar work plan implemented (Seminar 5 days).		6														
7.Evaluation results and seminar proceedings compiled, printed and distributed.				7												
8a.Purchase of books and reference implemented				8a.												

TIME SCHEDULE

Project Activities/Quarter	1977				1978				1979				1980			
	I	II	III	IV												
<u>PHASE II:</u>																
8b. Terms of reference, responsibilities of Evaluation Committee defined					8a											
9. Initiate recruitment procedures for consultant services					9											
10. Participants informed after criteria for selection formulated								10								
11. Outside consultants oriented to PK program, MOH, CET and Indonesia (1 week)								11								
12. Specific plans for basic training session made (1 wk.)								12								
13. Basic Evaluation training session implemented (1 month)												13				
14. Manual of guidelines with sample tools started and stenciled												14				
15. Tool trials held at TT, PK schools and services												15				
16. Visits to selected TT and PK schools (2 wks and 4 weeks)													16			

TIME SCHEDULE

Project Activities/Quarter	1977				1978				1979				1980			
	I	II	III	IV												
<u>(PHASE II:)</u>																
17. Results of Tool trials analyzed and tools improved.								17								
18. Accepted tools will be distributed to all concerned.									18							
19. Participants for advanced training selected.								19								
<u>PHASE III:</u>																
20. Terms of reference, responsibilities of Evaluation Committee defined, consultant recruited.										20						
21. Participants informed													21			
22. Specific plans for advanced training session made (1 week)													22			
23. Advanced Evaluation training session implemented (1 month)													23			
24. Tools developed, tested													24			
25. Visits to selected schools made (2 weeks) and (4 weeks)														25		

TIME SCHEDULE

Project Activities/Quarter	1977				1978				1979				1980			
	I	II	III	IV												
(PHASE III)																
26. Results of tool trials analyzed and tools improved (1 week)												26				
27. Prepare and hold workshop for new converted schools.														27		
28. Teams of trainees will visit selected schools to instruct on use																28
29. 3 to 5 participants selected for evaluation fellowships												29				
PHASE IV																
30. 3 to 5 participants receive instruction in English																30
31. 3 to 5 participants receive fellowships in Evaluation and Research techniques (6 months to 1 year)																31
32. 3 to 5 participants provide consultation and training in all aspects of evaluation techniques																32

DONOR COORDINATION

BUDGET ITEMS	GOI	WHO	USAID
<u>PHASE I:</u>			
Formation of Committees, planning, etc.	v	v	
Seminar	v		
<u>PHASE II:</u>			
<u>Personnel:</u>			
Committee	v	v	
Nurse Educator, Evaluation (2 mos)+(1mo)			v
Nurse Educator, Curriculum Dev. (2 mos) + (1 mo)			v
Systems Analyst		v	
Sociologist, Indonesian (2 weeks)			v
Educational Psychologist, Indonesian (6 wks)			v
Statistician Programmer (2 weeks)			v
<u>Workshop:</u>			
Preparation-printing programs & materials			v
Per diem for participants - 1 month x 30			v
Stationary & supplies			v
Postage & transportation			v
Miscellaneous - transport (local), etc.			v
Printing of manual and tools, reports			v
Books and References			v
Equipment - calculators			v

DONOR COORDINATION cont'd.

BUDGET ITEMS	GOI	WHO	USAID
<u>Visits:</u> (2 N.Ed, 2 PUSDIKLAT, 1 W. )			
1. Transportation to Jakarta and Surabaya	3		2
Per diem (2 weeks)	2	1	2
2. Transportation to Palembang, Bali, Ujung Pandang, Irian Jaya, Surabaya, Medan, Bandung, Manado, Palangka Raya	3		2
Per diem (1 month)	2	1	2
<u>PHASE III:</u>			
<u>Personnel:</u>			
Committee	v	v	
Nurse Educator, Eval. (7 wks) +(1 mo)			v
Nurse Educator, Curr. Dev. (7 wks) + (1 mo)			v
Educational Psychologist (1 month)			v
Statistician Programmer (1 month)			v
<u>Workshop:</u>			
Preparation - printing programs & materials			v
Per diem for participants - 1 mo x 20			v
Stationary and supplies			v
Postage and transportation			v
Miscellaneous			v
Printing of manual, tools, reports			v
Books and references			v
Equipment			v

DONOR COORDINATION cont'd.

BUDGET ITEMS	GOI	WHO	USAID
<u>Visits</u> (2 n.Ed., 2 Puskla+, 1 WHO)			
1. Transportation Jakarta & Surabaya	3		2
Per Diem (2 weeks)	2	1	2
2. Transportation - 10 schools PK & 4 TT	3		2
Per diem ( 1 month)	2	1	2
<u>Training of new converted schools</u>			
1. Workshop for 40 (1 month)			v
2. Visits in 6 months (2 months)	v		
<u>PHASE IV:</u>			
Pre fellowship x 5, transport, maint.	5		
English training (2 months) in Jakarta			v
<u>Fellowships:</u>			
a. Stipend x 5 x 1 year			5
b. Tuition x 5			5
c. Transportation x 5			5

TECHNICAL DETAILS OF THE NURSE TRAINING EVALUATION PROGRAMS

PHASE I.

Objectives: To conduct a seminar/workshop for representatives of related agencies to:

1. Identify specific inputs (consultative & other services) available in local related agencies.
2. Map out coordinating/integrating relationships between CET and these agencies.
3. Make decisions based on data available from the first group of PK schools, on existing problems in the area of evaluation.
4. Identify the components of evaluation system.
5. Make plan of development of manpower and an evaluation system.

Project Activities:

1. Selection and appointment of Evaluation Committee (Bidang III) Chairman and members; sub-Committees.
2. Terms of reference, scops of responsibilities and tasks defined.
3. Budget/financial plans worked out and provided for.
4. Detailed work plans/schedule developed.
5. Monitoring and evaluation procedures defined.
6. Seminar work plan implemented.
7. Evaluation results & seminar proceeding compiled; reported, printed and distributed.

Critical Assumptions:

1. Related agencies accept and share in the commitment to the pursuit of goals set.
2. Adequate financial/logistic support/manpower to carry out all planned activities assured.
3. Committee chairman and members have the authority to implement these.

Implementation by: Pusdiklat Evaluation Committee.

Target Date: Quarter III 1977.

Criteria for Selection of Evaluation Committee:

A. Chairman:

1. Must have knowledge and experience in planning & organising workshops/seminars.
2. Must be able to establish good work relationships with team members.
3. Must be able to delegate authority & responsibility to team members.
4. Must be able to develop a system for monitoring and coordinating all activities of sub-committees.
5. Must be able to anticipate and plan for meeting problems.

B. Team Members:

1. Must be able to establish good work relationships with co-workers.
2. Must be able to exercise decision in carrying out assigned tasks and activities.
3. Must be able to coordinate activities with other team members.
4. Must be able to write and submit reports as stipulated.
5. Must have experience and knowledge in evaluation education.

Terms of Reference Scope of Responsibilities/Tasks for Evaluation Committee.

1. To plan, organize and implement a workshop/seminar of one week duration.
2. To ensure adequate financial and logistic support to carry out all planned activities.

3. To create sub-committees and appoint members as necessary.
4. To monitor and evaluate workshop/seminar activities.
5. To compile, analyze and publish seminar proceeding and distribute.
6. To ensure effective communication (observing protocol and proper official channels) with related agencies.
7. To continue functioning until all workshop/seminar project activities are finished or/unless otherwise dissolved by PUSDIKLAT.

LIST OF PARTICIPATING AGENCIES

<u>AGENCY</u>	<u>REPRESENTATIVE/S</u>
1. Ministry of Education BPPPK IKIP	Center for Evaluation
2. University of Indonesia	LP3ES
3. Ministry of Health	Community Health Nursing Unit  Hospital Health Nursing Unit
4. WHO	System analyst
5. University	Education Psychologist  Statistician/Programmer
6. Pusdiklat	

## PHASE II: Training in Evaluation Techniques and Tools

Objectives: The training of Teams in evaluation techniques and construction of evaluation tools so that upon completion of the program in 4 weeks, the trainee will have acquired basic knowledges and skills to enable him to:

1. Apply principles of evaluation in devising simple procedures and tools to:

monitor student progress (formative) from admission to the end of the program.

measure knowledge, skills and attitudes acquired/developed by students from one level to the next and upon completion of the program (summative).

measure impact on community, on hospital or puskesmas (external).

2. Pinpoint problem areas in respective PK schools (inputs, process, outputs) and select a specific problem for the application of knowledge and skills developed/acquired in the course for the improvement of the PK program.
3. Participate in the development of a manual of evaluation techniques and tools for PK administrators, teachers and service.
4. Testing of tools.

### Project Activities:

1. Creation of a Pusdiklat Evaluation Committee (may be the same as are in Phase I); sub-committees:

Selection and appointment of a full time Project Team Leader and team members according to criteria set.

Terms of references, scope of responsibilities and tasks defined.

2. Participating agencies identified and representative appointed.

3. Initial plans worked out.
4. Stipulation of consultant services required (external and internal)  
Criteria for selection of consultants defined.  
Specific terms of reference formulated.  
Initiate recruitment procedures.
5. Outside consultants oriented to MOH, CET, and PK Program.
6. Workshop participants selected and notified.
7. Detailed work plans/schedule developed, approved and implemented.
8. Monitoring system developed and utilized to ensure attainment of goals.
9. Plans for manual developed.  
Broad outline including content & procedures.  
Concrete plans for writing up try out, collating trial results, rewriting, editing, publication and distribution.
10. Developed tools tried in schools and services.
11. Monitoring visits to selected schools made 6 months post-workshop.
12. Results of tool trial analyzed and tools improved.
13. Accepted tools will be distributed to all concerned.

Critical Assumptions:

1. Pusdiklat Evaluation Committee can provide the necessary manpower to carry out all activities as planned.
2. Adequate financial/logistic support.
3. Outside expertise can be obtained.
4. Data on evaluation problems and available tools can be obtained.

Implemented By: Bidang III (1)

USAID (2) (3)

Evaluation Committee (4)

Target Date: Quarter IV 1978.

List of Participating Agencies

1. Ministry of Education
2. USAID
3. WHO
4. University

Representatives

- BP3K
- Nurse Educator,  
Evaluation
- Nurse Educator,  
Curriculum Development
- System Analyst  
Nurse Educators
- Educational Psychologist  
Sociologist  
Statistician/Programmer

List of Team Members for  
School Visits

1. USAID
2. PUSDIKLAT
3. WHO

Representatives

- Nurse Educator,  
Evaluation
- Nurse Educator,  
Curriculum Development
- Nurse Educator  
Health Educator
- Nurse Educator

Criteria for Selection of full time Project Team Leader and Members.

Team Leader:

1. Must be able to provide and monitor all activities towards given goals.
2. Must be knowledgeable in group dynamics.
3. Must be able to anticipate and prevent problems or find alternatives in resolving problems.
4. Must be able to provide intelligent guidance to members and delegate authority and responsibility.

Team Members: (Same as under Team Members for Evaluation Committee.)

Terms of Reference, scope of responsibilities and tasks of Evaluation Team.

1. To plan, organize and implement a training workshop for 40 participants of 4 weeks duration.
2. To ensure adequate financial and logistic support to carry out all planned activities.
3. To create sub-committees and appoint members as needed.
4. To monitor and evaluate workshop/seminar activities.
5. To compile, analyze and publish workshop proceedings and distribute.
6. To ensure effective communications with related agencies observing protocol and proper official channels.
7. To prepare briefing program and materials for consultants.
8. To assist consultants in or facilitate the performance of their job.

9. To continue all functions/tasks assigned as long as needed.

Criteria for consultant services:

1. Must be experts in the area/field stipulated.
2. Must have had educational preparation beyond the basic level and at least 5 years professional experience in the field of expertise.
3. Work experience in a developing country desirable (preferably in Asia)
4. Must have demonstrated ability to develop mutually cooperative relationships with others.
5. Must have experience in planning/participating/ implementing projects.
6. Must be able to adapt to Indonesian conditions and work situation.
7. Must be innovative in approach.

Terms of Reference for Consultants:

1. Nurse Educator, curriculum development.

Assist in all project activities involving curriculum components to be evaluated.

Assist in planning, implementation and evaluation of workshop training sessions.

Assist in development of evaluation system for Indonesia nursing educational program.

Assist in trial and evaluation of tools developed.

Assist in development of a written manual on evaluation.

Assist in selection of part or parts for advanced training.

May assist team in evaluating some PK schools.

2. Nurse Educator, evaluation:

Assist in planning, implementation, and evaluation of workshop training sessions.

Assist in giving input on evaluation principles, methodology and nursing evaluation tools (both internal and external).

Assist in development of evaluation system for Indonesia nursing education program.

Assist in trial and evaluation of tools developed

Assist in development of a written manual in evaluation

May assist team in evaluating some selected TT and PK schools.

Assist in selection of participants for advanced training.

3. Educational Psychologist - advise/assist/participate in:

Giving input on evaluation principles, methodology, statistical measurements, test analysis, and interpretation.

The construction of evaluation techniques/procedures (formative and summative) for the PK program.

The development of plans for organized student services and records in PK schools.

The development of a Manual of Guidelines for Education.

The selection of participants for advanced training.

Teaching - learning sessions for participants.

Constructing and trying out evaluation tools in selected schools.

4. Sociologist - advise/assist/participate in:

The development of criterion measures for the external component of evaluation.

Teaching - learning sessions for the participants.

The development of plans for organized student personnel services and records.

The development of a Manual of Guidelines for Evaluation

Constructing and trying out evaluation procedures/techniques in selected schools.

5. Systems analyst - advise/assist/participate in:

Analyzing the PK educational system within the framework of the national goals and educational system.

The development of plans for the implementation of an evaluation system for nursing education programs for the next 10 years.

Teaching - learning sessions for participants.

The development of a Manual of Guidelines for Evaluation.

6. Statistician Programmer - advise/participate in:

Development of evaluation tools utilizing computers.

Teaching - learning sessions for participants.

Development of a manual of guidelines for evaluation.

CRITERIA FOR SELECTION OF PARTICIPANTS (40): Agencies/  
Unit Represented

Agencies / Unit

Pusdiklat Officials	6
Teachers of Teachers Training Schools	8
Teachers of PK Schools	20
Province	2
Community Health Nursing Service Unit	2
Hospital Nursing Services Unit	<u>2</u>
	40

PHASE III: Formal Training Program on Evaluation Techniques and Tools (Intermediate Stage)

Objectives: Formal course in evaluation after 15 selected participants (from group I) who will attain more depth of knowledge and skills in evaluation techniques so that after several weeks they can:

1. Develop and try out more complex evaluation techniques/tools in selected PK Schools.
2. Continue the trial of the manual of guidelines for evaluation:  
  
Assist uses in the trial of the manual.  
  
Collate feedback materials from trial; analyze and interpret these.  
  
Assist in planning for the revision and improvement of the manual.
3. Provide advisory services to the PK schools and Teacher training schools in developing tools to evaluate student performance.
4. Assist in planning and conducting evaluation sessions for SPK and SGP teachers.
5. Assist in the selection, designing and production of test materials which can be used as a model by nursing schools.

Project Activities

1. Pusklat Evaluation committee (may be the same as in Phases I and II) to plan for and implement all activities for training program.
2. Question of sub-committees as needed and terms of reference defined.
3. Budget and financial support assured.
4. Stipulation of consultant services (external and internal)

Criteria for selection, terms of reference and

recruitment procedures implemented.

5. Monitoring system developed and utilized to ensure attainment of goals.
6. Plans for advanced evaluation training session made.
7. Training session implemented
8. Visits made to selected schools to assist in testing tools.
9. Visits made to all schools concerned to analyse result of tool trial and improve
10. Evaluation manual completed, printed, and distributed.
11. Plans for basic evaluation training for new converted schools made.
12. Basic evaluation training session held for new participants.
13. Team visits to new schools to analyze results of basic tools trial and improve
14. 3 to 5 original participants selected for evaluation fellowships.

Critical Assumptions

1. Participants selected according to criteria will be provided opportunities post training to implement plans.
2. Adequate financial/logistic support are assured for all activities.
3. Necessary manpower can be provided to carry out all activities.

Implemented by: Evaluation Committee(1) above;  
USAID (2) above  
Evaluation Committee (3) above.

Terms of Reference, scope of responsibilities and tasks of Evaluation Team.

1. To plan, organize and implement an advance training workshop for 20 participants of 4 weeks duration.
2. To ensure adequate financial and logistic support to carry out all planned activities.
3. To create sub-committees and appoint members as needed.
4. To monitor and evaluate workshop/seminar activities.
5. To make all necessary arrangements for team visits to schools.
6. To compile and analyze and publish workshop proceedings and distribute.
7. To ensure effective communications with related agencies observing protocol and proper official channels.
8. To assist consultants in the performance of their job.
9. To continue all functions/tasks assigned as long as needed.

PHASE IV: Advanced studies in Evaluation Techniques  
(foreign fellowships) for 3 selected persons)

Objectives: After completing a formal University course with specialization in evaluation techniques, the graduate can:

1. Provide consultation services in evaluating nursing education program.
2. Plan and direct the production of evaluation materials for formative, summative and external evaluation of educational programs.
3. Participate in and promote the training of national educational evaluation techniques.
4. Teach evaluation courses for teachers in educational programs.
5. Act as resource person/lecture in evaluation seminars/workshops/training programs.
6. Design and carry out research studies on evaluation.

Project Activities:

1. Stipulate selection criteria for fellows.
2. Define policies on the utilization of fellows after graduation.
3. Select 3 - 5 participants for fellowships.
4. 3 to 5 participants receive 2 months of English language instruction.
5. 3 to 5 participants receive fellowships in advanced evaluation and research techniques.
6. 3 to 5 participants provide consultation and training in all aspects of evaluation techniques.

Critical Assumptions:

1. All necessary manpower to carry out activities can be provided.
2. Adequate financial/logistic support can be obtained.

Implementation by: Evaluation committee, USAID, GOI.

## Expanded Community Immunization Preparatory Sub-Project

### Sub-Project Background

The current status of communicable diseases in Indonesia has been outlined in the DAP and in the 1975 PRP for the community immunization program. These descriptions clearly demonstrate the need for an expanded immunization program.

The Expanded Program for Immunization (EPI) for Repelita III will continue to immunize children against smallpox and, with BCG, against tuberculosis. DPT for diphtheria, whooping cough and tetanus will be added to the program and tetanus toxoid (TFT) will also be given to pregnant women to reduce the mortality of tetanus neonatorum.

The logistics problems associated with a delivery system to the remote sections and outer islands, where roads are sometimes non-existent and population densities very low, are enormous. During the remaining two years of Repelita II, the GOI has decided to preface the expanded community immunization project with a preparatory study on a limited scale to resolve technical, logistical and managerial issues which could pose constraints to implementing the nationwide program during Repelita III. Such issues as the number of doses of pertussis vaccine needed to immunize children against whooping cough must be resolved. Pediatricians have supported three doses while the MOH has supported the international standard of two vaccinations to immunize children up until age fifteen. In order to gain the support of the pediatricians for the strategy to be used in the EPI program, the Center for Bio-Medical Research of NIHRD in conjunction with the Directorate of the EPI program, has requested that USAID support a program, under Grant 273, for the field testing of two versus three vaccinations with pertussis vaccine to determine the relative effectiveness of each schedule. The Institute has previously carried out similar field trials with vaccines and has demonstrated a high level of competence in this type of research.

It is expected that the results of this test will identify the strategy to be used in the EPI.

Since DPT is to be added to the planned nationwide program, the problem of increasing local vaccine production of DPT at P.N. Biofarma will also need to be addressed. This will likely be costly in terms of equipment and personnel training.

### The Cold Chain

Perhaps the most important issues which need to be addressed prior to the EPI program are the specifications, establishment, and maintenance of an effective cold chain for transport of vaccines from Biofarma, the manufacturer in Bandung, to villages throughout Indonesia.

Heat labile vaccines require proper handling (cooling or freezing) from the point of production to the point of patient administration. Many logistical issues will need to be resolved including methods for setting up the cold chain itself.

Expansion of the Biofarma plant will require additional large refrigerator units, as will the central distribution and storage point at the MOH.

Additional cold boxes will be needed for ground transport of vaccines from Biofarma to all provinces of Java, Bali and Madura. Special scheduling is required for air transport of vaccines, whether commercial, private (Irian Jaya) or military aircraft are used.

Province hospitals will require large refrigerators for central storage and distribution, and small gasoline generators to supplement the often-intermittent electrical power available in Province capital cities.

A smaller electric refrigerator should be placed in each regency hospital, with a small gasoline generator for back-up power. The technical effectiveness of kerosene refrigerators currently being utilized in the Puskesmas does not appear to be very high. Existing kerosene refrigerators can probably be adapted by improving the insulation and by providing an alternate source of heat.

Specially designed thermos containers and cold boxes will also be needed to transport vaccines to health posts, schools, and villages to make the last link of the cold chain more effective.

Further analysis of the use of refrigerators currently available and implementation of strategies to increase their efficiency will require activities such as the development of a training manual for vaccinators and others administering vaccines, for testing of refrigerator temperatures (external dial thermometers), repairing and maintaining refrigerators, maintaining spare parts, handling of vaccines, and recording and reporting the number of patients vaccinated.

### Training

Provincial officials in charge of the CDC program and in charge of the immunization program specifically will need to be upgraded in the following areas to assist in the implementation of the program and in the training of those administering the vaccines:

1. Techniques in proper use of DPT and TTT vaccines
2. Logistics
3. Management and record keeping
4. Surveillance
5. Cold chain operation
6. Technical issues for vaccine production for P.N. Biofarma

### Consultant Services

The Directorate of Research and Epidemiology has requested two long-term consultants in support of the Immunization Chief's responsibilities for planning, managing, administering and evaluating the EPI Project and short term consultants to handle specific problems. USAID recognized the complexities of this project and fully supports this request. WHO is also providing technical assistance and between AID and WHO we expect to be able to fully meet TA requirements.

A few planning and preparation meetings and seminars have already been held by the National Directorate for EPI of CDC with provincial CDC Directors and other personnel in

charge of the immunization programs in the provinces, as well as with interested donor agencies: WHO, UNICEF, USAID and the Australian government. Although the details of the testing phase of the EPI program prior to Repelita III have not yet been worked out, in general, systems needs for the program have been identified. In May, 1977, a short term UNICEF consultant assessed the present logistics and "cold chain systems" and suggested strategies for improving refrigerators, spare parts supplies, training personnel, logistical support, etc. Other short term consultants from WHO and UNICEF will provide assistance in the following areas:

- a) logistics, including vehicle requirements
- b) cold chain requirements and operation
- c) vaccine production at Biofarma
- d) management and finance of the Immunization Project
- e) equipment maintenance
- f) foreign purchase of vaccines, disposable syringes and needles, vaccine guns, etc.

#### Purpose of Sub-Project

The purpose of the expanded immunization program-testing phase is:

- a) To establish the plans and systems required to implement a nationwide expanded immunization program. These systems include the following: a cold chain system from the point of production to the patient, a system for expanded vaccine production and general support systems for planning, training, logistics, service statistics and disease incidence.
- b) To immunize 20% of the population of Indonesia against smallpox, Tb, tetanus, diphtheria, and whooping cough by the beginning of Repelita III.

#### Outputs

The outputs of the EPI program-test phase will be the results of a number of discrete trials, implemented over a significant period of time, which will work out technical and logistical issues involved in the expanded Repelita III program. According to the plans of the project manager, the

target of the Repelita III program will be to reach 80% of the population and to immunize them against tuberculosis, smallpox, diphtheria, tetanus, neo-natal tetanus, and whooping cough.

The specific problem areas which have to date been singled out for testing in this phase are:

- a) organizational, supervisory and support system for immunization program
- b) cold chain logistics which will include testing hardware, organizational strategy, and control mechanisms
- c) vaccine effectiveness: the value of 3-time as opposed to 2-time vaccination against pertussis.
- d) system for collecting and reporting data on disease incidence and service statistics
- e) determination of the costs of vaccination programs

#### Inputs

The inputs of the project are:

##### UNICEF:

refrigerators

##### WHO:

consultants

fellowships

vaccination equipment

##### GOI:

vaccinators' salaries

vaccines and associated equipment

refrigerators

maintenance

transportation

surveillance

record keeping and reporting

##### USAID:

services of one long term consultant who will assist the Directorate of the EPI program during the two years of the trial period to coordinate and assist with planning and training. Also he/she will help to evaluate reports from short term consultants, assist in design of management systems and help review overall plans for testing systems and

equipment. Final planning of the Repelita III program will be based upon results of initial trials and tests on both Java and the Outer Islands.

The administrative capabilities in the Immunization Chief's Office staff are in need of strengthening. The AID-provided long term consultant will be expected to substantially improve the efficiency of overall operations. Counterpart relationships with the long term consultant will be maintained by The Chief of Immunization under the Directorate of Epidemiology and Quarantine. The consultant should have qualifications that match the scope of work outlined in the Implementation Plan below.

USAID funds have also been allocated for short term consultant service, which will be designated by the long term consultant. Although specific short term consultant services cannot be specified with precision at present, they may include refrigeration technology, logistics training, and systems management.

Fifty thousand dollars is set aside for commodity procurement. This may be devoted entirely toward increasing Biofarma's vaccine production capabilities, or may be used in part to purchase test equipment, such as syringes and thermometers.

#### Implementation Plan

Administrative Vaccine Field Trials will be conducted by NIHRD. AID will monitor the vaccine field trials through progress reports, reports on experimental tests, and through a comprehensive project evaluation. Most of this monitoring will be done by the long term consultant who will be in frequent contact with the USAID Health Division.

#### Scope of Work for Long-Term Consultant Employed by USAID

AID will provide the services of one full-time consultant for 18-24 months to assist the Chief of Immunization in planning, and training staff to handle administrative and managerial responsibilities.

The consultant's scope of work will be as follows:

- a) Assist with the coordination of the work of six to ten WHO consultants in such fields of specialization as: epidemiology, management, supply operations and cold chain operations;
- b) Assist with the training of central staff personnel in organization, program design, project management and evaluation
- c) Make at least 4 extensive field trips to help provide guidance and training to CDC personnel at province, regency, and health center levels. Consultant will assist in problems of communications, finance, reporting, surveillance, transport, and manpower requirements.
- d) Participate in seminars, workshops and meetings as required to help coordinate the MOH plan with field officials and with external donors
- e) Assist with the development of coordination plans with the GOI military establishment or with other government bodies whose services will be needed in program implementation
- f) Submit quarterly reports to MOH and AID on his/her evaluation of progress being made.

The consultant's qualifications will be as follows:

- a) Broad knowledge of the planning and implementation of immunization programs under conditions similar to those that prevail in LDCs
- b) Basic knowledge of cold chain system, logistics and vaccine production.
- c) Background knowledge of epidemiology and of surveillance systems for detecting contagious diseases.
- d) MPH in epidemiology or an MBA or both is desirable.
- e) At least 3 years experience working in LDCs is desirable.
- f) Knowledge of the Indonesian language would be highly useful.

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Project Title & Number: Health Training Research and Development 497-0273

ANNEX D  
PAGE 1

Life of Project: \_\_\_\_\_  
From FY 78 to FY 82  
Total US Funding \$4,000,000  
Date Prepared: 12/13/77

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Program or Sector Goals:</b> The broader objective to which this project contributes: To make health program more effective and responsive to the health needs of the poor in terms of both coverage and quality.</p>	<p><b>Measures of Goal Achievement:</b></p> <ol style="list-style-type: none"> <li>1) Improved health</li> <li>2) Disease incidence</li> </ol>	<ol style="list-style-type: none"> <li>1) Surveys on mortality and morbidity</li> <li>2) Special and routine reports</li> </ol>	<p><b>Assumptions for achieving goal targets:</b></p> <ol style="list-style-type: none"> <li>1) Very important causes of inadequate health services to the poor are inadequate facilities and lack of knowledge of management, manpower development, logistics, and research techniques at many levels of the GOI health network.</li> <li>2) There is enough flexibility in the GOI organizational structure that rational argument and research evidence can produce systemic changes.</li> <li>3) The GOI has the political will to improve the health of the poor to the extent that the GOI would make the sacrifice necessary to alter and expand the distribution of health services</li> <li>4) Research findings will be communicated to decision makers.</li> </ol>
<p><b>Project Purpose:</b></p> <p>To strengthen the public health planning, research and education capabilities of the GOI in such a way as to contribute to goal achievement.</p>	<p><b>Conditions that will indicate purpose has been achieved: End of project status.</b></p> <ol style="list-style-type: none"> <li>1) Application of modern management techniques in all aspects of MOH operation.</li> <li>2) Rationalized allocation of MOH personnel and other resources.</li> <li>3) Increased use of Public Health services.</li> </ol>	<ol style="list-style-type: none"> <li>1) MOH reports and observation</li> <li>2) MOH reports and observation</li> <li>3) MOH reports (misc.)</li> </ol>	<p><b>Assumptions for achieving purpose:</b></p> <ol style="list-style-type: none"> <li>1) The GOI MOH lacks appropriate research skills and experience</li> <li>2) The GOI MOH lacks management and evaluation skills</li> <li>3) The GOI MOH can integrate sub-project components into a single system</li> </ol>
<p><b>Sub-Sub-Project Purpose:</b></p> <ol style="list-style-type: none"> <li>1) To strengthen health planning and evaluation at national and provincial levels, with special emphasis on personnel and manpower.</li> <li>2) To strengthen the capability of the National Institute of Health Research and Development to undertake high quality research geared towards issues of planning and policy and toward development of health services delivery technology appropriate for the Indonesian Environment and biological research.</li> <li>3) To establish an appropriate modern system to plan, manage, and experiment with health education.</li> <li>4) To augment substantially the ability of the MOH to carry out evaluations of its own health training programs.</li> <li>5) To resolve the likely technical, logistical and managerial issues of implementing a nationwide immunization program and to effect a 20% coverage of the population of Indonesia against smallpox, T.B., Tetanus, diphtheria, and whooping cough by the end of 1979.</li> </ol>	<p><b>Conditions that will indicate purpose has been achieved: End of sub-project status.</b></p> <ol style="list-style-type: none"> <li>1. a. An improved manpower plan for Repelita-III integrated into the overall plan</li> <li>   b. Repelita III and annual plans completed on time</li> <li>   c. Existence of BHP capability to continue manpower planning</li> <li>   d. Improved personnel management</li> <li>   e. Health planning and evaluation capabilities</li> <li>   f. Improved evaluation methods in use</li> <li>2. Number, relevance, and quality of research projects completed.</li> <li>3. More relevant, thorough, widespread and standardized health education system</li> <li>4. Improved and more numerous evaluation on health training programs</li> <li>5. A complete, workable plan for the expanded immunization program</li> </ol>	<ol style="list-style-type: none"> <li>1) MOH reports and observation</li> <li>2) MOH reports</li> <li>3) MOH reports and observation</li> <li>4) MOH reports</li> <li>5) Review of plan, reports of successful immunization program</li> </ol>	<p><b>Assumptions for achieving sub-Purposes:</b></p> <ol style="list-style-type: none"> <li>1) GOI MOH will make full, effective use of long-term advisor and short-term consultants</li> <li>2) Research results will be communicated to decision makers</li> <li>3) No change in USAID policy respect to payment of honorarium to investigators</li> </ol>

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

ANNEX D  
PAGE 2

Life of Project: \_\_\_\_\_  
From FY \_\_\_\_\_ to FY \_\_\_\_\_  
Total US Funding: \_\_\_\_\_  
Date Prepared: \_\_\_\_\_

Project Title & Number: \_\_\_\_\_

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Outputs:</b></p> <ol style="list-style-type: none"> <li>1) z. Formulate health manpower plan</li> <li>b. Strategies for recruitment and maintenance of personnel</li> <li>c. Design and implementation of a computerized manpower management information system.</li> <li>d. Improved data collection system for (1) health status, (2) physical and biological environment, (3) social and cultural factors in health, (4) health delivery outputs and inputs, (5) expenditures, (6) policy needs at central, provincial, and local levels (7) demographic trends, (8) economic trends (9) health manpower.</li> <li>e. Improved planning and evaluation methods, including development of a planning and evaluation manual</li> <li>f. Provincial health officials trained in improved planning and evaluation methods.</li> <li>g. Health provincial-level health planners trained in U.S. Institutes in health planning</li> </ol> <p><b>R &amp; D Outputs:</b></p> <ol style="list-style-type: none"> <li>2) a. staff trained</li> <li>b. research projects completed</li> <li>c. data processing procedures</li> <li>d. extramural research resources used</li> </ol> <p><b>Education Outputs</b></p> <ol style="list-style-type: none"> <li>3) a. National Health Education Plan</li> <li>b. Output measures for Health</li> <li>c. Health Education Provincial Demonstration</li> </ol> <p><b>Training Outputs</b></p> <ol style="list-style-type: none"> <li>4) Design and test and evaluation system for current course training program which will include:             <ol style="list-style-type: none"> <li>a. Personnel trained in evaluation techniques</li> <li>b. An evaluation manual</li> </ol> </li> </ol> <p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>5) a. Determination of appropriate DPT dosage schedule</li> <li>b. Cold Chain logistical system design and implementation</li> <li>c. Project management system</li> <li>d. Plan for expanded vaccine production</li> <li>e. vaccine</li> </ol>	<p><b>Magnitude of Outputs:</b></p> <ol style="list-style-type: none"> <li>1) a. report</li> <li>b. report</li> <li>c. report</li> <li>d. report</li> <li>e. report</li> <li>f. at least 72 from at least 6 provinces</li> <li>g. at least 9</li> <li>2) a. 2,000</li> <li>b. an average of \$170,000 worth per year</li> <li>c. adequate</li> <li>d. to a significant degree</li> <li>3) a. report</li> <li>b. report</li> <li>c. 1 in each of the provinces</li> <li>4) a. 30 personnel trained in basic evaluation technique; 20 personnel trained in advanced evaluation technique; 5 Indonesians qualified to consult on evaluation</li> <li>5) a. Test results</li> <li>b. in place adequate to cover 20% of population</li> <li>c. 1 adequate</li> <li>d. 1 plan</li> <li>e. 20% coverage</li> </ol>	<ol style="list-style-type: none"> <li>1) Consultant reports</li> <li>2) a. MOH and Consultant reports</li> <li>b. Program documents and MOH reports</li> <li>c. Consultant reports</li> <li>3) Reports</li> <li>4) Consultant and MOH reports</li> <li>5) MOH and Consultant reports</li> </ol>	<p><b>Assumptions for Achieving Outputs:</b></p> <ol style="list-style-type: none"> <li>1) Continued GOI emphasis on health, especially education and training</li> <li>2) A sufficient number qualified Indonesians meet the English language requirements for overseas fellowships</li> <li>3) Language barrier for domestic courses can be overcome through either: use of Indonesian speaking consultants or screening course participants for English ability</li> </ol>

AID 1020-28 (1-73)

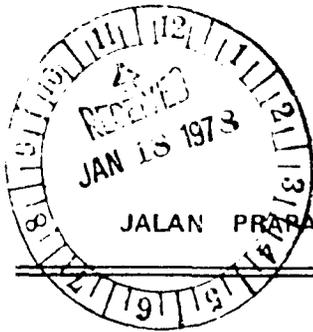
PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

ANNEX D  
PAGE 3

Life of Project: \_\_\_\_\_  
From FY \_\_\_\_\_ to FY \_\_\_\_\_  
Total US Funding: \_\_\_\_\_  
Date Prepared: \_\_\_\_\_

Project Title & Number: \_\_\_\_\_

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS					
Inputs:		Implementation Target (type and quantity):						
1) a.	12 months LTC manpower planning	100,000	*Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
b.	12 months LTC manpower management	100,000	253	299	186	-	-	738
c.	35 man months STCs, including 1 health economist; 2 health planners; 1 statistician; 1 health planner/statistician	350,000	728	558	406	322	197	2,211
d.	10 long term fellowships	118,000	61	30	30	15	40	176
e.	Inservice training at reGENCY/provincial level	23,000	142	174	109	20	-	47
f.	Inservice training in software	4,000	250	160	20	-	-	470
g.	Translator for consultants	1,000	TOTAL: 1,434 1,221 751 357 237 4,000					
h.	300-hour block grant of computer time	36,000	For details, see budget tables.					
i.	Commodities	6,000	**Year** refers to Project Year, April 1 - March 31.					
TOTAL:		738,000						
2) a.	LTC Research design and analysis 48 months	400,000						
b.	LTC Management science - 12 months	100,000						
c.	STCs: relevant research fields 44 man mths.	440,000						
d.	Fellowships in relevant research fields	362,000						
e.	In-country Courses (15 courses)	52,000						
f.	Local consultants	4,000						
g.	Research Projects	847,000						
h.	Internal fellowships	6,000						
TOTAL:		2,211,000						
3) a.	440 days STC Health Education Planner	165,000						
b.	60 days STC Health Education Planner (PDSF-funded)	-						
c.	60 days STC Health Education Planner (PDSF-funded)	-						
d.	Commodities	11,000						
TOTAL:		176,000						
4) a.	In-Country Training Courses	99,000						
b.	Local Consultants	30,000						
c.	24 man months STC	240,000						
d.	5 Fellowships	60,000						
e.	15 pre-Fellowships	4,000						
f.	Commodities	12,000						
TOTAL:		445,000						
5) a.	24 man month long term Consultant in immunization program management	200,000						
b.	18 man month STCs in relevant fields	180,000						
c.	Commodities (vaccines and vaccine pro- duction equipment)	50,000						
TOTAL:		430,000						
TOTAL USAID PROJECT INPUTS: \$4,000,000								



OFFICIAL FILE

ANNEX E

230

DEPARTEMEN KESEHATAN

REPUBLIK INDONESIA

JALAN PRAPATAN 10 JAKARTA TELP. 49801 S, J 49804, TROMOL POS 203

USAID ROUTING		
TO	Act	Info
DIR		✓
D/D		✓
L A		
MGT		✓
PRD		✓
R D		
P O P		
H N	✓	
E&HR		
VHP		
P. T&E		
AGR		
A C		
JAD/ADM		
PER		
CSO		

Jakarta, 14 Januari 1978

No. 0051/S.J./B.I./I/78

Mr. Thomas C. Niblock  
USAID  
Jakarta.

ACTION COPY
DATE: 1-30
APPROVED: N/A
BY: [Signature]
RETURN TO C & R

Dear Mr. Niblock,

The purpose of this letter is to review with you briefly our Department of Health Institution-building activities to date and to request continued USAID assistance in improving the management and research capabilities of the Department.

As you know, substantial progress has been made in both areas. The National Institute of Health Research and Development, organized in 1972, has consolidated and coordinated many of the Ministry's research functions. USAID has provided substantial assistance to this institute through the Health Research and Development Grant, Project 230.

In April 1975 the Bureau of Health Planning was incorporated within the office of the Secretariate General of the Department of Health to serve a staff function and to cover all planning units within the Department of Health. Ministry policy and programme decisions are now channeled through that Bureau and the Bureau is playing a major role in annual planning and in preparing the Repelita III Health Plan.

Health Education is a major priority of the Government of Indonesia's current health programme. With the help of USAID's Health Education Manpower Grant, Project 188.1 substantial strides have been made toward enabling this Department to fulfill this vital function, but much remains to be done.

Smallpox has been completely eradicated from the Indonesian Archipelago and substantial progress has been made against Tuberculosis. During Repelita III, we plan to move against diphtheria, Whooping cough, and tetanus, but prior to that time, important managerial and logistical problems must be resolved.

We have .....

We have reviewed USAID's Project Paper No. 497-0273, entitled "Health Training Research and Development", which was prepared jointly by our staffs, with the assistance of several consultants. We find this paper an appropriate response to needs listed above, hence I wish to make a formal request to USAID for the Grant assistance therein described. This new project will cover 1978 to 1982 and provide grant assistance to five component sub-projects : Health Planning, Health Research and Development, Health Education, a Primary Nurse Training Evaluation Course, and an Expanded Community Immunization Feasibility Study. The project is estimated to cost \$4,000,000 over the five year period.

I hope USAID can respond favorably to this request and I extend an invitation to you to join one of our review trips to project sites. I will be sure you are kept informed of our schedule.



Sincerely

Butadiwiria  
Secretary General  
Department of Health.

UNITED STATES GOVERNMENT

# Memorandum

TO : Distribution

DATE: September 6, 1979

FROM : ASIA/PD/EA, R. J. Asselin

SUBJECT: A.I.D. Grant No. 497-0273  
Health Training Research and Development  
Amendment No. 1

Attached for your information and files is copy of the subject document.

Attachment: a/s

Distribution:

FM/LD:ASmith

FM/BFD:JO'Neill

FM/FCD:DBaker

ASIA/TSPA:HPerrequin, RDakan

GC/ASIA:EMorris

ASIA/PD

DS/DIU (2)



A.I.D. Grant No. 497-0273

AMENDMENT NO. 1 TO PROJECT  
GRANT AGREEMENT BETWEEN THE  
REPUBLIC OF INDONESIA  
AND THE  
UNITED STATES OF AMERICA  
FOR  
HEALTH TRAINING RESEARCH AND DEVELOPMENT

Dated: July 25, 1979

This AMENDMENT NO. 1 dated *July 25, 1979*, is entered into between the REPUBLIC OF INDONESIA ("Grantee") and THE UNITED STATES OF AMERICA, acting through the AGENCY FOR INTERNATIONAL DEVELOPMENT ("A.I.D.").

WITNESSETH

WHEREAS, the Grantee and A.I.D. entered into a project grant agreement, designated as A.I.D. project No. 497-0273, on September 1, 1978, ("Grant Agreement"), whereby A.I.D. agreed to grant to the Grantee up to six hundred thousand United States dollars (\$600,000) to assist the Grantee in improving the planning and management information systems, manpower development, staff training and research development within its Ministry of Health, and

WHEREAS, the Grantee and A.I.D. desire to amend the grant agreement to reflect an increase of \$1,000,000 in the amount of the grant from \$600,000 to \$1,600,000;

NOW, THEREFORE, the Grantee and A.I.D. agree that A.I.D. project grant agreement designated as A.I.D. project No. 497-0273 is hereby amended as follows:

1. Section 3.1 of the grant agreement is hereby amended by substituting the words "one million six hundred thousand United States ("U.S.") dollars (\$1,600,000)" in lieu of the words "six hundred thousand United States ("U.S.") dollars (\$600,000)."

2. Annex 1 which is attached to the Grant Agreement is hereby amended as follows:

a. Paragraph 3 under "Project Description" is hereby amended by substituting the words "the delineation of national health educational goals established under Repelita III" in lieu of the words "the delineation of national health educational goals established under Repelita II"; and by adding a sub-paragraph to read: "special consideration will be given to developing primary health care and nutrition educational programs."

b. On page four under "Implementation Planning" the second paragraph under the heading "Long Term Consultants" is hereby amended to read as follows: "Three more long-term consultants will be required by the Health Training Research and Development Sub-Project. These consultants shall be research, design and analysis specialists whose responsibilities will include assistance on specific NIHRD research projects, on the job training of research personnel, management information system development and coordination of the work of the short-term consultants who will be requested from time to time."

3. The "Funding by Sub-Project Table" under the "Financial Plan" is hereby amended in the manner set forth on the attached Schedule I.

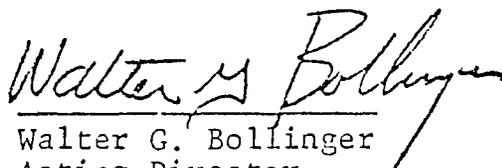
4. Except as hereinabove expressly amended, the grant agreement remains in full force and effect in accordance with all of its terms.

IN WITNESS WHEREOF, the Grantee and the United States of America, each acting through its duly authorized representative, have caused this Amendment to be signed in their names and delivered as of the day and year first above written.

REPUBLIC OF INDONESIA

  
Soejoto  
Secretary General  
Department of Health

UNITED STATES OF AMERICA

  
Walter G. Bollinger  
Acting Director  
USAID

SCHEDULE I

FINANCIAL PLAN

Funding by Sub-Project  
(US\$ 000)

	<u>Life of Project</u>		<u>1st year</u>	<u>2nd year</u>
	<u>GOI</u>	<u>AID</u>	<u>AID</u>	<u>AID</u>
Health Planning	1,020	740	145	344
Health Research and Development	11,670	2,210	420	600
Health Education	15,564	175	35	56
Contingency	--	475	--	--
	28,254	3,600	600	1,000
	=====			

Project No. 497-0273

AMENDMENT NO. 3 TO

GRANT AGREEMENT

BETWEEN THE

REPUBLIC OF INDONESIA

and the

UNITED STATES OF AMERICA

for

HEALTH TRAINING RESEARCH AND DEVELOPMENT

PROJECT

Dated: December 11, 1980

Appropriation No. 72-1111021  
Allotment No. 148-50-497-00-69-11

Dated: December 11, 1980

This AMENDMENT NO. 3, entered into between the REPUBLIC OF INDONESIA ("Grantee") and the UNITED STATES OF AMERICA, acting through the AGENCY FOR INTERNATIONAL DEVELOPMENT ("A.I.D."),

WITNESSETH THAT

WHEREAS, the Grantee and A.I.D. entered into a Grant Agreement, on September 1, 1978 ("Grant Agreement"), whereby A I.D. agreed to grant to the Grantee up to six hundred thousand United States Dollars (\$600,000) ("Grant") to assist in financing Grantee's Program to improve the planning and management information systems, manpower development, staff training and research and development within the Ministry of Health; and

WHEREAS, the Grantee and A.I.D. amended said Grant Agreement on July 25, 1979 to add \$1,000,000 and again on July 18, 1980 to add \$900,000 thereby increasing the Grant to \$2,500,000; and

WHEREAS, the Grantee and A.I.D. desire to again amend the Grant to add an additional \$2,000,000 thereby increasing the Grant to \$4,500,000;

NOW, THEREFORE, the Grantee and A.I.D. hereby agree as follows:

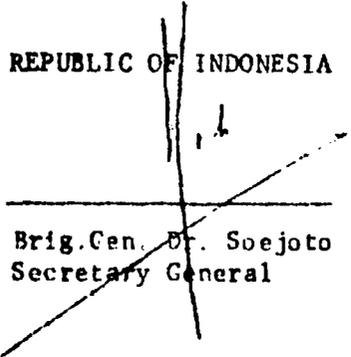
1. The first paragraph of Section 3.1 is revised to read as follows:

"Section 3. 1. The Grant. To assist the Grantee to meet the costs of carrying out the Project, A.I.D., pursuant to the Foreign Assistance Act of 1961 as amended, agrees to grant the Grantee under the terms of this Agreement not to exceed four million five hundred thousand United States ("U.S.") Dollars (\$4,500,000) ("Grant")."

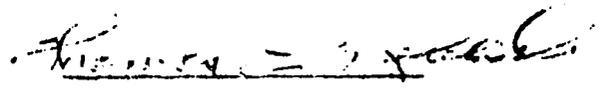
2. Except as hereinabove expressly amended, the Grant Agreement is ratified, confirmed and continued in full force and effect in accordance with all of its terms.

IN WITNESS WHEREOF, the Grantee and the United States of America, each acting through its respective duly authorized representative, have caused this Amendment No. 1 to be signed in their names and delivered as of the day and year first above written.

REPUBLIC OF INDONESIA

  
Brig. Gen. Dr. Soejoto  
Secretary General

UNITED STATES OF AMERICA

  
Thomas C. Niblock  
Director

SCHEDULE I

FINANCIAL PLAN  
Funding by Sub-Project  
(US \$ 000)

	Life of Project		1st. year	2nd. year	3rd. year	4th year
	GOI	AID	AID	AID	AID	AID
Health Planning	1,020	740	145	344	-	251
Health Research and Development	11,570	3,010	420	600	900	1,090
Health Education	15,564	175	35	56	-	84
Contingency	-	575	-	-	-	575
	28,254	4,500	600	1,000	900	2,000