

PD-ARF-78582145

A.I.D. EVALUATION SUMMARY - PART I ~~XD ARF 785 A~~

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA					
A. Reporting A.I.D. Unit: Mission or AID/W Office _____ (ES# _____)		B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan? Yes <input type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/> Evaluation Plan Submission Date: FY ___ Q ___		C. Evaluation Timing Interim <input type="checkbox"/> Final <input type="checkbox"/> Ex Post <input type="checkbox"/> Other <input type="checkbox"/>	
D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)					
Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
497-0348	Faculties of Public Health	1984	12/92	\$9,000	\$8,300

ACTIONS		
E. Action Decisions Approved By Mission or AID/W Office Director	Name of Officer Responsible for Action	Date Action to be Completed
Action(s) Required		
No USAID action is required, however USAID will monitor the following activities:		
1. Transferring title of project equipment in PMU to the Association of Indonesian Schools of Public Health (BKS-FKM) and to the 5 Faculties of Public Health;	MOEC	03/31/93
2. Accreditation of three Schools of Public Health of North Sumatera University (USU), Diponegoro University (UNDIP) and Airlangga University (UNAIR) is waiting for the approval of the Minister for Administrative Reform (MenPan).	Ministry for Adm. Reform (MENPAN)	03/31/93
(Attach extra sheet if necessary)		

APPROVALS				
F. Date Of Mission Or AID/W Office Review Of Evaluation: _____ (Month) _____ (Day) _____ (Year)				
G. Approvals of Evaluation Summary And Action Decisions:				
Name (Typed)	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
	Kenneth Farr	Prof. Dr. Ir. Bambang Soehendro	Edward Greeley USAID/PPS	Charles Weden Director
Signature	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Date	3/9/93	4-10-93	3/19/93	

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

Since "both USAID and the PMU (Project Management Unit) concluded that a conventional project evaluation would not be necessary", this report is "a forward looking sustainability assessment". Although we did not carry out final project evaluation, development of the Schools of Public Health in Indonesia through the Faculties of Public Health (FKM) Project was deemed successful by the assessment team, which attributed much of this success, due to good USAID planning project and supervision, and excellent leadership of the PMU in managing implementation of all components among 5 Local Management Units (LMU).

The assessment team found out that:

- (1) PMU had done an excellent job in developing FKMs;
- (2) One new Public Health Program had been established as a Faculty, although all have been accredited by Consortium for Health Sciences (CHS);
- (3) Establishment of a Faculty is a mixed blessing as Public Health staff (sometimes the best staff) may be lost to the Medical School when the split occurs. However, the Faculties must be established as independent entities; and
- (4) The Director General of Higher Education promises that all Faculties would be formally established by March '93.

Sustainability. It is clear that additional GOI budgetary support to the FKMs will be essential for long term vitality of these faculties and programs. Formal accreditation status will help assure this as each faculty gets budget allocations. Already the Ministry of Education has been assigning a small budget to the new Association on Schools of Public Health Indonesia (ASPHI), an outgrowth of the FKM project, Project Mangement Unit. Budgets for equipment maintenance, physical plant and library resources are also essential. Another key ingredient could be the establishment of placement offices in the campuses to help students find employment - especially in wider range of private sector portions as public sector absorbtion capacity to filled in the future. Perhaps best guarantee of sustainability will be continued attention by the FKM faculties and admin to excellence and adopting to the needs of public health issues of the next decade.

While the project has gone well, major needs still exist. USAID should explore mechanisms to transfer unexpended funds to the Association of Indonesian Schools of Public Health and assist Faculties in seeking support.

COSTS

I. Evaluation Costs

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Func
Name	Affiliation			
1. Dr. Timothy Baker	JHU	25	\$10,225	Project
2. Dr. William Stuart	AED	-	\$ 8,370	Project
3. Dr. Alex Papilaya		25	\$ 8,250	Project
4. Dr. Anhari Achadi		25	\$ 8,250	Project

2. Mission/Office Professional Staff
Person-Days (Estimate) _____

3. Borrower/Grantee Professional
Staff Person-Days (Estimate) _____

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Purpose of evaluation and methodology used • Purpose of activity(ies) evaluated • Findings and conclusions (relate to questions) | <ul style="list-style-type: none"> • Principal recommendations • Lessons learned |
|--|--|

Mission or Office:

Date This Summary Prepared:

Title And Date Of Full Evaluation Report:

PURPOSE OF THE FACULTIES OF PUBLIC HEALTH DEVELOPMENT PROJECT

Since the early 1980's, the Government of Indonesia has made notable strides in achieving its fertility and mortality goals as originally outlined in its fourth Five-Year Plan (Repelita IV). It recognized early on that the technologies for reducing infant, child and maternal mortality and controlling fertility had been available for many years. What was missing was the qualified trained manpower required to manage the public health delivery systems to bring these technologies to Indonesia's growing and shifting populations in both rural and urban areas. At the beginning of the decade, qualified personnel were being trained almost entirely at the University of Indonesia (UI) in its Faculty of Public Health (FKM). In 1982, the Ministry of Health (MOH) requested that the Ministry of Education and Culture (MOEC) increase its public health education program. In response, feasibility studies were conducted and a recommendation was made to establish new FKM's at four regional universities with established Schools of Medicine. The plan was to utilize each of the existing departments of community medicine as the nucleus for the creation of a new Faculty of Public Health.

In this setting, the Faculties of Public Health Development Project was launched in August, 1985. This cooperative project, sponsored by USAID, was designed to produce trained manpower to manage the nation's expanding public health program by enlarging and regionalizing public health education, research and community service. The project's goals were to establish and/or strengthen public health programs in the five selected universities and to provide technical assistance to the MOH, BKKBN, and other sector agencies, both public and private, concerned with the delivery of health and family planning services. The four regional universities chosen to participate in the project were: Hasanuddin University (UNHAS); Airlangga University (UNAIR); Diponegoro University (UNDIP); and the University of North Sumatra (USU). Funding for the project was budgeted at \$15 million, which included \$4 million in grants-in-aid and \$5 million in loans from the United States. The contribution of the GOI was \$6 million. Administration of the project was provided by a central Project Management Unit (PMU) supported by Local Management Units (LMU) on each of the regional campuses.

PURPOSE OF THE ASSESSMENT

The assessment called for a brief, intensive sustainability assessment of the development of public health education in Indonesia. It was intended to identify, analyze and evaluate those factors which are essential to institutional and programmatic sustainability in the faculties of public health. The purpose was not to conduct a final evaluation of the USAID Project. Rather, it was to assess the level of sustainability at which the faculties are now able to operate, examine plans for meeting new needs, and formulate recommendations for improvement.

METHOD OF ASSESSMENT

A four-person team, composed of two Indonesian and two American specialists, was fielded to conduct an in-country assessment of public health education in Indonesia. The team's methods included: (1) a review of the literature - reports, memoranda, evaluations, etc.; (2) on-site visits to each of the regional campuses, including repeated visits to the FKM of UI, and to PMU; (3) personal visits to officials of key units in MOH and BKKBN, as well as other agencies, including the MOEC and the National Planning Board (BAPPENAS). In this field work, the team sought by means of formal and informal interviews to gather, sift and evaluate information from key stakeholders, including students, faculty, administrators, public health officials, and potential donors.

FINDINGS AND CONCLUSIONS

Under the leadership of the PMU, each of public health faculties in the five target universities has demonstrated solid accomplishments. Based on these achievements, the team concluded that overall the faculties have been eminently successful in establishing a system of public health education for Indonesia that is sustainable.

Goals and Objectives. Unfortunately, no formal goals statements were available if any of the faculties visited. However, as professional schools, the five faculties were well-acquainted with the traditional aims of public health. Furthermore, they seemed to be well-aware of national public health goals as envisioned by MOH, BKKBN, and BAPPENAS. Today a "new public health" concept is being widely discussed. It emphasizes multi-disciplinary and multi-professional approaches.

Curriculum and Curriculum Development. The undergraduate curriculum for the S1 bachelor's degree which is now offered by all the faculties has grown out of the five basic public health sciences: biostatistics; epidemiology; administration; health education and behavioral science; environmental and occupational health. The graduate curriculum for the S2 master's degree, also based on these disciplines, has been developed at UI, UNAIR, and the distinguished private University of Gadjah Mada. A fourth S2 curriculum is under development at UNHAS. The graduate curriculum for the S3 doctoral degree was developed only at UI. The program was approved in 1989. Evaluating these curricula very carefully, the team concluded that the course offerings appear to be relevant and appropriate. However, more selectives are needed, the case method should be introduced into the curriculum, and the core curriculum could be improved by being more community-oriented and competency based.

Research. The emphasis is on applied research. Under the PMU, the most important steps were taken to develop a sustainable research agenda, including sponsoring faculty as candidates for advanced degrees, supporting consultancies, workshops, and seminars, and providing computer equipment and library resources. Whether an acceptable level of productivity can be maintained remains to be seen. The record is not impressive but prospects appear to be brightening.

Faculty and Faculty Development. Over the past ten years, the total public health faculty in Indonesia has doubled in size; the number of designated faculties has increased from two to five; and the overall quality has steadily improved. A major role was played by the PMU which supported 93 master's and 27 doctor's degree candidates in Indonesia and the U.S. and provided short-term in-country and U.S. training and externships for appointments in U.S. universities. Analyzing the strengths and weaknesses of every faculty, department by department, the team concluded that with the help of the PMU the basic steps have been taken to establish strong, viable, self-reliant regional faculties.

Students and Graduates. By 1999, it is estimated that agencies in MOH, BKKBN, and the private sector can absorb 4000 S1-2 graduates (who are mainly employees released from their government jobs), 8000 S1-4 graduates (who entered from high school), and 1300 S2 graduates (who are also employees of the agencies or the universities). In terms of annual placement, approximately 400-500 positions will open up for S1-4 graduates each year. The team found that student enrollment and graduation statistics indicate an increased capacity to produce S1-4 graduates. This important program appears to be on target. Also, the S1-2 and S2 programs seem to be meeting MOH/BKKBN expectations.

Public Service. Led by the PMU, the faculties have been able to establish a pool of specialized talent for use by local communities, government agencies, and professional/scholarly organizations. Excellent working relations and good communication lines now exist with units in MOEC, MOH, BKKBN, and other agencies.

Resources and Facilities. The GOI has honored its commitment to provide new plant facilities for the public health faculties. Construction is well under way or has been completed on all the campuses. The PMU has provided library collections, AVA and microfiche equipment, and computers. Books and periodicals in English are rarely used. What is needed are more publications in Indonesian and more translations from English to Indonesian. Library usage varies widely, and classroom teaching aids are used infrequently, but computers are heavily utilized. Better repair and maintenance services are badly needed.

Funding. Without the resources of the PMU, the faculties can look to five major sources of funding: (1) Tuition fees, which doubled in 1986, and have become important in increasing the recurrent budgets; (2) GOI funds, available in MOEC, MOH, BKKBN, and other agencies such as BAPPENAS and the armed forces; (3) Grant and loans from foreign governments, including JICA, CIDA, and in the future, USAID; (4) Assistance from international organizations, such as the World Bank, ADB, WHO, UNESCO, UNICEF and UNDP; (5) Aid from private foundations.

C'

PRINCIPLE RECOMMENDATIONS AND LESSONS LEARNED

- Encourage the faculties to prepare clear, concise statements setting forth the mission, goals, and objectives of their respective schools of public health.
- Reduce the number of core courses in the S1 program to allow students to choose more elective courses. Increase the number of elective courses offered.
- Revise the core curriculum in terms of the following criteria: (1) student-centered; (2) competency-based; (3) community-oriented.
- Develop new elective courses designed to acquaint students with local community and regional public health conditions.
- Introduce the "case method" into the curriculum; increase the number of cases.
- Encourage junior faculty to consult with local officials to familiarize themselves with community conditions and discuss the courses they are teaching.
- Require all professors to conduct individual research programs under departmental auspices. Provide the necessary budgetary support.
- Offer workshops to enhance faculty skills in preparing scientific articles for publication. Consider ASPHI as a possible sponsor.
- Provide assistance in preparing research proposals for external funding.
- Encourage faculty to work with MOH and BKKBN to develop joint research proposals for submission to key donors, such as the World Bank, WHO, and UNDP.
- Encourage faculty to apply for grants from LITBANGKES in the MOH.
- Continue the faculty development program initiated by BKKBN and the PMU. Seek funds to support more candidates for MSc/PhD degrees.
- Provide internships for junior faculty. Seek funds from the World Bank.
- Develop special mentoring programs to develop junior faculty members.
- Seek funds to support the appointment of Visiting Professors from overseas.
- Develop plans to facilitate faculty exchanges from one campus to another.
- Recruit more S1 applicants from candidates presently employed who can be released from their duties. Provide scholarship funds to cover expenses.
- Initiate new health manpower studies.
- Conduct a follow-up study of S1-4 graduates.
- Encourage the faculties to undertake regular retention/attrition studies.
- Establish alumni organizations, following the example of UI.
- Establish placement offices on the campuses to help students find employment.
- Develop a system to facilitate the prompt employment of graduates in their first positions in the public health system.
- Encourage faculty to assist MOH, BKKBN, and other local community organizations to ameliorate Indonesia's public health problems.
- Provide faculty with support to participate in professional/scholarly activity.
- → Seek funds for the repair, maintenance, and upgrading of all academic support services, including physical plant facilities
- Expand, modernize, and enrich all library resources.
- Establish a central translation service to facilitate faculty research.
- Establish a central development office to coordinate fund-raising activities.
- Establish the ASPHI and solicit "start-up" funds.
- Under aegis of ASPHI, plan workshops on financial management and fund-raising.
- Seek funds for two endowments: (1) to support ASPHI; (2) to underwrite a national scholarship program for public health students.

S U M M A R Y (Continued)

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ASPHE	Association of Schools of Public Health in Indonesia
AVA	Audio-visual Aids
BKKBN	National Family Planning Coordinating Board
BAPPENAS	National Planning Board
CIDA	Canadian International Development Agency
FKM	Faculty of Public Health (Fakultas Kesehatan Masyarakat)
GOI	Government of Indonesia
JICA	Japan International Cooperation Agency
LITBANGKES	Center for Research & Development, Ministry of Health
MOH	Ministry of Health
MOEC	Ministry of Education and Culture
PMU	Project Management Unit
S1	Bachelor's Degree
S2	Master's Degree
S3	Doctor's Degree
S1-2	Bachelor's Level Degree, requiring 2 years of study
S1-4	Bachelor's Level Degree, requiring 4 years of study
UNDP	United Nations Development Program
UNESCO	United Nations Education, Scientific & Cultural Organization
UNICEF	United Nations International Children's Education Fund
W.H.O.	World Health Organization

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ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

1. There are no unexpended funds remaining from the project, so A.I.D. can not transfer unused funds to the Association of Schools of Public Health Indonesia (ASPHE). However, A.I.D. will approve the transfer of equipment from PMU to the ASPHE and to the five other faculties.
2. A.I.D. will follow-up in the near future the accreditation of three Schools and Public Health with the Ministry of Education and Culture, and monitor and follow-up with the ASPHE and the five faculties on curriculum development.
3. We do believe the assessment report underemphasized the need for curriculum modifications. As concluded by a recent report by a task force on the needs for Indonesia public health education for the next 25 years, the "new public health" will require much more attention to health policy, health economics/financing, environmental health and newly emerging health problems such as AIDS. The FKMS recently did introduce new courses in health economics, health law and occupational health.

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Development of the Faculties of Public Health in Indonesia: A Sustainability Assessment

**Produced for the U.S. Agency for International Development
Under the Auspices of the**

Academy for Educational Development

**Timothy Baker, Team Leader
Anhari Achadi
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William Stuart**

**Education Indefinite Quantity Contract
AID-PDC-5832-I-00-0081-00**

January 1993

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AED	Academy for Educational Development
AIDS	Acquired Immune Deficiency Syndrome
APACPH	Asia-Pacific Academic Consortium for Public Health
ASPHI	Association of Schools of Public Health in Indonesia
AVA	Audio-visual Aids
BAPPENAS	National Planning Board
BKKBN	National Family Planning Coordinating Board
CDSS	Country Development Strategy Statement
CHS	Consortium of Health Science
CHN	Community Health and Nutrition Program
CIDA	Canadian International Development Agency
DAAD	Deutscher Akademischer Austauschdienst
DGHE	Director General of Higher Education
Fakultas Pembina	National Resource Center
FKM	Faculty of Public Health
FTE	Full-time Equivalent
GDP	Gross Domestic Product
GOI	Government of Indonesia
IKIP	Teacher Training Institution
JICA	Japan International Cooperation Agency
LITBANGKES	Center for Research and Development, Ministry of Health
LMU	Local Management Unit
MBBS	Medical Degree (S1)
MOEC/MEC	Ministry of Education and Culture
MOH	Ministry of Health
MPH	Master of Public Health Degree
MS	Master of Science Degree
PMU	Project Management Unit
PUSKESMAS	Community Health Center
REPELITA	Five-year Development Plan

ROI	Republic of Indonesia
S1-2	Bachelor's Level Degree, requiring 2 years of study
S1-4	Bachelor's Level Degree, requiring 4 years of study
S2	Master's Level Degree, requiring 2 years of study beyond the S1 level
S3	Doctoral Level Degree, requiring the completion of a dissertation after the S2 degree
SIDAS	Swedish International Development Agency
SPH	School of Public Health
UI	University of Indonesia, Jakarta
UNAIR	Airlangga University, Surabaya
UNDIP	Diponegoro University, Semarang
UNDP	United Nations Development Program
UNESCO	United Nations Education, Scientific and Cultural Organization
UNHAS	Hasanuddin University, Ujung Pandang
UNICEF	United Nations International Children's Education Fund
USAID	United States Agency for International Development
USU	University of North Sumatra, Medan
WHO	World Health Organization

EXECUTIVE SUMMARY

This executive summary sets out to describe public health education in Indonesia, its development since 1985 under the Faculties of Public Health Development Project and its assessment by a team of Indonesian and American specialists. It begins with an introduction and an overview. It is followed by a presentation of the major findings of the assessment team concerning the sustainability of the programs of the five publicly supported faculties of public health that were included in the project. It concludes with recommendations for consideration by the public health faculties, university authorities, government officials, and potential donors.

Introduction

This report presents the results of a brief, intensive sustainability assessment of the development of public health education in Indonesia. Sponsored by the United States Agency for International Development, the assessment was conducted in-country during November and December, 1992. It was intended to identify, analyze and evaluate those factors which are essential to institutional and programmatic sustainability in faculties dedicated to producing trained manpower and conducting applied research in public health.

The team reviewed the goals and objectives of the public health faculties and examined the development status of the curriculum, faculty, students, research, public service, physical resources and facilities, accountability and ongoing planning, and funding. On-campus visits were made to:

Airlangga University (UNAIR), Surabaya
Diponegoro University (UNDIP), Semarang
Hasanuddin University (UNHAS), Ujung Pandang
University of North Sumatra (USU), Medan
University of Indonesia (UI), Jakarta

The purpose of the assessment was not to conduct a final evaluation of the Faculties of Public Health Development Project which was successfully terminated on December 31, 1992. However, the team fully recognized that it was this project that had provided the impetus, expertise, technical assistance, and essential resources which were necessary for the Government of Indonesia to expand, upgrade, and regionalize its public health educational system. Over the life of the project, the U.S. Government had contributed a total of \$9 million in grants and loans. At the same time, the Government of Indonesia has invested \$6 million, mainly in the construction of plant facilities. Instead, the purpose of the team's effort was to assess the level of sustainability at which the faculties will now be able to operate, to examine plans for continuing and further development, and to recommend measures to be taken to meet critical future needs.

The assessment team sincerely hopes that this report will contribute to a better understanding of the public health education system in Indonesia. We also hope that our findings

and recommendations will generate some creative thinking and new ideas about how to deliver public health services to local communities more effectively. Finally, we hope that our recommendations will prompt key agencies of the Government of Indonesia and the international donor community to contribute to the future advancement of public health education throughout the country.

Overview

Since the beginning of the 1980's, notable strides have been made by the Government of Indonesia (GOI) to achieve its fertility and mortality goals as originally outlined in its fourth Five-Year Plan (Repelita IV). It recognized early on that the technologies for decreasing infant, child, and maternal mortality and for controlling conception had been available for years. What was missing were the qualified, trained personnel required to manage the public health delivery systems to bring these technologies to bear on Indonesia's growing and shifting populations in both rural and urban areas. With the support of USAID, WHO, and other international agencies, new and expanded training facilities have been established; more qualified public health professionals are being produced; research capacities have been enhanced; and extension services are increasing.

More specifically, under USAID's seven-year faculty development project, three new Faculties of Public Health have been established in central Java, eastern Java, and northern Sumatra. Also, the existing Faculties of Public Health in southern Sulawesi and at the University of Indonesia in Jakarta have been expanded and strengthened.

Assessing the sustainability and quality of this expanding system requires an understanding of the socioeconomic, political, demographic, and environmental context in which development is taking place.

Geographically, culturally and ethnically, Indonesia is rich and diverse. It is comprised of over 13,000 islands and consists of 320 different ethnic groups. It has 20 million Christians and Buddhists and the largest number of Muslims of any nation in the world.

Demographically, Indonesia is the fifth most populous country on earth, with 180 million people. The population is expected to reach 275 million by the year 2025. More than 62% of the population lives on the island of Java. Furthermore, dramatic changes are taking place. Life expectancy is increasing. The number of elderly people is growing. Also, the number of women of reproductive age is projected to increase by one-third by 2005. In addition, more and more people are migrating to the cities, and there are increasing numbers of women entering the work force. With greater pressure on the public health system, greater pressure can be expected to be placed on the Faculties of Public Health to address new disease patterns, redesign family planning programs, and develop innovative services for larger and larger numbers of people, especially older Indonesians. The assessment team noted that about 50% of the applicants for admission to the public health faculties are young women.

Economically, since 1980, when world oil prices dropped by more than 50%, Indonesia has suffered unemployment rates as high as 18% and economic growth has been severely depressed. Underemployment is estimated between 30% and 40%. As a result, faculty members in nearly all Indonesian universities are underpaid and most are forced to hold second and third jobs outside their own faculties. These realities must be considered when judging the time that public health faculty member are able to devote to research and public service.

Sustainability must also be viewed in the light of government policies. Starting at the beginning of the decade, increased access to higher education produced rapid surges in university enrollments. In the five-year period between 1984 and 1989, enrollments doubled. They stand at more than 1,600,000 at present. One consequence is that the Faculties of Public Health are guaranteed a steady flow of qualified applicants for their degree programs. In addition, in the light of the Ministry of Health's (MOH) and National Family Planning Coordinating Board's (BKKBN) evolving health policies, it is clear that improvements in the quality of health services and in the training of health professionals will continue with full government support. Furthermore, the demand for better trained personnel is being expanded regionally with increased emphasis on the placement of staff in the provinces.

Findings

The assessment team identified and analyzed the key factors which are essential to the sustainability of the programs of the Faculties of Public Health. Strengths and weaknesses were carefully evaluated. We concluded that, based on the solid accomplishments which have been demonstrated in each of the public health faculties in the five target universities, the record shows that the Faculties, under the leadership of the Project Management Unit (PMU), have been eminently successful in establishing a system of public health education for Indonesia that is sustainable.

Goals and Objectives

In part, the sustainability of each of the Faculties of Public Health will depend upon a firm commitment to carry out the mission of the school. This means that each Faculty must formulate a set of goals and objectives in clear, concise, well-understood terms to guide the future planning of the institution. Unfortunately, no formal goals statement was available at any of the universities visited.

However, as professional schools of public health, the five Faculties are well-acquainted with the traditional aims of public health: control and prevention of disease; promotion of good health; reduction of environmental risks and health hazards; and assurance of personal health and long-term health care services. Their programs must be consistent with and contribute to these aims. More often than not, however, the understanding of a school's mission is implicit rather than explicit.

Furthermore, the goals and objectives of the Faculties must be supportive of the national mission of public health that is envisioned by MOH, BKKBN, and the National Planning Board (BAPPENAS). They should also be consistent with the broad vision of the international public health profession.

In a practical sense, one of the important contributions of the Faculties of Public Health Development Project was to prompt deans and faculty members to focus their attention on the mission of their schools, individually and collectively, over a significant period of their formative years. Faculties like those at the University of Indonesia (UI) and the distinguished private University of Gadjah Mada should emphasize their national responsibilities. Other public health faculties need to stress their commitments to their regions and local communities.

Today, a "new public health" concept is being widely discussed. It emphasizes approaches that are "dynamic, multi-professional, and multi-disciplinary." Taken seriously, this innovation could have important implications for curriculum development, course requirements, and research designs.

Curriculum and Curriculum Development

The undergraduate curriculum for the S1 bachelor's degree, which is offered at all the Faculties of Public Health, has grown out of the five basic public health sciences: biostatistics; epidemiology; administration; health education and behavioral science; environmental and occupational health.

The graduate curriculum for the S2 master's degree, based on the same public health sciences and disciplines, has been developed at UI, Airlangga University (UNAIR), and Gadjah Mada. A fourth S2 curriculum is under development at Hasanuddin University (UNHAS).

The graduate curriculum for the S3 doctoral degree in public health has been developed only at UI. Planned as an outcome of the Faculties of Public Health Development Project, the program was officially approved in 1989.

The assessment team has evaluated the curriculum very carefully. The course offerings appear to be relevant and appropriate. They are well-designed to meet both current and future needs.

Curriculum development has involved not only the preparation of subject matter material but also the formulation of suggested teaching methods. Traditionally, instruction in most Indonesian university classrooms is very academic, professor-centered, and text-book-focussed. Emphasis is on lecturing, note-taking, rote memorization, and grades based on written examinations. To counter this traditional approach, the PMU introduced experimental versions of a "scientific curriculum" that were: (1) competency-based; (2) community-oriented; and (3) student-focussed. These projects, which are continuing activities, are still in progress in each of the faculties.

With the support of the PMU, technical assistance was also provided to develop a series of case studies. Case writing activities were initiated at UNAIR, Diponegoro University, (UNDIP), and University of North Sumatra (USU).

In addition, attempts were made to increase the amount of field work in the curriculum to familiarize young, inexperienced students with the realities of the workplace. Too few opportunities for "hands-on," "do-it-yourself" learning are to be found in the current public health curriculum.

The assessment team addressed the question of the desirability of a "regional curriculum" at length. We concluded that the regions of Indonesia are too varied to offer meaningful specializations in the basic curriculum. Emphases on local community and provincial matters are best handled by developing special case studies, organizing appropriate field work, and providing more elective courses reflecting local and regional conditions.

In view of PMU achievements, the need for change in the basic curriculum is unlikely to arise for the next five years. When it does, the deans and department chairs would be well advised to include junior faculty members and officials from local public health agencies and the BKKBN in the curriculum development process.

Research

Recognizing the lack of research activity in most public school faculties, one of the aims of the PMU was to strengthen the research capacity of each Faculty of Public Health, particularly those in the regional universities. Emphasis was placed on applied research and two patterns were supported: (1) a multi-centered approach which generated projects which were shared by all five schools and implemented in their respective regions; and (2) an institutional approach which called for separate projects in each of the public health faculties.

Whether the same level of research productivity that was achieved by the PMU through 1992 can be sustained and increased remains to be seen. The record to date is not impressive. On the other hand, the research-oriented MSc/PhD cohort which has been engaged in graduate study overseas is not expected to arrive in Indonesia from the United States until 1993. The most important steps in the development of a sustainable research agenda for the Faculties of Public Health were successfully achieved under the guidance of the PMU. In addition to sponsoring faculty members in their pursuit of advance degrees, the PMU supported consultancies, workshops, and exchanges. Also, it provided support for computer facilities, equipment, and library acquisitions. Investing nearly \$1 million, it has established a research-oriented environment in the Faculties of Public Health.

Furthermore, prospects for future research activity appear to be brightening. As the newly upgraded faculties begin to gain maturity and experience in research methods and start to publish more widely in professional journals, they will begin to contribute to the development of national public health policy. They will also be able to attract financial support from the international donor community.

Faculty and Faculty Development

Over the past ten years, the total public health faculty in Indonesia has doubled in size; the number of designated faculties has increased from two to five; and the overall quality has steadily improved. The Faculties of Public Health Development Project played a major role in these dramatic achievements, particularly in the expansion and upgrading of the regional faculties.

The approval of a new Faculty of Public Health is difficult to obtain. The decision is not one that is made internally by the Rector of the University. Rather, official "FKM" status is granted by the Consortium of Health Sciences (CHS), a governmental agency which is advisory to the Director General of Higher Education (DKHE) in the Ministry of Education and Culture (MOEC). The CHS must be satisfied that a newly proposed "FKM" can support a full four-year S1 bachelor's degree program, demonstrate a strong research capacity, and mount a credible public service program.

Approvals of "FKM" status will eventually be awarded to all the public health faculties. In the meantime, CHS action on the requests from USU and UNAIR has been delayed. Controversy has ensued. Opposition comes mainly from the Schools of Medicine whose Departments of Community Medicine have been the nuclei from which the new public health faculties have sprung. If this issue is not resolved soon, the future of public health education in eastern Java and northern Sumatra could be seriously effected. For example, school growth will be slowed because the sizes of medical school faculties are capped.

Faculty development has been the centerpiece of the Faculties of Public Health Development Project. From 1983 to 1987, the BKKBN had awarded 17 fellowships to faculty members at UI, UNAIR, UNDIP, and USU to earn advanced degrees. Building on that base, beginning in 1987, the PMU successfully recruited over 100 additional faculty members and awarded them grants for advanced study in Indonesia and the United States. To date, 93 master's degree candidates and 27 doctor's degree candidates have been supported. Additional contributions to faculty development included the sponsorship of short-term training in-country and in the U.S. and the appointment of senior faculty as Visiting Lecturers in U.S. universities ("externships").

During its on-site visits, the assessment team carefully analyzed the strengths and weaknesses of each of the Faculties of Public Health, department by department. With the inputs and support of the PMU, the basic steps have been taken to establish strong, viable, self-reliant regional faculties.

However, each faculty faces challenges which must be confronted if ongoing faculty development is to be sustained. First is the recognition that the Faculties of Public Health will require continuing support from MOH, BKKBN, and the universities to upgrade the qualifications of its members, particularly at senior levels. Second is the challenge of improving the teaching and research skills of junior faculty members. Third is the challenge of leadership,

especially at the decanal level. The assessment team is convinced that stronger, more dynamic, entrepreneurial leadership is needed if overall faculty development is to be sustained.

Students and Graduates

The underlying reason for expanding and upgrading the Faculties of Public Health is to provide better trained, more qualified personnel for the MOH, BKKBN, and the private sector. What is needed is a steady supply of trained manpower to administer and operate the delivery systems which have been established to bring health services to local communities, especially in rural areas.

Under three Five-Year Plans, Repelita IV, V, and VI, projections of the public health personnel needs of MOH and BKKBN have been made. By 1999, it is estimated that these agencies can absorb approximately 4000 S1-2 graduates, 8000 S1-4 graduates, and 1300 S2 graduates. In addition, the universities will require an estimated 50 more PhD's for their public health faculties.

Translating these projections into annual placement requirements, it has been determined that for S1-4 graduates, approximately 400-500 positions will open up each year. The placement of S1-2 graduates is no problem because students admitted to this program are generally personnel already holding positions in the MOH or BKKBN. The same is true with recipients of the S2 professional master's degree (MPH). Based on the original projections, supplemented by more recent studies sponsored by the PMU, the overall demand for the academic programs of the Faculties of Public Health have remained relatively unchanged over the past ten years.

Statistics on student enrollment and graduation indicate that the public health faculties have already developed a significant capacity for producing increasing numbers of graduates who qualify for the S1 degree. The S1-2 programs appear to be meeting MOH/BKKBN expectations. The S1-4 programs seem to be on target. Furthermore, as the S1-4 programs grow in the regional universities, the number of applicants for admission will continue to increase. Given a larger applicant pool, selective admissions can produce a better qualified group of entering students in public health.

Expansion of the undergraduate programs is not without its problems and challenges. The knowledge and skills acquired by students in the universities need to be more closely matched with MOH and BKKBN job requirements. The curriculum and teaching methods must be continuously monitored and revised to meet changing requirements. With increasing emphasis on the S1-4 program, for example, more case studies, field exercises, internships, and other forms of in-service training will become mandatory. Important issues of gender balance, attrition, and retention must also be addressed. A careful monitoring of such matters will require the introduction of a ongoing program of self-study, strategic planning, and accountability.

Public Service

Perhaps the most important public service function of the Faculties of Public Health is the maintenance of a pool of specialized talent and expertise which can be used by local communities, government agencies, and professional/scholarly organizations. Establishing such a talent pool has been one of the major contributions of the PMU. The PMU has been particularly successful in establishing good working relations with the Director General of Higher Education (DGHE), CHS, and other MOEC agencies, and in maintaining excellent communications with MOH and BKKBN, as well as other ministries and governmental units.

Also, the PMU has taken the lead in arranging a variety of workshops, seminars, and symposia, many in conjunction with local health authorities. The purpose has been to stimulate discussion and debate on critical issues in public health. In the future, the regional faculties can be expected to follow through and continue with similar workshop and seminar programs.

Individual faculty members have also been called upon to serve as consultants in their areas of specialization. Such activity will increase and be expanded.

Also, collaboration with local health officials in arranging student field work and cooperative research is increasing. In the future, there will be opportunities for research results to be used to influence public health policies.

Resources and Facilities

Essential to the development of the expanded, upgraded Faculties of Public Health and to the sustainability of their programs has been the provision for new plant facilities and crucial academic support services.

Physical plant facilities. The Government of Indonesia committed itself to underwriting the necessary plant facilities for the Faculties of Public Health as part of the Project. It budgeted nearly \$4 million for construction purposes. The GOI has honored its commitment. Construction of new buildings for the public health faculties has either been completed or is well under way. Existing quarters, of course, are inadequate.

The team noted two shortcomings which seem to be characteristic of most academic buildings in Indonesia. First, building maintenance is inadequate due to the lack of sufficient funds. Second, essential sanitary facilities, including safe piped water supplies, have not been installed. Both matters are critical and require prompt attention.

Library facilities. Under the Faculties of Public Health Development Project, funds were provided for each of the five faculties to supplement their existing libraries. The PMU managed the selection. Three quarters of the publications are in English; one quarter, in Indonesian.

The choices appear to be excellent. However, books in English are rarely used by students due to their unfamiliarity with the language. What is needed are more publications in Indonesian and more translations from English to Indonesian.

Library usage varies widely. Public health libraries in UI and UNAIR are busy places. The UNHAS library is under-utilized.

The PMU also provided microfiche readers/printers, together with subscriptions to public health periodicals. The team noted that little use is made of the microfiche equipment. Some of the machines are inoperative. Repairs and better maintenance are needed.

Teaching Aids. The PMU supplied the public health faculties with photocopiers, stencil machines, projectors, photographic, and video equipment. Short "how-to" courses were also scheduled. Based on the team's observations, the classroom use of this audio-visual equipment is limited.

Computers. The computer equipment which was purchased for the public health faculties by the PMU appears to have been put to good use. Even the older computers are heavily utilized by administrators and faculty members. Student access has been limited but is increasing.

Accountability and the Ongoing Evaluation of Academic Quality

The development of the Faculties of Public Health has followed a kind of "master plan" which was set forth in the 1985 agreement between the GOI and USAID. The record shows that the PMU was highly successful in implementing that plan. However, with the demise of the PMU, the continuing responsibility for maintaining the quality and sustainability of the public health programs devolves upon the deans, department chairs, and their supervisors and mentors in the university and MOEC. Unfortunately, there is little experience in designing procedures for self-evaluation, planning, and accountability at either school or university levels. Most faculties would appear to be more comfortable with the tradition Indonesian "top-down" style of management.

However, as publicly supported faculties in publicly supported universities, the question should be raised as to whether the public health faculties have an obligation to demonstrate the effectiveness of their programs not only to MOEC, MOH and BKKBN but also to the GOI and the public at large. In this respect, each faculty needs sufficient autonomy to fulfill its mission and achieve its goals and objectives. It is this principle which provides the most compelling reason for the CHS to grant "FKM" status to all public health faculties as soon as possible.

Five areas of accountability are important to ensure quality and sustainability. They involve the development of assessment procedures (1) governing the appointment and promotion of faculty; (2) improving the leadership and management operation of each public health faculty and department; (3) introducing external "peer reviews" of each public health science and discipline; (4) designing, in conjunction with the CHS, an appropriate accreditation system; and

(5) developing an ongoing internal assessment system linking accountability and strategic planning with the budgetary process.

Funding

The ability of the Faculties of Public Health to carry out their missions and sustain their programs depends in large measure upon their success in securing adequate financial resources to support their operations. Without the PMU, they can look to five major sources of funding, as follows:

Tuition fees. Funding for all routine operations is supplied from student tuition fees. In 1986, these fees were doubled. As a result, tuition has become a major factor in increasing the sizes of the recurrent budgets of all universities.

Because of the close relationship that exists between the schools of medicine and public health in some of the universities, two or three of the public health faculties have little autonomy. They do not manage their own funds. However, most faculties will be able to tap into certain medical school funds for some time to come. At university levels, special purpose funds are also available to enterprising deans and department chairs. Unfortunately, the amounts of money are small.

GOI funds. The ministries and agencies of the Government of Indonesia remain the best sources of funding for the public health faculties. First, opportunities ought to be explored in the MOEC. The DGHE currently has a \$6,500,000 loan from the World Bank to support research in higher education. These funds are available to all universities and to all disciplines. A reported after-care project which is also funded through MOEC for \$800,000 will provide S2 and S3 fellowships and support technical assistance, research, and short-courses for in-service training. Second, in BKKBN numerous possibilities exist for cooperative action-oriented projects, joint study and research activities, in-service training, internships, and other collaborative ventures. Third, as with BKKBN, the same kind of cooperative proposals are likely to be supported by MOH if they are tailored to meet priorities. Fourth, additional funding opportunities should be explored in other agencies, such as the overseas training office of BAPPENAS and the armed forces.

Grants and loans from foreign governments. The record shows that Indonesia has been successful in soliciting funds for a variety of development projects from the development agencies of governments of the industrialized countries. Concerted efforts should be made to determine the interests and priorities of these agencies, match them to the urgent needs of the expanding Faculties of Public Health, and submit proposals for funding. A partial list of potential donors includes: USAID, JICA, CIDA, DAAD, and SIDAS.

Assistance from international organizations. Included in this group of potential donors are (1) Asian Development Bank (ADB) whose \$114 million Development and Rehabilitation Program already assists UNAIR and UNDIP; (2) World Bank whose Community Health and Nutrition Program (CHN-III) is scheduled to begin in April, 1993; (3) World Health

Organization (WHO) whose representatives have expressed specific interest in supporting the establishment of the Association of Schools of Public Health in Indonesia (ASPHI) as a private, non-profit, chartered organization, and (4) UNESCO, UNICEF, and UNDP.

Aid from private organizations. Overtures should be made to representatives of such foundations as Ford, Kellogg, Rockefeller, Mellon, and the Pew Memorial Trust.

Recommendations

Based on these findings, the assessment team prepared a series of recommendations for the further development and improvement of the Faculties of Public Health. A partial listing follows.

Recommendations Concerning Goals and Objectives

- Provide access to all qualified applicants.
- Maintain a vital presence in Jakarta, central Java, eastern Java, northern Sulawesi, and northern Sumatra. Be prepared to expand into other regions of the country under the leadership of the National Resource Center (Fakultas Pembina) at UI.
- Give sole responsibility among the public universities to UI for S3 doctoral work in public health.
- Offer collectively a full complement of S2 master's degree programs in public health.
- Expand a limited number of specialized S2 master's degree programs to the regional universities.
- Provide a full complement of S1-2 and S1-4 bachelor degree programs in all Faculties of Public Health.
- Concentrate research efforts on applied, problem-solving, action-oriented projects.
- Seek to establish a tradition of providing public service in public health to all regions of Indonesia.
- Provide short courses, non-degree programs, workshops, and other outreach activities which respond to local community needs.

Recommendations Concerning the Curriculum and Curriculum Development

- Reduce the number of core courses required in the S1 bachelor's degree program to allow students to choose more elective courses. Increase the number of elective courses offered.

- **Develop new elective courses to acquaint students with public health conditions locally and regionally.**
- **Introduce additional case studies into the curriculum.**
- **Revise the core curriculum in terms of the following criteria: (1) student-centered; (2) competency-based; (3) community oriented.**
- **Develop new courses and concentrations in such areas as sanitation and environmental health, family planning, and health policy analysis.**
- **Encourage junior faculty members to consult with local public health officials and BKKBN personnel to familiarize themselves with community and regional conditions, discuss the courses they are teaching, and enrich the subject matter being presented to students.**
- **Develop a new degree program in public health administration.**

Recommendations Concerning Research

- **Require and encourage all faculty members with the rank of Assistant Professor and above to conduct individual research programs under the auspices of their academic departments.**
- **Provide the necessary budgetary support to enable professors of public health to conduct their research programs.**
- **Offer seminars and workshops designed to enhance the skills of faculty members in preparing scientific articles for publication in professional journals. Consider sponsorship for such activities by the new Association of Schools of Public Health in Indonesia (ASPHE).**
- **Provide assistance to faculty members in the preparation of reports which seek to translate research findings into policy statements and directives.**
- **Provide assistance to faculty members in the preparation of research proposals for external funding.**
- **Encourage the establishment among faculty members of strong linkages with local and regional health offices and family planning units and the development of joint action-oriented research programs.**
- **Encourage faculty members to apply for grants from the Center for Research and Development (LITBANGKES) of MOH.**

- Encourage faculty members to work closely with MOH and BKKBN to develop joint proposals to be submitted to key members of the international donor community, including the World Bank, WHO, and UNDP.

Recommendations Concerning Faculty and Faculty Development

- Continue and, if possible, expand the faculty development program which was conducted under the auspices of BKKBN and the PMU.
- Continue the upgrading of public health faculties by recruiting and supporting more candidates for MSc/PhD degrees.
- Seek funds to support the appointment of distinguished Visiting Professors from universities abroad.
- Develop plans to facilitate the exchange of faculty members from one campus to another.
- Provide systematic programs of research collaboration, in-house departmental training, and mentoring to strengthen efforts to develop junior faculty members.
- Seek special funding from the World Bank's Community Health and Nutrition Program (CHN-III) to provide internships for junior faculty members.

Recommendations Concerning Students and Graduates

- Recruit applicants for the S1 program from candidates who are presently employed in MOH, BKKBN, and other agencies, both public and private, and who can be released from their duties. Provide scholarship funds to cover educational expenses.
- Initiate in conjunction with the appropriate governmental agencies new health manpower studies.
- Initiate a follow-up study of S1-4 graduates.
- Encourage UNHAS to undertake a special retention/attrition study of the S1-4 students. Encourage the other universities to conduct similar studies on a regular basis.
- Establish alumni organizations, following the example of UI, which are designed to maintain continuous contact with all graduates.
- Develop a system and a schedule to facilitate the prompt employment of graduates to their first positions in the public health system.

- Establish a placement office on each of the regional campuses to assist students in their job searches. Distribute lists of recent graduates to BKKBN, MOH, and other agencies on a regular basis.

Recommendations Concerning Public Service

- Encourage faculty members to assist MOH offices, BKKBN units, and local community organizations, both public and private, to ameliorate Indonesia's public health problems.
- Provide faculty members with support to participate in the activities of professional and scholarly organizations.
- Encourage faculty members to work with local health and family planning agencies to identify applied research problems, explore innovative intervention strategies and new approaches to promoting good health and preventing disease.
- Encourage faculty members, administrators, and students to use their knowledge and talents in voluntary, non-profit, charitable organizations for the benefit of their communities.

Recommendations Concerning Physical Facilities and Resources

- Seek adequate funds for the repair, maintenance, and upgrading of the support services, including physical plant facilities, which are provided the Faculties of Public Health.
- Expand, modernize, and enrich the library resources available to the faculty and students of the public health faculties.
- Develop regionalization and specialization strategies for the expansion of library resources on the regional campuses.
- Establish a central translation service to facilitate the research activities of faculty members.
- Encourage faculty members to increase their use of AVA equipment, computer-assisted teaching packages, and other modern technologies in the conduct of their courses.
- Encourage library use by faculty and students.

Recommendations Concerning Funding

- Establish a central development office to stimulate and coordinate all fund-raising activities of the faculties.

- **Establish the Association of Schools of Public Health in Indonesia (ASPHI) and solicit funds for a "start-up" budget. Plan workshops, under the aegis of ASPHI, on financial management and fund-raising for departmental chairs and school deans.**
- **Seek funds to establish two major endowment funds: one to support the activities of the ASPHI; the other to underwrite a national scholarship program for public health students.**

I. INTRODUCTION

The Government of Indonesia has been remarkably successful in building a vast system of higher education in a very short period of time. Over the past 40 years, development efforts have focussed on establishing and fashioning a total system extending from primary through post-graduate education. The successes of this monumental effort have been truly impressive.

However, in recent years with university enrollments continuing to rise and under the pressure of a severe and unexpected drop in oil revenues, emphasis has shifted from expanding the system to improving the efficiency and quality of undergraduate and graduate education by enhancing overall planning, budgeting, and management and increasing investments in physical plant and equipment. Nearly all of these changes are articulated in the most recent Five Year Plan (Repelita V) for 1989-94. Of special note is the fact that earlier, in 1986, student fees were doubled across the board. Since that time, public universities have regarded tuition as an important source of revenue.

At the beginning of the decade, qualified personnel in public health were being trained mainly at the University of Indonesia (UI) in its Faculty of Public Health (FKM) where fewer than 50 bachelor's degrees and 25 master's degrees were awarded each year. However, the manpower need was far greater. In 1982, the Ministry of Health (MOH) requested that the Ministry of Education and Culture (MOEC) increase its public health education program. In response, the office of the Director General of Higher Education (DGHE), through the Consortium on Health Sciences (CHS), conducted a feasibility study and recommended the establishment of new Faculties of Public Health (FKM's) at four regional universities with established Faculties of Medicine. The proposed plan was to utilize each of the existing Departments of Community Medicine as the nucleus for the creation of a new Faculty of Public Health. With the help of CHS and funding from the National Family Planning Coordinating Board (BKKBN), five-year plans were drawn up.

It was in this milieu that the Faculty of Public Health Development Project was launched in August, 1985. This cooperative project, sponsored by the United States Agency for International Development (USAID), was designed to produce trained manpower to manage the nation's expanding public health program by enlarging and regionalizing public health education, research, and community service. The project's goals were to establish and/or strengthen public health programs in the five selected universities and to provide technical assistance to the Ministry of Health, National Family Planning Coordinating Board, and other sector agencies, both public and private, concerned with the delivery of health and family planning services. The University of Indonesia's School of Public Health was designated as a national resource center and its faculty was chosen to receive support for the development of a doctoral program. The four regional universities which had been identified earlier in the DGHE feasibility study to participate in the project were:

Airlangga University (UNAIR), Surabaya
Diponegoro University (UNDIP), Semarang
Hasanuddin University (UNHAS), Ujung Pandang
University of North Sumatra (USU), Medan

Funding for the project was budgeted at a total of US\$15 million, which included \$4 million in grants-in-aid and \$5 million in loan monies from the United States. The contribution of the Government of Indonesia was \$6 million. Instituted in August, 1985, the project was successfully terminated on December 31, 1992.

Nearly all of the planned outputs of the project were achieved. Two of the new public health faculties have yet to be officially recognized by the Council on Health Sciences as separate school faculties, but such recognition, in all likelihood, is only a matter of time. Delays of this sort are not uncommon in either developing or developed countries like the United States. The total full-time teaching staff of the public health faculties (dosen tetap) has been increased from 139 to 266. Furthermore, when the project began, no more than nine professors held doctoral degrees; in 1992 the total has risen to 21 with doctorates. In 1985, only 78 members of the faculties had earned master's degrees; today there are 158 master's degree holders. A majority of these faculty received their advanced degrees in Indonesia or from U.S. universities. Finally, over the life of the project, all five of the target universities have received computers, audio-visual aid equipment, library allocations, and other resources to upgrade and improve their teaching and research programs.

The project has clearly been instrumental in creating the vital core of an important segment of Indonesia's higher education system. However, the institutionalization, growth, and development of this coordinated program, one that is dedicated to providing well-qualified professional personnel on a continuing basis, remains a long-term effort. Support and stimulus must come from the major concerned government agencies (MOH, MOEC, DGHE, BKKBN, and local provincial authorities), from the universities, both public and private, and from the Schools of Public Health themselves, especially the University of Indonesia's School of Public Health which has undertaken the responsibility of serving as the Fakultas Pembina. As a result, instead of requiring a conventional end-of-project evaluation, it was decided to proceed with a future-oriented sustainability assessment of the professional public health education system that has been established and nurtured for the past seven years.

A. Objectives of the Assessment

This report presents the findings of the sustainability study which was conducted over a short period of seventeen working days in-country during November and December, 1992. It is one of the final steps in the USAID-sponsored Faculties of Public Health Development Project. It is also one of the first steps in the development of a longer range plan to seek future assistance from other members of the donor community.

The purpose of the assessment project was three-fold:

- to review the present status of the curriculum and curriculum design, faculty and faculty development, enrolled students and graduates, research and extension service activities, physical plant, equipment, etc., and other components of the public health education system;
- to examine current plans and initiatives, and identify emerging needs, changing goals, and new objectives;
- to formulate recommendations for improvement.

In broad terms, it has been an attempt to assess the level of sustainability at which the current public health faculties will be able to operate without the continuing support of an externally funded Project Management Unit (PMU) and without the financial resources that have been provided by the United States government and the Indonesian government. In more specific terms, this report identifies, analyses, and assesses those factors which are essential to institutional and programmatic sustainability. It also offers recommendations for future development and improvement.

B. Members of the Assessment Team

The members of the international assessment team who were recruited by the Academy for Educational Development, with the concurrence of the USAID Mission in Jakarta, included:

Indonesian specialists

- Dr. Alex Papilaya, Professor of Public Health, School of Public Health, University of Indonesia (former Dean of the School)
- Dr. Anhari Achadi, Associate Professor of Public Health, School of Public Health, University of Indonesia (former Associate Dean of the School)

American specialists

- Dr. Timothy D. Baker, Professor of International Health and Health Policy, Johns Hopkins University, Baltimore, MD; Team Leader
- Dr. William A. Stuart, Dean Emeritus, Rutgers University, New Brunswick, NJ, International Consultant on Higher Education, East Hampton, NY

Shortly after his arrival in Jakarta, Dr. Stuart was incapacitated, due to a temporary seizure, which severely limited his in-country contribution to the assessment activity. In his stead, Dr. Adang Bachtiar, MD, MPH, ScD, was called upon to assist the team in gathering and analyzing data and in preparing the first draft of the report which was submitted to the USAID Mission in December. Following the approval of an extension of the assessment project in January, however, Dr. Stuart was able to complete his contribution by addressing more of the sustainability issues and by assisting in the preparation of the final draft of the report.

C. Method of Assessment

Provided with a preliminary work plan suggested in the Scope of Work, the team adopted a variety of strategies for gathering and analyzing the basic data required for the assessment. In the beginning, the initial task was to assemble and review as many relevant reports, memoranda, and other published and unpublished documents as possible. This procedure was begun even before the team's arrival in Jakarta. It continued throughout the project. Most of the documents consulted by team members are included in the attached list of References.

The team was confronted with serious time constraints which limited the extent to which statistical information, in particular, could be assembled and analyzed. Furthermore, most of the statistical data routinely compiled by the Government, universities, and Schools of Public Health were not readily available on short notice. In reviewing the data that were available, there are serious questions concerning reliability and validity. As a result, the team has been highly selective in reporting statistics and other "soft" information that simply could not be substantiated.

Orientation meetings with the USAID Mission and the Project Management Unit (PMU) began on November 18, 1992. Based on work plans and travel schedules agreed to by the team, visits were made to the campuses of each of the five target universities, normally by pairs of team members. Dr. Stuart was able to visit only the campus of the University of Indonesia. However, the School of Public Health of the UI was visited several times by the team. Additional calls were also made on the officials of the key public health agencies - MOH, BKKBN, local Kanwil Depkes, etc. - and other important governmental agencies, such as the National Planning Board (BAPPENAS), DGHE of the MOEC, and the Ministry of Population and Environment. In all of this field work, the team sought by means of formal interviews and through informal discussions to gather and sift information and viewpoints from key stakeholders in public health and public health education. These inquiries focussed on the question of sustainability as outlined in the Scope of Work. A record of the persons contacted during the very short course of the assessment project is provided at the end of this report.

D. Drafting the Report

Guided by the topic outline set forth in the Scope of Work, the team began drafting the report during the first week of December, 1992. Before the team disbanded on December 4th, a first draft was submitted to the USAID Mission and its contents were discussed briefly. Additional materials, including some graphic representations and several appendices, were prepared by the team's Indonesian specialists following the departure of the Team Leader and a second draft was filed with the Mission. Upon receipt of these drafts, together with accompanying comments from the USAID Mission, the Academy for Education Development requested and received an extension of time in the assessment contract with the Mission in order to complete the necessary work on a final version of the official report. In the absence of the Team Leader who was on another overseas assignment in South America, Dr. Stuart was asked to take the lead in this task.

E. Uses of the Report

The assessment team set out to take the measure of the present status of public health education in Indonesia today. It examined plans for expansion and improvement. It reviewed changes in public health and identified new emerging needs and challenges facing the faculties of public health. This report presents our findings and recommendations.

It is our hope that the reader will come away with a better understanding of how the public health education system works, and how students, faculty members, administrators, public health officials at all levels, and their constituencies are affected by it. At the same time, it is our earnest desire that the report's suggestions for change and improvement will generate new ideas, spark innovative solutions, and stimulate creative thinking about the effective delivery of public health services to all Indonesians.

The unmet needs that the assessment team has identified should also be of special interest to the donor community. In today's economy, most of the improvements in the system will require the influx of external assistance. We sincerely hope that our recommendations will prompt donor agencies, both public and private, to contribute to the further advancement of public health education in Indonesia.

II. PUBLIC HEALTH DEVELOPMENT: THE BROADER CONTEXT

Developing countries like Indonesia pass through intense periods of economic, political, and social change which have far-reaching effects on the health and welfare of ordinary citizens. Changes in these broad areas of society not only influence but, in most cases, also determine the

effectiveness of efforts on the part of the government and the private sector to improve the health and well-being of the people.

Thus, any assessment of the sustainability of the newly strengthened faculties of public health must consider the socio-economic, governmental, demographic, and environmental context in which the expansion and improvement of these professional training/education facilities have taken place. Government policy has strongly supported the establishment of community health services throughout the far-flung reaches of the Indonesian archipelago. However, it is only recently that, with the support of USAID, WHO, and other international agencies, significant steps have been taken to provide upgraded university-trained public health professionals, enhance public health research activities, and offer university-based health extension services to local communities.

Notable strides have been made. Three new Faculties of Public Health have been established in central Java, eastern Java, and northern Sumatra. The existing Faculties of Public Health in southern Sulawesi and at the University of Indonesia in Jakarta have been expanded, upgraded, and strengthened. It is this effort, spear-headed and underwritten by USAID's seven-year Faculties of Public Health Development Project, that needs to be reviewed in the light of the broad socio-economic developments, rapidly changing health trends, and evolving government policies which characterize Indonesian society.

Geographically, culturally, and ethnically, Indonesia is rich and diverse. Comprised of 13,667 islands scattered over a horizontal expanse of 5110 kilometers, exceeding that of the continental United States, the archipelago varies from the dense lowland rain forests of Kalimantan to the remote mountainous regions of Irian Jaya. Many of the other islands are semi-arid. Oil, natural gas, timber, minerals, and fertile agricultural land are to be found in abundance.

Populated by approximately 180 million people, making the country the fifth most populous in the world, Indonesia consists of 320 ethnic groups, each with its own language, cultural heritage, and mores. It contains nearly 20 million Christians and Buddhists and boasts the largest number of Muslims of any nation on earth. Growing at the rate of 2.1% each year, the population is expected to reach 275 million by the year 2025. Strikingly, more than 62% of the current population lives on the island of Java which constitutes only 7% of the total land mass. In contrast, Sumatra, which is four times larger, has one third its population. The other islands are basically under-populated. Kalimantan, for example, has a total of 7 million people.

The Faculties of Public Health Development Project was launched, in part, to contribute to the achievement of the fertility and mortality goals of the country's fourth Five Year Plan (Repelita IV). The Government of Indonesia recognized that, given existing biomedical and public health technologies, the diseases causing infant, child, and maternal mortality were all preventable. It was also recognized that effective contraceptive technologies had also been available for many years. What was missing was the effective management of public health delivery systems to bring these technologies to bear on the nation's growing and shifting

urban/rural populations. The over-arching national goal was and is clear: to improve the quality of life by establishing an acceptable rate of population growth and by "decentralizing" and redistributing the population.

Dramatic demographic changes, however, must be realistically confronted. Efforts to reduce population growth are being frustrated by greater life expectancy and by an increase in the number of elderly (thus increasing the demand for geriatric services). They are also being off-set by an expected surge in the number of women of reproductive age, which is projected to increase from 23 million (1985) to 31 million (2005). The likelihood of another "baby boom" coupled with increasing numbers of the elderly will exert even more pressure on the public health system. Still greater pressure will be placed on the Faculties of the Schools of Public Health to provide professionals trained to address new disease patterns, to redesign family planning programs, and to develop innovative services for larger numbers of older Indonesians.

Additional demographic shifts are seen in the growing urbanization of life not only in Java and Jakarta, with its 8 million people, but also in the provinces on the other islands where urbanization will intensify as industry develops and worker populations begin to migrate. It should also be noted that increasing numbers of women are entering the work force. Not surprisingly, as many as 50% of the recent applicants for admission to the Schools of Public Health are young women.

As for national economic development, Indonesia has targeted Government policy to foster rapid, responsible growth. For 15 years, from 1965 to 1980, the nation's gross domestic product (GDP) grew at a reported average annual rate of 7.9%. This impressive record coincided with a five-fold increase in trade, primarily due to huge exports of oil and liquified natural gas. The drop in world oil prices of more than 50% since 1980, however, has seriously depressed economic growth which, in turn, has contributed to a high unemployment rate. At present, about 18% of the Indonesian work force is unemployed, and approximately 30-40% is under-employed.

One negative effect of this weakened economy has been the depression of salary levels and benefits available to the faculties and administrators at all national and regional universities, teacher training institutions (IKIP's), institutes of arts, and polytechnics. As a result, nearly all faculty members and administrators in all public universities hold a second or third job, often outside the field of education. Few, if any, professors can afford to have "full-time appointments" at a single university regardless of their field of specialization. Professors of epidemiology or public health administration are no exceptions. Nor are deans of the Schools of Public Health. In fact, the faculties of most of the 767 private universities in the country are staffed by "moonlighters" from the 45 public universities. Over 200 of these private institutions, it should be noted, have opened during the past five years.

In response to the precipitous decline in the nation's economic growth, the GOI instigated a new export-led strategy based on non-oil/gas exports. Recognizing that the country lacked the necessary human resources to carry out this strategy, particularly in management and

science/technology, the GOI invested heavily in education to develop these resources. The 1984-89 Five Year Plan (Repelita IV) gave special emphasis to expanding the capacity of higher education. The principal goals for higher education included:

1. Increasing enrollments of the 19-24 age group attending post-secondary education from 5.3% in 1983-84 to 8.5% in 1988-89;
2. Increasing instructional staff in public and private universities by 79%;
3. Increasing integration of public and private universities;
4. Expanding the number of polytechnics;
5. Supplying 245,000 junior and secondary school teachers.

In response, the higher educational system expanded rapidly. During Repelita IV, enrollments grew at an average annual rate of 11.29%, increasing from 824,400 in 1983-84 to more than 1,600,000 in 1988-89. Impressive as this increase has been, Indonesia's participation rate of 8.5% lags well behind its neighbors. Higher education participation rates in the Philippines, Thailand, and South Korea, for example, range from 25 to 30 percent.

Other concerns arose. In spite of increases in the educational budget, the rapid expansion of enrollments produced lower per-student allocations. This suggested a decline in the quality of educational services, in the distribution of those services (especially in areas outside Java), and in the educational system as a whole.

Addressing these shortcomings forthrightly, the GOI has shifted its emphasis in Repelita V (1989-1994) from expansion to the improvement of the quality and efficiency of education at all levels. The Faculties of Public Health Development Project has thus been fully supportive of this general aim of the Government to improve the education system. The goals of Repelita V include:

1. Improving the efficiency and quality of education at all levels;
2. Expanding access to basic education at the junior secondary level;
3. Developing the private education system;
4. Increasing the supply and quality of primary and secondary teachers, especially in science and mathematics;
5. Integrating literacy programs with employment-oriented skills-training and apprenticeship programs.

The sustainability of the Faculties of Public Health must also be reviewed in the light of evolving national health policies. Repelita V gives assurance that improvement in quality and equity of health services and the education/training of health professionals will continue with full government support. However, due to the progress achieved in reducing infant and child mortality and in controlling fertility rates, priorities are likely to shift to new population groups, including the elderly in both urban and rural locales. Greater emphasis is also likely to be given not only to infectious/non-infectious diseases but also to drug and alcohol abuse, smoking, food safety, and environmental hazards including pollution. More stress is already being placed on the development of new health management services and health research activities in the provinces reflecting the GOI's decisions concerning decentralization, regional development, and deregulation. As a result, improvement and expansion of the health information/communication system which is a vital component of health administration will become mandatory.

Finally, the demand for appropriate and better trained public health service personnel will not only continue to increase but greater importance will also be placed on regional development and on the placement of essential personnel in the provinces. Clearly, the emerging manpower policies of both the Ministry of Health (MOH) and National Family Planning Coordinating Board (BKKBN) will require better trained professionals with the necessary technical and management skills to initiate new programs for dealing with the increasingly complicated delivery of health and family planning services to the Indonesian people.

A. Goals and Objectives

The sustainability of the newly strengthened Faculties of Public Health will depend, in part, upon a firm commitment to carry out the mission of each school. In fact, the administration, faculty, and students of every school must formulate a formal set of goals and objectives in clear, concise, and well-understood terms to guide the future planning of their institution. Unfortunately, such statements were not readily available at any of the universities visited by the team.

One of the important contributions of the Faculties of Public Health Development Project has been to stimulate the school deans and faculties of the five target universities to focus attention on the mission of their enterprises. The statement of the purpose of the project is pragmatic and instructive:

"The purpose of the...project is to assist the Government of Indonesia to expand and regionalize public health education and research by strengthening public health training programs in selected regional universities to supply manpower, conduct research, and provide technical assistance to the Ministry of Health, the National Family Planning Agency (BKKBN), and other public and private sector agencies involved in health and family planning service delivery."

Because the schools of public health are professional schools, the relevance and credibility of their individual mission statements will depend upon how consistent they are with national public health policies. While no formal statement of goals governing the mission of public health in Indonesia has been prepared, the enactments of Repelita V are relevant.

This is not to suggest that there is lack of concern about the necessity of defining the goals and objectives of public health and public health education as a basic governmental responsibility and as a profession. Public health authorities, university officials, public health deans, and other community leaders are fully aware of the lack of agreement and clear understanding of public health priorities. At the same time, they recognize that in a period of rapid and continuous change in demography, epidemiology, and the environment, the delineation and definition of the mission of public health is not an Indonesian problem alone.

Many aspects of this world-wide dilemma were addressed at the recent "Consultation/Retreat on Public Health and Socio-Economic Changes at the Dawn of the 21st Century" held in Jakarta on January 27-29, 1992, which brought together an international group of public health experts and policy makers. Defining the mission of public health and public health education was one of the Consultation's major concerns.

The traditional aims of public health are well understood, as the proceedings of the Consultation demonstrated. They include:

- control and prevention of communicable diseases;
- promotion of health and healthy life styles;
- reduction of environmental risks and health hazards;
- assurance of personal health and long term health care services.

Today, however, a new approach is being widely discussed and debated: one, according to the consultation, "that is dynamic, multi-professional and multi-disciplinary; one that stretches across social, geographic, administrative and political borders and lends itself to partnerships between different professions, ideologies and nations." Taken seriously, the whole concept of the "new public health" will have important implications for curriculum and course development, research initiatives, and degree requirements. In Indonesia, the dialogue on these fundamental issues is beginning in earnest.

Clearly the goals and objectives of the Schools of Public Health must be consonant with and supportive of the national mission of public health that is envisioned by the MOH, BKKBN, and the National Planning Board (BAPPENAS). At the same time, they must be consistent with the aspirations and vision of the international public health profession. The Consultation made a bold attempt at articulating the proposed mission of the Schools of Public Health in Indonesia, as follows:

- "To be part of the center for national health development with the central concept of the prevention of disease and promotion of health through research, education and

professional practice.

- To be an important agent for change and development for the health of the nation and the local community with innovative ideas in anticipating the future.
- To be the center of excellence for public health science and technology development with ideas for solving the problems and improving the health of the people.
- To generate high quality scientific, academic and policy-oriented public health research relevant to the solution of broader public health problems.
- To produce reputable public health experts who have broad-based knowledge and professional skills to serve as leaders in the field of public health.
- To provide technical expertise and advice to the national health authorities as well as other public health interest groups, applying relevant scientific public health knowledge to community health issues."

Dr. Kemal N. Siregar, Dean of the School of Public Health at UI, has emphasized the importance of the formulation of regional goals by the Faculties of Public Health at UNHAS, UNAIR, UNDIP, USU, and by any other new school to be established in the provinces. Equally important, he believes, is the articulation of the national vision that the FKM at the University of Indonesia has adopted, coupled with its role as the Fakultas Pembina. This national orientation is shared, and appropriately so, by the private University of Gadjah Madah, whose bachelor's and master's degree programs in public health are considered to be excellent.

Institutional goals and objectives are closely associated with planning - budget planning, short-range planning, long-range planning, and strategic planning. Team observation and experience indicate that nearly all such planning functions are the responsibility of the DGHE and other departments within the Ministry of Education and Culture, and the National Planning Board (BAPPENAS). The entire education system, including the public university (sub)system operates like a large bureaucracy, and is mostly "top down." Generally speaking, planning directives will emanate from the DGHE. Much of the autonomy which is exercised at local school, faculty, or program levels is likely to be the result of the unwieldy nature of the bureaucratic structure or because of the geographical remoteness of the institution. Decentralization and deregulation are not only matters of policy. They are necessities.

B. Recommendations

To assist in the preparation of explicit, clear-cut statements of mission, goals, and objectives by each of the Faculties of Public Health, the following principles are offered as suggestions. In offering to help the faculties to define their roles in their regions and the nation,

it must be borne in mind that every school is an integral part of a larger university and that not all public health schools are yet weaned from the Schools of Medicine that gave them birth.

1. Access

- The Faculties of Public Health should be accessible to all qualified applicants who seek and can benefit from the specialized professional education which is provided.
- The Faculties of Public Health should maintain a vital presence in Jakarta, central Java, eastern Java, northern Sulawesi, and northern Sumatra, and be prepared, with additional resources, to expand to additional universities in other regions of Indonesia, under the leadership of the Fakultas Pembina at the University of Indonesia.

2. Graduate Education

- Among public universities, the University of Indonesia should have sole responsibility for S3 doctoral work in public health.
- The Faculties of Public Health should collectively offer a full complement of S2 master's degree programs in public health.
- The Faculty of Public Health at the University of Indonesia should improve the balance of its offerings by establishing a limited number of specialized S2 master's degree programs.
- The Faculties of Public Health should expand a limited number of specialized S2 master's degree programs to the regional University campuses.

3. Undergraduate Education

- The Faculties of Public Health should provide a full complement of S1-2 and S1-4 bachelor's degree programs in all Schools of Public Health.

4. Research

- The Faculties of Public Health should concentrate the research efforts of its members on applied, problem-solving, and action-oriented research.
- The Faculties of Public Health should apply its research activities to local, regional, and national needs.
- The Faculties of Public Health should participate in international research programs in only a few, limited areas of interest.

5. Public Service

- **The Faculties of Public Health should seek to establish a tradition of providing extension and public service in all regions of Indonesia.**
- **The Faculties of Public Health should offer, both regionally and nationally, through its larger University outreach mechanisms, non-degree programs, short courses, workshops, and special lectures which reflect the expertise available at each FKM and which respond to particular community needs.**

III. CURRICULUM AND CURRICULUM DEVELOPMENT

The undergraduate curriculum for the S1 bachelor's degree program in the FKM's has grown out of the five basic public health sciences: Biostatistics; Epidemiology; Administration and Management; Health Education and Behavioral Science; and Environmental and Occupational Health.

The 1984 Malino Conference produced a list of the major topics to be included in this basic curriculum. At subsequent conferences held at Tretes in 1986 and at Denpasar in 1989, the topics were refined. In recent years, also, course syllabi in each of the five disciplines have been developed by the more experienced members of the FKM at the University of Indonesia and distributed to the FKM's in the regional universities.

The graduate curriculum for the S2 master's degree program has been developed, emanating from the same basic sciences, at the University of Indonesia, University of Airlangga, and the private University of Gadjah Mada. A fourth S2 curriculum is currently under development at the University of Hasanuddin. To be awarded the master's degree, a student must complete a total of 60 credit hours to qualify for either the Master of Public Health (MPH) or the Master of Sciences (MS) in one of eight designated areas of specialization.

At the top of the academic ladder is the S3 doctoral program in public health offered only by the University of Indonesia through its Graduate Studies Division. Planned as one of the outcomes of the Faculties of Public Health Development Project, it was officially approved in 1989.

As approved and authorized by the Consortium of Health Sciences of the MOEC, a student must complete a total of 144 semester credit hours of course work to fulfill the academic requirements to receive the S1 bachelor's degree. A total of 120 credit hours must be in compulsory core courses, the remaining 24 credit hours may be taken as electives. Seventy percent of the compulsory courses (80 semester credit hours) must be in the basic public health sciences; 20% in medical science and internal medicine; and 10% in the social sciences.

It is worth noting that the medical degree (MBBS) is classified as an S1 degree.

The assessment team has reviewed and evaluated the basic public health curriculum very carefully. In our considered judgement, the course offerings of all the Faculties of Public Health are relevant and entirely appropriate. They have been well designed to meet the current public health needs of Indonesia. With relatively minor adjustment, the curriculum is also well suited to meeting the anticipated needs of the nation. In epidemiology, for example, the new courses in communicable and chronic diseases will become increasingly important. The same is true of the courses in health education, sociology, environmental and occupational health, and nutrition, all of which are designed to meet the needs of both today and tomorrow.

There are additional examples. Recognizing the importance of occupational health, the Project Management Unit (PMU) recently conducted a workshop in preparation for the establishment of separate departments of occupational health in the FKM's. Also, in environmental health, the courses that are presently offered address current problems of water supply, sanitation, and air pollution. They also deal with important aspects of health risk assessment and examine the impact of such hazards as the use of toxic substances, smoking, alcohol abuse, and traffic accidents.

Once again taking the lead as the Fakultas Pembina, the FKM at the University of Indonesia has introduced courses in public health administration which are not yet offered in the regional FKM's. In fact, UI now offers a special advanced program in hospital administration at the master's degree level. In anticipation of future demands, all the FKM's should be taking steps to develop new courses in health care planning, health care financing, and health care economics, and eventually a degree program in hospital administration.

Curriculum development under the auspices of the Faculties of Public Health Development Project has involved not only the preparation of subject matter content per se but also the concomitant methods to be used to develop the capabilities and talents of the students. The PMU and the long term advisor worked closely with all the FKM's to develop criteria for establishing a "scientific curriculum." The concern was to ensure the design of a public health curriculum that would be:

- competency-based
- community-oriented
- student-focussed

Experimentally, the design of a model scientific curriculum in each of the five basic disciplines was undertaken by each of the FKM's. USU, for example, took responsibility for the Public Health Administration curriculum, UNHAS for Epidemiology curriculum, etc. These experimental projects are still in progress.

Based on initial responses - or rather the lack of them - the outcomes of the projects do not look promising. Without the application of these kinds of criteria, the curricula of the FKM's will remain traditional, very academic, professor-centered, and text-book focussed, with

primary emphasis continuing to be placed on lecturing, note-taking, rote memorization of material, and grades based largely on written examinations. These are the characteristics of most of higher education in Indonesia.

However, in another attempt to counteract this traditional approach to learning and also to enrich the curriculum at each of the FKM's, the PMU arranged for technical assistance in the development of case studies. The purpose of establishing a library of cases, of course, is to stimulate student participation and provide realistic orientations to local community public health problems. This case writing activity was initiated at UNAIR, UNDIP, and USU.

Still another measure has been to introduce additional field work into the curriculum to familiarize students with the "work-place" and acquaint them with the realities of the responsibilities of public health officials. Field work, however, has proved to be expensive, difficult to arrange, and time-consuming. For example, consider the logistics and cost of supervising the field experience of students from UNHAS in a location like Irian Jaya. The cost is prohibitive. Nevertheless, the value and usefulness of field work in the training of young, inexperienced future public health personnel may be indispensable. Such practical learning cannot be provided by means of lectures and textbooks. Even case studies have their limitations. "Hands-on," "do-it-yourself" learning opportunities are essential in professional public health education. Unfortunately, too few such opportunities have been incorporated and integrated into the curriculum.

The assessment team addressed the question of the desirability and feasibility of developing a "regional curriculum" at some length. It was concluded that the regions in Indonesia are too varied to offer valuable or meaningful specializations in the basic public health curriculum. Health conditions in Ujung Pandang and Irian Jaya, for example, are completely different, although they are both located in the eastern region of the country. To be sure, students will be required to orient themselves to widely different health conditions in the provinces as they take up their field work and as they enter their first jobs. Such orientation is better handled on an individual basis, however, rather than reflected in a regionally oriented curriculum. There is certainly a need for incorporating "local flavor" into the public health curriculum in the regional universities. However, except for addressing such specialized areas as "plantation health" in North Sumatra, provincial emphases of this sort are probably best handled by developing appropriate case studies, organizing local field work, and providing greater opportunity for students to take elective courses which reflect local and regional conditions.

With the dissolution of the PMU, future curriculum development in public health will devolve upon the Deans and department chairpersons of the FKM's. At the present time, the major problem in the development of the public health curriculum appears to be that faculty members, particularly junior faculty members, are not normally included in any review or redesign of the curriculum, nor are representatives from local public health agencies or the BKKBN. Considering the usefulness of inputs from these sources, such oversights ought to be corrected.

In view of PMU project achievements, the need for drastic or radical change in the basic curriculum is unlikely to arise for at least the next five years. Of course, continuous review and "fine tuning" of program designs and course offerings can be expected, especially at the regional/local level. However, major developments in curriculum planning are more likely to be initiated by the FKM at UI in fulfillment of its role as the national resource center in public health or by the new Association of Schools of Public Health in Indonesia (ASPHI) whose role and functions have yet to be clearly defined.

A. Recommendations

1. Course Requirements for Public Health Students

- The number of core courses required in the SI bachelor's degree program should be drastically reduced to allow students increasing choices of elective courses.
- The number of elective courses offered to students should be increased.

2. Curriculum Development in Public Health

- New elective courses should be developed and introduced into the curriculum of the regional universities which will acquaint students with public health conditions regionally and locally.
- More problem-solving case studies in public health should be introduced into the public health curricula and made an integral part of the core/elective course offerings available to both undergraduate and graduate students.
- Core courses in the five basic public health disciplines should continue to be reviewed and revised in terms of the criteria of a "scientific curriculum" which is: (1) student-centered; (2) competency-based; and (3) community-oriented.
- New program offerings and concentrations in specialized fields should be developed and offered to students in such areas as sanitation and environmental health, family planning, and health policy analysis/evaluation.
- Junior faculty members should be encouraged to consult locally with public health officials and BKKBN personnel to familiarize themselves with community and regional conditions, to discuss the content of the courses they are teaching, and to enrich the subjects they are presenting to students.
- New degree programs in public health administration should be developed and offered to students in all the Schools of Public Health.

- A new program of in-service training in public health should be developed on an experimental basis.

IV. RESEARCH

The public universities of Indonesia share a fundamental responsibility for preserving and discovering knowledge about their own people and environment. As integral parts of a single university system, the Faculties of the Schools of Public Health are in the process of establishing research programs which are essential to their intellectual vigor and to the sustainability of their institutions. In fact, a critical measure of the sustainability of the FKM's is the degree to which each faculty is able to demonstrate its commitment to research and graduate education conducted in conjunction with this research.

The Faculties of Public Health Development Project placed primary emphasis on faculty development. In all of its activities, the PMU was perhaps most successful in providing the means for FKM faculty members to earn advanced degrees at research-oriented universities in Indonesia and the United States. By serving to upgrade the qualifications of the faculties, the project helped to instill the principle of scholarly research into the educational process. Thus, research has become a paramount responsibility of every faculty member.

Research performs a number of vital functions. First, a FKM's commitment to research has a significant impact on the nature of its instructional programs. Since faculty members themselves contribute to advances in the public health field, they can demonstrate to students that knowledge is not a collection of facts to be memorized but an ongoing process of inquiry and discovery. Faculty members engaged in research can bring new observations, current issues, and challenging interpretations about public health problems into the classroom.

The impact of research is greatest on the S2 master's and the S3 doctoral programs. The FKM's must provide research opportunities to all the candidates for these degrees. The quality of these programs will depend upon, and will be measured by, the excellence of the research which is pursued and supervised by the faculties. Not unexpectedly, at this early stage in the development of the research capacities of the FKM's, it is mainly UI's more established faculty that has reached a point where it can demonstrate the experience and confidence required to hold its own in international academic circles. Others are making notable progress.

Second, FKM research has a responsibility to focus on the status of the health of the country, to clarify cause and effect in a wide variety of health areas, and to propose interventions - at national, regional, and community levels. Increasingly, the Schools of Public Health must also join forces with governmental and non-governmental agencies to seek answers to the pressing problems of public health in Indonesia.

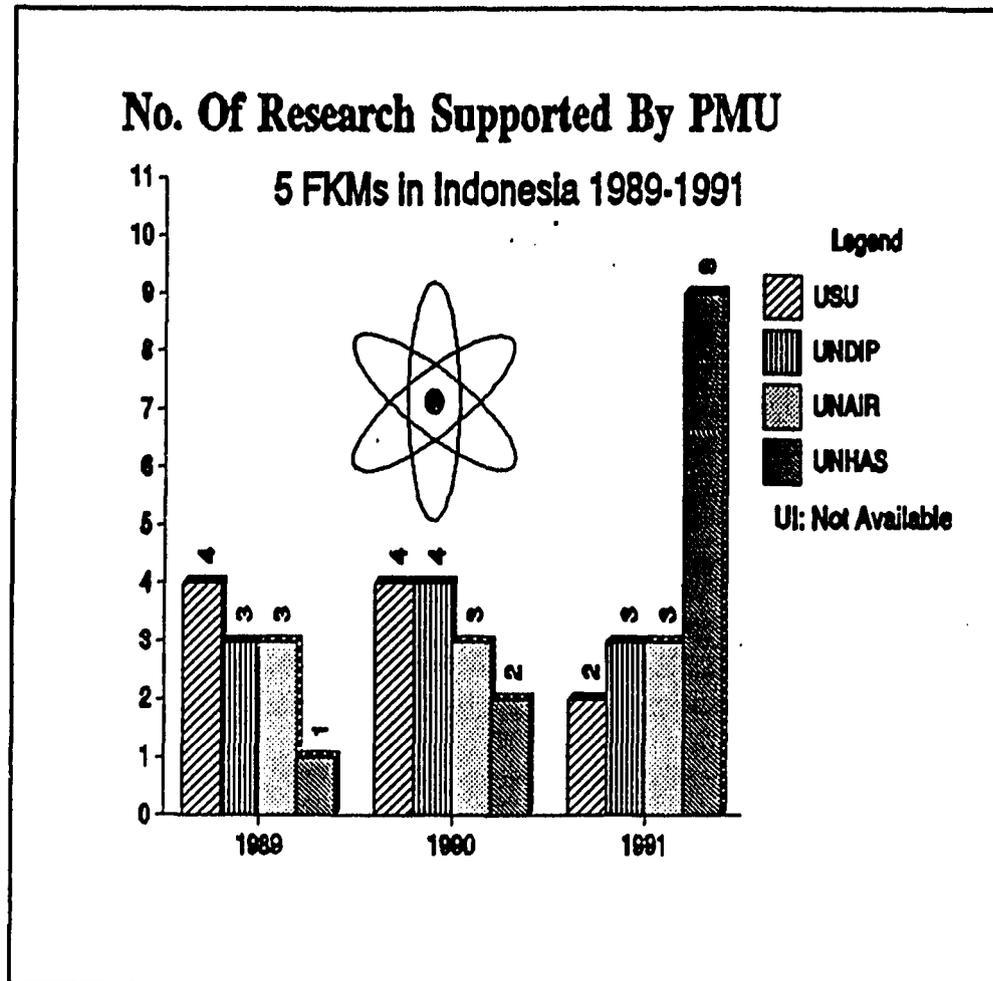
Third, there is a direct relationship between a FKM's research and its ability to offer public service to the populace. It is incumbent upon FKM members to bring the results of research directly to those who can benefit. Useful research data and practical interpretations, together with recommendations and suggestions, can be delivered to provincial health officials, family planning specialists, et al. to assist in program planning, implementation, and evaluation.

Recognizing the lack of research activity in most of the areas of public health, one of the primary purposes of the PMU was to develop and strengthen the research capacity and capabilities of each of the FKM's, particularly those in the regional universities. In addition to sponsoring individual FKM faculty in their pursuit of advanced degrees, the Project supported numerous consultancies, workshops, and exchanges and provided funds for computer facilities, equipment, and library acquisitions. The result has been the establishment of a research-oriented environment in the FKM's as a whole. In toto, nearly \$1,000,000 was invested during the life of the project in the promotion of this essential component of public health education.

Although the purpose of PMU support was not to underwrite research projects or produce research results, emphasis has been placed on encouraging applied research which is designed to address local and regional problems. Moreover, project assistance has been provided in support of two patterns of research activity. The "multi-center" approach generated research projects which were shared by all five FKM's, with implementation being carried out in their respective regions. The "institutional" approach called for projects which were proposed, designed and implemented by small groups and/or individuals at each of the Schools. Examples of applied research projects now completed include:

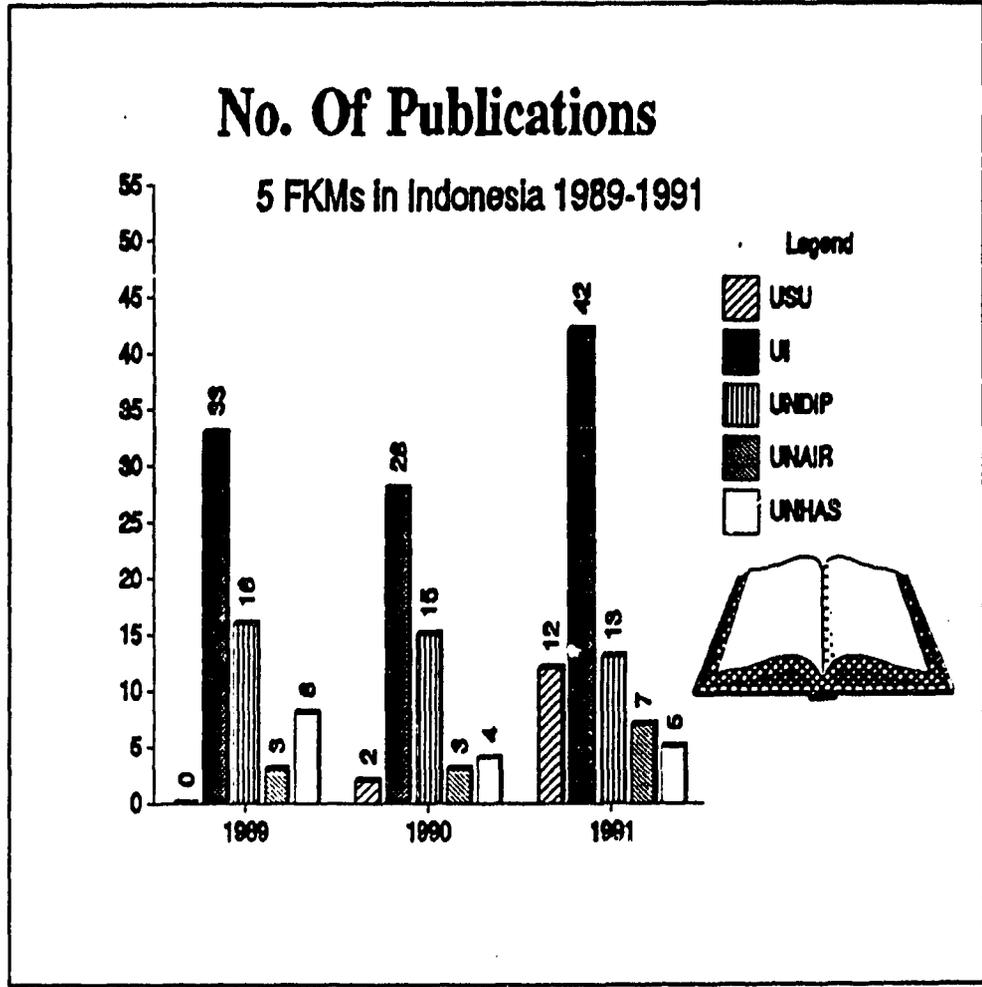
- Functional Analysis of Health Center Management
- Absenteeism in the Plantation Company in North Sumatra
- Distribution Pattern of Fresh Cow Milk in Jakarta
- The Role of the Private Sector in the Immunization Program in Semarang, Central Java
- Determinants of Child Death in East Java
- Family Planning Program Coverage and Its Impact on Fertility in South Sulawesi

Whether the level of productivity that was achieved by the PMU with ear-marked project funds can be maintained and expanded by the five FKM's remains to be seen. It is probably too early to tell. There is some slight evidence that the number of public health research projects funded by non-PMU sources has been increasing (See graph below). There is also evidence that the rate of research publication by individual faculty members has been rising (See graph below). However, in view of the statistical fact that the number of publications per faculty per annum is less than one publication for every two faculty members, there is much room for improvement. The record to date is not impressive.



This is due, in part, to the fact that the original Project plan called for and anticipated the return of the new Master's degree cohort from the United States in 1988, 1989, and 1990. However, these arrivals occurred a full year later. Thus, the assembly of a core of research-oriented faculty members in the various schools of public health has only just begun. Furthermore, a majority of the returnees have earned MPH degrees which place strong emphasis on professional service/practice, not on research capabilities. The MSc/PhD cohort is not expected to begin to arrive in Indonesia from the United States until 1993.

The most important steps in the development of a sustainable research agenda for the FKM's were successfully achieved at the initiative and under the guidance of the PMU. The research capabilities of the FKM's have been strengthened and substantially improved. Additional measures must now be taken.



First of all, budget support from the Ministry of Education and Culture, the Ministry of Health, and the National Family Planning Coordinating Board, which has been so extremely limited in the past, must be tapped. The MOH and BKKBN, in particular, need to be more fully informed about the increased research capacity of the regional FKM's. In the past, the limited amount of research that has been supported by these government agencies has been organized at the national level. More often than not, it has been conducted by researchers within the Ministry or by specialists from other national agencies, foreign governments, or international donor organizations. Moreover, regional or local priorities have not commanded much attention. Furthermore, the MOH has historically thought of public health programs as a part of clinical medicine. Consequently, its research funds have been devoted largely to clinical issues and problems. There are signs of change, however, and concerted efforts must be made to obtain the necessary funding for the Faculties of Public Health.

Second, the research capabilities of the FKM's must be strengthened and improved still further. Also, expectations must rise. All faculty members, for example, at the rank of assistant professor and above should be expected to engage in research and publish. The importance of

such research should receive far greater weight in the promotion process. In addition, the quality of research should be rigorously assessed on an annual basis.

Opportunities need to be provided for discussions about research activities and for the presentation of research findings. Abortive attempts to organize seminars, luncheons, and formal gatherings to exchange views on various research topics have been reported at UNHAS and even at the University of Indonesia.

Despite the Project's support of more than 30 faculty research projects, there seems to be a generally accepted view that all research activity should cease when written reports are completed. Moreover, a lack of confidence in one's ability to do research appears to be pervasive among most faculty members. Many researchers are loathe to disseminate or discuss their projects because they are fearful that their findings will contradict other findings in the same area. Also, the reporting of research results too often takes the form of long dissertation-length reports. The art of preparing short, concise articles for acceptance in public health journals has yet to be mastered. Thus, the resistance to publishing research results and opening them to review and criticism must be overcome. Faculty members must also overcome their reported hesitancy about sharing their research findings with policy-makers in MOH, MOEC, and BKKBN.

Not all the evidence is negative. Researchers from the Faculties of Public Health have presented their research findings at a number of national and international scientific meetings. Also, several faculty members have had articles published not only in Indonesian journals but also in such well-known international scientific journals as Lancet and Studies in Family Planning.

Furthermore, prospects for the future of FKM research appear to be brightening. Increasingly, junior and senior faculty members are collaborating with one another in their research, providing invaluable opportunities for the neophytes to gain much needed experience. More students from the S2 master's programs and the S3 doctoral program are being included in faculty research projects; many are assisting in data collection; a few are contributing to the development of proposals. Most important, FKM faculty members are beginning to collaborate with local health officials and family planning representatives in a variety of research activities.

As the newly upgraded faculties gain maturity and experience in research methods, and as they begin to publish more widely in professional journals, the Schools of Public Health will begin to make important contributions to national public health policy. They will also be able to attract the financial support of the more prominent members of the international donor community.

The Consultation/Retreat held in Jakarta in January, 1992, suggested several examples of the "new health issues and interventions" and the "new models" that the FKM's ought to be considering, including the following:

- "Environmental health impact analysis - development of qualitative indicators
- Policy implications of different models of health care financing
- Life-style and behavioral issues, such as cardiovascular diseases, AIDS, etc.
- Models of cost-effective occupational health initiatives."

As they develop their research skills and capabilities further, the Faculties of Public Health will find that the sustainability of their efforts will depend upon external recognition, publications, honors and awards, and most importantly, external funding.

A. Recommendations

1. Departmental Research in Public Health

- All FKM faculty members with the rank of Assistant Professor and above should be expected to conduct individual research programs, under the auspices of their academic departments, and to pursue questions and issues of disciplinary/professional interest to them.
- The universities should provide each FKM with the necessary budgetary support (under the regular instructional budget) to enable professors of public health to conduct their individual departmental research programs. Such support should consist of an appropriate percentage of available time for research within the overall academic assignments of each faculty member, as well as providing library and computing resources, basic equipment, and essential support staff.
- The FKM's and their departments should organize seminars and workshops which are designed to enhance the skills and capabilities of faculty members to prepare scientific articles for publication in professional journals. These workshops should perhaps be sponsored by the new Association of Schools of Public Health in Indonesia (ASPHI).
- The Faculties of Public Health, perhaps in conjunction with the ASPHI, should also provide assistance in the preparation of reports which seek to translate research findings into policy statements and directives.
- The universities should provide faculty members with assistance in the writing of research proposals for external funding.

2. Sponsored Research in Public Health

- **The Faculties of the Schools of Health should establish strong linkages with local and regional health offices and family planning units to identify priority public health problems needing investigation and study. They should also develop joint or cooperative research programs.**
- **The Faculties of the Schools of Health should increase their efforts to obtain grants from the MOH's Center for Research and Development (LITBANGKES), BKKBN, and other government agencies to support action-oriented research on community health and related problems in their respective regions.**
- **The Faculties of the Schools of Health should work closely with the MOH to develop joint research proposals in such areas as nutrition, epidemiology, and maternal/child health. Funding should be sought from the World Bank, particularly under its current Community Health and Nutrition Program (CHN-III), United Nations Development Program (UNDP), World Health Organization (WHO), Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), Canadian International Development Agency (CIDA), and other agencies in the international donor community. Sources of funding for research from private organizations should also be solicited, including the Ford Foundation, Rockefeller Foundation, Kellogg Foundation, and the Pew Memorial Trust.**

V. FACULTY AND FACULTY DEVELOPMENT

Over the past decade, the total public health faculty in Indonesia has doubled in size; the number of designated faculties has increased from two to five; and the overall quality has steadily and significantly improved. The Faculties of Public Health Development Project has played a major role in these achievements, particularly in the expansion and improvement of the regional FKM's. The first FKM, located at the School of Public Health in the University of Indonesia, was established in 1965. This faculty, like all subsequent public health faculties, was fashioned from the Department of Community Health in the established School of Medicine. Many of the early professors held MPH degrees, reflecting the continuing interest of medical schools in public health as a part of clinical training.

In fact, so strong is the connection between curative and preventative medicine in the minds of some medical school faculty that the official approval of the Schools of Public Health as "FKM's" at two of the regional universities, UNAIR and USU, has been held up and postponed. Approval of a new faculty is not easily obtained. The decision is not one that can be made internally by the University Rector. It is made by the Consortium of Health Sciences (CHS) of the MOEC. This government agency, which advises the DGHE, must be satisfied that

a newly proposed "FKM" can support a full four-year S1 bachelor's program, demonstrate a strong research capacity, and mount a public service program. It seems likely that the approvals will eventually be granted. However, if the controversy is not resolved soon, the future of public health education in eastern Java and northern Sumatra could be seriously effected. At the very least, school growth will be slowed because the sizes of medical school faculties are reportedly capped.

As early as 1980, both the MOH and the BKKBN had begun to formulate manpower development plans for utilizing public health graduates to strengthen their infra-structures at provincial, district, and sub-district levels. They recognized the need to expand and upgrade the existing faculties of public health. Between 1983 and 1987, the BKKBN, utilizing its own resources, awarded some 17 fellowships to faculty members at UI, UNAIR, UNDIP, and USU to secure advanced degrees. With the establishment of the PMU in 1985, additional plans and resources were mustered. Between 1987 and 1990, armed with the new funds provided by USAID under the Faculties of Public Health Development Project, the PMU was able to recruit over 100 faculty members from the five target universities and award them grants for advanced study in Indonesia and the United States.

There has been a fairly even spread of the 120 fellowships from BKKBN and PMU over the five basic disciplines of public health. Advanced training in administration and management has predominated with 22% of the awards, followed by 20% in environmental and occupational health, 19% in health education, 16% in bio-statistics, 13% in epidemiology, and 10% in nutrition.

As for degree programs, a total of 93 master's degree candidates have been supported to date: 49 of them were placed in U.S. universities and 44 entered Indonesian universities. Among the 27 doctoral candidates, 9 remained in Indonesia while 18 entered graduate programs in the United States. Fifty-four percent of the students chose programs in three U.S. universities: University of Hawaii, University of Pittsburgh, and Tulane University. However, a total of 15 U.S. universities have accepted Indonesian candidates for advanced degrees.

The Project contributed to faculty development in two additional ways. First, short-term training was provided to many faculty members both in the United States and in-country. Short courses in the U.S., normally three months long, were offered in all the disciplines of public health. Second, teaching externships were awarded to senior faculty (usually the department chair) from each of the public health schools. Each extern received an appointment as Visiting Lecturer in a public health discipline at a U.S. university for up to one semester.

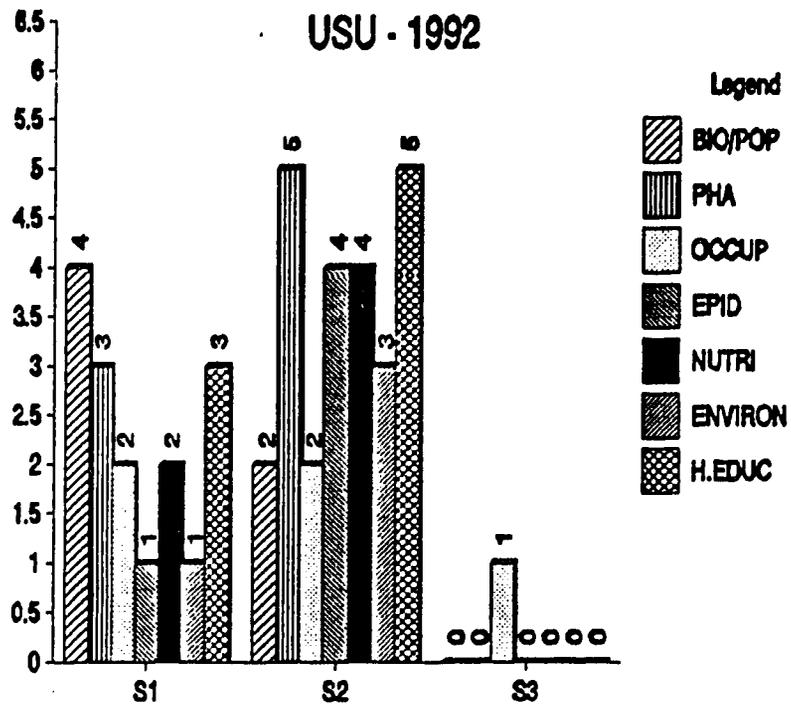
The table below gives dramatic evidence of the successful outcome of the efforts to upgrade the faculties of public health in the five target universities.

Comparison of the Number of Full-Time Public Health Faculty Members (Dosen Tetap) By Academic Qualification 1985-1992										
Level	UI		UNHAS		UNAIR		USU		UNDIP	
	'85	'92	'85	'92	'85	'92	'85	'92	'85	'92
Doctoral	4	13	1	2	4	3	0	1	0	2
Master's	44	49	7	33	19	33	6	25	2	18
Bachelor's	11	24	9	17	11	3	5	16	11	27
Secondary	0	0	0	0	5	0	0	0	0	0
TOTAL	59	86	17	52	39	39	11	42	13	47

In the five graphs which follow below, the present full-time teaching faculty of each school of public health is analyzed by academic qualification and disciplinary department. The academic strengths and weaknesses of the faculty of each department in each school is thereby graphically illustrated.

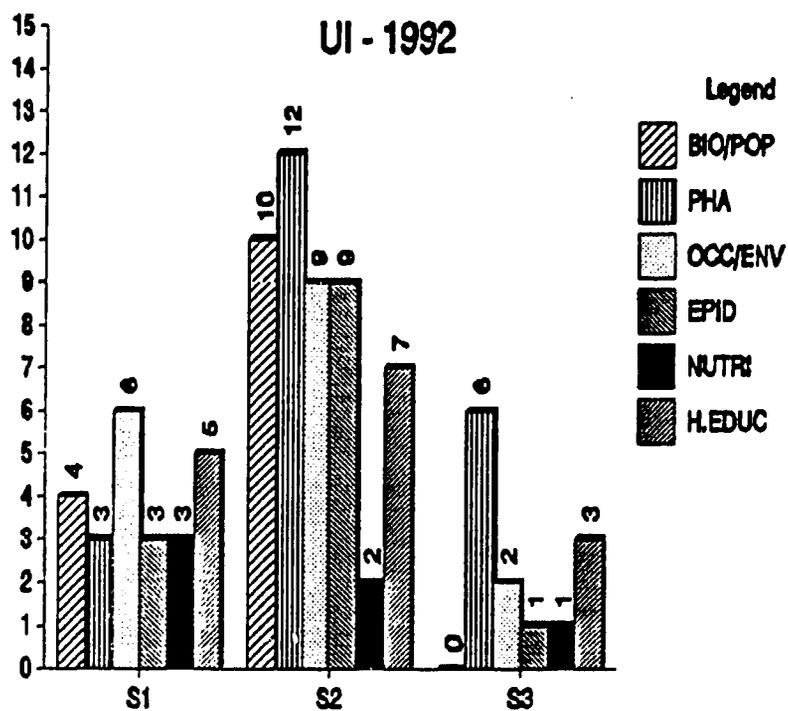
STAFF PER DEPARTMENT

USU - 1992



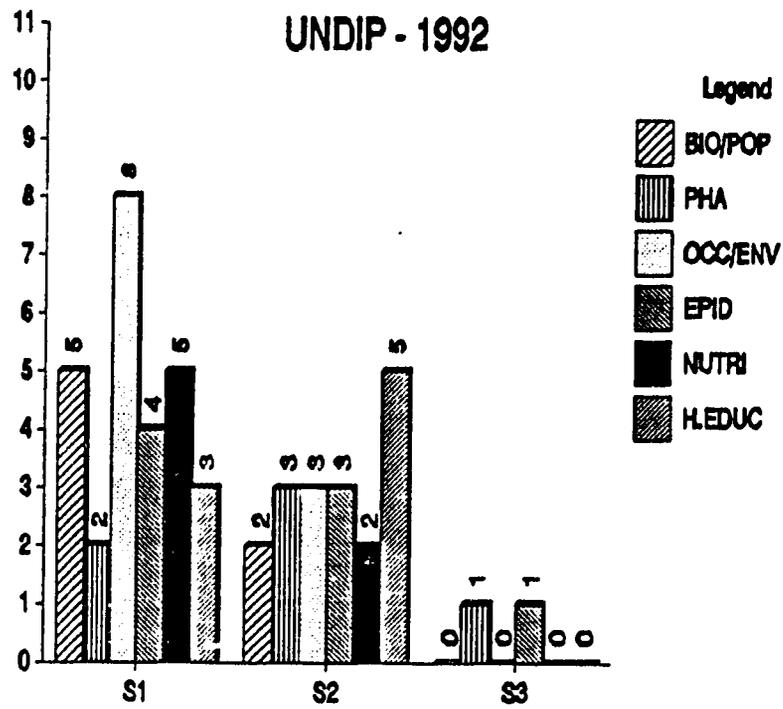
STAFF PER DEPARTMENT

UI - 1992



STAFF PER DEPARTMENT

UNDIP - 1992



During its visits to the university campuses, the assessment team examined some of the accomplishments in faculty development as well as the obvious challenges to be faced.

At the University of Indonesia, the Faculty of Public Health boasts the largest teaching/research staff in Indonesia (86) and the academic ability to offer both S1 undergraduate and S2 graduate degree training in nearly all the major specializations of public health education. It is the only faculty sufficiently qualified at present to offer the S3 doctoral degree.

The FKM's present Dean, Dr. Kemal Siregar, is fully aware of the School's special responsibilities to fulfill its "pembina" functions as a national resource dedicated to the development of other faculties of public health. While the faculty has the resources to assist in curriculum development, statistical analysis, research methodology, etc., it also provides training in new approaches to the delivery of public services. In addition, it attempts to offer a "model health laboratory" for other FKM's to emulate. More recently, the dean reports, the responsibility of UI's Faculty to take the lead in the preparation and dissemination of research results has become a paramount concern.

Like many prestigious universities throughout the world, the University of Indonesia faces a "brain drain" problem. The demand for the technical and professional services of key members of the Faculty of Public Health is great. Apparently, it is increasing. More and more faculty members are working as expert consultants for a variety of government agencies and private institutions. Many more are employed as part-time or adjunct professors in the private universities to supplement salaries that nearly everyone in academia agrees are far too low. Unless this "drain" is stemmed, the FKM's development program will be seriously effected.

The Faculty of Public Health at the University of Hasanuddin achieved FKM status in 1984 when it was officially approved by the DGHE as an autonomous faculty. It is a diverse staff that has been expanded and upgraded very rapidly through the offices of the BKKBN and the Ministry of Health. However, the faculty, which is now 52 strong, has significant gaps in certain disciplines and needs strengthening at senior levels.

The University of Airlangga houses one of Indonesia's leading medical schools together with a teaching hospital. As early as 1955, the Faculty of Medicine introduced the first courses in public health. In 1984, it initiated an S1-2 program, and more recently, an S1-4 program. A 2-year master's program, actually introduced in the late 1970's, operates through its Faculty of Graduate Studies.

UNAIR has recently filed for FKM status with the DGHE on behalf of the Faculty of Public Health. With the help of the PMU, it now has a staff of 39 well-qualified faculty members which spans the basic public health sciences and disciplines. However, approval has been delayed and the request for independent status has caused a controversy and a dilemma.

On the one hand, it would appear that an independent FKM would enhance the ability of the university to meet the training needs of eastern Java and facilitate the delivery of public health services.

health services to local communities in the region. On the other hand, if a separate Faculty of Public Health is established, it is estimated that at least 25% of the faculty would choose to remain with the Faculty of Medicine. Worst of all, faculty members who would elect to stay with the medical school are among the most experienced and best trained teacher/scholars available to the Faculty of Public Health. Such a loss, it is argued, would result in a severe setback in public health education and research in eastern Indonesia.

The solution to this dilemma probably lies in taking a long range view. Short range, the assessment team believes that strenuous efforts should be made to ensure the retention of the teaching and research services of as many medical school faculty needed by the independent Faculty of Public Health as possible. At present, at least one of these faculty is diametrically opposed to the idea of a separate Faculty of Public Health. Establishing an independent FKM could, therefore, jeopardize the current level of development.

Longer range, once the CHS and the DGHE have completed their lengthy review and DGHE has issued its formal approval of FKM status, the University should proceed as rapidly and expeditiously as possible to build and develop a strong, viable Faculty of Public Health. The advantages of independence and autonomy are too critical to the future of public health education in eastern Java to be compromised for very long. Hopefully, whatever set-backs that occur will be short-lived.

Having expanded four-fold since 1985, the Faculty of Public Health at the University of North Sumatra also has yet to acquire "FKM" status. When DGHE approval does come, most of the needed medical school faculty will probably join the new faculty. The university can also count on those faculty remaining with the Medical School to continue their involvement with, and support of the public health programs, and vice versa. The faculty of 42 members needs strengthening at senior levels in all disciplines, especially in such areas as bio-statistics.

The University of Diponegoro's Faculty of Public Health, which has grown to 47 members, also continues to operate largely under the Faculty of Medicine. It relies heavily on its manpower resources and physical facilities. In general, faculty members who were recruited for graduate training have remained with the School of Medicine. However, their involvement in the public health programs is strong and they can be expected to provide sustained support to teaching and research. The entire faculty needs further upgrading and strengthening with special attention paid to recruiting senior faculty members in all disciplines.

The team's on-site assessments of the Schools of Public Health indicate that, with the inputs and support of the PMU, the basic steps have been taken to establish strong, viable, and independent regional faculties. However, there are several significant challenges which will require careful attention if faculty development and improvement are to be sustained.

First is the recognition on the part of the MOEC, BKKBN, and the Universities that the Faculties of Public Health will require continuing support in upgrading the qualifications of its members at both master's and doctoral levels. In most FKM's, senior levels need further

strengthening. Also, specific fields of study which are becoming essential to the "new public health" must now be covered. At the same time, the capacity of the faculties to produce research and publications (and their actual production of high quality research work) will need steady improvement. The chief obstacle to future progress remains the lack of adequate funds to underwrite fellowships for advanced study/research in-country and abroad.

Second is the challenge of improving the teaching/research skills and capabilities of junior faculty members. The FKM's are responding in a variety of ways. At USU, for example, new staff members are required to attend courses not taken during their regular S1 study and to sit for separate examinations which are different from those taken by regular S1 students. At UI, UNHAS, and UNDIP, new junior faculty must audit such courses but they are not required to take separate examinations.

All FKM's encourage their junior faculty to participate in research activities in one form or other, depending upon the availability of relevant ongoing research projects and the field of study. For instance, at the University of Indonesia many faculty participate regularly in the various projects conducted by the Center for Health Research and the University Center for Child Survival. At USU, participation of this sort is compulsory.

At the University of North Sumatra, junior faculty members are expected to present papers reporting on their research at annual meetings attended by the full faculty. In addition, yearly seminars are held to hear and respond to papers prepared by junior faculty. Both the scientific meetings and the seminars are compulsory. Five or six papers are presented at each of the scheduled sessions which serve as mechanisms to monitor and strengthen the research capabilities of all junior staff. At UNDIP and UNHAS, similar meetings were organized and tried out but were later discontinued.

Various forms of in-service training have also been initiated for the benefit of junior faculty members. Field work in urban and/or rural areas is required by all the FKM's. At the University of Indonesia, it is the Office of the Dean that also gives special assignments to junior staff to perform such duties as analyzing hospital data, and the like.

Third is the challenge of dynamic leadership which is so essential to the successful development of any new faculty of public health. In the regional universities, it is strong leadership on the part of the deans that is the critical ingredient. Senior faculty initiatives can help but faculty members in Indonesian universities generally provide a more supportive role. Perhaps the best example of the effectiveness of dynamic leadership is the success story at the University of Hasanuddin. Beginning near "ground zero," the outstanding leadership demonstrated in the new FKM has produced a fully functioning academic program of teaching, research, and public service, and an expanded faculty, now numbering 52, whose junior faculty have developed the confidence to seek funds on their own and teach popular courses of high quality.

Decanal leadership is less important once a School of Public Health has become established and its programs are set. Department chairs, senior faculty, and mid-level staff can take over and are able to exercise their own brand of management and enterprise. This process is well illustrated at the University of Indonesia where the dynamic leadership of earlier deans has built a strong, entrepreneurial public health faculty of high quality.

In reviewing the quality of leadership presently being exercised in the FKM's, the assessment team is convinced that stronger, more effective leadership is needed if the overall faculty development program is to be sustained.

Ultimately, the quality of the Schools of Public Health will depend upon the excellence of the faculties. It is therefore incumbent upon the universities to have in place policies and procedures which are designed to ensure that only deserving candidates are accepted and promoted and that only the best faculty are retained and advanced in faculty rank.

In Indonesia, all such matters are under the control of the Ministry of Education and Culture. Thus, in accordance with government rules and regulations, faculty performance is reviewed every two years. A confidential assessment form is filled out by each department head giving an evaluation of each faculty member. The completed form is endorsed by the Dean and forwarded to the Office of the Rector and the MOEC.

Based on the information contained on these assessment forms, faculty members are promoted. However, a complicated system of credits is applied. Teaching performance, research activity, and public service are weighted differentially. The higher the rank, the greater the number of credits is required. Unfortunately, the credits assigned to research are low, providing no incentive to teaching staff members to increase their research activities. It seems clear that the formula designed for the promotion of faculty members is in need of review and revision. At departmental levels, consideration might also be given to an annual review of performance, at least for junior faculty.

A. Recommendations

- The Universities should continue and, if possible, expand the public health faculty development programs which were initiated and conducted under the auspices of the BKKBN and PMU.
- The Schools of Public Health should continue to emphasize the upgrading of their faculties by increasing the number of full-time faculty with master's and doctor's degrees. Increased support should be provided for recruiting more candidates for MSc/PhD degrees. Fellowships should be granted for study in-country and in the United States.

- The Faculties of Public Health should seek funds to support the appointment of distinguished Visiting Professors from universities abroad.
- The Faculties of Public Health should develop plans to facilitate and encourage exchanges of faculty from one university to another.
- The deans and senior members of the Faculties of Public Health should provide systematic programs of mentoring, in-house training, and research collaboration to encourage the development of junior faculty members.
- The Faculties of Public Health should seek funding, perhaps from the World Bank's Community Health and Nutrition Program (CHN-III), to establish internships in local community health facilities and family planning units to provide practical, in-service training for junior faculty members.

VI. STUDENTS AND GRADUATES

The *raison d'être* for the expansion, upgrading, and improvement of the Faculties of Public Health has been to provide better trained, more qualified personnel for the Ministry of Health (MOH), the National Family Planning Coordinating Board (BKKBN), and to a lesser degree, the private sector. Most upper-level and mid-level managers in both MOH and BKKBN have some academic backgrounds in the medical sciences. What has been lacking are staff officials with the skills and knowledge needed to perform the essential public health functions which are basic responsibilities of these government agencies. The technologies required to improve health, reduce fertility, and prevent the major causes of infant, child, and maternal mortality already exist in Indonesia. Therefore, what is needed is a steady supply of qualified manpower to administer and operate the delivery systems which have been established to bring public health services to local communities, mainly in rural areas.

Under recent Five Year Plans, especially Repelita IV and V, the personnel plans of MOH and BKKBN have specifically called for the utilization of FKM graduates to strengthen their respective public health infrastructures. The MOH, by far the largest agency, continues to have shortages at district (*kabupaten*) and sub-district (*kecamatan*) levels. The BKKBN needs qualified staff at Division and Sub-Division levels (and below), especially in its provincial offices. According to government personnel policy, all civil servant managers at the level of the family planning coordinator and above must have a bachelor's degree. Of necessity, bachelor degree holders in law, religion, etc. have had to be hired due to the lack of public health degree recipients.

At the beginning of the Faculties of Public Health Development Project, projections of the public health personnel needs in MOH and BKKBN during Repelita IV, V, and VI were estimated. It was determined that the MOH and the BKKBN would be able to absorb more

than 4000 S1-2 graduates, 8000 S1-4 graduates, and 1300 S2 master's recipients by 1999. In addition, it was estimated that approximately 50 PhD's would be needed to support the academic, research, and public service programs of the expanded faculties.

The placement of S1-2 and S2 degree recipients has not been considered a serious problem because, in most cases, the students who are admitted to these programs are personnel already holding positions in the MOH/BKKBN hierarchies. They are scheduled to return to their positions upon graduation, hoping perhaps to be promoted. While assuring the faculties of a steady supply of students, this arrangement has prevented the schools from recruiting and selecting their own entering students. As it stands, S1-2 students are selected by the MOEC and BKKBN and assigned to the various FKM's at a national planning meeting.

The placement of S1-4 graduates is a different matter. Coming directly from secondary school and being selectively admitted by means of a national university entrance examination (SIPENARU), these students are not assured of employment by the MOH or BKKBN. However, it has been estimated that considering the normal rate of attrition and the number of positions in MOH and BKKBN which are presently held by incumbents with lower qualifications, approximately 400-500 positions would be opened up each year.

In recent years, budget constraints have prevented both the MOH and BKKBN from making any guarantee about employing S1-4 graduates. As a result, the PMU sponsored two studies to assess the potential job opportunities of these students. Conducted in 1988 and 1989, both studies confirmed the clear, continuing, and urgent need for S1-4 graduates in the public health system and in the private sector.

Based on the original and subsequent planning estimates, the overall demand for the graduates of FKM programs appears to have remained relatively unchanged over the past ten years. In the light of socio-economic changes, health development trends, and new emerging policies, however, there are signs that this demand may be increasing. Perhaps it is time for a another reassessment of manpower requirements in public health.

The fact is that nearly everyone in government and higher education agrees that there is an urgent need for more accurate, comprehensive manpower planning in Indonesia. Addressing this issue directly, the Team Leader, Professor Baker, consented to give a seminar on health manpower planning at the invitation of the Health Manpower Planning Unit of MOH's Center for Research and Development (LITBANGKES). The seminar was attended by both university and LITBANGKES staff members. In addition, the Team Leader made available to MOH, BKKBN, and two of the universities copies of a computer program on health manpower planning which was developed by Professor Thomas Hall under the sponsorship of the World Health Organization (WHO). He noted that in July, 1993, a special workshop will be held in Indonesia under the aegis of WHO in which this computer program and the planning model on which it was built will be discussed in depth.

For the team, assessing the student output of the Faculties of Public Health proved to be difficult. Firm, accurate statistics were not readily available. In addition, there was no time for the team to resolve discrepancies. Accordingly, we relied upon planning estimates coupled with some actual counts of graduates. Utilizing data assembled by R.W. Carlaw, the PMU's long-term advisor, the following table gives a picture of the increasing number of S1-2 and S1-4 graduates at each of the Schools of Public Health.

Estimates of the Number of Graduates from the S1-2 and S1-4 Bachelor Degree Programs in Public Health 1986 - 1992												
Graduation Year	UI		UNAIR		UNHAS		UNDIP		USU		Total	Cum. Total
	2 yr	4 yr	2 yr	4 yr	2 yr	4 yr	2 yr	4 yr	2 yr	4 yr		
1986	60				34						94	94
1987	56		27		29						112	206
1988	56		23		29		17		18		143	349
1989	50		28	28	29		25		20		180	529
1990	50		35	35	30		22		25		197	726
1991	50		35	35	30	40	22	30	25	30	297	1023
1992	50	**	35	35	30	35	25	30	25	30	295	1318*
Total:	372		183	133	211	75	111	60	113	60	1318*	

* Totals have been corrected due to an error in recording data concerning 1989 graduates. See Carlaw, R. W., A Faculty of Public Health Development Project: Final Report, PMU, Jakarta, May, 1991, p. 63.

** Data on UI's S1-4 program was not available when this report was written.

In the mid-eighties, all the Faculties of Public Health had S1-2 programs. By 1987, all but the University of Indonesia were offering both S1-2 and S1-4 programs. UI's program had been temporarily delayed. Today, as the above figures indicate, the faculties have developed a significant capacity for producing increasing numbers of graduates who qualify for S1 bachelor's degrees in public health. The S1-2 program appears to be meeting MOH/BKKBN expectations. It will eventually be phased out.

The S1-4 program seems to be on target. It is beginning to meet at least some of the projected manpower needs. More importantly, judging from the quality of the undergraduate curriculum, the successful upgrading of the expanding faculties, and the steady demand for more qualified public health personnel in governmental and non-governmental agencies, the increasing

production of well-trained young college graduates provides convincing evidence that the instructional programs established by the Faculties of Public Health are sustainable.

Furthermore, as the S1-4 programs grow in the regional universities, applicants for admission to all the universities will continue to surge. As early as 1984, the Open University was launched almost as a nation-wide emergency measure to ease the increasing pressure for access to higher education. At that time, the number of high school graduates demanding entrance to the universities had doubled in one year. Consequently, there is little doubt that there will be an adequate pool of applicants from which the FKM's can select the most qualified entering students for training in public health.

These admissions pressures are being felt at the S2 master's degree level as well. Applications for the S-2 programs at UI, UNAIR, and Gadjja Mada have been increasing at a rapid rate. As for the number of degrees awarded, however, the statistics are imprecise and conflicting. Perhaps the most accurate data were compiled by Dr. R.W. Carlaw in his final report (page 125) on the Faculties of Public Health Development Project:

Estimates of the Number of Graduates from the S-2 Master's Degree Programs in Public Health at the Universities of Indonesia, Hasanuddin, and Gadjja Mada, 1986 - 1992				
Graduation Year	Number of Graduates			
	UI	UNAIR	GADJA	TOTAL
1986	29	14	3	46
1987	30	10	1	41
1988	33	24	14	71
1989	30	15	6	51
1990	30	15	10	55
1991	30	25	6	61
1992	45	25	9	69
TOTAL	227	128	49	404

Even at the rate of 70 or more graduates per year, the need for master's degree recipients in MOH, BKKBN, and in the Faculties of Public Health will not be met soon. The report that a new S2 master's program is being planned at the University of Hasanuddin is encouraging. The growing demand for these graduates and the increasing capacity of the faculties to mount viable graduate professional programs is further evidence of the sustainability of the public health faculties.

The introduction and expansion of the undergraduate S1 programs in all of the Faculties of Public Health have not been accomplished without problems and continuing challenges. For example, there are signs that the knowledge and skills gained at the university are not as closely matched as they should be to the job requirements set by the MOH and BKKBN. Clearly, the public health curriculum and the teaching methods employed must be continuously monitored, evaluated, and revised.

In addition, as the S1-2 programs are phased out and emphasis shifts to the S1-4 programs, the Faculties of Public Health will be required to introduce more field training exercises and provide internships and other forms of in-service training focussing on practical work-related learning experiences for the younger students entering the programs directly from high school.

The issue of gender must also be faced. In several of the schools, the entering classes contain more women than men. Moreover, there are indications that this balance in favor of women is a common pattern. For example, in the recent first graduating class of S1-4 students at the University of Indonesia, there were 22 females and 20 males. In its latest S2 master's degree graduating class, there were 18 females and 25 males. Last year, however, the S1-2 graduating class consisted of 39 women and 6 men.

The influx of a preponderance of women into the schools of public health raises questions of the appropriateness of the curriculum and learning experiences offered to students. At the same time, it also raises questions about the unique problems that Indonesian women face when they graduate, join the public health service system, and are posted by the MOH and BKKBN to remote rural areas of the country. Are they even willing to work in such isolated communities? If so, what can be done to alleviate their isolation and loneliness? Of course, the same questions are applicable to the young, inexperienced S1-4 graduates of both sexes. At this point in the development of the FKM's, it is too early to answer most of these questions. The "jury is still out."

Finally, there are the issues of retention and attrition. Experience in universities in both developing countries like Indonesia and developed countries like the United States indicates that the attrition of enrolled students generally tends to be high. This is especially true in large public universities and particularly true in professional schools. In the United States, attrition rates in four-year undergraduate programs at most state universities will hover around the 50% mark. Even in elite, private U.S. universities, the normal attrition of undergraduates over a four-year period will exceed 20-25%. Special efforts are normally required to increase the rates of retention and improve the "efficiency" of professional programs. Therefore, it was not surprising for the assessment team to learn that at the University of Hasanuddin, for example, 50% of the medical students took eight or more years to complete their five-year course of study for the MD degree. Apparently, the pattern for dental students is the same. It was surprising, however, to discover that as much as 80% of the students in the S1-4 program in the Faculty of Public Health at UNHAS fail to graduate on schedule each year.

The reasons for academic failure, dropping-out, and otherwise interrupting one's course of study need to be investigated carefully. Each faculty - indeed each university - should be encouraged to undertake such a study. Ideally, it should be a longitudinal one which can be incorporated into a continuous program of self-evaluation, strategic planning, budgeting, and accountability.

A. Recommendations

- The Faculties of Public Health should seek to recruit applicants for the S1 program from candidates who are presently employed in positions in the MOH, BKKBN, and other government agencies, as well as organizations in the private sector, and who can arrange to be released from their duties to enter one of the universities. They should be provided with scholarship funds to cover educational expenses.
- The Faculties of Public Health working with the appropriate governmental agencies should initiate new public health manpower studies.
- The Faculties of Public Health, individually and collectively, should implement a follow-up study of their S1-4 graduates.
- The University of Hasanuddin should be encouraged to undertake a retention/attrition study to determine the "inefficiency" of their academic/training programs in public health. The other universities should be encouraged to conduct the same kinds of studies.
- The Faculties of Public Health should enter into cooperative agreements with employing agencies in the public and private sectors to provide internships which are designed to supplement students' regularly scheduled field work.
- The Faculties of Public Health should follow the example of the University of Indonesia in establishing an alumni organization designed to maintain continuous contact with all graduates, heighten a sense of loyalty to the school, and develop cooperation among members of the alumni. School alumni should be asked to assist recent graduates who are seeking entry into various community health programs. They should also be asked to provide opportunities for students and junior faculty to acquire practical experience in the conduct of research and the delivery of public health services.
- The Faculties of Public Health should work closely with the MOH and BKKBN to articulate the hiring dates set by the Civil Service for appointing new personnel and the graduation dates set by the universities for awarding degrees to S1-4 graduates. This will facilitate the prompt employment of qualified graduates to their first positions in the public health system.

- **The Faculties of Public Health should establish a placement office on each of the regional campuses to assist students and the employing agencies in the hiring of S1-4 graduates. Among other things, lists of graduates should be distributed to BKKBN, MOH, and other agencies.**

VII. PUBLIC SERVICE

An integral part of the basic mission of each of the Faculties of Public Health is the extension of resources, facilities, talents, and expertise in service to the nation. Moreover, as professional public health specialists, all faculty members should be expected to make their talents and expertise available to the local community. In a sense, all of a FKM's activities can be construed as "public service," including instruction and research. However, it is important to identify those aspects of public service which are not normally associated with the academic community.

Perhaps the most important public service function of the Faculties of Public Health is the maintenance of a vital pool of diversified and specialized public health talent which can be used by local communities, government agencies at all levels, and scholarly academic/professional organizations. Establishing such a talent pool was one of the major contributions made by the Faculties of Public Health Development Project over the course of the past seven years. On behalf of the new public health faculties, the PMU has been very effective in establishing solid working relations with the CHS, DGHE, and other units of the MOEC. It has also collaborated closely with the MOH and BKKBN and maintained good communications with other ministries and governmental units, such as the Ministry of Internal Affairs and the central Bureau of Statistics.

Moreover, the PMU has taken the lead in arranging workshops, symposia, and consultations, in collaboration with local health authorities. The purpose has been to stimulate discussion, debate, and provide a better understanding of critical issues in public health, such as urban health, national health goals, new perspectives of public health development, and the roles/functions of public health workers. These events have provided opportunities for faculty and students, as well as public health officials, to focus attention on both nation-wide and local region-specific public health problems. The regional FKM's can be expected to continue with similar workshops, seminars, and other study activities in the future.

Individual faculty members have also been called upon to serve as consultants. For example, expert advice is currently being provided, at the request of local BKKBN officials, in North Sumatra and South Sulawesi.

In addition, collaboration with local health authorities in arranging for student field work and in setting up cooperative research activities is also increasing. Field work is being conducted in all the regions in which the five Project universities are located and joint research projects are currently under way in Jakarta, Central Java, and East Java. It is hoped that such collaboration

will not only expand but will also provide follow-on opportunities for research results to be used to influence local programs and national public health policies.

A. Recommendations

- The Faculties of Public Health should encourage faculty members to assist MOH and BKKBN units at all levels, as well as local community organizations, both public and private, to ameliorate Indonesia's public health problems.
- The Universities should provide the Faculties of Public Health with the resources necessary to support faculty members in their participation in professional organizations. Participation normally includes attendance at international meetings, presentation of papers, holding office, editing scholarly publications, and reviewing journal articles.
- The Faculties of Public Health should encourage faculty members to continue to work with local health and family planning agencies to identify applied research problems, explore intervention strategies, and seek practical solutions. Faculty expertise will be a crucial component in finding innovative interventions and new approaches to promoting good health and preventing disease.
- The Faculties of Public Health should encourage all its members, including administrators and students, to use their knowledge and talents in voluntary, non-profit, charitable, and other public service activities for the benefit of their communities.

VIII. RESOURCES AND FACILITIES

A. Physical Plant Facilities

Essential to the expansion and upgrading of the Faculties of Public Health under the Project was the provision for the construction of buildings to house the newly constituted faculties which were emerging from the Departments of Community Health of the Schools of Medicine. The Government of Indonesia committed itself to underwriting the necessary plant facilities and budgeted nearly \$4 million for construction purposes. Reportedly, soft loan funding was provided by the Asian Development Bank (ADB).

The GOI has honored its commitment. Construction of new plant facilities for each of the public health faculties has either been completed or is well under way.

The University of Indonesia's new complex has been described as elegant but its location, some critics assert, is too far away from the areas of city where most of the students reside. Also, given the school's rapid expansion, it is already overcrowded. Most faculty members seem to agree that title to the old building ought to have been retained. That facility was located in Menteng in central Jakarta and could now be put to good use in accommodating special research and service activities.

The University of Airlangga's new structure is being erected on the new "Sukolilo" Campus which is located over two miles from its two other campuses, one of which houses the medical faculty and a teaching hospital. The public health faculty will share a campus which includes the Rectorate, the faculties of basic sciences and veterinary medicine, and a research facility specializing in studies of tropical diseases. Occupancy, however, is many months off.

At the University of Diponegoro, the FKM's new building is part of a large university-wide expansion plan which will eventually bring all of its faculties together and house them on a single new campus, the "Tembalang" Campus. Present facilities for the public health faculty are inadequate but the move to its new quarters is expected in the near future.

Finally, the Universities of North Sumatra and Hasanuddin are also constructing new plant facilities for their faculties of public health. However, they, like all other Indonesian universities, have been seriously negligent on two counts:

First, budget funds provided by the university have proved to be so limited that the general maintenance of buildings is wholly inadequate;

Second, essential sanitary facilities, including the equipment and materials necessary to guarantee safe piped water supplies, have not been installed in the buildings which house the faculties of public health.

Both of these matters are critical and require the prompt attention of the deans and rectors, as well as the DGHE.

Essential also to the development of the Faculties of Public Health and to the sustainability of its academic programs, research projects, and public service activities has been the input of certain "commodity" resources. Recognizing how crucial such academic support is to successful programs, the Faculties of Public Health Development Project provided basic facilities and equipment in the form of: (1) library materials; (2) teaching aids; and (3) computers.

B. The Public Health School Libraries

Ten years ago library resources in public health in the regional universities did not exist. In 1985, at the outset of the S1-2 program, USAID provided the first library books in support

of that course through its Family Planning Services Project. There were also acquisitions made for the purchase of the standard sets of books recommended by the CHS in each of the five public health disciplines. Under the Faculties of Public Health Development Project, funds were provided to each of the five faculties to supplement their existing libraries. The PMU managed the selection. Roughly three quarters of the publications purchased are in English; the rest are in Indonesian.

After reviewing the lists of books and journals purchased, the team commends the PMU on its excellent choices. However, as several consultants have noted in the past, books in English are not used by very many students because of their unfamiliarity with the language. What is needed are more books and journals in Indonesian and more translations from English to Indonesian. For the promotion of faculty research activity, a regular translation service would seem to have become an absolute necessity.

As for library usage, the public health libraries at the Universities of Indonesia and Airlangga appear to be busy places. Both are well-utilized, especially by the faculty. In the other universities, library use is not heavy. In fact, the UNHAS library appears to be underutilized.

The Project also provided microfiche readers/printers, together with selected subscriptions to periodicals in public health. After the first two years, the universities were to assume the costs of subscription renewals and equipment maintenance. The team noted that little or no use was being made of the microfiche equipment. Some of machines were inoperative. Better maintenance, more repair work, and regular replacement of equipment parts are required. Also needed are "refresher courses" in the uses of microfiche readers/printers as aids in teaching and research.

C. Teaching Aids

In addition to the microfiche equipment, the PMU purchased photocopiers, stencil machines, projectors, and photographic and video equipment for the faculties of public health. Although short "how-to" courses have been arranged from time to time, the use of these technologies needs to focus much more on promoting innovative teaching and new learning experiences for students rather than reinforcing the traditional memorization and regurgitation process that seems to prevail in most FKM classrooms. As it stands, however, the use of most of the audio-visual aid equipment is limited.

D. Computers

For administrative and research purposes, the PMU also supplied a considerable amount of computer equipment to each of the faculties of public health. Instruction on the use of the

equipment has been furnished by UI's FKM. The assessment team observed that the computers were being used by administrators and faculty members and are performing useful work. Student access has been limited but is increasing.

As with other equipment, budget restrictions have denied the faculties adequate funds for the repair and maintenance of the computers that have been acquired as well as badly needed supplies. Also, in some locations where computers are being over-utilized, additional computers are needed. Compounding the problem, the team noted the inability of local service companies to repair much of the existing computer equipment.

E. Recommendations

- The deans of the Faculties of Public Health, together with their respective university rectors, should make special efforts to secure more adequate funds for maintaining and upgrading the basic support services and resources, including physical plant facilities, which are presently provided to the Schools of Public Health.
- The Faculties of Public Health should seek to expand, modernize, and enrich the public health library resources available to students and faculty members on each of the campuses.
- The Faculties of Public Health should work together to develop regionalization and specialization strategies for the expansion of their library resources. Responsibility for a project of this magnitude should perhaps be taken on by the Association of the Schools of Public Health (ASPHE) in collaboration with the CHS. In addition, strategies for establishing communication networks and information exchanges should also be explored. The objectives should be to maximize the availability of library sources at all campuses and to facilitate the acquisition of special collections on selected campuses, thereby minimizing costs.
- The Faculties of Public Health should join together, again through the ASPHE, to establish a central translation service designed to perform the following functions: (1) access five or six of the leading public health journals; (2) identify articles of relevance and importance to Indonesian public health; (3) employ faculty members to summarize these articles, and then translate the summaries into the Indonesian language; and (4) distribute the summaries to the libraries of all the Schools of Public Health. Because the cost of securing direct access to original journal articles is prohibitive, the purchase of such services as CD ROM Medline (U.S. National Library of Medicine) cannot be justified.
- The Faculties of Public Health should encourage faculty members to familiarize themselves with the library resources available to them, including microfiche equipment.

Also, they should stimulate increased library use by students when making course assignments, preparing lists of extra reading, etc.

- The Faculties of Public Health should encourage faculty members to incorporate the use of audio-visual aids, computer-assisted teaching units, and other new technologies in the conduct of their courses. In so doing, emphasis should shift from lecture presentations and memorization requirements to the provision of new student-centered learning experiences.

IX. ACCOUNTABILITY AND THE ONGOING EVALUATION OF EDUCATIONAL QUALITY

In a very real sense, the development of the Faculties of Public Health has proceeded along lines, and in accordance with policies and plans, which were agreed to by the relevant agencies of the GOI and USAID in 1985. Following the specifications, strategies, and guidelines set forth in that agreement, the PMU has administered a "master plan" which has expanded and upgraded a central core of new professional institutions dedicated to meeting the educational/training demands, research requirements, and public service needs of the country, nationally and regionally. The record shows that it has been eminently successful in establishing a system of public health education for Indonesia that is sustainable.

With the demise of the PMU, a variety of proposals have been advanced which are designed either to perpetuate the concept of a central management group under a different title or to renew its functions under a different organization. Because funds are no longer available to support a re-titled PMU, it seems likely that several of its service functions may be absorbed by the "pembina" FKM of the University of Indonesia. Other responsibilities and functions which would require collective or cooperative action might better be assumed by the Association of Public Health Schools in Indonesia (ASPHI). The fact remains that at present the central authority that has been managing a master plan in traditional Indonesian "top-down" style and was able to tap into large financial resources no longer exists.

As a consequence, the primary responsibility for the quality, relevance, and sustainability of the faculties of public health now devolves upon the universities themselves and upon their overseers in Jakarta, namely the CHS, DGHE, and other units of the Ministry of Education and Culture.

As publicly supported faculties in publicly supported universities, the FKM's have an obligation to demonstrate the effectiveness and relevance of their programs and services not only to the MOEC and to their "clienteles" in MOH and BKKBN but also to the GOI and the public at large. The GOI, in turn, has the responsibility to monitor university and FKM expenditures and programs and to provide adequate funding to permit the new FKM's to operate. In this respect, each faculty of public health needs sufficient autonomy to be able to fulfill its mission

and achieve its goals and objectives. It is this principle which provides the most compelling reason for all the regional Schools of Medicine and the CHS to grant autonomous "FKM" status to the new schools of public health as soon as possible.

The obligation of accountability can be most effectively met if the process of evaluation and accountability is developed by the faculties themselves in close collaboration with their own university mentors. Traditionally, in most Indonesian universities, this process, when applied, has been imposed by the DGHE.

The challenge of the future for the new faculties of public health is to develop procedures of ongoing planning, self-evaluation, and accountability which will insure that they remain relevant and properly responsive to their constituencies, particularly in MOH and BKKBN. Five areas of accountability can be developed by each Faculty of Public Health to ensure quality and sustainability:

- Introduce rigorous procedures governing the initial appointment and subsequent promotion of all faculty members. The present system of weighted points which de-emphasizes the importance of research performance needs to be reviewed.
- Initiate procedures to improve the leadership and administrative functioning of each disciplinary department. Administrative evaluation and accountability should also be applied by the Rectorate in filling the post of Dean of the School of Public Health.
- Establish schedules and procedures for the external review of the public health sciences and disciplines by panels of Indonesian and expatriate professionals. These "peer reviews" can produce evaluations and recommendations which are indispensable to the determination of the quality and relevance of a discipline.
- Design in conjunction with the Consortium of Health Science an accreditation system which is appropriate for all existing and future Faculties of Public Health in Indonesia.
- Develop an ongoing internal assessment system of the accomplishments and weaknesses, as well as future plans, of each department and the school as a whole. This planning/allocation/accountability procedure should consist of a series of reports prepared by each department and office describing activities during the previous year and identifying plans for the coming year. On the basis of these reports, plus peer review evaluations, etc., budget allocations would be made, thus linking accountability and planning with the budgetary process. The various reports should become a matter of public record and accessible in the libraries of the schools.

X. FUNDING

Fundamentally, the ability of the Faculties of Public Health to carry out their missions and sustain their much improved programs depends upon their success in securing adequate financial resources and special funding to support their operations. Also, they must be in a position to allocate the resources they receive among the various operations they directly control.

With the termination of the Faculties of Public Health Development Project and the demise of the PMU, the FKM's can look to five major sources of funding: (1) Student tuition fees; (2) GOI funds (MOEC, MOH, BKKBN, etc.); (3) Grant and loan assistance provided by foreign governments; (4) Gift aid provided by international organizations; and (5) Private donations.

A. Tuition Fees

Funding for all routine operations and activities is supplied from student tuition fees. These fees were doubled in September, 1986. As a result, tuition became a major factor in increasing the sizes of the recurrent budgets of all the universities.

Based on the assessment team's interviews with officials in the regional universities, the management of the tuition monies of S1-4 students at USU, UNDIP, and UNAIR rests with the faculties of medicine. At USU, approximately 50% of these funds are allocated to the Faculty of Public Health. At UNDIP, the public health program director was unable to provide the budget information. At UNAIR, the study director had no knowledge of his budget. However, like the USU, the allocation to the public health faculty is probably close to 50%. In contrast, the tuition monies from S1-2 students, which are greater than those from S1-4 students, are not managed by the schools of medicine but rather by the Faculties of Public Health.

The team found that at USU the public health faculty has been granted considerable autonomy in the management of its own funds. Legally, however, it is still an integral part of the faculty of medicine. At UNDIP and UNAIR, the public health faculties remain entirely dependent upon the schools of medicine for their allocations. Moreover, the budgets are so limited that there is little or no provision even for emergency contingencies. In comparison, at UNHAS and UI where the FKM status of their Faculties of Public Health are fully recognized, all dependence on the schools of medicine has been removed. At those universities, the FKM's are independent and they manage their own funds.

Because of the avuncular relationship that exists between the schools of medicine and public health, the FKM's will probably be able to tap into certain medical school funds for some time to come. For example, at USU faculty development funds supporting graduate work for advanced degrees remain available to eligible members of the Faculty of Public Health.

At university levels, special purpose funds are also frequently provided by outside sources. Such funds are available to public health deans and department chairs who are enterprising enough to uncover them. Unfortunately, the amounts of money are usually small. Furthermore, few Indonesian universities actively solicit funds in the form of contributions from alumni or community-based corporations and businesses.

B. Funds from the Government of Indonesia

The various ministries and agencies of the Government of Indonesia still constitute the best source of funding for the emerging Faculties of Public Health. First, opportunities need to be explored in the Ministry of Education and Culture. The MOEC not only provides the universities with their recurrent budgets but also administers grant and loan funds which are dedicated to the promotion of higher education development and which come from numerous sources in and out of the government. For example, the DGHE currently has a \$6,500,000 loan from the World Bank to support research in higher education. Ten million more dollars are on request to continue the program for an additional three years. These funds are available to all universities in Indonesia, public and private, and to all disciplines. In addition, there is the reported After-Care project funded through the MOEC for approximately \$800,000 over three years. It will provide S2 and S3 fellowships in-country and abroad, and support technical assistance, research, and short-courses for in-service training.

Second, it is worth recalling that it was BKKBN that in 1983 initiated the first program of fellowships for public health faculty members to pursue graduate work for advanced degrees. More recently, the Deputy for Manpower at BKKBN has expressed the view that the training of BKKBN staff at the Faculties of Public Health should be expanded and increased. Numerous possibilities for cooperative action-oriented projects, joint study and research activities, in-service training initiatives, internships, and other collaborative ventures have already been proposed. Many are outlined in this report. Hopefully, some will be acted upon.

Third, it is also worth recalling that it is the Ministry of Health that has the largest stake in the success of the FKM's training, research, and public service programs. As with BKKBN, additional funding will be forthcoming in support of collaborative and joint programs which are tailored to meet the priorities of the MOH at all levels of its organization and in all regions of its jurisdiction.

Fourth, particular attention should be paid to exploring funding opportunities for the FKM's in many of the other agencies of the central government of Indonesia including, for example, the Overseas Training Office of BAPPENAS and each of the armed forces.

C. Grants and Loans from Foreign Governments

The international development agencies of the governments of the major industrialized nations of the world constitute a vital source of continuous funding for the Faculties of Public Health in Indonesia. Concerted efforts should be made to determine the specific interests and priorities of these agencies and to match them with the urgent development needs of the expanding FKM's. New school development, for example, might be one such priority. To cite a recent case in the private sector, important initial steps have already been taken to establish a new private school of public health which is compatible with Koranic principles and teachings and which is dedicated to excellence. Partial assistance has been received from the Kingdom of Saudi Arabia. Additional private schools are in the design stage in West Sumatra and South Sumatra.

Based on several interviews, the following is a partial list of important agencies which have demonstrated support in Indonesia or elsewhere for the kinds of FKM development needs that are identified in this report:

- Japan International Cooperation Agency (JICA). For example, among several of its programs, JICA has a \$20 million program dedicated to higher education development that includes USU in Medan.
- United States Agency for International Development (USAID). The successful conclusion of the seven-year Faculties of Public Health Development Project should not necessarily preclude direct U.S. assistance in the future. Also, related USAID projects, such as HEDS and SUDR, continue to support several of the public health faculties indirectly.
- Canadian International Development Agency (CIDA)
- Swedish International Development Agency (SIDAS)
- Deutscher Akademischer Austauschdienst (DAAD)
- Finnish International Development Agency (FINNIDA)
- Norwegian International Development Agency (NORAD)
- Danish International Development Agency (DANIDA)

D. Assistance from International Organizations

The assessment team's partial list of potential major donors to the Faculties of Public Health in Indonesia includes:

- **Asian Development Bank (ADB).** Among its current projects, the ADB has a \$114 million Development and Rehabilitation Program, for example, that includes UNAIR and UNDIP. It provides technical assistance, advanced degree training, and campus upgrading. Another project assists USU.
- **World Bank.** The Bank's Community Health and Nutrition Program (CHN-III) is scheduled to begin in April, 1993. Open to UNHAS, UNDIP, UNAIR, and UI, this project could provide support for the orientation of master's and PhD degree recipients returning to their FKM positions as "new faculty." Also, it might underwrite a number of student internships in MOH and BKKBN, and finance the purchase of needed equipment. Specific requests have already been submitted to the Bank.
- **World Health Organization (WHO).** Among many possibilities, WHO has expressed an interest in supporting the further development and establishment of the Association of Schools of Public Health in Indonesia (ASPFI) as a private, non-profit, chartered organization.
- **United Nations Education, Social, and Cultural Organization (UNESCO)**
- **United Nations Development Program (UNDP)**

E. Aid from Private Organizations

The team's list of private foundations and eleemosynary organizations to be approached for financial assistance includes:

- **Kellogg Foundation**
- **Ford Foundation**
- **Rockefeller Foundation**
- **Carnegie Foundation**
- **Mellon Foundation**
- **Pew Memorial Trust**

F. Recommendations

- **The Faculties of Public Health should establish a central development office to coordinate the fund-raising activities of all of the public school faculties.**
- **The Faculties of Public Health should establish the Association of Schools of Public Health in Indonesia (ASPHI) and seek the necessary funds to provide a "start-up" budget. One of the first activities of the new Association should be a workshop on financial management and fund-raising for public health school deans and department chairs.**
- **The Faculties of Public Health should seek financial support for the establishment of two major endowment funds: one to support the continuing activities of the new ASPHI; the other to provide an investment base for a large scholarship program for students of public health in Indonesia.**

Appendix A

PERSONS CONSULTED BY THE ASSESSMENT TEAM

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Ms. Nancy Langworthy
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Project Management Unit (PMU):

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Appendix B

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Appendix C

SCOPE OF WORK

A. BACKGROUND

In USFY 1985 the Republic of Indonesia (GOI) and the U.S. Agency for International Development (USAID) signed a project agreement that obligated \$ 9 million of USAID loan and grant funds for a new seven year activity: Faculties of Public Health Project 497-0348. Of USAID's \$ 9 million Life of Project funding, \$ 5 million were loan funds; the remaining \$ 4 million, grant. The GOI's contribution was \$ 6 million equivalent. The original project assistance completion date (PACD) was 30 June 1992, later amended to December 31, 1992.

The goal of this project is to assist the GOI to achieve its fertility and mortality objectives determined for Pelita IV (1984-1985) and beyond by producing appropriately trained public health manpower to manage its national public health programs. The purpose of this project is to expand and regionalize public health education and research. This will be done by strengthening public health training programs in selected universities to supply manpower, conduct research, and provide technical assistance to the Ministry of Health, BKKBN and other public and private sector agencies concerned with health and family planning service delivery.

The project supports the existing GOI program for developing public health higher education capabilities. The Consortium of Health Science (CHS) coordinates the development of higher education in public health for the Ministry of Education and Culture (MEC). Under CHS' auspices, four regional Faculties of Public Health offering diploma, S1, and S2 degree education will be established at four regional universities:

- a. Hasanuddin University, Ujung Pandang (UNHAS)
- b. Airlangga University (UNAIR)
- c. Diponegoro University (UNDIP)
- d. University of North Sumatra (USU)

The Faculty of Public Health at the University of Indonesia (FKM-UI) is to develop a doctoral level program to further develop its masters program, and to serve as a national resource center (Fakultas Pembina) to support the development of higher education in Public Health at the four regional universities and, ultimately, elsewhere in Indonesia.

2. Project Strategy

To achieve its purpose and goal, the project employs the following strategies:

- a. Strengthen the public health training, research, and community service capacities of the study programs in public health of the medical faculties at UNAIR, UNDIP, and USU to enable them to meet MEC accreditation requirements for becoming faculties of public health by 1991.
- b. Strengthen public health training, research and community service capacity at FKM/UNHAS to keep pace with institutional development at the three other emerging regional faculties of public health.
- c. By building on the considerable administrative and technical skills of FKM-UI, assist to develop it as a National Resource Center (Fakultas Pembina) for supporting the development of the new faculties of public health.
- d. In all aspects of the project's implementation, actively encourage cooperation between the FKMs and regional health and family planning implementing agencies.

3. Current Project Status.

The Faculties of Public Health Project is managed thru a centralized project management unit (PMU), established to coordinate project inputs and supervise the routine implementation. Local management units (LMU) were established at each regional FKM to plan and coordinate project activities at the respective institutions. Project implementation commenced in February 1986.

The first three years of the FKM project, designated as the infrastructure development phase, were designed to build up the academic, human, and physical infrastructure of the FKMs. Building upon this infrastructure, the last three years of the project commencing in 1989 were considered as the consolidation phase of the Faculties of Public Health Project by using the human, physical, and academic resources for the new faculties. The project resources were used to enhance the quality, relevance, and sustainability of the academic, research, and community service programs.

Accordingly, the FKMs have developed the following new academic programs since 1985:

	U.I	USU	UNDIP	UNHAS	UNAIR
S1 2 years		1985	1985	1985	1985
S1 4 years		1987	1987	1987	1985
S2 Non Health:	1988				*)
S1 Non Health:				1988	*)
S3	1988			1988	

*) S1 and S2 Non Health programs received students with non-allied health sciences background.

Until the present time, FKMs have increased the number of full time teaching staff from 139 to over 250 full time faculty members and sent most of their full time teaching staff for masters and doctoral degrees either in Indonesia or overseas. Since 1985 all of the five FKMs have obtained new physical facilities, computers, expanded libraries, and audiovisual equipment to support their teaching and research programs.

A mid-project evaluation was conducted by a four member team during November-December 1988. In summary, the evaluation team concluded that the project was on track. Most planned inputs and outputs were being achieved.

B. PURPOSE AND SCOPE OF SUSTAINABILITY/ASSESSMENT

Both USAID and the PMU have concluded that a conventional final project evaluation designed to ascertain the degree of achievement of project purpose, outputs and end of project purpose would not be necessary. The development of an institutionalized and sustainable educational system for appropriately trained public health manpower to manage Indonesia's public health program is a long-term effort which has just begun. A major recommendation of the mid-term evaluation, that the quality of graduates from the supported schools of public health be assessed, is probably not yet timely or feasible to do. Insufficient time has elapsed to produce enough graduates with the required variety of work experiences.

Instead, USAID and the PMU are in agreement ^{that} a forward-looking ~~and~~ sustainability assessment which focuses on the development needs for the future would be more beneficial. The sustainability assessment time should determine the current status of accreditation, staff development, resources, etc., of the five faculties; their plans for increasing institutional capacity for producing appropriately trained public health

manpower, and current and emerging unmet needs of the faculties and measures to meet those needs. USAID plans no follow-on activity with the five faculties, but there are indications that other donors are planning future assistance to the faculties of public health. Therefore, it is anticipated that both the donor community and the Government of Indonesia have a keen interest in the assessment team's findings and recommendations.

In preparing its assessment, the team will develop a methodology for obtaining the necessary information related to sustainability of the teaching, research and community service efforts at the five faculties.

The assessment team will identify the key factors which are important to the program sustainability and make recommendations for future program improvement and development, which might include, but are not limited to, the following components and elements.

- a. Curriculum and Program Development and Planning. How appropriate is the current curriculum and is it in line with state-of-the-art public health needs of Indonesia?

How are such subjects as health care administration, health care financing, health economics, health planning, health risk assessment, environmental health and occupational health covered at the faculties?

Is the content of academic training sufficiently diversified to address differing regional needs or to establish subject matter specialization at each institution?

To what extent is there strategic planning about the kinds of public health curricula or specialties which should be represented on the faculties in the future? Who or what organization in the program does this planning? What are the roles of the Consortium of Health Science and the Association of Schools of Public Health?

What kind of information is sought in order to make such decisions? How much faculty input is there? How much governmental input? How often is this planning conducted?

b. **Research.**
Is faculty research relevant to local health needs of the regions served and could it be characterized as applied problem-solving research?

Are ideas, progress reports and research results shared and discussed within the faculty and between faculties? Is there a regularized system for discussing and communicating research ideas and results? How are research efforts coordinated and principal findings disseminated?

To what extent is such research presented in national or international journals or meetings?

To what extent are students and the local health care community given opportunities to participate in research?

Have the results of faculty research been incorporated into governmental planning?

To what extent are real local case studies incorporated into the academic curriculum?

To what extent is there a mentoring tradition? To what extent are senior students and junior colleagues formally brought into research activities? Are there funds to pay (salaries, travel, etc.) for such participation?

How is faculty research funded? Is research time a regular part of a faculty member's responsibility? How much time is devoted to research?

c. **Faculty.**
Assess the number, experience, educational qualifications, and appropriateness (availability VS needs) of the faculty members. What skill areas are not represented and should be? What additional staff development needs are apparent?

Describe the performance review system for faculty members which include methods, process, reward, funding sources, interval, activities or conditions (continuing education, public services; research activities, updating curricula and other inputs to department development).

d. **Students.**
Are the programs handling the optimal number of students? Is the number of the students commensurate with demand?

Does the demand for entrance reflect the ability of the system to offer quality education or are there insufficient numbers of qualified students applying to one or more of the programs?

With the programs' emphasis on meeting local needs, what proportion of the students are local? What proportion are likely to stay in the local area? Are these numbers adequate for regional level?

Who are the students? What proportion of them are government employees? Will this proportion likely change in this next decade?

e. **Graduates**

Where do graduates from these programs go to work? Did they return to the ministries/organization which sent them?

Were their courses of study appropriate to the tasks they are now undertaking? Are there changes to be recommended?

f. **Resource/Facility/Equipment**

Assess the need for additional resources for the faculties, such as books, journals, computers, microfiche readers/printers and teaching equipment.

g. **Funding**

Describe possible funding sources for the faculties and the prospects for program sustainability and development. Does the proposed World Bank assistance address the human, material and financial resource development required?

h. **Public Service**

Describe the linkage between the government public health efforts and the faculties, at both the central and regional levels.

Have the faculties and local public health officials collaborated on community service activities?

Is there sufficient dialogue between the FKMs and the service providers to ensure that graduates are well prepared for managerial and administrative responsibilities within the evolving public health system? What can be done to make training relevant to the actual and anticipated manpower needs in public health?

To what extent do government professionals participate in seminars and/or workshops at the faculties? To what extent do faculty members participate in national development seminars and/or workshops sponsored by the government?

To what extent have faculty members been asked to guest lecture or serve visiting appointments at other Indonesian Universities? Conduct in-service training at hospitals or government agencies? Or been asked to advise at high levels of government?

i. **Technical Assistance**

Assess the need for continuing technical assistance for program sustainability and future development. How could the Association of Schools of Public Health facilitate both Indonesian and external technical assistance when needs are identified?

j. **Commitment.**

What commitments have been received by the FKMs to allow them to develop a sustainable and sound school of public health program? Has other donor support been proposed (eg. World Bank, etc.)?

To what extent have government ministries and organizations and the private sectors recognized FKMs and its graduates?

C. ASSESSMENT TEAM

The sustainability assessment will be conducted by a team which will consist of two senior Indonesian professionals and two senior American professionals.

The combination of desired qualifications for the two Indonesians are:

1. Educational background in public health or one of the allied health sciences;
2. Prior experience in university program development in public health;

3. Prior project evaluation experience;
4. Previously-held senior position in Indonesia's health, population, or education system.
5. Public health or related research experience.

The expatriate professionals should have a combination of the following distinct but complementary qualifications.

1. Educational background in areas related to public health;
2. Prior health program development, administration and evaluation experience in an international setting;
3. At least two years international experience, preferably in Indonesian health-related activities.
4. Administrative and teaching experience in a graduate school of public health outside of Indonesia;
5. Experience in university program development.
6. Expertise in questionnaire development methodologies for evaluation of training programs.

D. TIME PERIOD

The preferred time for conducting this assessment is for a one month period between November 1 to 30, 1992.

E. REPORTS AND PROCEDURES

The assessment team will be responsible for making its own arrangements while in Indonesia and will develop its own methodology for obtaining relevant information. It is USAID's intent to provide sufficient funds in the budget to facilitate visits to each of the five faculties. This will allow interviews with university administration, FKM teaching staff, students, graduates, regional health and family planning officials and others as deemed appropriate by the assessment team. The IQC firm will be responsible for contracting the services of the two Indonesian professional team members and all support services. USAID and the PMU will assist the team in arranging initial meetings with high-ranking Indonesian officials. USAID will provide copies of pertinent background documents and reports.

