MID-PROJECT EVALUATION
GOI AND USAID ASSISTED
FACULTIES OF PUBLIC HEALTH PROJECT
(497-0348)

BY

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I. Executive Summary

Evaluation of Faculties of Public Health

Project (497-0348)

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

Doctor and nurse training facilities were adequate by the mid-1980s to meet basic curative care needs in Indonesia. This project was designed to expand and regionalize public health education and research in Indonesia to help meet preventive and promotive health care needs.

The project planned to do so by strengthening four regional public health schools in public sector (government) universities in Central Java, East Java, South Sulawesi, and North Sumatra. The project also planned to strengthen the university-level public health school in Jakarta, in part to help guide the four regional schools.

Written into basic project obligating documents was a mid-project evaluation after the third year of project implementation. In November/December 1988 a four-person evaluation team, two Indonesian and two external consultants, reviewed 29 prior project reports, made field visits to all five project-assisted areas, attended classes, and spent time in field training sites outside all five campuses. In a little over four weeks, they interviewed rectors, deans, department chairpersons, other faculty and staff, students, alumni, village leaders, health and other service providers, clients, and appropriate ministry and private sector officials.

They found out that university-level public health teaching and research now were being done in all five project-assisted schools. According to the project's own management unit, 374 students currently were enrolled in two-year bachelor's degree programs, called S1-2 yrs; and 404 students, in four-year bachelor's degree programs (S1-4 yrs), in the five project-assisted schools. (The 2-year students previously graduated from 3-year health academy programs after completing secondary school; 4-year students entered university directly from secondary school graduation.) An additional 108 students were enrolled in a master's degree public health program, called S2, in two of the five project-assisted schools.

The five project-assisted public health schools currently employed 176 fulltime and 169 parttime faculty. One reason for the large number of parttime faculty: 65 of the 176 fulltime faculty currently were in long-term academic training under this project: 39 of them in the U.S.; 26, in Indonesia.

If present trends continue, over 1,300 bachelor's degree (S1)students will graduate over the IFY 85/86 to IFY 91/92 period. This will exceed project targets by 9 per cent. Another 360 students may well graduate from the two master's degree (S2) programs during the same period, meeting another project target. When graduated, placement for S1 graduates appeared fairly certain with the Ministry of Health (MOH), National Family Planning Coordinating Board (BKKBN), other ministries, and, increasingly, the private sector. The S2 graduates will move into management positions in the same areas or into teaching of S1 students.

The S3 degree program, for doctoral candidates, has not progressed as fast, although S3 graduates will do much of the teaching of S2 students. The University of Indonesia's Faculty of Post Graduate Studies in Jakarta has delayed procedural approval of an S3 doctoral degree program in public health. This was balanced by an effective S3 doctoral degree program in health at Airlangga University in

East Java, one of the project-assisted schools. The evaluation team recommended that the two universities jointly design a public health doctoral degree program for use in both schools.

Most other output targets were being reached on schedule:

--Long-term and short-term input targets on staff training in Indonesia and the U.S. is on target, and young faculty will be in place during the project in time to meet output targets on numbers of new faculty actually involved in teaching and research in each school.

--Library books, microfiche readers and printers, computers, and audio-visual aids (AVA) have arrived on schedule and were in place.

Project-assisted public health texts in English were not nearly as well used, however, as those purchased under the project in Indonesian. The evaluation team recommended translation into Indonesian of suitable additional books and journals.

Microfiche readers and printers, though in place, were used by only a few faculty. The team suggested that subscriptions to additional microfiche journals might help promote microfiche use.

Two computers with peripheral equipment were sent to each institution. The University of Indonesia's Public Health School provided short-term computer training for all project-assisted schools. The computers were over-used. The team recommended additional computer procurement. The team also expressed concern about the funds required by the schools for computer supplies, spare parts, maintenance, and repair.

Personnel in each school were taught how to use project-procured audio-visual aids (AVA). Their use of the equipment for innovative teaching or for designing health activities were just starting. The team encouraged greater use of the AVA equipment for both purposes.

The team went beyond a view of institution building to assess project growth. What is needed, more of a qualitative than a quantitative nature, to help this project move from infrastructure development to consolidation?

Curriculum in project-assisted schools, for example, had far more theory than practical applications so far. There was some duplication. Memorization often took the place of students' thinking for themselves. Field training in most schools was weak. The designing of competency-based curriculum remained in its infancy.

The team recommended that inter-departmental curriculum committees be set up in each school specifically to review, revise, test, review, and revise again in all curriculum areas.

The team addressed teaching methodology, recommending local workshops, increased translating of English language public health textbooks to Indonesian, and greater use of consultant support.

The team recommended that each school strive to identify and agree upon a set of key competencies on which curriculum can be based, modify curriculum, test, and revise.

The team found field practice to be the weakest link in the curriculum process and suggested a national workshop specifically on field training, a resident staff person in each field practice area, and local workshops to reorient all faculty and district health center staff to field practice.

The team also make recommendations on research, particularly the need (1) to involve young returning faculty in research design and conducting and (2) to establish better communications with local health agencies so that research can be designed specifically to meet local needs.

A national resource center to gather, organize, and disseminate public health research findings remained to be done. University of Indonesia (UI) public health school leaders had project funds to plan a center. Other important tasks led to postponement of attention to this activity. The team strongly recommended that this activity take higher priority, that networks amongst project-assisted institutions be strengthened, that expertise in institutions other than UI be nurtured, and that the long-term target be the establishment of a national association of public health schools that will involve all schools, not only the USAID-assisted ones.

The team reviewed documents on USAID inputs. Inputs included short-term and long-term consultancy services and training, both Indonesian and American, commodity procurement, and local cost financing. All major inputs planned by time of evaluation had arrived on schedule and met well project objectives.

Most of the project inputs that USAID often used to provide through its own channels were handled under this project by a free-standing project management unit (PMU) in Jakarta, local management units (LMUs) in each of the five project-assisted schools, regional planning meetings twice a year, and an annual national planning meeting. The team was impressed with these procedures, which freed a significant

part of USAID/Jakarta's person-power for other assignments. Nevertheless, the team even made recommendations in this field. They suggested that the PMU and USAID consider the possibility of extending somewhat the currently cumbersome monthly reporting on local cost expenditures. They also suggested PMU and USAID consideration of setting aside a discrete amount of local cost funds, perhaps 15 per cent, for innovative teaching and research activities that might be proposed between annual national planning meetings. This would be used particularly by faculty who return from U.S. training shortly after annual national planning meetings took place.

The team also recommended that this report be translated into Indonesian, in order to widen its readership.

Of the five project-assisted institutions, only two had separate status as public health schools by time of evaluation. In the other three institutions, public health was a "program study" within medical schools. One of the assumptions when this project was designed was that during the project, all five schools would become full-fledged public health schools. Because the evaluation team received somewhat conflicting views on the exact time when all

schools might reach independent university status, it consciously determined not to make a specific recommendation on it.

In summary, the evaluation team found out that the project presently was on track. Most planned inputs and outputs to date were being reached. The team made recommendations in virtually all project areas, however, in order to help a good project do even better over its concluding years. If inputs were to continue as planned, and if recommendations were to be reviewed and, with suitable modification, carried out constructively, the evaluation team confidently predicted that targeted numbers of additional public health graduates will make significant contribution to Indonesian preventive and promotive health care.

II. INTRODUCTION

The purpose of this report is to document a mid-project evaluation of the $15 million GOI- and USAID-funded Project No. 497-0348: Indonesian Faculties of Public Health. The GOI's contribution is $6 million equivalent; USAID's, $9 million. The evaluation is being done at the end of the third year of a seven-year project that began in USFY 1985

A PROJECT NEED AND DESCRIPTION

Doctor and nurse training facilities appeared adequate in the mid-1980s to meet projected curative care needs of Indonesia. The Ministry of Health's early desires for community health services became Government policy in the 1970s. There was a shortage of competent staff to carry out this policy. This project was designed to help expand, regionalize, and consolidate training facilities in public health to help meet preventive and promotive health care needs.

Under the project the Director General for Higher Education in the Ministry of Education and Culture (MEC), through his Directorate for Academic Infrastructure

Development, was to establish regional faculties of public health (FKM) at Airlangga University, Surabaya, East Java (UNAIR); Diponegoro University, Semarang, Central Java (UNDIP); and the University of North Sumatra, Medan, North Sumatra (USU). These three universities were conducting public health education and research as study programs within their medical schools. The GOI and USAID have agreed to develop the public health study programs into schools of public health, called "Faculties" within the university system.

The GOI and USAID also were expected under this project to strengthen and upgrade the existing Faculties of Public Health at the University of Hasanuddin, Ujung Pandang, South Sulawesi (UNHAS), and the University of Indonesia, Jakarta (UI).

The Government of Indonesia (GOI) currently is using its own funds under the project for

--salaries of staff being trained;

--exit fees and other costs associated with training abroad;

--recurrent operating costs of project-assisted institutions (including additive teaching staff);

--translation and publication costs after the 1989/90 Indonesian fiscal year ends on 31 March 1990;

--maintenance, repair, and supplies for project-funded commodities;

---annually-increasing counterpart funds for research conducting, research training, and research finding dissemination;

--Indonesian taxes associated with technical assistance;

--routine administrative support costs of the project's management unit (PMU);

---all administrative costs for the local project management units (LMU) and local advisory boards/local steering committees located in each of the four regional public health institutions, and

--buildings, furnitures, supplies, and utilities.

USAID currently is using its funds under the project for

--teaching and supporting staff training for all five project-assisted public health institutions;

--limited amounts of institution-building equipment;

--admission fees for long-term training in Indonesia;

--training and conducting research, and disseminating research findings;

--technical consultation, from within Indonesia and from abroad;

--planning review meetings;

--project administration and coordination; and

--project monitoring and evaluation.

Both governments anticipated that at the end of the project all five project-assisted institutions will have the capabilities to offer two-year S1 (S1-2 yrs) and four-year S1 (S1-4 yrs) degrees. In addition, UI and UNAIR already are producing S2 degree graduates; and UI, before end of project, S3 degrees. UI also will offer support services to the other four institutions.

S1-2 yrs students already have received three-year post-secondary school academy training and work experience in nursing, sanitation, or nutrition prior to university-level enrollment. Most S1-4 yrs students enter directly after secondary school graduation. S1 university degrees are similar to Bachelors degrees in the United States.

Most graduates of the S1-2 yrs degree program return to upgraded provincial and district (kabupaten) level managerial and technical positions. Most S1-4 yrs graduates initially will fill new Health Ministry positions at the provincial and district levels; some will move into private sector positions in business, industry, and plantations. Eventually, S1-4 yrs graduates also will staff new public health managerial, research, and development positions at sub-district (kecamatan) community health and development centers (PUSKESMAS).

S2 public health degrees are similar to U.S. Masters degrees. These graduates will move into supervisory positions in the public and private sectors or will teach S1 students.

Most S3 graduates, similar to U.S. doctoral degree graudates, will be involved in graduate university-level teaching and research or will move into leadership positions outside the university system.

USAID obligated project funds in USFY 1985. Written into basic project obligating documents was a project evaluation after the third year of project implementation. The evaluation was to review progress, to assess the appropriateness of project inputs, and to recommend changes, if necessary, in project targets, administrative mechanisms, and/or planning systems.

USAID, in close consultation with appropriate Indonesian counterparts, recruited a four-person evaluation team in October 1988: two domestic and two external consultants. Three team members started work on November 8, 1988; the fourth, on November 15, 1988.

B. SCOPE OF WORK

The evaluation team's scope of work was broad. As cited in USAID's Project Implementation Order/Technical Services (PIO/T No. 497-0348-3-60114):

"1. Review project implementation from the commencement of the Faculties of Public Health project until the present time. This should include an assessment of yearly implementation plans and adherence to implementation schedules, rates of disbursement, and administrative systems established to support implementation, and effective utilization of project inputs.

"2. Assess progress made toward the establishment of viable Faculties of Public Health at the four regional universities. This should include the range, variety, and quality of academic programs being offered at the FKMs, levels of full time teaching staff and their academic qualifications, the size and adequacy of the physical facilities which house the faculties, and the presence of adequate library, data management, and audiovisual resources to support the teaching and research programs.

"3. Review FKM/UI's role as the coordinating Faculty, especially its efficacy in providing the following assistance to the regional FKMs:

a) Provision of in-service training programs for faculty and staff from the regional FKM.

b) Provision of S2 and S3 training opportunities for faculty from the regional FKMs.

c) Development of a national information resource network which provides timely and accessible technical information in Public Health to the regional FKMs.

d) Provision of technical assistance to the regional FKMs.

"4. Review administrative structures established for the project, their effectiveness during the first three years of project implementation, and their suitability for the remaining three years of the project.

"5. Ascertain progress being made with regard to achieving the project's principal output, the production of public health graduates who can strengthen the delivery of health and population programs in Indonesia.

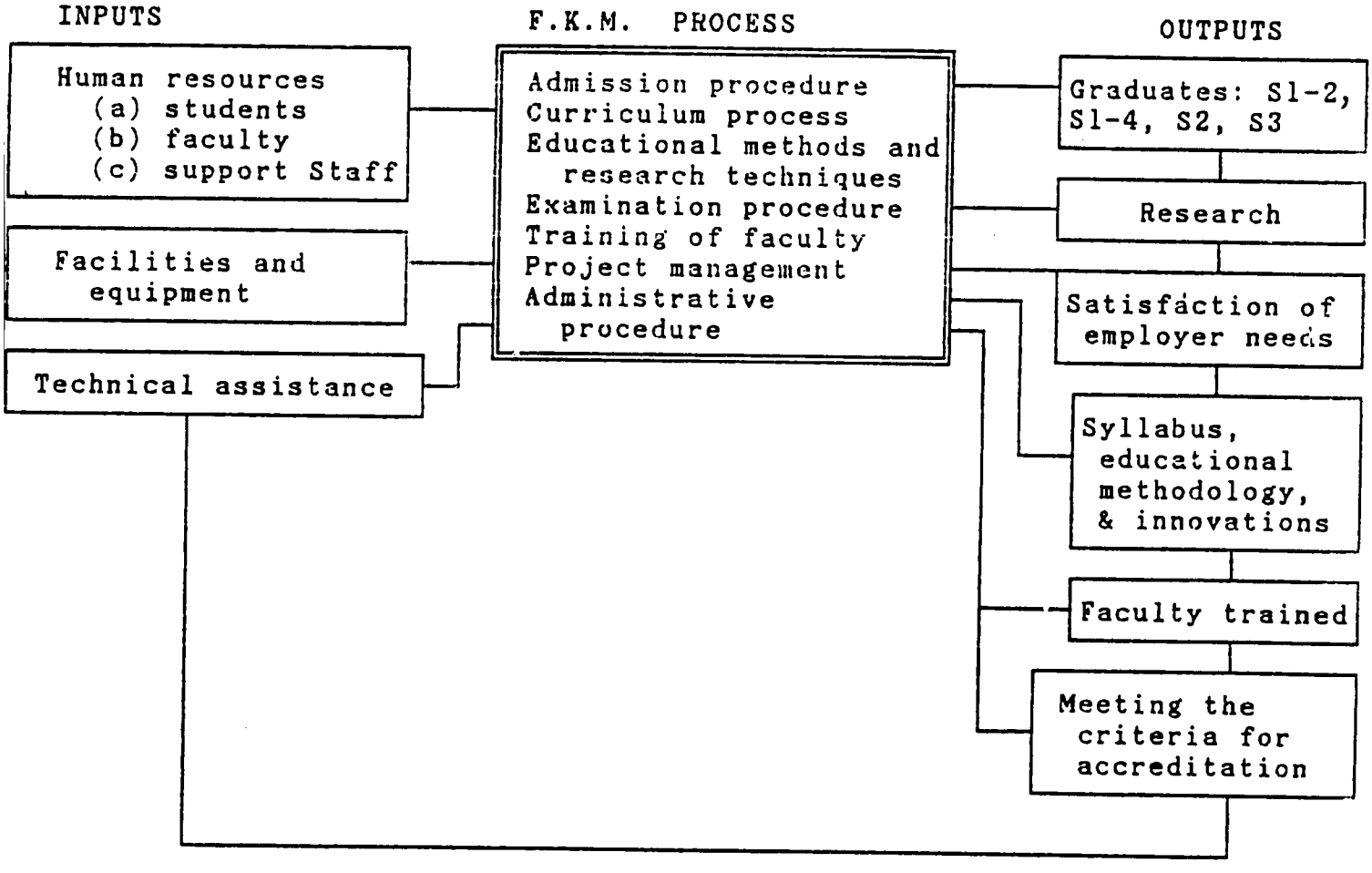
"6. Assess the suitability of project inputs in light of project outputs and the directions the project will take over the next three years.

"7. Make recommendations for refinements or changes in policy, targets, strategy, organization, administration and implementation of the Faculties of Public Health."

C. EVALUATION METHODOLOGY

The team has used the systems model of the FKM project outlined in Figure 1 below as a guide for project evaluation. The team used this model to examine inputs, FKM process, and outputs. The format of this report, however, omitted those aspects of the model that the team felt were not significant.

FIGURE 1 F.K.M. PROJECT - A SYSTEMS MODEL



The team carried out its scope of work initially by reviewing all prior project reports (see list attached as Annex 1. Then in Jakarta and in the four regional areas cited above, the team interviewed university rectors and deans; PMU and LMU steering committee members; other administrators; faculty, students, alumni, and support staff from all five project-assisted institutions; Ministry of Health, BKKBN, and other employing agency officials; other appropriate ministry officials (e.g., Ministry of Education and Culture); and USAID representatives. The team attended classes. Going to field training sites outside all five campuses, the team talked with field staff, village heads, mothers, and village health cadre.

The team discussed informally some of the findings of this report with appropriate university, GOI, and USAID officials; revised its own draft based upon the discussions; and expected that the final report will be transmitted through USAID to appropriate decision-makers in Jakarta, Washington, and each of the areas visited by the team.

D. CAVEATS

The findings of this report are based on data presently available to the evaluation team and addressed during a limited time period.

In four weeks, the team visited five public health schools, with only two-and-a-half days in each.

In this limited time, the team was able to observe only some of the Project Paper indicators, such as teachers' trained, students' enrolled, and research studies' conducted.

A final project evaluation , of course, would measure the quality of public health graduates after they assume work positions for a suitable time period.

The team wishes to thank all the many individuals and groups we interviewed. Without their constructive support, the team could not have completed this evaluation. At the same time, however, the team assumes full responsibility for all of this report's findings, reasoning, and recommendations.

III. FINDINGS, REASONING AND RECOMMENDATIONS

A. ACADEMIC PROGRAMS AND PLACEMENT OF GRADUATES

1. S1 Degree Program

At the start of the project S1-2 yrs courses were offered in all project-assisted institutions, but only PSKM/UNAIR had a S1-4 yrs course. S1-4 yrs courses started in PSKM/UNDIP, PSKM/USU, and FKM/UNHAS in 1987 as indicated in the project plan. FKM/UI plans to start a S1-4 yrs course in 1989. According to the Dean of FKM/UI this delay has been caused by activities related to moving to the new campus in Depok.

S1-4 yrs students are accepted through SIPENMARU (national university entrance test); S1-2 yrs students are selected by DepKes and BKKBN and then tested by FKM/UI. Placement in the various FKMs/PSKMs is done in the National Planning Meeting.

Numbers of S1 students (at the end of 1988)

ACADEMIC PROGRAM		LOCATION					Total Students
		UI	UNHAS	UNDIP	UNAIR	USU	
S1-2 yrs	5th sem.	50	28	25	27	25	155
	7th sem.	53	37	25	28	20	163
S1-4 yrs	1st sem.	0	50	40	47	50	187
	3rd sem.	0	46	37	51	38	172
	5th sem.	0	0	0	43	0	43
	7th sem.	0	0	0	30	0	30
Total:		103	161	127	226	133	750

Sem. = semester, 4 sem = 2 yrs, 8 sem = 4 yrs

4 sem = 2 yrs

8 sem = 4 yrs

Numbers of S1 graduates

Location	Year						
	1986	1987	1988	1989+	1990+	1991+	1992+
UI	65	60	56	50	50	50	50
UNHAS	41	28	31	30	30	60	60
UNDIP	0	0	17	25	25	60	60
UNAIR	0	31	27	58	60	60	60
USU	0	0	18	20	25	60	60
Total	94	112	143	183	190	290	290

+ anticipated

Although FKM/UI has not started yet its S1-4 yrs degree course, the anticipated total of 1,215 S1 graduates will be exceeded by 9% at the end of the project if the yearly intake of students continues at the present rate. We were assured by the Chief of DepKes that the present yearly number of scholarships for health academy staff members to be sent to obtain S1 degree will not be reduced.

2. S2 Degree Program

Currently, S2 degree programs in public health have been in existence, since 1986, only at FKM/UI and PSKM/UNAIR. Before 1986 FKM/UI offered an MPH program lasting one year for physicians and two years for health academy graduates

We had conflicting figures on numbers of S2 graduates, starting in 1986, that we were unable to resolve before our evaluation ended. From one source, since 1986 approximately 35 persons have graduated per year from both programs ((UI and UNAIR) and the 1992 target of 360 S2 graduates might not be reached. From another source, 146 persons have graduated from the S2 program since the 1985/86 IFY, at least 60 will graduate each year through the 1991/92 IFY, and the S2 graduation target will be surpassed.

We suggest that the PMU, in concert with the project's advisor, review and resolve the discrepancies in figures and then determine further action with respect to the S2 public health program.

3. S3 Degree rogram

The development of the S3 program in FKM/UI has not yet

been able to pass through the necessary administrative and academic review progress. An S3 program in a university is the responsibility of the Faculty of Post Graduate Studies. Apparently the main concern of the Post Graduate Faculty of UI is the lack of experienced staff at the S3 level and the number of staff with full professor rank in FKM/UI who could be eligible to act as supervisors (promotors) for S3 candidates. On the other hand, the Faculty of Post Graduate Studies in UNAIR has a S3 program in 'health'. A closer look at the dissertation topics of these 'S3-Health' candidates suggests that some of them can be legitimately classed as research projects in public health. UNAIR also has a core group of qualified professors to supervise S3 candidates. The course sequence and the structure of the UNAIR S3-Program in Health is given in Annex 2. In our discussions with UNAIR staff we inquired about the possibility of cooperating with FKM/UI to develop a joint doctoral program with each candidate having co-promotors from both campuses. They welcomed this idea and also suggested that such a joint doctoral program could grow on the strengths of each other.

The original plan of the project was to develop a sandwiched doctoral program which provides an opportunity for the student to spend two semesters in a U.S. university. However, we were informed by FKM/UI that they propose to send a S3 student accompanied by a faculty member for one semester only. We agree that providing a study opportunity

abroad to complement gaps in one's program of study is a good one. However, one semester is far too short a period for this purpose, and having a faculty accompany the trainee is not an appropriate mechanism for utilizing foreign training funds. Some foreign students take as much as one whole semester to get over the 'culture shock' and adjust to the conditions in a foreign university.

Recommendation

We recommend a joint doctoral program be started as soon as possible between FKM/UI and UNAIR. Technical assistance be provided to both, universities preferably with guidance from a foreign consultant who is well-experienced in areas such as research methodology and statistical analysis. He should also have adequate expertise in setting up and administering doctoral programs in public health.

4. Other academic programs

From the National Steering Committee member representing the BKKBN we learned that BKKBN has supported the preparation of Faculties of Public Health Project because of its interest in upgrading all its existing staff by strengthening its management capabilities. Current BKKBN staff with a health background have almost all been

sent to an FKM or have pursued MPH training abroad. It would like its remaining staff without formal health training to obtain an S1 degree in public health. Furthermore, it would serve the needs of BKKBN if short courses were organized in FKM/UI in biostatistics, epidemiology, and MCH/Family Planning programs with special emphasis on planning, monitoring, and evaluation.

We did not investigate these possibility; we suggest that the PMU PMU could look into this matter.

5. Placement Of Graduates

The S1-4 yrs curriculum is geared towards producing a mid-level professional with an array of generalist skills and competencies in public health. It is assumed that there is a place for such mid-level managers in a number of areas within the health ministry and also in many other health related organizations. At the beginning of the project the Ministry of Health (DepKes) and the National Family Planning Coordination Board (BKKBN) indicated a need for, and their intentions of employing, all the S1-4 yrs graduates produced in the first several years. However, a BKKBN official informed us that BKKBN will not employ S1-4 yrs graduates since it currently has restrictions in employing new staff. DepKes budgetary constraints also prevents its providing

any further guarantees about continued employment of the S1-4 yrs graduates. Taking these changes in the employment environment into account the FKM Project has undertaken a number of market studies to study the potential job opportunities for the S1-4 yrs graduates. The Institut Pendidikan dan Pembinaan Manajemen (IPPM) market survey and the study by Deborah Gibbs et.al. are notable in this respect. Both studies concluded that there is a clear and urgent need for a S1-4 yrs type of graduate within the public health system of the Government of Indonesia and in other health related and private organizations. Fortunately, at present officials of the Ministry of Health indicate that S1-4 yrs graduates will be employed for staff positions at the provincial and district (kabupaten) levels; and when these positions have been filled they will be employed in health centers. A statement of the Ministry of Health's Secretary General, shown in Annex 3, explains the duties expected to be performed by S1-4 yrs graduates.

In Medan the provincial representative of the Ministry of Manpower stated in the Local Steering Committee meeting we attended that S1-4 yrs graduates would definitely find employment in industry as sanitary supervisors. The representative of the local government planning body (BAPPEDA) supported this statement in view of priority given

to industrialisation in North Sumatra during the GOI's Fifth Five Year Plan (Repelita V). A similar situation exists in South Sulawesi.

During our interview with the Chief of the Health Manpower Training Center of DepKes, we were informed that the first batch of S1-4 yrs graduates from PSKM/UNAIR in 1989 will be placed in staff positions in the newly established provincial Divisions of Health Manpower, DepKes. Their duties will be assisting in planning, monitoring, and evaluating health manpower needs in their province. These graduates will be given pre-service training by DepKes.

From these observations we may conclude that S1-4 yrs graduates are regarded as valuable potential members of the health team. However, this has not been uniformly understood in the other places we visited.

During our study we interviewed a number of key officials from DepKes and BKKBN in the provinces where the FKMs were located. In these interviews we questioned them about the possible job opportunities for the S1-4 yrs graduates. We also questione a large number of S1-4 yrs students both individually and in large groups. A number of key issues were clear from these discussions:

--There is some confusion amongst the student with regards to the possible employment opportunities for the S1-4 yrs graduate. Many S1-4 year students that we interviewed had no idea whatsoever about what employment opportunities will be available to them in the future. Almost all the S1-4 yrs students have never been given proper orientation to the program. Some of them were under the impression that because they would assume the same civil service rank as the doctor (3a), they should be taught the same amount of anatomy, physiology, embryology, and histology as the medical students. Apparently, the situation is the same with secondary school (SMA) seniors. One university official told us, "If we need to attract students of a high caliber we need to advertise this program more."

--The the compentecies of the S1-4 yrs graduates were not sufficiently appreciated by those we interviewed. Once we explain the nature of the curriculum,however, there was a consensus on the need for such professionals at many levels within and outside the health department. A provincial level official from DepKes alerted us about possible professional rivalry that may be created by employing a selectively inexperienced young graduate at the same rank with more experienced section staff within a District Health Office (Kabupaten).

Recommendation

We recommend that the PMU undertake a promotional effort along with the five FKM/PSKMs to identify and inform both potential employers and high school graduates entering the S1-4 program. A brochure could be prepared and sent to these groups. Presentations at seminars and similar gatherings of professional groups may also be helpful.

If, for any reason, the Health Ministry (DepKes) decides not to employ all the S1-4 yrs graduates, there is a possibility that they may end up working in positions which are inappropriately low in comparison to their level of educational achievement. This could create a bad precedence that may affect the effective utilization of all S1-4 graduates yrs in the future.

B. DEVELOPMENT OF TEACHING STAFF

To develop an appropriate syllabus, review it satisfactorily, and do the teaching of it so that FKM graduates will satisfy the needs of their employers, qualified teaching staff must be available in sufficient numbers.

1. Full-time teaching staff

The project paper stated that each FKM should have a minimum of 30 teaching staff qualified to teach at the S1 and, when offered by the university, S2 levels in public health. In this connection the project goal was to upgrade 70 faculty members to the S2 level and 20 to the S3 level.

At the start of the project only FKM/UI and PSKM/UNAIR had more than 30 full-time faculty members; PSKM/USU, only 11; PSKM/UNDIP, 13; and FKM/UNHAS, 17. After the project started, concerned universities gave special attention to recruit new teaching staff for the PSKM/UNDIP, PSKM/USU, and FKM/UNHAS, although the Ministry of Education froze the hiring of new teaching staff for medical faculties. At present, the minimum of 30 teaching staff in the PSKMs and FKMs has been reached. However, these numbers may have to be reexamined at a later date by each FKM in relation to the teaching work load as a whole of each staff member. Staff of the three PSKMs and FKM/UNHAS teach not only S1 public health students but also students of the Medical Faculty. In UNDIP, UNHAS, and USU no public health department will be established in the Medical Faculty. FKM staff will teach public health subjects to medical students. In UNAIR the

Dean of the Medical Faculty does not know yet whether a department of public health or community medicine will be set up in his faculty in addition to a FKM. A list of full-time teaching staff in the FKM/UNHAS and the PSKMs is included in the individual reports of FKMs/PSKMs (Annex 10).

2. Training

Ministry of Education and Culture regulations require faculty members who teach S1 students to have a minimum S2 education in their speciality area; faculty members teaching at the S2 level would have S3 level education. Three types of training have been planned in this project: degree training in Indonesia and abroad, short courses and teaching externships abroad, and short courses in Indonesia.

With regard to training faculty members to the S2 level, implementation is running according to schedule. In order to make use of funds available through this project, teaching staff have been sent in large numbers, sacrificing the present teaching coverage in the PSKMs and FKM/UNHAS. This has been done deliberately with the hope that before the project terminates competent staff will be available in all FKMs.

We obtained lists of teaching staff sent for training at the S2 and S3 levels from FKM/UNHAS and PSKM/USU. PSKM/UNAIR and PSKM/UNDIP indicated within their lists of teaching staff those who were in training or would be sent for training. These lists are presented in the individual reports of FKM/PSKM (Annex 10).

The reader also is referred to the final consultancy report of the long-term Public Health Advisor to the Faculties of Public Health Project (Seri publikasi no 13). In the section on staff development he presented an excellent table of staff sent for graduate training during 1987 and 1988 by faculty of origin, site of training, field of study, and degree to be obtained (page 10 and 11). He also stated the completion date for each staff member. He drew attention to the influx of young returning faculty members in each FKM, beginning in 1989. The number of teaching staff sent for training at the S2 and S3 levels is around 60 persons.

We were not able to collect detailed data on teaching staff sent abroad for short courses. The value of teaching externships especially should be evaluated.

Training courses on teaching public health administration, epidemiology, biostatistics and population, health education and environmental and occupational health,

the use of audio-visual aids, and the use of computers have been held by UI in Jakarta in 1987 and 1988. Staff in FKM/UNHAS and PSKMs found them useful, but not sufficient for giving them guidance in teaching methodology. We proposed that each FKM/PSKM now make a plan of how to utilize the young faculty members who will return beginning in 1989.

Recommendation

We recommend that young faculty members who just return from their studies be given the opportunity to assist in the development of detailed syllabi for teaching the subjects of their interest, including the use of innovative teaching methodologies. When consultants are invited to assist in these areas, the young faculty could serve as counterparts. Working together--consultant and counterpart--could lead to significant improvement in overall objectives.

3. Part-time teaching staff

Because many teaching staff are being sent for training, many part-time faculty are assisting in the teaching. Often part-time teachers are invited because the faculty want community input into the curriculum. This

means inviting a guest lecturer from the field to give a number of lectures or teach a whole course. Very often the guest lecturer is given a syllabus or a course outline that was developed during the national planning workshop in each subject area and allowed to operate on his own. In some cases a junior faculty member attends these lectures provided by the part-time lecturer, but in most instances there has been no representative from the department concerned present in class. There was general agreement among students and alumni that the quality of the classes provided by part-time lecturers was not as good as those provided by full-time faculty members. Also we found that the organization of the course material--clear objectives, topics, outlines, required references, and a variety of teaching methods--was much less satisfactory for part-time than for full-time faculty.

Recommendation

We recommend that each FKM review the role of part-time staff and institute mechanisms better to evaluate and integrate part-time teaching with the main stream of the S1 curriculum. Wherever possible, part-time faculty be encouraged to team-teach with full-time faculty members.

C. CURRICULUM

The quality of the output of academic programs depends on the design of the curriculum and the way the subjects are taught. In this context we have given much thought to the development of an adequate curriculum for producing graduates who will satisfy employers' needs.

1. Development of a Core Curriculum

Designing the curriculum for the S1-4 yrs (those entering from high school) and S1-2 years (graduates from health academies) started in the various universities where new FKMs would be established. It was then finalized in a workshop held in Malino in 1984 and then revised in 1987 in Trawas. At the beginning of the project this curriculum was meant to be used by the FKMs/PSKMs for S1-4 yrs students. For the S1-2 yrs students, the 5th, 6th, 7th, and 8th semester coursework would be used.

The PMU made commendable effort to standardize the core curricular content in each "Jurusan" (department) through the workshops conducted in Jakarta for representatives from each FKM. In these workshops participants discussed the original curriculum designed in Malino (revised later in Trawas) and agreed on general and specific objectives and course content for all the courses within each department.

Besides core curriculum content, they spent much time discussing the curricula of electives. They also reviewed references and practical teaching exercises.

From interviews of staff in the various FKMs who had attended the workshop, we learned that time for workshop discussion had been rather limited because of the many presentations made in plenary meetings. This resulted sometimes in the acceptance of course content presented by FKM/UI although the "why's" were not quite clear to participants of other FKM/PSKMs. For example, the course on Administration of Family Planning Program was taught at FKM/UI by the Department of Biostatistics. In our visits we found that at least 2 FKMs have followed the pattern of FKM/UI and assigned the teaching of that course to the Department of Biostatistics without obtaining any input from the Department of Public Health Administration.

Another example of a different nature has been the follow-up of the workshop on epidemiology. Papers presented in this workshop indicated clearly that epidemiology is not related to diseases alone, but also to health activities and health programs in general. Excellent epidemiology exercises were given during the workshop. When we asked why this material had not been used, we learned that time allotted to the teaching of basic epidemiology does not permit the use of epidemiological exercises. Basic

epidemiology teaching currently is done in the 5th semester with 3 semester credit hours (SKS). Regarding the wider use of epidemiology, FKMs/PSKMs apparently have not paid much attention to the presentations made during the workshop by Ministry of Health staff. If the content of these presentations were synthesized by FKM/UI staff and then distributed to the FKMs/PSKMs as a teaching reference, the follow-up might be more adequate.

In one case we found that the same course titles and the sequence discussed in the workshop were followed, but different content areas covered. Part of the problem had been the lack of teaching staff and expertise to cover a particular subject area. For example, the core curriculum in epidemiology has been interpreted with a heavy 'clinical' bias at PSKM/UNDIP. Most of the subject are taught by physicians from the medical faculty. In such a situation there is a tendency to teach epidemiology of particular diseases rather than the application of the principles of epidemiology to public health in general.

In all PSKMs and FKMs we visited, we were shown books containing a complete syllabus of all subjects taught in the S1 public health course. In examining these books we questioned sequencing, overlap, and duplication of course content taught by the various departments.

We also questioned the content of syllabi of basic medical science courses taught in the S1 programs. The organization of that curriculum along monolithic subject areas has created a situation where the S1-4 yrs beginner is inundated with unnecessary details of basic medical sciences. One example, attached as Annex 4, provides a description of the biochemistry course syllabus that is given to S1-4 yrs students in their second semester. This Annex has been copied from the curriculum developed in Malino.

Similarly, we found that sometimes the S1-4 yrs students were made to go through a 2 credit hour (SKS) course in histology, and that some students were memorizing details about the role of viruses in carcinogenesis.

In general, students complained that it was difficult to comprehend these subjects since the teaching was not accompanied with laboratory exercises.

The Dean of the Medical Faculty in USU agreed with us that the content of the basic medical sciences taught to public health students was too much. She said that the medical staff had just followed the syllabi given to them. If requested, the dean and her staff would be prepared to assist the PSKM in reviewing the syllabi of the basic medical sciences in the S1 curriculum.

As we traced the origin of these syllabi in the S1-4 yrs curriculum, we found out that during the Malino Workshop none of the participants had yet had experience in teaching secondary school (SMA) graduates in a S1 public health course. Moreover, participants had not discussed this matter, and the syllabi of these subjects were adopted as presented.

These findings were confirmed in our discussions with alumni and students. From these discussions we also learned that the most difficult subjects were biostatistics and epidemiology. Repetition of some course content with teaching in high school and in the health academies also was reported by students. We suggest that these matters be taken into account in a curriculum review.

The books of syllabi shown to us were found to be only compilations of the syllabi of each department without review as a collective effort by all departments. We suggest that teaching staff review these compilations of syllabi in each FKM and PSKM.

In FKM/UI an Educational Development Committee (PANBANGDIK = Panitya Pengembangan Pendidikan) has been set up under the chairmanship of the Vice Dean for Academic Affairs to review the curriculum of the S1 and S2 programs.

Setting up similar committees in the other universities may be an initial mechanism for beginning to integrate the teaching across the public health schools' five departments: public health administration, biostatistics and population, epidemiology, environmental and occupational health, and health education. In order to be more effective, faculty may need some ongoing outside technical assistance in this area. The Project's long-term Public Health Advisor could perform this function if he is provided with the necessary release time from the PMU.

Recommendation

We recommend that an Educational Committee (PANBANGDIK) be set up in each FKM and PSKM location. The PANBANGDIK would conduct a series of local two or three-day weekend workshops with technical consultation to reexamine the S1-4 yrs curriculum in order to bring about adequate linkages of the teaching in five departments and to eliminate unnecessary overlap and duplication of present course content. The appropriateness of the present sequencing of the courses would also be considered. The content of basic medical sciences within the S1-4 yrs curriculum would be examined with a view to eliminate unnecessary technical details which are not relevant to the practice of public health by S1 graduates and to avoid duplication of high school teaching.

We also recommend that the allotment of course credit hours (SKS) be reevaluated in order that enough time be given to the proper teaching of subjects found difficult by the students and essential by future employers, e.g. biostatistics and basic epidemiology. The results of these local workshops would be presented and discussed in a national workshop. Continuity from one national workshop to another would be considered, with each workshop's adopting an action research approach. They would follow several cycles of problem analysis, discussion, recommendation, action steps, implementation, monitoring, and follow-up, leading to further discussion, re-analysis and re-orientation of action steps. We were informed by the PMU that a budget is available in the coming year for such a curriculum review.

Besides the necessity of reviewing the core curriculum we would like to draw attention to the current lack of mechanism effectively to integrate and synthesize subject matter covered under different disciplines. Health workers do not practice theoretical epidemiology or statistics in the field. To be useful, the theoretical aspects covered in these subjects need to be integrated, synthesized, and translated into a set of "personally meaningful" principles and guidelines for application in the field during the practice of one's profession. In the present curricula the

"Skripsi" or "Mini Thesis" (Term Paper) to be completed at the end of the course was intended for this purpose. Alumni stated that "Skripsi" has not served that purpose adequately; and we agree, based on our field visits.

A number of community medicine and public health programs in other developing and developed countries have used the method of Integrated Seminar in Public Health (IPHS) for this purpose. First, with the help of a faculty member the students select a public health problem in the field and investigate it further with home visits, community studies, and interviews. Next, on the day of the seminar the students present the case to a team of faculty representing each department. The faculty then act as a panel for discussing the application of the principles of each discipline to help the student solve his/her problem. Later the case and faculty and student discussions about it are written up as a mini case study.

Implementation of the concept of team-teaching in Indonesian university settings is rather difficult because of the traditions attached to teaching alone. However, if a faculty member from each department is assigned one credit hour for conducting a seminar, it might not be too difficult to bring them together in a five credit hour course. The

possibility of designing the "Skripsi" experience to become a further elaboration of problems discussed in the IPHS also may be considered.

Recommendation

We recommend that each FKM/PSKM develop mechanisms to integrate the teaching in the five departments. Developing an Integrated Seminar in Public Health may be one of the means of achieving this integration.

2. Teaching Methodology

As part of our evaluation we attended some S1 classes and interviewed many other students about the classes they have had during the previous two or three days. In each discipline we selected a number of courses at random and interviewed both full-time and part-time faculty regarding their philosophy, objective, methods of instruction, and the form of evaluation. A number of findings were apparent from these discussions.

--In many cases we found that the method of instruction employed by the majority of faculty members was the didactic lecture. There was high degree of emphasis placed on

memorizing facts without an adequate opportunity for the student to use higher order mental faculties involving synthesis, evaluation and integration.

--In almost all the departments there was very little or no effort to evaluate the teaching and get feedback from the students about teaching effectiveness. In some cases the departments conducted some informal meetings with the students, once or twice a semester. However, considering the cultural barriers and the social distance between faculty and students, it is highly unlikely that students will be willing to provide critical feedback regarding teaching effectiveness. The health education department in FKM/UI is, however, an exception. It has instituted a regular mechanism for evaluating its courses. The instrument used is attached as Annex 5. A common evaluation instrument could be developed along the same direction, with a few additional items. Some of them would deal with measuring the relationship between what is taught in class to what is actually practiced in the field.

--The question of the fragmentation of the existing curriculum into a large number of one or two credit hour courses has been discussed in several previous reports, inclding the final consultancy report of the outgoing long-term public health advisor to this project. According to the existing faculty evaluation system, faculty members are

given a "merit point" for teaching a one credit course by themselves. However, if two of the existing one credit courses are combined to design a more meaningful two credit course, only one faculty member will be given merit points for the course. This is true even if two faculty members happen to team-teach it. A one credit course in most cases is equivalent to one hour of lecture per week during one semester.

Existing research on educational methodology suggests that lectures by themselves are not an effective teaching method. In certain subject areas, they become even more inappropriate. For example, it is clearly unproductive to try to teach group dynamics through a one hour lecture every week. However, in some FKMs group dynamics is still taught as a lecture.

--In our data gathering process we found good course syllabi, interesting and culturally relevant exercises, and case studies scattered around in different departments in all five FKMs/PSKMs. However, it is most unfortunate that there is no mechanism to identify these good teaching practices and share them with corresponding departments in other FKMs/PSKMs. For example, the epidemiology exercises developed by Gelfand under this project and perfected and adopted by the epidemiology department in UNHAS have been hailed as most relevant and useful by the students. All the

other four epidemiology departments could have benefitted from these exercises if they received copies of them at the time they were developed.

--In some cases we found that a faculty member developed comprehensive course syllabi and supplementary reading material, but only one copy of the document was available. Students were instructed to ask the faculty member for it whenever they wished to read it.

--Students also complained that books recommended by the teaching staff were all in English, but the students' command of English was minimal.

Recommendation

We recommend that local workshops in teaching methodology be conducted at each FKM/PSKM. Teaching innovations, such as local case studies, experimental exercises, problem-oriented culturally relevant teaching methods, and structured field observations be discussed and integrated into the teaching/learning activities of each course. Methods of evaluating teaching effectiveness also would be discussed, and every department would set up its own targets for a full scale teaching evaluation system.

We also recommend that at least five copies of all available course syllabi be placed immediately in each FKM/PSKM library.

Finally, we recommend that because students have limited comprehension of the English language, English books recommended for student use be translated into Indonesian.

Our recommendations regarding the development of teaching innovations in the FKM/PSKM is in line with the requests from the FKMs/PSKMs for technical assistance presented this year to the PMU. Most of these requests are for consultants to assist the various departments to revise their teaching syllabi to include innovations in teaching methodology and to design relevant case studies. We strongly support such requests.

3. Developing a Competence-Base Curriculum

Professional competence is the capacity to apply current knowledge and skills to formulate strategy and solve problems within one's own field of practice. Recent advances in training methodologies have emphasized the need for the development of competence-based curricula for the education of professionals in such fields as public health, medicine, and nursing. Competence-based training is founded upon the relatively simple idea that students

trained to perform specific tasks which can be identified as constituting professional practice will be successful and competent practitioners.

We found a few early attempts to make the S1-4 yrs curriculum competence-based. However, for the most part the curriculum still remains subject-based--not need-based or competence-based. We have noted two main obstacles that hinder the process of developing competence-based curriculum at the S1-4 yrs level.

--The lack of a clear conception of the future roles and responsibilities of the S1-4 yrs graduates.

--The lack of understanding of the methodology involved in developing a competence-based curriculum.

Without having a clear idea about possible job placements, we find it difficult to assess the main skills and competencies that need to be developed within the S1-4 yrs curriculum. A task analysis of the job functions of the PUSKESMAS (health center) has been completed by most of the FKMs. However, the problem is to decide on the positions within the organizational structure that are most suitable for the S1-4 yrs graduates. Also, there is no information at all on the roles, responsibilities, and tasks that

graduates would perform if and when they work in staff positions outside the PUSKESMAS level.

We also found a significant lack of understanding of the concept of a competence in general and a dearth of expertise as to how to develop a competence-based curriculum in particular. Even in our review of some previous reports on the project, we found that the term 'competence' has been used to describe a variety of completely different subjects, disciplines, and areas of responsibilities. In order to develop a competence-based curriculum the faculty would need a firm understanding of the concept and methodologies of delineating roles, responsibilities, tasks and activities, and competencies. The methodology adopted by the United States Center for Health Education (CHE) could provide some guidance to the faculty in this area. For example the CHE recommends the following steps to develop a competence-based curriculum:

--Identification of the professional disciplines concerned, e.g., health education.

--Identification of a number of key areas of responsibility (e.g., assessing the need for health education) according to the importance and the frequency at which they are performed.

--Identification of a number of tasks and functions related to each area of responsibility, e.g., gathering of data on health-related behaviors and concerns.

--The development of general and specific objectives, teaching/learning activities, and methods of evaluation to train the professional to perform the specified tasks and functions.

In all the FKMs/PSKMs, we found general and specific objectives for each course. However,many faculty members were unclear as to how these general and specific objectives would relate to future roles and responsibilities to be undertaken by the S1-4 yrs graduates.

There are certain precautions and limitations that must be taken into account in designing a competence-based curriculum. First, the faculty would realize that it is not possible to train the S1 graduates to be competent in all conceivable roles and responsibilities they may undertake in the future. In this respect one has to identify a set of generic or key competencies that need to be the focus of development of the S1 curriculum. Second, it must be understood that in some instances there is no "one to one" relationship between a specific course objective and a related competence that the school intends to develop. Very often at the start we need to provide the

basic foundations of knowledge and principles upon which the development of competencies would be based upon. Deborah Gibb's presentation in the 1987 Trawas meeting could be used as a guide.

Recommendation

We recommend the following steps:

--That the FKMs/PSKMs strive to identify and agree upon a set of key competencies that need to be developed as a result of the S1-4 yrs curriculum. This should be based upon the job analysis and task analysis of present S1-2 yrs graduates and the future S1-4 yrs graduates.

--Having identified the key roles, responsibilities, and related competencies of its S1 graduates, the FKMs/PSKMs would start working backwards to revise their present specific and general objectives to make them relevant and instrumental to develop generic competencies.

--Once the first few batches of S1-4 yrs graduates have assumed their new positions after graduation, the FKMs/PSKMs and the PMU would follow them up carefully. This will provide the FKMs/PSKMs with a mechanism of obtaining

feedback from the field with regards to the skills and competencies required of the S1-4 year curriculum in developing identified competencies.

4. Field Practice

We found field practice to be the weakest link in the curriculum process. In UNAIR, field work is undertaken during two days per week in the 2nd, 4th, 6th, and 7th semesters. In UNDIP, in addition to the one day a week schedule in the 2nd, 4th, and 6th semesters, the PSKM provides a block placement in its field site for a period of two weeks during the 7th semester. In USU, field work is undertaken during the 4th and 8th semesters, 3 days in each week. In UNAIR and UNDIP, most of the time during the first three semesters are spent visiting health centers (PUSKESMAS), Regency Health Offices (Kabupaten), and hospitals, and also planning and conducting a demographic and health survey of the field area. During the last semester the students are expected to identify, analyze, and plan solutions to a significant problem in the PUSKESMAS or the community. The curricula of field work of UNDIP and UNAIR are given as example in Annex 6.

In every PSKM/FKM, we visited the field sites and conducted interviews with the field staff. Whenever it was

feasible, we interviewed the students in the field and also had discussions with POS YANDU (integrated community services posts) cadre, village heads, and members of the communities with whom students have been working. The following are some of our findings.

--As structured at present, the field work experiences provided an opportunity to the students to be exposed to real communities, real data, and observation of the working of a PUSKESMAS. However, on the whole it looks more like another classroom assignment dealing with data collected from the field, not practical work experience.

--In most cases we found that field work has been given low priority by the already overburdened faculty members of the FKMs/PSKMs.

--Although the time allocated for field work per semester varied from 16 to 32 days, the actual number of days spent in the field by the students was much less. In some FKMs/PSKMs as much as 8 to 10 days were taken off the field to plan the community survey and discuss the results.

--In trying to organize the field work experiences the FKM/PSKM faculty also have come up with funding limitations.

Even with the above shortcomings and constraints, the field practice program in UNDIP can be regarded as the best out of all FKMs/PSKMs. The students spend a two week resident clerkship in the field practice area in Jepara Regency during the 7th semester. During this period they are supervised by a faculty member who resides in the field practice area in Jepara. The students get a chance to present and discuss their field experiences in a series of seminars conducted every night for the twelve working days they reside in the field. In addition, the students in S1-2 yrs and S1-4 yrs programs have a chance to work in other field practice areas in Mlonggo and in Semarang every Saturday during the 2nd, 4th and 6th semester. In our opinion the field training program at PSKM/UNDIP could provide leadership to the other FKMs in developing a good field practice program.

Recommendation

We recommend that a national workshop be conducted in Jepara to review the present field training in order to relate a competence-based and practice-based field work curriculum to 'real life' constraints and problems.

We also highly recommend a resident teaching staff person for each field practice area.

Finally, we recommend that after the national workshop each FKM conduct a local training workshop to re-orient its own faculty members and also to train the PUSKESMAS staff to provide more useful field training to the student.

The PUSKESMAS staff would be actively involved both in providing training and evaluating the field work component of the S1 student. After having undergone the necessary training, each PUSKESMAS doctor would be asked to conduct a one credit hour (SKS) seminar in the PUSKESMAS, so that the students will have a chance to reflect back and learn from their daily experiences.

We provide the following list of suggestions and guidelines that may be taken into consideration in designing the field work experience for the S1 students.

--As it is presently structured, the field training programs of almost all the FKMs PSKMs have placed a heavy emphasis on administrative problem-solving. This is a practice that should be continued. However, the scope of field work should expand further to provide an opportunity for students to "put into practice" a number of key concepts learned in other areas such as epidemiology, biostatistics, and environmental health.

--Presently the field placement emphasizes data collection. Equal emphasis would be placed on data analysis and determining the accuracy of the data. There is an excellent opportunity for the field practice areas to build a regional data base using the information gathered by students during their surveys, provided the field supervisors can systematize the process of data collection. In this respect the field staff may have to be provided with some technical consultation to institute and use a personal computer in the field.

--In a field practice curriculum the "process" is even more important than the "product" and the "content" of training. The students must be given a chance to discuss and reflect on the "process" and the inter-personal and group relationships involved in the practice of one's own profession.

--Once they graduate, physicians and S1 graduates are expected to work as a "team" in the field. However, they are not provided any training to work together as a team during their university education. Therefore it would be extremely beneficial if the S1 graduates were given an opportunity to work with the medical students in the field. As one field supervisor mentioned, "It will help us to combine the analytical skills of the medical students with the community experience of the S1 students."

Logistically, it may be difficult to sequence and align the field practicums of both these groups of students. In UNDIP there were many suggestions from the medical school faculty, the alumni, and the field supervisors to use 6 weeks out of the 3 months of required community service (KKN) to design an integrated public health community service program. We discussed this issue with the Chief, Directorate of Academic Infrastructure Development, of the Office of the Directorate General of Higher Education. He had no objections to this plan as long as it was agreed upon by the respective universities.

Recommendation

We recommend that every FKM/PSKM explore with the university authorities the possibility of setting up a 6 weeks block field placement in public health in the students' 3-month community services (KKN) experience. It also may be necessary for the project to provide some initial resources for setting up such a block field placement.

In our discussions in Medan and Ujung Pandang we learned that in the province of North Sumatra and South Sulawesi, industrialization has high priority. This suggests that field practice in factories could be designed

for students who had great interest in industrial hygiene and would like to make a career in this field.

Special arrangements need to be made specifically for S1-2 yrs and S1-4 yrs students in the 5th semester. We would like to make the following recommendation:

Recommendation

We recommend that the teaching program for S1-2 yrs and S1-4 yrs students in 5th semester be examined closely, taking into consideration the content of syllabi of the Health Academies from which S1-2 yrs students already had graduated and the field experiences they already had. If possible, make different arrangements for these two groups of students in the first two months of the 5th semester.

D. RESEARCH

Reseach is regarded as an integral part of the project for several reasons:

--Proven research capability is prerequisite to faculty accreditation.

--Teaching staff need to do research in order to improve the quality of their education of the students.

--Research related to local and regional health problems will generate data for region-specific planning.

--Research provides opportunities to involve local public health agencies in setting research priorities for the FKMs/PSKMs.

As identified by the outgoing long-term Public Health Advisor to this project, progress in developing research capacities at the FKMs/PSKMs has been slower than projected in the Project Paper. We think that the reasons for this slow progress are several. In general, responsibility for research development is located in the Faculty of Medicine and the University. Only in FKM/UI did we encounter a research development committee and in PSKM/USU a specific person acting as a type of research administrator. Another reason is the heavy teaching workload of the remaining teaching staff while their colleagues are pursuing their studies. Furthermore we think that the development of capabilities to do research has not been addressed sufficiently in the FKMs/PSKMs. Incentives to motivate teaching staff to do research must be investigated. We

were told that there is no financial incentive whatsoever for undertaking research. Therefore other incentives must be identified.

In our discussions with officials of DepKes and BKKBN we learned that much is expected from the FKMs/PSKMs to help improve their own planning and operational programs. Funds are available in the BKKBN for FKMs/PSKMs to undertake such research.

Until now 10 studies have been undertaken with project funds. A list of these studies is presented in Annex 7. Two of these studies were collaborative undertakings by the five FKMs/PSKMs' using the same study design. The research on "Functional Analysis of Health Centres" was coordinated by Dr.Ascobat Gani; the second, on "Private Sector Participation on Urban Immunization Program," was coordinated by Dr. Kemal Siregar. These two studies were topics requested by DepKes and BKKBN. Findings of these two studies will be used nationally as well as regionally. These two collaborative studies have been useful for the FKMs/PSKMs to learn about study design, data collection, and analysis in real life. After this learning, experienced staff must undertake research independently, although on a smaller scale

In some instances, studies were undertaken with funds other than from the Project.

Recommendation:

To speed up the development of research capabilities in FKM/UNHAS and the three PSKMs and to generate data for region-specific planning and for improving local operational health/family planning programs we recommend as a first step the setting up of a research committee in each PSKM and FKM/UNHAS, with representatives of each department as members. This committee could organize seminars regularly to discuss topics which would sharpen the analytic capabilities of the teaching staff. When the teaching staff currently in training have returned, this committee could stimulate the submission of research proposals, specifically from these young just returned staff. This committee also would organize local seminars/workshops to identify researchable topics which would generate data needed for region-specific planning and for improving local health/family planning operational programs. Such seminars would be held again to disseminate research findings to relevant authorities and concerned professionals. Further research topics could then be identified.

Technical assistance must be provided under this project to give guidance on appropriate research design,

data analysis, and reporting. Considering the needs of DepKes and BKKBN, special expertise needs to be developed in conducting operations research.

We would like to stress the importance of developing good communications between FKM/PSKM and relevant health agencies locally. It is not sufficient having discussions on research topics during regional planning meetings or local steering committee meetings. Good communication must be established between officials responsible for planning in provincial DepKes and BKKBN, persons responsible for operational programs in these two offices, and persons from other health related agencies.

In this respect local seminars/workshops are more important than national research seminars. During such national seminars each FKM/PSKM would present the findings of their best conducted research. Such presentations would not be limited to project-funded research.

It is hoped that presentations in a national seminar would be regarded as prestigious and would become an incentive to do research.

Another incentive might be the publication of research findings in national or international medical and public health journals. In the latter, some help from an

experienced person may be needed. Such assistance might be provided by correpondence with previous faculty advisors in the university where a young staff member has studied.

Finally, of course, will be the FKM/UI's establishing a national resource center. One of the center's main roles would be to establish a research registry or central data base on research findings in public health.

Recommendation

We recommend that FKM/UI develop a plan, including a budget, for a central data base on research findings in public health, utilizing part of the earmarked US$25,000.

E. SUPPORT SERVICES

1. Physical Facilities

In the course of the project, universities gave special attention to building construction for the respective FKMs/PSKMs. As is the case with FKM/UI, which already has proper accommodation in its new campus, the other four project-assisted universities will be constructing new campuses with soft loans from the Asian Development Bank (ADB). The rectors (at UNHAS the vice

rector) indicated that in the new campuses the respective FKMs/PSKMs will receive special attention in allocating needed space.

2. Library Facilities

One of the objectives of the project has been to strengthen the library resources for the public health sciences books, journals and microfiches along with the necessary hardware (microfiche reader/printers). A training program also is instituted to develop the administrative capabilities of the staff in the library. The library resources have been distributed to the FKM/PSKMs in the regions. A library training course has been conducted by FKM/UI for library staff from the FKMs/PSKMs.

In the context of the organizational structure of universities in Indonesia, the library is a structural unit. Functional positions are allowed only at the faculty level. As a result, hiring qualified personnel for the administration of the library becomes a problem. Among the FKMs/PSKMs, only FKM/UI and PSKM/USU are staffed with a qualified librarian. The others are staffed by high school graduates with only the additional FKM/UI short course on library administration.

Indonesian language books were received by the respective FKMs/PSKMs at the end of 1986. A year after, specifically requested English language books were received by the respective units. The entire collection in all five FKMs/PSKMs is classified under the Dewey Decimal system.

Recommendation

We recommend that FKMs/PSKMs develop and utilize specific rules and regulations for their libraries. Specific attention would be given to FKMs/PSKMs without qualified librarians, so that new regulations could take the place of certified librarians.

In library utilization in almost all FKMs/PSKMs, particularly the S1-4yrs students expressed their lack of understanding of English. We recommended that more Indonesian or translated books and journals be provided.

We suggest that the use of microfiche be promoted for teaching staff as well as for students. Subscriptions to additional microfiche journals would help promote microfiche use.

3. Audio Visual Aids (AVA)

As part of the project, AVA equipment has been distributed to all FKMs/PSKMs by the PMU in 2 stages. In the first stage FKMs/PSKMs have received overhead and slide projectors with screen, wireless PA system, photocopiers, and stencil machines. This AVA equipment was meant to be used in class for teaching purposes. In addition, video players/recorders and cameras, photographic equipment, and screen printing will be distributed. Except at FKM/UI, the team could not find special rooms for AVA equipment storage and distribution.

AVA equipment generally is assigned to health education/behavior sciences departments. It is not only meant for classroom teaching purposes but also for developing and designing educational messages for health education activities. The latter has yet to be started.

A short course of 2 weeks on the operation of AVA equipment was provided by the Health Education & Simulation Technology lab of FKM/UI, as part of the project.

Recommendation

We recommend the utilization of the AVA equipment not only for class teaching but also for education and behavior

change efforts in the departments of health education/behavior.

We saw in action in a classroom one of the AVA items, an overhead projector. One of our team members sat between two students and watched them copying verbatim material projected on the screen. It appeared that the new project-procured projector only reinforced a traditional teaching method of memorization.

Recommendation

We recommend that faculty workshops be held in all five project-assisted schools specifically on use of AVA for innovative teaching.

4. Computer Facilities

For administration and for data analysis in support of research programs, two sets of project-assisted computers have been installed in each of the five FKMs/PSKMs. The computer sets included keyboard, CPU, diskdrive, monitor, and printer, all procured locally. The FKM/UI shares its second computer with the PMU.

In addition to computer/printer sets, a UPS unit and one corvus are part of the equipment. To be able to operate

the computer set, FKM/UI conducted a training course for faculty and other staff from each FKM/PSKM. The course included a wordprocessor, spreadsheet, dbase, formtool, and statistical packages (Microstat, StatPac SPSS).

Teaching staff are using the installed computers. No S1 student has had computer access. S2 students in biostatistics have access to the computer. The small number of computers available results in overusage, almost day and night, often for general administrative use. Additional sets of computers are needed, particularly for students use.

For computer operation, in general, sufficient budget is not allocated; in many cases no regular maintenance and repair services or contracts are established.

Recommendation

We recommend that all students become familiar with computers. To do so, we suggest consideration of increasing the numbers of computers.

At the same time, we are concerned about supply, maintenance, and repair costs. The arrangement of FKM/UI to provide computers for general administrative use is worth consideration.

To face the trend of computer use in the years to come, we recommend that sufficient space be allocated for the computer division for academic use as well as general use.

5. Laboratory Facilities

In departments of environmental hygiene and occupational health, only FKM/UI has a complete set of laboratory equipment for teaching and research purposes. The other FKMs/PSKMs are utilizing laboratories of institutions outside the campus.

Recommendation

We recommend that funds under this project be considered for procurement of laboratories for the other FKMs/PSKMs.

F. NATIONAL RESOURCE CENTER DEVELOPMENT

FKM/UI, the oldest FKM in Indonesia, had substantial experience in public health teaching and research since 1965. Under this project, FKM/UI was to become a "Pembina" (father) to guide the development of the 4 regional,

project-assisted FKMs/PSKMs. To do so, the FKM/UI was to strengthen its own academic and administrative capacities under this project.

Through the PMU, additional teaching staff has been recruited and a fellowship program developed for master's as well as doctorate's degrees. Towards achieving Fakultas Pembina status, as part of the project, FKM/UI, under teaching staff development, has sent abroad five staff for master's degrees (3 to be completed in 1989, 2 in 1990), and one for a doctorate's degree (completion date of 1992).

At the same time, FKM/UI is helping to train the teaching staff of the other FKMs/PSKMs. Two UNHAS faculty will receive master's degrees at FKM/UI in 1989 and six in 1990. Two UNAIR faculty, one USU faculty, and one UNDIP faculty also will earn FKM/UI master's degrees in 1990.

FKM/UI has provided technical assistance on research as well as curriculum development to the 4 regions from 1986 on (see Annex 8).

With the provisions of project-assisted supporting equipment to all the FKMs/PSKMs (library, AVA, computer,

administrative), FKM/UI has conducted short training programs in library administration, AVA utilization, and computer operation with the necessary software.

We found that in general FKM/UI assistance has been well received by the regional FKM/PSKMs. We also found academic potentials in other universities that could be considered and recruited, such as UNAIR in public health administration, UNHAS and GAMA in epidemiology, UDAYANA in biostatistics/computer.

Recommendation

We recommend that FKM/UI's guiding role as Fakultas Pembina be continued during the first years of project development. Considering the academic potentials in other universities, the national resource center, acting as a clearing house for academic resources and activities, could develop a "Resource Network System," which would extend beyond the five project-assisted FKMs/PSKMs.

In this project an amount of $ 25,000 has been earmarked for the FKM/UI to prepare and present a national resource center plan. On a long term basis we suggest consideration of the establishment of an association of

schools of public health. It would become a "National Public Health Resource Center" for further developing and strengthening academic resources in public health.

G. MANAGEMENT/ADMINISTRATION : LMUs, PMU, GOI, USAID

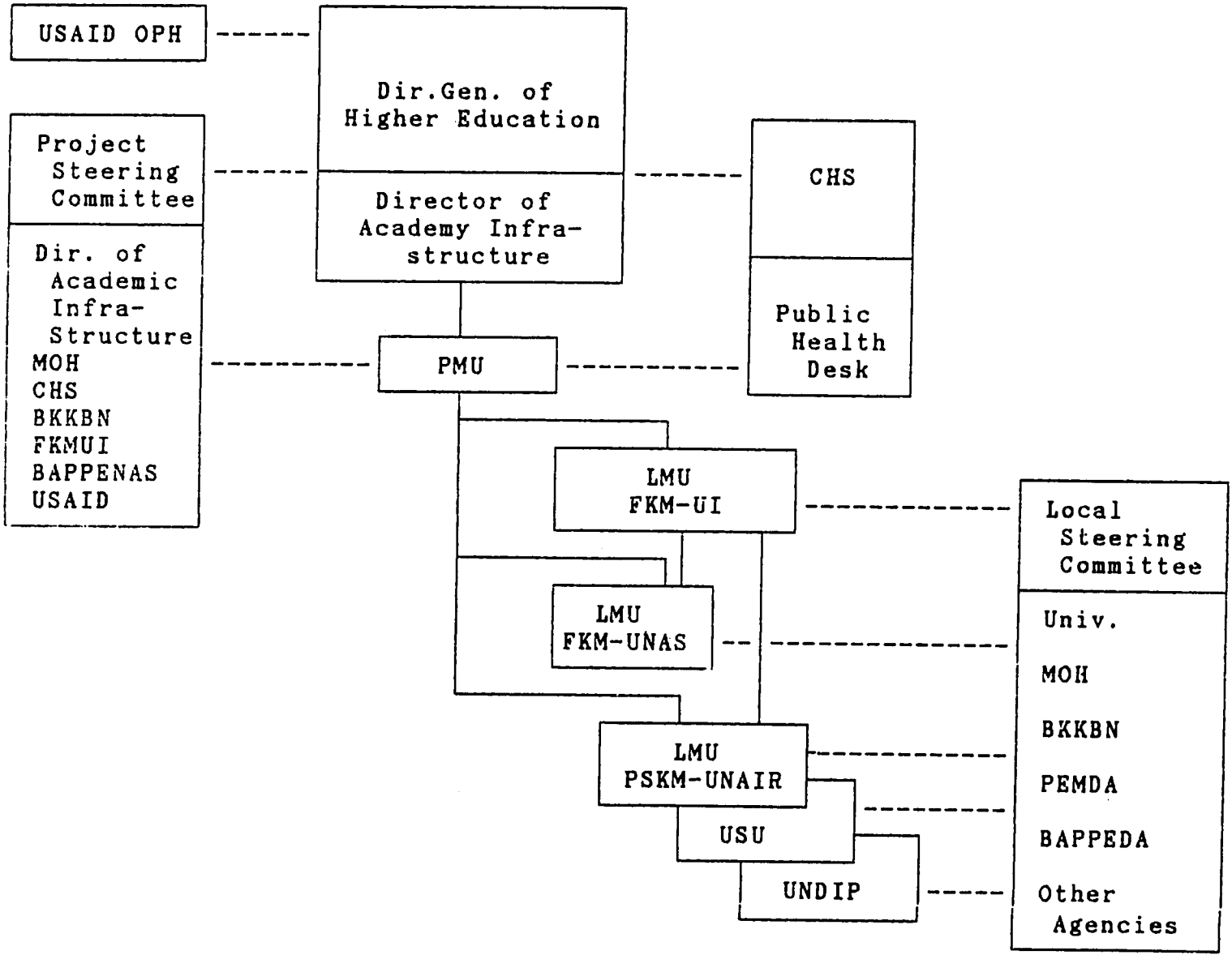
In this project a Project Management Unit (PMU) was established to coordinate and supervise project implementation, review and approve annual work-plans, control the use of project finances, and translate policy into operational program guidelines. These functions were meant to assist the Chief, Directorate of Academic Infrastructure Development, MEC, who is nominally responsible for carrying out the project.

A Project Steering Committee, chaired by the Director General of Higher Education or his representative, sets policy and operational guidelines. Its members include representatives from BKKBN, CHS, MOH, FKM/UI, BAPPENAS and USAID.

At the regional level where FKMs/PSKMs are located, local management units (LMU) were established to coordinate project activities at their respective FKMs/PSKMs. They acted as liaison between the PMU and the FKMs/PSKMs.

The LMUs established local advisory boards that included representatives from sectoral agencies of the region: university, MOH, BKKBN, PEMDA, BAPPEDA, and other relevant institutions. The purpose of the regional agencies was to set regional policy guidelines and establish linkages or networks amongst FKMs/PSKMs and public health interests of ther regions (Figure 2).

FIGURE 2 ORGANIZATIONAL STRUCTURE



The practice of the LMUs has been informal consultations rather than formal regularly scheduled meetings. The occasional formal meetings usually were held to prepare for regional planning meetings. In September 1988 the Directorate General of Higher Education issued a decree that established local steering committees to take the place of local advisory boards.

In practice, because of the high level of position of steering committee members at central and local level, many of the agencies sent lower level officials to the meetings. Many sent different representatives to different meetings.

Sectoral consultations in the region usually were held to prepare annual regional planning meetings. Attention from the health office and BKKBN has been fruitful. In addition to this, at UNHAS, great interest has been given by the office of manpower department. At USU, interest and good cooperation have been established with the BAPPEDA, office of manpower department, and the association of plantations. Chairmen of all five regional steering committees have been supportive of the progress of the FKMs/PSKMs. Special attention has been given in the accommodation of the FKMs/PSKMs in new campuses.

During this project's first year, 1986, steering committee meetings were held in March, June, and September; regional planning meetings, in May; and a national planning meeting, in July. On the other hand, in the whole year of 1987 not a single steering committee meeting was held, although regional and national planning meetings were organized for June and July, respectively. In 1988, steering committee meetings, in May, preceeded regional planning meetings in May and June; but no steering committee meetings were held before or after the national planning meeting in August 1988. Instead it appears that there were intensive communications with the MEC's Director for Academic Infrastructure Development, almost monthly during those years, and in addition, also, with the Secretary of the Directorate. No such intensive communication has been established with the other agencies, who were members of the steering committee.

Recommendation

We recommend that to get more effective involvement of steering committee members at the central (PMU) as well as regional (LMU) levels, individual sectoral meetings (office visits for consultation, correspondence, etc.) preceed formal steering committee meetings. This may result in more intensive deliberations on subjects relevant to each particular agency.

In FKMs/PSKMs in all the four regions, local steering committee chairmen have given strong positive support for their establishment and development. To generate actions, however, the PMU frequently has acted proactively because the LMUs (FKMs/PSKMs) did not take real action. In some occasions this was beyond PMU's responsibility, but necessary to secure the success of the project.

Recommendation

We recommend that all FKMs/PSKMs consider leadership as one of the key components of their growth and development. Special short courses in organizational management might be useful. PMU officials might help with greater field visits to each LMU. One field task could be to develop the interpersonal trust necessary for long-term, meaningful change within the Indonesian environment.

According to the report by the Institute for Management Education and Promotion (IPPM), there is potential for S1-4 yrs graduates to be employed in the industrial sector. At local steering committees at FKM/UNHAS and PSKM/USU, the provincial offices of the Department of Manpower are represented as members.

Recommendation

We recommend that, at the national level, the involvement of the Department of Manpower be considered for appropriate project meetings.

The Consortium of Health Sciences (CHS) provides advisory services to the MEC's Directorate General of Higher Education. At the present time, the director of the PMU also serves functionally as the public health desk of the CHS, even though these responsibilities are not institutionalized like desks for medicine, dentistry, and nursing. We are pleased to know that a public health desk will be established at the CHS.

Recommendation

We recommend that after the respective new FKMs have been established, all project-assisted FKMs work carefully with the public health desk in the CHS to consider ways to coordinate/integrate public health courses both for medical as well as public health students. They also will have to consider the status of public health departments at the Faculties of Medicine.

We have talked with LMU, PMU, and USAID representatives regarding the procedures for release of USAID funds under

this project. Many of the procedures were different from most prior USAID procedures.

The PMU, for example, handles long-term overseas project training under contract with the BKKBN. The tasks of USAID's Training Office in Jakarta and AID/Washington's Training Office are minimal under this project.

The PMU also handles most project-funded commodities, letting out tenders both for feasibility studies and for procurement. USAID had done most of that work in many prior development projects.

The largest difference in this project's procedures from prior USAID practices is local cost financing. Each LMU first uses USAID funds, through the PMU, for biannual Regional Planning Meetings. Participants from various departments (jurusan) utilize these meetings to design, propose, and appraise local cost teaching and research activities.

In annual National Planning Meetings, representatives of LMUs meet with PMU representatives to review both LMU and PMU proposals and to design a nationwide plan for USAID-funded local cost activities for the following Indonesian fiscal year.

By November, the PMU consolidates this plan into a budget for presentation to USAID. USAID and the PMU agree on the budget and sign a project implementation letter (PIL) that releases an initial advance for the Indonesian fiscal year that starts on 1st April. The PMU releases the funds to each LMU for activities agreed upon at the National Planning Meeting.

Receiving regular accounting from each LMU, the PMU sends monthly reports to USAID, accounting for expenditure and requesting replenishment for additional activities, as long as PIL line item limits are not exceeded.

In many similar prior local cost project activities, USAID assumed responsibility for vetting each sub-activity and signed separate PILs for each. Then, on a quarterly basis, USAID reviewed prior expenditure and released additional funds. This project's procedure gives to the PMU far more responsibility for tasks usually undertaken by USAID.

Reviewing financial records at four of the five LMUs, we found generally sound accounting and reporting procedures. We questioned, however, the PMU's reporting to USAID monthly rather than quarterly, as a financial overload on the PMU's and USAID's time. One alternative: USAID releases an initial ninety days advance. At the end of the

second month, or after eighty per cent of project advances are expended, and every three months thereafter, the PMU would report on expenditures and request additional funds for succeeding ninety day periods.

Separately, we found out that procedures are not easily available for the PMU, and USAID, to review sub-activities of an innovative nature that LMUs and/or the PMU might propose between annual National Planning Meetings. For example, a faculty member who returned to his campus from study abroad after the annual national planning meeting took place could not receive project funds for his own research or innovative teaching for at least another eighteen months. Establishing procedures for holding back some funds for innovative work could strengthen the capabilities of FKM/PSKM faculty to explore new ways to teach and do research.

Recommendation

We recommend that the PMU and USAID together consider designing new procedures (1) for recording, reporting, and replenishing local cost expenditures quarterly, rather than monthly, and (2) for setting aside a reasonable amount of local cost financing, perhaps 15%, for innovative sub-activities that LMUs and/or the PMU might propose between National Planning Meetings.

This project funded a significant number of short-term consultants from Indonesia (Annex 8). It also funded, through the International Science and Technology Institute (ISTI), a number of short-term consultants from the United States (Annex 9). The project also provided a long-term public health advisor.

In general, we found that most LMUs were pleased with their Indonesian short-term consultants; most of them were involved in research or curriculum tasks.

The short-term consultants from the United States worked hard, and their reports often were useful. However, several of them apparently did not work directly with counterparts. This might have been due to language difficulties on the consultants' side and/or to lack of time on the counterparts' side. Consultants' results might have been more lasting if they worked right along with their counterparts.

Recommendation

We recommend that all further short-term consultants, Indonesian or American, have clearly defined scopes of work before they attempt their consultancies, that the process of their assignments is designed to help FKMs/PSKMs carry out

agreed tasks, that they be briefed thoroughly before arrival, that at least one counterpart be assigned to each, and that, in the case of Americans, an interpreter also be assigned who is competent in simultaneous translation.

The initial long-term public health advisor under this project previously assumed major responsibility for designing it under a USAID/Jakarta personal services contract (PSC). He then helped shepherd it through the various governmental channels, both Indonesian and American. Once the project agreements were signed, USAID reassigned him to the project.

Both PMU and USAID representatives told us that his command of all aspects of the project was commendable, as was his command of USAID policies and procedures. Also commendable was his early command of the Indonesian language and much of its culture. Project Implementation Letter (PIL) signatures, fund releases, and helping American universities with the full-time PSKM/FKM faculty in the U.S. for long-term academic training were listed as examples of some of his constructive project work. Now that he is working on other USAID-assisted projects, ISTI recruited a long-term replacement.

The present long-term advisor will have the same responsibilities as his predescessor. We hope that he will

act more as a technical consultant to the PMU and LMUs as they start to make an occassional mistake on their own in order that they grow in their management capabilities. Furthermore, we suggest that he assist in curriculum development in all FKMs/PSKMs, visiting them often. It would be advisable that he briefs adequately all the American short-term consultants coming to assist the project.

Recommendation

We recommend that one of the early tasks of the new long-term public health advisor under this project if to work directly with the PMU's director to make a plan of action to implement those recommendations of the evaluation team that are approved by the GOI and USAID.

H. ADDITIONAL RECOMMENDATION.

We recommend that this report be translated into Indonesian in order that a wider readership be covered.

ANNEX 1

R e f e r e n c e s

1. D'Agnes, "Getting on Their Feet: The Faculties of Public Health Project 1986-1988," First Report of a Consultancy, 3 June 1988. PMU FKM Indonesia.

2. DepDikBud, "Kurikulum Inti Program Pendidikan Sarjana (S-1) Kesehatan Masyarakat," Seri Publikasi # 3, 1 December 1984, PMU FKM Indonesia (Malino).

3. DepDikBud, "Laporan Seminar National Pendidikan S-1 Ilmu Kesehatan Masyarakat, 13-14 January 1987," Seri Publication # 10, 1987, PMU FKM Indonesia (Trawas).

4. DepDikBud, "Ringkasan Laporan Hasil Rapat Perencanaan Pengembangan FKM Tahun 1988/1989, 23-25 July 1987," Seri Publikasi # 21, 1987, PMU FKM Indonesia (Den Pasar).

5. DepDikBud, "Indonesia Faculties of Public Health, Project Paper 497.0348," Seri Publikasi # 1, 8 October 1987, PMU FKM Indonesia.

6. DepDikBud, "Pedoman Administrasi Proyek Pengembangan FKM," Seri Publikasi # 24, Januari 1988, PMU FKM Indonesia

7. DepDikBud, "Ringkasan Laporan Hasil Rapat Perencanaan Pengembangan Fakultas Kesehatan Masyarakat, Tahun 1989/1990, 25-27 Agustus 1988," Seri Publikasi # 23, 1988, PMU FKM Indonesia (Yogyakarta)

8. DepDikBud, "Laporan Lokakarya Peningkatan Pendayagunaan Sumberdaya (Resources) Ilmu Kesehatan Masyarakat di Lingkungan Universitas Negeri se Indonesia, 24-26 Oktober 1988," Seri Publikasi # 25, 1988, PMU FKM Indonesia.

9. FKM/UI, "Rencana Anggaran dan Keuangan Fakultas Kesehatan Masyarakat Universitas Indonesia, Tahun 1988/89-1989/90," 24 Juni 1988, FKM/UI.

10. Gibbs et al., "Job Related Competecies and Curriculum Development," October 1986 - January 1987. Technical Assistance Report AID Project 497.0348.

11. IPPM, "Penelitian Awal Tentang Kesempatan Kerja di Sektor Pemerintah dan Swasta bagi Sarjana Kesehatan Masyarakat Lulusan Program Pendidikan S1 (4 Tahun),

Oktober 1987-April 1988," 7 April 1988, PMU FKM Indonesia.

12. Laporan Penataran Mengenai: Evironmental/Occupational Health

13. Laporan Penataran Mengenai: Epidemiology

14. Laporan Penataran Mengenai: Public Health Education

15. Laporan Penataran Megenai: Public Health Administration

16. Laporan Penataran Mengenai: Biostatistics/Population

17. Laporan Penataran Mengenai: Research Methodology

18. Laporan Penataran Mengenai: Audio Visual Aids

19. Laporan Penataran Mengenai: Comput

20. Laporan Regional Planning Meeting oleh tiap universitas pada tahun 1987.

21. Laporan Regional Planning Meeting oleh tiap universitas pada tahun 1988.

22. Papilaya, Soetedjo, Lubis, Torrens, "Evaluasi (periodic) External Project Management Unit, Mei-Juni 1987," Seri Publikasi # 21, 1987, PMU/FKM DepDikbud.

23. PSKM/USU, "Laporan Pengembangan Program Studi S1 Kesehatan Masyarakat Fakultas Kedokteran Universitas Kedokteran Universitas Sumatera Utara, Medan," September 1988, PSKM/USU.

24. Torrens, et al, "Consultation Report Faculties of Public Health Project, Indonesia, USAID," 5 October 1985 PMU FKM Indonesia.

25. Tafal, Wegman, "Report on the Faculties of Public Health Project, 22 February to 19 March 1988," Handout Document.

26. Tim Perumus, "Laporan Hasil Seminar Nasional dan Lokakarya Kurikulum S1 Asal Non Kesehatan, Tahun 1988/1989 di Malino, 14-30 Maret 1988," 30 Mei 1988, LMU FKM/UNHAS.

27. UNAIR, "Pedoman Program Pendidikan Jenjang S-1 Ilmu Kesehatan Masyarakat, 1986-1987," January 1986, PSKM/UNAIR.

28. UNAIR, "Pedoman Pelaksanaan Pengalam Kerja Lapangan Program Studi S-1 Kesehatan Masyarakat, Fakultas Kedokteran Universitas Airlangga," September 1987, PSKM/UNAIR.

29. USU, Laporan Regional Planing Meeting Fakultas Kesehatan Masyarakat Universitas Sumatera Utara, 6-8 Januari 1988," Brastagi, 1988, PSKM/USU.

ANNEX 2

Structure of the S3 (Doctoral) Program in UNAIR.

KERANGKA KONSEP PROGRAM PENDIDIKAN PASCA SARJANA

UNIVERSITAS AIRLANGGA

LANDASAN KEBIJAKSANAAN

1. Tujuan Pendidikan Program Doktor (S3)

   Kep.Men.Dikbud. No. 0212; Pasal 1, ayat 4.

   a. Berjiwa Pancasila, dan memiliki integritas kepribadian yang tinggi;
   b. Bersifat terbuka, tanggap terhadap pemahaman dan kemajuan ilmu dan teknologi, maupun masalah yang dihadapi oleh masyarakat, khususnya yang berkaitan dengan bidang keahliannya;
   c. Mempunyai kemampuan untuk mengembangkan konsep baru di dalam bidang ilmunya atau profesinya, melalui penelitian;
   d. Mempunyai kemampuan untuk melaksanakan, mengorganisasikan, dan memimpin program penelitian;
   e. Mempunyai kemampuan untuk pendekatan interdisipliner bagi penerapan profesional.

2. Pengelolaan Program Doktor

Kep.Pres. RI No. 27 thn 1981

a. Pasal 3, ayat 4 :

Program Pasca Sarjana dan Doktor pengelolaannya dilaksanakan atas dasar multidisiplin dan tidak merupakan kelanjutan liniair dari Program Sarjana.

b. Pasal 5,. ayat 2 :

Program Pasca Sarjana dan Doktor diselenggarakan oleh Fakultas Pasca Sarjana, yang dapat berkembang menjadi :

(1) Fakultas Pasca Sarjana Ilmu Kependidikan;
(2) Fakultas Pasca Sarjana Imlu Seni;
(3) Fakultas Pasca Sarjana Ilmu Sosial dan Kebudayaan;
(4) Fakultas Pasca Sarjana Ilmu Kesehatan;
(5) Fakultas Pasca Sarjana Teknologi dan Ilmu Pengetahuan Alam;
(6) Fakulta; Pasca Sarjana Ilmu Pertanian

KERANGKA KONSEPTUAL

1. <u>Wawasan luas dan orientasi ke masa depan</u>

Lulusan Program Doktor diharapkan berwawasan luas, dan tidak hanya terbatas pada pandangan di dalam disiplin ilmu atau profesi yang ditekuni. Disamping itu lulusan diharapkan juga dapat lebih berorientasi ke masa depan, terutama dalam meningkatkan derajat kehidupan masyarakat, mengimplementasikan kemajuan / perkembangan Iptek untuk memecahkan masalah yang dihadapi oleh masyarakat sesuai dengan tingkat perkembangan pandangan masyarakat.

Berdasarkan pendapat & pandangan yang demikian ini, program Doktor harus mempunyai landasan / dasar keilmuan yang cukup luas, dan secara terus-menerus dapat mengikuti perkembangan dan kemajuan Iptek, khususnya di dalam bidang-bidang ilmu dasar yang relevan, dan bidang ilmu atau profesi yang ditekuni. Oleh karena itu program Doktor seyogyanya tidak mempersempit bidang ilmu yang ditekuni, dengan mengadakan pembatasan sub-bidang ilmu. Penetapan mata ajaran seyogyanya memperhatikan tuntutan kebutuhan dan perkembangan di masa mendatang.

2. Kemandirian dalam mengembangkan diri

Lulusan Program Doktor selama pendidikan, dan terutama setelah menyelesaikan pendidikannya, harus mampu mengembangkan diri pribadi sebagai seorang ilmuwan atau profesional, terutama di dalam bidang ilmu atau profesi yang ditekuni. Selama pendidikan ia harus dapat dipersiapkan secara baik, sehingga ia dapat mencapai tujuan pendidikan yang telah ditetapkan, serta mandiri dalam mengembangkan diri pribadinya secara terus-menerus sepanjang hayat.

Sejalan dengan pandangan & pendapat yang demikian ini, proses pembimbingan peserta didik selama mengikuti program Doktor sangat menentukan, oleh karena itu perlu mendapat perhatian dalam pelaksanaan dan pengelolaan program ini.

Proses pembimbingan harus ditujukan kepada pencapaian tujuan peserta program melalui terlaksananya berbagai kegiatan ilmiah yang ditugaskan kepadanya dalam batas-batas kemampuannya, dan tidak terlalu menekankan pada batasan waktu pelaksanaan suatu kegiatan.

Disamping itu suasana dan lingkungan belajar / bimbingan harus diciptakan sedemikian rupa sehingga memungkinkan terbinanya sikap dan prilaku ilmuwan pada diri peserta program. Pada pelaksanaan program pendidikan harus dimungkinkan peserta program di dalam batas-batas tertentu menentukan langkah-langkah pengembangan dirinya sendiri, dan tidak terlalu dikendalikan secara kaku oleh program.

3. Bidang minat / perhatian

Sesuai dengan hakekat program Doktor, dihormatinya bidang minat / perhatian dari peserta program, dan dimungkinkannya ia dapat mencapainya, akan merupakan motivasi yang kuat bagi peserta program untuk bekerja, dan menyelesaikan pendidikannya dengan baik.

Berdasarkan pandangan & pendapat yang demikian ini, dalam pengelolaan dan pelaksanaan program hendaknya dimungkinkan pendalaman bidang minat / perhatian ini dapat terlaksana, antara lain melalui mata ajaran pilihan. Oleh karena itu alangkah baiknya apabila program Doktor dapat menyediakan

cukup banyak mata ajaran pilihan yang relevan dengan tingkat pendidikan dan bidang studi.

4. Penekanan pada pembinaan proses berpikir / intelektual

Sesuai dengan hakekat program Doktor, pelaksanaan program pendidikan lebih ditekankan kepada pembinaan proses berpikir / intelektual, dan tidak semata-mata pada keterlaksanaan prosedur administratif.

Sejalan dengan pandangan & pendapat yang demikian ini, proses pembimbingan lebih ditujukan kepada keterlaksanaan berbagai ragam kegiatan ilmiah yang lebih bersifat mandiri secara benar, dan tidak semata-mata pada usaha mengingatkan pembatasan administratif. Disamping itu peserta program dalam menentukan mata ajaran pilihan yang akan diikutinya, tidak terlalu ditentukan oleh besarnya beban studi, akan tetapi oleh minatnya.

5. Penekanan lebih pada metodologi dari pada substansi

Sesuai dengan hakekat program Doktor, pelaksanaan program pendidikan lebih ditujukan pada penguasaan metodologi dari pada substansi dari disiplin ilmu atau profesi yang ditekuni.

Sejalan dengan pandangan & pendapat ini, maka mata ajaran, khususnya mata ajaran pilihan, ditetapkan berdasarkan sifat dan lingkupnya yang luas, dan yang lebih pada metodologi, konsep dan teori, dari pada yang menekankan pada substansi yang bersifat informatif. Disamping itu penetapan mata ajaran pilihan juga harus memperhatikan tuntutan kebutuhan masyarakat dan pembangunan di masa yang akan datang.

6. Sistim pendidikan yang lentur (fleksibel)

Sesuai dengan hakekat program Doktor, pengelolaan pelaksanaan program pendidikan hendaknya dilakukan secara lentur / fleksibel, sehingga memungkinkan peserta program mengembangkan diri pribadinya secara optimal.

Sejalan dengan pendapat & pandangan yang demikian ini, pada pelaksanaan program Doktor seyogyanya dapat disediakan lebih banyak mata ajaran pilihan yang bersifat lintas disiplin ilmu; jadi tidak terlalu kaku dibatasi oleh disiplin ilmu atau profesi yang ditekuni.

STRUKTUR DASAR PROGRAM PENDIDIKAN

Berdasarkan tujuan pendidikan program Doktor dan kerangka konseptual penyusunan program pendidikan seperti yang diuraikan di atas, maka diusulkan struktur dasar program Doktor di Universitas Airlangga terdiri atas empat kelompok mata ajaran yang ditahapkan menjadi empat tahap, seperti yang dijelaskan di bawah ini

a. Tahap I : <u>Kelompok Mata Ajaran Wajib Umum / Dasar</u>

Merupakan kelompok mata ajaran wajib untuk semua peserta Program Doktor di UNAIR. Diusulkan untuk disediakan beberapa mata ajaran untuk dipilih dengan kedudukan sebagai mata ajaran wajib.

b. Tahap II : Kelompok Mata Ajaran Wajib Bidang

Merupakan kelompok mata ajaran wajib untuk peserta program bidang ilmu tertentu (sosial, kesehatan, dsb). Diusulkan untuk disediakan beberapa mata ajaran untuk dipilih dengan kedudukan sebagai mata ajaran wajib.

c. Tahap III : Kelompok Mata Ajaran Pilihan Bidang

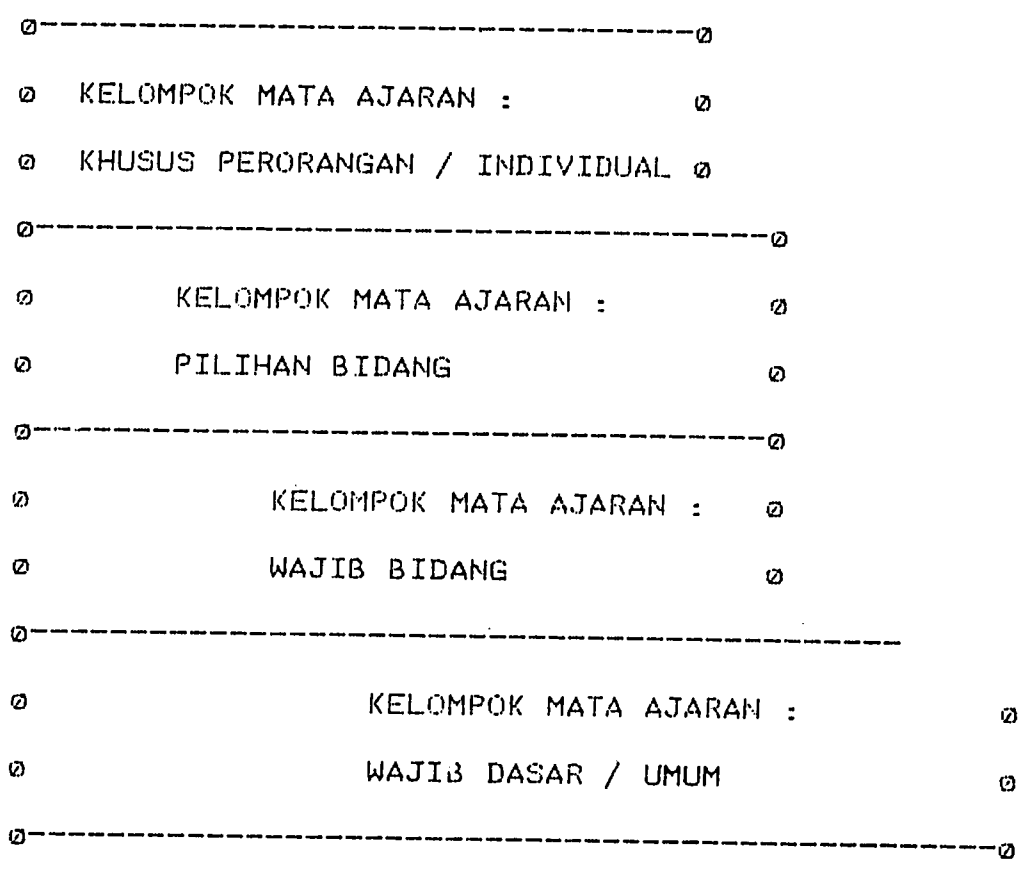
Merupakan kelompok mata ajaran pilihan untuk peserta program bidang ilmu tertentu. Diusulkan untuk juga dapat merupakan mata ajaran pilihan bagi peserta program bidang ilmu lain.

d. Tahap IV : Kelompok Mata Ajaran Khusus Perorangan

Kelompok mata ajaran yang khusus ditetapkan sesuai dengan minat / perhatian dan bidang studi perorangan / individual, dan sesuai dengan riset yang dilakukan.

GAMBAR I

STRUKTUR DASAR PROGRAM DOKTOR



MATA AJARAN DI DALAM PROGRAM PENDIDIKAN

Sesuai dengan struktur dasar program pendidikan yang diuraikan di atas, diusulkan mata ajaran - mata ajaran di dalam masing-masing kelompok seperti diuraikan di bawah ini.

1. Kelompok Mata Ajaran Wajib Dasar / Umum

Peserta program dapat memilih mata ajaran sesuai beban studi yang ditetapkan, sebagai mata ajaran wajib utama dan mata ajaran wajib pilihan.

Didalam kelompok ini termasuk antara lain :

- Filsafat Ilmu
- Perkembangan Iptekk di dalam kehidupan berbudaya manusia
- Lingkungan hidup dan perkembangan umat manusia
- Moral dan Etika di dalam Ilmu Pengetahuan
- Etika Penelitian
- Metode Riset
- Statistik di dalam penelitian
- Pengantar Program Komputer
- Riset I (Persiapan Usulan Penelitian)
- Bahasa Inggeris
- Bahasa Indonesia
- Bahasa Belanda
- Bahasa Jerman
- Bahasa Perancis
- Bahasa Jepang

2. Kelompok Mata Ajaran Wajib Bidang Kesehatan

Peserta program dapat memilih mata ajaran sesuai beban studi yang ditetapkan, sebagai mata ajaran wajib utama dan mata ajaran wajib pilihn.

Di dalam kelompok ini termasuk antara lain :

- Riset II (Penelitian Awal)
- Biologi Selular
- Riset Operasional
- Proses tumbuh kembang organisme
- Ekologi dan Kesehatan
- Dinamika Kependudukan
- Sosioantropologi medik
- Bioetik

3. kelompok Mata Ajaran Pilihan Bidang kesehatan

Di dalam kelompok ini termasuk antara lain :

- Imunologi
- Perilaku manusia pada rentang sehat-sakit
- Analisis Kesehatan Masyarakat
- Perkembangan Teknologi Kesehatan (medik, dental, farmasi)
- Pengembangan obat baru
- Ilmu Biomaterial
- Aksi dan interaksi obat
- Epidemiologi Klinik
- Hukum Kesehatan (medik, dental, farmasi)
- Transmiter, Reseptor dan Mekanisme kerja obat

4. Kelompok Mata Ajaran Khusus Perorangan / Individual

Di dalam kelompok ini termasuk mata ajaran yang ditetapkan / disusun secara khusus untuk perorangan / individual, sesuai dengan sifat dan kebutuhan riset dan pengembangan diri masing-masing.

CATATAN :

Beban studi ditetapkan berdasarkan lingkup dan kedalaman pembahasan dari masing-masing mata ajaran, dan peran / kedudukan mata ajaran dalam Program Doktor UNAIR.

Sebaiknya ditetapkan secara bersama, dengan melibatkan cara pakar di dalam bidang ilmu yang bersangkutan.

Surabaya, 5 Nopember 1988

Ma'rifin Husin
Lab. Farmakologi
FK-UNAIR

ANNEX 3

DUTIES EXPECTED OF S1 GRADUATES

Statement of Secretary General of the Ministry of Health during workshop held in Cisarua, West Java, 24 - 26 October 1988.

S1 graduates are expected to be able to perform the following duties :

1. In the health centre

a. Assist the health centre chief in planning, supervising, monitoring and evaluating health centre activities.

b. Undertake community health education.

c. Implementing and develop a health information system in the working area of the health centre.

d. Stimulate and give guidance to community participation.

e. Train village cadres and other people involved in health activities.

f. Establish connections between programs and sectors.

g. Give guidance and search for potentials in the community in order that they will support themselves through cooperation and health fund (dana sehat = sort of health insurance).

h. Undertake research in the field of community health.

2. S1 graduates may also work in hospitals with the following duties :

a. Assist the hospital director in the referral system connected with community health efforts.

b. Assist the hospital director in cross-program and cross-sectoral activities in public health.

c. Undertake research in public health.

d. Undertake health education and to the public.

3. In health office.

a. Planning.

b. Prepare materials to be used in supervision, monitoring and evaluation.

c. Recording and reporting as part of a health program.

d. Assist in coordinating health activities.

e. Assist in cross-sectoral and cross-program communication.

f. Health education.

g. Coordinate training of health personnel.

h. Assist or conduct public health research.

ANNEX 4 – BIOCHEMISTRY COURSE SYLLABUS? S1-4 YRS STUDENTS, SECOND SEMESTER

Kelompok Mata Kuliah : MKD. Ilmu Kedokteran
Disiplin Ilmu : Biokimia
Judul Mata Kuliah : Biokimia
Beban : 2 SKS

No.	TUJUAN INSTRUKSI UMUM (T.I.U) (1)	TUJUAN PERILAKU (T.P.K.) (2)	TINGKAT KEMAMPUAN (3)
I.	1. Memahami sifat-sifat unsur dan senyawa yang banyak berhubungan dengan kesehatan.	1.1. Menjelaskan sifat-sifat unsur (valensi/bilangan oksidasi, keeletronegatifan, kekuatan asambasa yang terbentuk) berdasarkan konfigurasi elektron dan letaknya dalam susunan berkala.	C2
		1.2. Menyebutkan jenis ikatan kimia antar atom dan antar molekul.	C2
		1.3. Menyebutkan fungsi unsur-unsur yang penting dalam hubungannya dengan kesehatan manusia.	C2
		1.4. Menjelaskan sifat racun logam-logam berat, gas karbonmonooksida, senyawa sianida dan zat buangan industri.	C2
	2. Memahami titrasi atas dasar reaksi asam basa, oksidasi reduksi dan pembentukan endapa.	2.1. Menjelaskan dasar titrasi asam asam dan pemilihan indikatornya.	C2
		2.2. Menjelaskan dasar titrasi iodometri, permanganometri dan reaksinya.	C2
		2.3. Menjelaskan dasar titrasi argentometri dan hasil kali kelarutannya.	C2

No.	(1)	(2)	(3)
II.	KIMIA FISIK		
	1. Memahami batasan arti umum larutan dan jenis-jenis pernyataan kosentrasi.	1.1. Menyatakan pengertian larutan encer/ pekat dan jenuh/tak jenuh	C2
		1.2. Menjelaskan pernyataan satuan-satuan konsentrasi	C_2
		1.3. Menghitung nilai konsentrasi hasil pengenceran dan percampuran	C_2
	2. Memahami sifat-sifat larutan gas dalam zat cair.	2.1. Menerangkan kelarutan gas secara fisikawi dan kimiawi.	C2
		2.2. Menerangkan koofisien larutan gas dan faktor-faktor yang mempengaruhi kelarutannya.	C2
		2.3. Menjelaskan kelarutan gas oksigen dan gas karbon dioksida dalam darah dan dalam cairan-cairan tubuh lainnya.	C_2
	3. Memahami pengertian tekanan osmotik	3.1. Menjelaskan pengertian tekanan osmotik	C_2
		3.2. Menjelaskan pengertian ketonusan	C_2
	4. Memahami pengertian asam basa	4.1. Menjelaskan pengertian asam basa menurut teori Brensted.	C_2
		4.2. Menjelaskan hubungan antara konsentrasi Ion H^+ dengan PH	C_2
		4.3. Menjelaskan sifat-sifat indikator dan pemakainnya pada penetapan PH	C_2
		4.4. Menjelaskan sifat-sifat buffer serta pemakaiannya untuk mencegah perubahan PH	C_2
	5. Memahami sifat-sifat larutan koloid	5.1. Menyebutkan sifat-sifat koloid serta faktor-faktor yang mempengaruhi stabilitasnya.	C_1
		5.2. Menyebutkan sifat-sifat emulsi dan emulgatornya	C_1

No.	(1)	(2)	(3)
III.	KIMIA ORGANIK		
	1. Kimia Karbohidrat		
	1. Memahami penggolongan,tatanama serta sumber-sumber karbohidrat	1.1. Menyebutkan penggolongan karbohidrat disertai tata nama dan contoh-contohnya.	C_1
		1.2. Menyebutkan sumber-sumber karbohidrat serta turunan-nya.	C_1
		1.3. Mengenal struktur glukosa, galaktosa dan fruktosa	C_2
	2. Memahami sifat-sifat karbohidrat	2.1. Menjelaskan sifat mereduksi monosakarida dan disakarida	C2
		2.2. Menjelaskan reaksi hidrolisis secara kimia dan enzi-matis/peragian dari K.H.	C_2
	2. Kimia Lemak		
	1. Memahami penggolongan lemak, tatanama dan sumber-sumber lemak	1.1. Menyebut penggolongan lemak, tatanama serta sumber - sumbernya.	C_1
	2. Memahami sifat fisika dan kimia lemak	2.1. Menjelaskan wujud dan daya larut lemak dalam pelba - gai pelarut.	C_2
		2.2. Menjelaskan sifat-sifat kimia lemak	C_2
		2.3. Mengenal struktur asam lemak jenuh dan tak jenuh	C_2^2 C_2
	3. Kimia Asam Amino dan Protein		
	1. Mengenal penggolongan, tatanama serta sumber-sumber asam amino dan protein	1.1. Menyebut penggolongan asam-asam amino dan protein di sertai tatanama dan contoh-contohnya.	C_1
		1.2. Menyebut sumber-sumber protein	C_1
	2. Memahami sifat fisika dan kimia asam asam amino dan protein	2.1. Menjelaskan daya larut asam amino dan protein	C_2
		2.2. Menerangkan sifat-sifat kimia asam amino dan protein	C_2^2 C_2
	4. Kimia Purin, Pirimidin dan Asam nukleat		
	1. Memahami tatanama serta sumber-sumber purin, pirimidin dan asam nukleat	1.1. Menyebut tatanama serta sumber-sumber purin, pirimidin dan asam nukleat	C_1
	2. Memahami struktur kimia purin, pirimi din serta nukleosida dan nukleotidany	2.1. Mengenal struktur kimia purin, pirimidin serta nukleasida dan nukleotidanya.	C_2

No.	Tujuan Instruksi Umum (TIU)	Tujuan Perilaku Khusus (TPK)	Tingkat Kemampuan
1.	V i t a m i n		
	1. Memahami penyerapan dan fungsi vitamin-vitamin yang larut dalam lemak serta kelainan-kelainan yang dapat terjadi akibat kekurangannya dalam makanan atau akibat gangguan penyerapannya dari usus.	1.1. Menyebutkan bahan-bahan makanan yang mengandung vitamin-vitamin yang jlarut dalam lemak.	C_1
		1.2. Menyebutkan faktor-faktor yang mempengaruhi penyerapan vitamin-vitamin yang larut dalam lemak	C_1
		1.3. Menjelaskan fungsi vitamin A, vitamin D, vitamin E dan vitamin K dalam tubuh.	C_2
		1.4. Menyebutkan gejala-gejala yang akan terjadi akibat difisiensi vitamin A, vitamin D dan vitamin K	C_1
		1.5. Menyebutkan bahan-bahan makanan yang cukup mengandung vitamin A dan provitamin A.	C_1
	2. Memahami fungsi beberapa vitamin yang larut dalam air serta kelainan yang dapat terjadi akibat kekurangannya didalam tubuh	2.1. Menjelaskan fungsi vitamin C dan fungsi vitamin B komplek dalam bentuk koenzim	C_2
		2.2. Menyebutkan gejala-gejala yang akan terjadi akibat defisiensi vitamin C, tiamin, niasin, asam folat dan vitamin B12, piridoksin, asam pantotenat, riboflavin biotin, asam nikotinat.	C_1
		2.3. Menyebutkan bahan-bahan makanan yang mengandung vitamin C, & vitamin B kompleks.	C_1
	3. Metabolisme Mineral Memahami metabolisme dan fungsi beberapa mineral serta kelainan-kelainan yang dapat terjadi akibat ganguan metabolismenya.	1.1. Menjelaskan fungsi natrium dan kalium dalam mengatur keseimbangan asam basa dan mempertahankan cairan tubuh.	C_2
		1.2. Menyebutkan faktor-faktor yang mempengaruhi penyerapan kalsium dan besi dari usus	C_1
		1.3. Menjelaskan fungsi kalsium pada pembentukan tulang fungsi besi dan tembaga pada pembentukan hemoglobin fungsi iodium pada pembentukan hormon tiroid dan fungsi fluor pada pembentukan gigi.	C_2
		1.4. Menyebutkan kelainan-kelainan yang akan terjadi akibat kekurangan atau gangguan metabolisme natrium, kalium, besi, iodium dan fluor.	C_1

No.	(1)	(2)	(3)
3.	Darah, limfe dan Cairan Serebrospinal		
	1. Memahami darah sebagai jaringan/cairan tubuh yang mempunyai fungsi penting	1.1. Mengenal susunan, sifat-sifat fisik serta fungsi umum darah	C_2
	2. Memahami proses pembekuan darah.	2.1. Menjelaskan mekanisme pembekuan darah serta faktor faktor yang berperanan.	C_2
		2.2. Menyebutkan zat-zat yang dapat menghambat proses pembekuan darah.	C_2
		2.3. Menjelaskan mekanisme lisis gumpalan darah	C_2
	3. Memahami protein plasma serta fungsinya	3.1. Menyebutkan fraksi-fraksi utama protein plasma serta fungsinya;	C_1
	4. Memahami gfungsi hemoglobin dalam sel darah merah	4.1. Mengenal fungsi hemoglobin	C_2
		4.2. Menyebutkan beberapa cara pemeriksaan Hemoglobin dan derivatnya (CO-Hb, Met-Hb)	C_1
	5. Memahami cairan serebrospinal	5.1. Menyebutkan susunan kimia cairan serebrospinal	C_1
	6. Memahami cairan limfe	6.1. Menyebut cara pembentukan dan susunan kimia cairan limfe	C_1
4.	Pernafasan dan Keseimbangan Asam-Basa		
	1. Memahami proses pernafasan serta faktor yang berperanan	1.1. Menerangkan cara terjadinya pertukaran gas pernafasan, cara pengangkutan O_2 dan CO_2 dan sistem b buffer dalam darah.	C_2
		1.2. Menerangkan proses chloride shift	C_2
	2. Memahami hubungan berbandingan kadar $BHCO_3$ dan H_2CO_3 dengan PH darah	2.1. Menerangkan peranan paru-paru dan ginjal dalam mempertahankan perbandingan kadar $BKCO_3$ dan H_2CO_3 yang normal	C_2
		2.2. Mengenal faktor-faktor yang menentukan PH darah.	C_2

No.	(1)	(2)	(3)
	3. Memahami berbagai macam gangguan keseimbangan asam basa .	3.1. Menerangkan perubahan biokimia yang terjadi pada asidosis metabolik/respiratorik dan pada alkalosis metabolik/respiratorik.	C_2
5.	Metabolisme Air		
	1. Memahami fungsi serta berbagai faktor yang mempengaruhi jumlah dan distribusi air dalam tubuh	1.1. Menyebutkan sumber-sumber masukan air bagi tubuh, jumlah yang diperlukan tiap hari serta berbagai faktor yang mempengaruhinya.	C_1
		1.2. Menerangkan berbagai macam fungsi air dalam tubuh	C_2
		1.3. Menerangkan distribusi air dalam jaringan serta berbagai faktor yang mempengaruhi jumlahnya.	C_2
		1.4. Menyebutkan organ yang mengatur pengeluaran air dari tubuh.	C_1
	2. Mengetahui berbagai macam ganguan metabolisme air di dalam tubuh	2.1. Menyebutkan bermacam-macam keadaan/kelainan yang menyebabkan tubuh kekurangan atau kelebihan air.	C_1
6.	Ginjal dan Urin		
	1. Memahami fungsi homeostatik ginjal	1.1. Menerangkan peranan ginjal dalam mempertahankan keseimbangan cairan tubuh dan asam-basa	C_2
	2. Memahami sifat dan susunan urin	2.1. Menyebutkan sifat fisik urin serta faktor yang mempengaruhinya.	C_1
		2.2. Menyebutkan susunan urin yang normal	C_1
7.	Enzim dan Koenzim		
	1. Memahami sifat umum enzim dan koenzim	1.1. Menjelaskan apa yang dimaksud dengan enzim dan kespesifikan enzim	C_2
		1.2. Menjelaskan cara kerja enzim	C_2
		1.3. Menyebutkan klasifikasi enzim menurut IUB (international Union of Biochemistry) serta kelas-kelas utamanya.	C_1
		1.4. Menyebutkan peranan koenzimkoenzim yang mengandung vitamin B	C_1
		1.5. Menjelaskan peranan koenzim pada reaksi enzimatik	C_2

No.	(1)	(2)	(3)
	2. Memahami sifat-sifat kinetik enzim	2.1. Menyebutkan faktor-faktor yang mempengaruhi kecepatan reaksi enzim	C_1
		2.2. Menyebutkan peristiwa inhibisi kompetitif dan nonkompetitif dengan memberikan beberapa contoh.	C_2
	3. Memahami kepentingan enzim dalam kesehatan	3.1. Menyebutkan beberapa penyakit yang ada hubungannya dengan perubahan aktivitas enzim didalam darah	C_1
8.	Pencernaan, Absorpsi dan Detoksikasi		
	1. Memahami proses pencernaan bahan-bahan yang terdapat dalam makanan	1.1. Menyebutkan makromolekul-makromolekul yang terdapat d didalam makanan	C_1
		1.2. Menyebutkan berbagai faktor yang merangsang sekresi saliva, susunan zat yang terdapat dalam saliva serta fungsinya.	C_1
		1.3. Menyebutkan susunan getah lambung, berbagai faktor yang mempengaruhi sekresinya serta fungsinya.	C_1
		1.4. Menjelaskan cara-cara pengaktifan enzim getah lambung	C_2
		1.5. Menyebutkan berbagai faktor yang mempengaruhi sekresi getah pankreas dan empedu, susunan zat yang terdapat di dalamnya serta fungsinya.	C_1
		1.6. Menjelaskan cara cara pengaktifan enzim getah pankreas	C_2
		1.7. Menyebutkan berbagai faktor yang mempengaruhi sekresi getah usus halus (succus entericus), susunan zat yang terdapat didalamnya serta fungsinya.	C_2 C_1
		1.8. Menyebutkan berbagai zat hasil pencernaan makromolekul (karbohidrat, lemak, protein dan nukleoprotein) yang terdapat didalam makanan.	C_1
	2. Memahami mekanisme absorpsi berbagai hasil pencernaan	2.1. Menjelaskan cara absorpsi hasil pencernaan karbohidrat, lemak, protein dan nukleoprotein.	C_2
	3. Memahami kegiatan mikroorganisme usus	3.1. Menjelaskan proses peragian dan pembusukan sisa-sisa bahan makanan yang tidak di absorpsi oleh kuman-kuman usus.	C_2
	4. Memahami berbagai proses detoksikasi.	4.1. Menyebutkan beberapa contoh sisa metabolisme dan zat asing bagi tubuh serta cara ditoksikasi dan oksidasi	C_1

No.	(1)	(2)	(3)
9.	Oksidasi Biologi dan Senyawa berenergi Tinggi		
	1. Memahami proses oksidasi dalam sistim biologi	1.1. Menjelaskan pembentukan serta peranan energi untuk kelangsungan hidup sel.	C_2
	2. Memahami peranan enzim dan koenzim pada oksidasi biologi	2.1. Menyebutkan golongan-golongan enzim yang berperan pada oksidasi biologi.	C_1
		2.2. Menyebutkan koenzim yang diperlukan oleh masing - masing golongan tersebut.	C_1
	3. Memahami proses pemindahan elektron/hidrogen dalam rantai pernafasan.	3.1. Menyebutkan komponen-komponen rantai pernafasan	C_1
	4. Memahami hubungan rantai pernafasan dengan pembentukan ikatan fosfat berenergi tinggi	4.1. Menyebutkan beberapa senyawa berenergi tinggi	C_1
		4.2. Menunjukkan peranan rantai pernafasan pada pembentukan ATP serta peranan sebagai sumber energi sel	C_2
10.	Metabolisme Karbohidrat		
	1. Memahami proses glikolisis	1.1. Menjelaskan bahwa glikolisis dapat berlangsung aerob dan anaerob.	C_2
	2. Memahami proses oksidasi piruvat	2.1. Menjelaskan oksidasi piruvat menjadi asetil-KoA dalam mitokondria.	C_2
	3. Memahami proses siklus asam sitrat	3.1. Menjelaskan oksidasi asetil KoA menjadi CO2 dan air didalam mitokondria	C_2
		3.2. Menyebutkan jumlah ATP yang dihasilkan pada oksidasi asetil KoA.	C_1
	4. Memahami proses pembentukan glikogen dalam hepar dan otot	4.1. Menjelaskan proses glikogenesis dalam hepar dan otot serta faktor-faktor yang mempengaruhinya.	C_2
		4.2. Menjelaskan proses glikogenolisis didalam hepar dan otot serta faktor-faktor yang mempengaruhinya.	C_2
	5. Memahami oksidasi glukosa melalui "Hexose Monophosphate Shunt"	5.1. Menjelaskan oksidasi glukosa melalui "Hexose M Monophosphate Shunt" serta fungsinya.	C_2
	6. Memahami proses glukoneoganesis	6.1. Menunjukkan bahwa glukosa dapat dibentuk dari zat-zat yang bukan karbohidrat (gliserol, laktat, propianat dan asam-asam amino tertentu) melalui proses glukoneogenesis.	C_2

No.	(1)	(2)	(3)
	7. Memahami oksidasi glukosa melalui jalan metabolisme	7.1. Menunjukkan bahwa glukosa dapat diubah menjadi asam uronat dan vitamin C (pada binatang tertentu)	C_2
	8. Memahami metabolisme fruktosa	8.1. Menjelaskan perubahan fruktosa menjadi glukosa	C_2
	9. Memahami metabolisme glaktosa	9.1. Menjelaskan perubahan galaktosa menjadi glukosa dan pemakaian galaktosa untuk sintesis laktosa	C_2
11.	Metabolisme Lemak		
	1. Memahami oksidasi lemak dalam jaringan	1.1. Menjelaskan oksidasi asam lemak dalam jaringan dan pembentukan energi pada oksidasi.	C_2
	2. Memahami proses biosintesis lemak	2.1. Menjelaskan perubahan karbohidrat menjadi lemak	C_2
		2.2. Menjelaskan pembentukan triasilgliserol, fosfolipid, glikolipid dan kolesterol.	C_2
	3. Memahami metabolisme jaringan lemak	3.1. Menjelaskan proses lipolisis di jaringan lemak dan faktor-faktor yang mempengaruhinya.	C_2
	4. Memahami fungsi asam lemak esensial	4.1. Menjelaskan fungsi asam lemak esensial serta sumbernya dalam makanan.	C_2
	5. Memahami fungsi lipoprotein	5.1. Menjelaskan peranan lipoprotein sebagai bentuk lemak yang di angkut didalam plasma.	C_2
	6. Memahami peranan hepar pada metabolisme lemak.	6.1. Menjelaskan pembentukan asam lemak dan triasilgliserol di dalam hepar serta faktor-faktor yang mempengaruhinya.	C_2
	7. Memahami proses ketogenesis dalam hepar serta keadaan-keadaan yang mengakibatkan terjadinya ketosis	7.1. Menjelaskan ketogenesis di dalam hepar dan hubungannya dengan kadar FFA darah yang tinggi	C_2
		7.2. Menjelaskan oksidasi zat-zat keton di Jaringan ekstrahepatik serta kegunaannya sebagai sumber energi.	C_2
	8. Memahami metabolisme kolesterol serta keadaan keadaan yang menyebabkan penyakit pembuluh darah.	8.1. Menyebut sumber kolesterol serta batas kadarnya yang normal didalam darah.	C_1
		8.2. Menjelaskan sintensis, fungsi, transport dan ekskresi kolesterol	C_2
		8.3. Menjelaskan hubungan antara kolesterol darah dan penyakit pembuluh darah.	C_2

No.	(1)	(2)	(3)
12.	Metabolisme Asam-asam Amino		
	1. Memahami hubungan metabolisme asam amino dengan metabolisme protein	1.1. Menjelaskan peranan asam amino sebagai bahan dasar untuk pembentukan protein tubuh.	C_2
		1.2. Menjelaskan pengertian "nutritionally essential amino acid" dan nutritionally nonessential amino acid".	C_2
		1.3. Menjelaskan pengertian balans nitrogen.	C_2
	2. Memahami proses metabolisme asam amino	2.1. Menjelaskan reaksi-reaksi umum katabolisme protein	C_2
		2.2. Menjelaskan proses pembentukan urea di hepar.	C_2
		2.3. Menjelaskan pengertian asam amino glikogenik dan ketogenik	C_2
	3. Memahami pembentukan senyawa-senyawa dari asam-asam amino.	3.1. Menjelaskan pembentukan senyawa-senyawa khusus (seperti niasin, serotonin, melanin, norepinefrin, epinefrin dan tiroksin) dari asam amino.	C_2
13.	Metabolisme Nukleotida Purin dan Pirimidin		
	1. Memahami biosintesis nukleotida purin dan pirimidin.	1.1. Menjelaskan sintesis nukleotida purin dan primidin serta bahan-bahan yang diperlukan.	C_2
	2. Memahami proses katabolisme nukleotida purin dan pirimidin	2.1. Menjelaskan katabolisme nukleotida purin dan pirimidin serta hasil katabolismenya.	C_2
	HORMON :		
	1. Memahami mekanisme kerja hormon.	1.1. Menuliskan difinisi hormon dan beberapa contoh hormon protein dan non-protein.	C_2
		1.2. Menyimpulkan kerja hormon melalui reseptor yang spesifik dalam sel sasaran dan memalui AMP siklik.	C_2
		1.3. Menjelaskan hubungan antara hipofisis pars anterior dengan hipotalamus dan berbagai kelenjar endokrin lain	C_2
	2. Memahami metabolisme dan fungsi hormon tiroid.	2.1. Menggambarkan biosintesis T3 (triodotironin) dan T4 (tetraidotironin) dan faktor-faktor yang mempengaruhi biosintesis dan sekresinya.	C_2
		2.2. Menyimpulkan cara pengangkutan T3 dan T4 dalam darah	C_2
		2.3. Menjelaskan cara penetapan T3, T4 dan TSH untuk menilai fungsi kelenjar tiroid dan poros kelenjar tiroid hipofisis.	C_2

No.	(1)	(2)	(3)
	3. Memahami pengaruh hormon kortikosteroid dan hormon kelamin terhadap metabolisme dan perubahan yang terjadi pada kelainan korteks adrenal dan gonad serta metabolisme berbagai hormon tersebut.	2.4. Menggambarkan perubahan yang terjadi pada hipo dan hiperfungsi kelenjar tiroid.	C_2
		2.5. Mengenal katabolisme dan inaktivasi hormonkorteks.	C_2
		3.1. Mengenal inti stercid dan sinteis hormon korteks adrenal dari kolesterol.	C_2
		3.2. Menjelaskan fungsi metabolik glukokortikoid dan hormon kelamin	C_2
		3.3. Mengenal pengangkutan hormon steroid dalam darah inaktivasinya dalam hati dan ekskresi katabolitnya oleh ginjal.	C_2
		3.4. Menggambarkan penggunaan estrogen dan progestogen untuk penanggulangan fertilitas.	C_2

ANNEX 5

Example of an Instrument Used for Evaluating Teaching Effectiveness, UI.

EVALUASI MATA AJARAN
JURUSAN PENDIDIKAN KESEHATAN DAN ILMU PERILAKU

FORMULIR UMPAN BALIK MAHASISWA

Petunjuk : Umpan balik anda sangat diperlukan untukmemperbaiki pengelolaan mata ajaran maupun bagi staf pengajar. Mohon anda memberikan jawaban dengan jujur dengan memberi tanda (X) yang sesuai atau dengan kalimat singkat. Identitas anda tidak perlu dituliskan.

Nama mata ajaran :

Kode mata ajaran :

Tanggal :

Topik bahasan :

Keterangan : 1. - Sangat sedikit/tidak jelas/tidak baik/ tidak manfaat/tidak siap
2. - Sedikit
3. - Cukup
4. - Lebih dari cukup
5. - Sangat banyak

1. Apakah anda memperoleh materi baru pada pokok bahasan hari ini ?	1	2	3	4	5
2. Bagaimana pendapat anda mengenai kejelasan materi yang dibahas ?	1	2	3	4	5
3. Bagaimana pendapat anda mengenai cara/metoda penyampaian materi tersebut ?	1	2	3	4	5
4. Bagaimana pendapat anda mengenai sikap fasilitator/pengajar kepada mahasiswa?	1	2	3	4	5
5. Bagaimana pendapat anda mengenai kegunaan rujukan yang diberikan ?	1	2	3	4	5

6. Bagaimana pendapat anda tentang tingkat kesukaran dari materi rujukan ?

1	2	3	4	5

7. Bagaimana anda menilai persiapan anda sendiri untuk mengikuti diskusi/pokok bahasan ?

1	2	3	4	5

8. Berikan komentar hal khusus yang anda sukai pada pokok bahasan ini (bila ada).

.....
.....
.....

9. Berikan komentar hal khusus yang anda tidak sukai (bila ada) dari pokok bahasan ini.

.....
.....
.....

10. Mohon diberikan saran-saran untuk meningkatkan kualitas mata ajaran (bebas tak terbatas).

11.

Terima kasih atas partisipasi anda

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ANNEX 6

FIELD WORK OUTLINE, PSKM/UNDIP AND PSKM/UNAIR

In PS-KM UNDIP and PS-KM UNAIR implementation of field training is completed in 4 stages; the objectives for each stage are as follows:

Stage I to know the characteristics of the community and its environment.

Stage II To know the health care system and the community in and around the health centre (Puskesmas)

Stage III To make a diagnosis of the health problems in the community and provide alternatives in solving these problems.

Stage IV To develop an intervention programme to overcome the identified health problems.

Instructional objectives of each stage have been stated. Field work in UNDIP is undertaken every Saturday during the 2nd, 4th and 6th semester and a block of 2 weeks during the 8th semester.

In UNAIR there is no block of field work. Field work in UNAIR is undertaken during the 2nd, 4th, 6th and 7th semester on every Friday and Saturday. In each stage the time is divided as follows:

4 - 6 weeks preparation

4 - 6 weeks field-work

2 - 4 report writing

2 weeks seminar

ANNEX 7

PMU DEVELOPMENT OF FACULTY OF PUBLIC HEALTH RESEARCH ACTIVITIES, 1986 - 1988

	INSTITUTION	RESEARCH TOPIC	PRINCIPAL INVESTIGATOR	YEAR
1.	UI	FUNCTIONAL ANALYSIS (F.A) JAKARTA	DR. I MADE JAYA	1986
2.	UNHAS	F.A. UJUNG PANDANG	DR. SIRADJUDDIN	1986
3.	UNAIR	F.A. SURABAYA	DR. SOEMARTO	1986
4.	USU	F.A. MEDAN	DR. ROZAINI NASUTION	1986
5.	UNDIP	F.A. SEMARANG	DR. BUDIORO	1986
6.	UNHAS	F.P. PROGRAM AND THE IMPACT ON FERTILITY REDUCTION	DR. LATIEF TJOKKE	1987
7.	UNAIR	STRATEGIC FACTORS DEALING WITH IMR IN EAST JAVA	DR. FUAD AMSARI	1987
8.	UNDIP	INCREASE THE HEALTH SERVICE COVERAGE THROUGH INTEGRATED SERVICE (POS-YANDU - FIRST PHASE)	DR ISTIANA	1987
9.	MULTI-CENTER	PRIVATE SECTOR PARTICIPATION ON URBAN IMMUNIZATION PROGRAM	DR. KEMAL SIREGAR (COORDINATOR - UI) P/I EACH CENTER UI: DR. SRI ANGGARINI UNHAS: DR. NOER UNAIR: PROF. SABDO UNIDP: DR. BAMBANG USU : DR. AMAN NS	1988
10.	UI	THE BEHAVIOUR OF MOTHERS TOWARD IMMUNIZATION AND FACTORS INFLUENCE	SUDARTI M.A.	1988

11. UNHAS	BLUE CIRCLE F.P. THROUGH INTEGRATED SERVICES POST IN SOUTH SULAWESI	DR. RASDI NAWI	1988
12. UNAIR	MINIMAL NUTRIENT NEED AND PRODUC-TIVITY	DR. SOEPRAPTO	1988
13. UNDIP	INCREASE THE HEALTH SERVICE COVERAGE THROUGH INTEGRATED SER-VICES (POS-YANDU - 2ND PHASE)	DR. SOEHARYO	1988
14. USU	ALTERNATE WORKING SCHEDULE ON PRODUCTIVITY AT THE PALM OIL PLANTATION.	DR. DAVID SIMANDJUNTAK	1988

The research activities for 1988 started in October 1988. Delay of about 7 months partly caused by a delay in the submission of proposals from LMU.

ANNEX 8

PROYEK MANAJEMEN UNIT
PENGEMBANGAN FAKULTAS KESEHATAN MASYARAKAT

BANTUAN TEKNIS DARI FKM-UI
UNTUK PROYEK PENGEMBANGAN FKM

No.	NAMA KONSULTAN	TAHUN	JENIS BANTUAN TEKNIS
1.	- Dra. SUDARTI, MA - Drh. SRI ANGGARINI - Dr. UMAR FAHMI ACHMADI - Dr. BAMBANG SUTRISNA - Dr. KEMAL N. SIREGAR	1986/87	PERBAIKAN PROPOSAL PENELITIAN PROYEK PENGEMBANGAN FKM UNTUK : SELURUH FKM
2.	Dr. KEMAL N. SIREGAR	1986/87	PERSIAPAN DAN PELAKSANAAN KOMPUTERISASI DATA PENELITIAN ANALISA FUNGSI UNTUK : SELURUH FKM
3.	Dr. ZARFIEL TAFAL	1986/87	PEDOMAN PELAKSANAAN KERJA LAPANGAN UNTUK : USU DAN UNAIR
4.	- Dr. NUNING MARIA - Dr. SUJANA JATI PUTRA - Dr. BUCHARI LAPAU	1986/87	STUDI PENJAJAGAN KEBUTUHAN MATERI PENATARAN EPID BAGI STAF PENGAJAR PROG. S-1 KESMAS UNTUK : SEMUA PSKM
5.	Dr. KEMAL N. SIREGAR Dr. BUDI UTOMO Dr. SUDIANTO KAMSO	1986/87	STUDI PENJAJAGAN KEBUTUHAN MATERI PENATARAN BIOST BAGI STAF PENGAJAR PROG. S-1 KESMAS UNTUK : SEMUA PSKM
6.	Dr. TOHA MUHAIMIN	1986/87	PERSIAPAN STUDI ANALISA FUNGSI UNTUK : USU DAN UNDIP
7.	Dr. UMAR FAHMI ACHMADI	1986/87	PENGEMBANGAN PROGRAM S-3 KESMAS-UI UNTUK : UI
8.	Dr. SYAFRI GURRICI	1986/87	PENGEMBANGAN KURIKULUM DAN PELAT.AKM UNTUK : USU
9.	Drs. SOEKIDJO NOTOATMODJO Dra. SOLITA S.	1986/87	PENGEMBANGAN KURIKULUM DAN PELAT.PKM UNTUK :USU
10.	Dr. UMAR FAHMI ACHMADI	1986/87	PENGEMBANGAN KURIKULUM KL/KK S-1 UNTUK : UNDIP
11.	Dr. ZULAZMI MANDI	1986/87	PENGEMBANGAN LAB-AVA UNTUK : UNDIP

No.	NAMA KONSULTAN	TAHUN	JENIS BANTUAN TEKNIS
12.	Dr. HERTONO BROTO	1986/87	PENGEMBANGAN KUR DAN PELAT. BIOST UNTUK : UNHAS
13.	Dr. ZARFIEL TAFAL	1987/88	REVIEW BANTUAN TEKNIS UNTUK : 3 PSKM DAN 2 FKM
14.	Dr. UMAR FAHMI ACHMADI,MPH,Phd Dr. IZHAR M. FIHIR	1987/88	PENGEMBANGAN KURIKULUM BIDANG KESEHATAN LINGKUNGAN/KESEHATAN KERJA PROGRAM S-1 KESEHATAN MASYARAKAT UNIVERSITAS HASANUDDIN
15.	Dr. AMAL SYAAF, Dr.PH.	1987/88	MEMBANTU PENELITIAN PERKEBUNAN SHIFT KERJA 87/88 UNTUK : USU
16.	Dr. PURNAWAN DJUNADI	1988/89	MEMBANTU PENELITIAN POSYANDU II 8/88 UNTUK : UNDIP
17.	Dr. AMAL SYAAF	1988/89	MEMBANTU PENELITIAN 88/89 UNTUK : USU
18.	Dr. BUCHARI LAPAU Dr. BAMBANG SUTRISNA	1988/89	PENGEMBANGAN KURIKULUM EPIDEMIOLOGI UNTUK : USU
19.	Dr. KEMAL N. SIREGAR	1988/89	KOORDINATOR PENELITIAN MULTSENTER PERANAN SEKTOR SWASTA DALAM PROGRAM IMUNISASI UNTUK : SELURUH FKM

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ANNEX 9

PROYEK MANAJEMEN UNIT
PENGEMBANGAN FAKULTAS KESEHATAN MASYARAKAT

CONSULTANT ASSISTANCE FROM ISTI UNDER PROJECT

No.	NAMA KONSULTAN	TAHUN	JENIS BANTUAN TEKNIS	DN/LN
1.	STUART O. SCITZER	1986/87	PERSIAPAN PROGRAM S-3 UI	LN
2.	HENRY M. GELFAND HENRY PRAKOTO	1986/87	EPIDEMIOLOGY COMPONENT	LN
3.	SNEHENDU CAR	1986/87	HEALTH EDUCATION UI	LN
4.	DEBORAH GIBBS SUMARTO DANUSUGONDHO JOHN E. PAUL	1986/87	JOB RELATED COMPETENCIES AND CURICULUM UNAIR	LN
5.	- Dra. SUDARTI, MA - Drh. SRI ANGGARINI - Dr. UMAR FAHMI ACHMADI - Dr. BAMBANG SUTRISNA - Dr. KEMAL N. SIREGAR	1986/87	PERBAIKAN PROPOSAL PENELITIAN PROYEK PENGEMBANGAN FKM UNTUK : SELURUH FKM	DN
6.	Dr. KEMAL N. SIREGAR	1986/87	PERSIAPAN DAN PELAKSANAAN KOMPUTERISASI DATA PENELITIAN ANALISA FUNGSI UNTUK : SELURUH FKM	DN
7.	Dr. ZARFIEL TAFAL	1986/87	PEDOMAN PELAKSANAAN KERJA LAPANGAN UNTUK : USU DAN UNAIR	DN
8.	- Dr. NUNING MARIA - Dr. SUJANA JATI PUTRA - Dr. BUCHARI LAPAU	1986/87	STUDI PENJAJAGAN KEBUTUHAN MATERI PENATARAN EPID BAGI STAF PENGAJAR PROG. S-1 KESMAS UNTUK : SEMUA PSKM	DN
9.	Dr. KEMAL N. SIREGAR Dr. BUDI UTOMO Dr. SUDIANTO KAMSO	1986/87	STUDI PENJAJAGAN KEBUTUHAN MATERI PENATARAN BIOST BAGI STAF PENGAJAR PROG. S-1 KESMAS UNTUK : SEMUA PSKM	DN
10.	Dr. TOHA MUHAIMIN	1986/87	PERSIAPAN STUDI ANALISA FUNGSI UNTUK : USU DAN UNDIP	DN

No.	NAMA KONSULTAN	TAHUN	JENIS BANTUAN TEKNIS	DN/LN
11.	Dr. UMAR FAHMI ACHMADI	1986/87	PENGEMBANGAN PROGRAM S-3 KESMAS-UI UNTUK : UI	DN
12.	Dr. SYAFRI GURRICI	1986/87	PENGEMBANGAN KURIKULUM DAN PELAT.AKM UNTUK : USU	DN
13.	Drs. SOEKIDJO NOTOATMODJO Dra. SOLITA S.	1986/87	PENGEMBANGAN KURIKULUM DAN PELAT.PKM UNTUK :USU	DN
14.	Dr. UMAR FAHMI ACHMADI	1986/87	PENGEMBANGAN KURIKULUM KL/KK S-1 UNTUK : UNDIP	DN
15.	Dr. ZULAZMI MAMDI	1986/87	PENGEMBANGAN LAB-AVA UNTUK : UNDIP	DN
16.	Dr. C. VERDIAN	1986/87	MEDIA ELEKTRONIK UNTUK SELURUH FKM	DN
17.	Dr. HERTONO BROTO	1986/87	PENGEMBANGAN KUR DAN PELAT. BIOSTATISTIK UNTUK : UNHAS	DN
18.	Dr. ZARFIEL TAFAL	1987/88	REVIEW BANTUAN TEKNIS BERSAMA Dr. MAYRON W. UNTUK : 3 PSKM DAN 2 FKM	DN
19.	Drs. HARSONO SUWARDI	1987/88	STUDI KELAYAKAN KEBUTUHAN AVA (5 FKM)	DN
20.	Dr. PAUL TORRENS Dr. ALEX PAPILAYA Dr. FIRMAN LUBIS Drs. SUTEDJO MULYODIHARDJO	1987/88	EVALUASI (PERIODIK) EXTERNAL PROJECT MANAGEMENT UNIT	LN
21.	Dr. MYRON WEGMAN	1987/88	REVIEW BANTUAN TEKNIS	LN
22.	Dr. RAYMOND CARLAW Dr. TEODORA V. TIGLAO Dr. BOONYIAM KEITTIVUTI	1987/88 1987/88 1987/88	POST GRADUATE TRAINING IN PABLIC HEALTH (S2) AT UI, UNAIR, UGM.	LN
23.	Ir. ADJIWIBOWO	1987/88	MICRO COMPUTER SOFT WARE, KEUANGAN	DN
24.	Ir. EDDY RIDUAN	1987/88	COMPUTER EQUIPMENT (FEASIBILITY STUDYS)	DN
25.	Dr. HANANTO SIGIT	1987/88	MEMBANTU PENELITIAN UNTUK MENGEMBANGKAN USULAN PENELITIAN MULTISENTER IMUNISASI	DN

No.	NAMA KONSULTAN	TAHUN	JENIS BANTUAN TEKNIS	DN/LN
26.	Dr. SUMARTO DANUSUGONDHO	1987/88	PERSIAPAN SEMINAR PENERIMAAN MAHASISWA ASAL AKADEMI NON KESEHATAN S1 KESMAS (PMU)	
27.	Dr. UMAR FAHMI ACHMADI,MPH,Phd Dr. IZHAR M. FIHIR	1987/88	PENGEMBANGAN KURIKULUM BIDANG KESEHATAN LINGKUNGAN/KESEHATAN KERJA PROGRAM S-1 KESEHATAN MASYARAKAT UNIVERSITAS HASANUDDIN	DN
28.	Dr. AMAL SYAAF, Dr.PH.	1987/88	MEMBANTU PENELITIAN PERKEBUNAN SHIFT KERJA87/88 UNTUK : USU	DN
29.	Dr. PURNAWAN DJUNADI	1988/89	MEMBANTU PENELITIAN POSYANDU II 8/88 UNTUK : UNDIP	
30.	Dr. SOFIAN EFFENDI	1988/89	MEMBANTU PENELITIAN 88/89 UNTUK : UNDIP	
31.	Dr. MASRI SINGARIMBUN	1987/88	MEMBANTU PENELITIAN 87/88 UNTUK UNAIR	DN
32.	Dr. NYOMAN WIRAWAN	1987/88	MEMBANTU PENELITIAN UNHAS	DN
33.	Dr. RIHNA A. AZWAR	1988/89	ANGGARAN DASAR BKS-FKM	DN
34.	Dr. MUKSIN RASYID	1988/89	DATA PROSES MULTISENTER(IMUNISASI)	DN
35.	Dr. HANANTO SIGIT	1988/89	MEMBANTU PENELITIAN MULTISENTER UNTUK 5 FKM (PELAKSANAAN)	DN
36.	Dr. HENDRUMTL PANJAITAN	1988/89	COMPUTER PROGRAM (DATA AKADEMIK)	DN
37.	Dr. DJAMALUDIN ANCOK	1988/89	MEMBANTU PENELITIAN 88/89 UNTUK UNAIR	DN
38.	Dr. NYOMAN WIRAWAN	1988/89	MEMBANTU PENELITIAN 88/89 UNHAS	DN
39.	Dr. BUCHARI LAPAU Dr. BAMBANG SUTRISNA	1988/89	PENGEMBANGAN KURIKULUM EPIDEMIOLOGI UNTUK : USU	
40.	Dr. KEMAL N. SIREGAR	1988/89	KOORDINATOR PENELITIAN MULTSENTER PERANAN SEKTOR SWASTA DALAM PROGRAM IMUNISASI UNTUK : SELURUH FKM	

No.	NAMA KONSULTAN	TAHUN	JENIS BANTUAN TEKNIS	DN/LN
41.	Dr. AMAL SYAAF, Dr.PH.	1988/89	MEMBANTU PENELITIAN PERKEBUNAN SHIFT KERJA87/88 UNTUK : USU	DN
42.	Dr. SUMARTO DANUSUGONDHO	1988/89	PROPOSAL PENELITIAN MULTISENTER UNTUK : 5 FKM	DN
43	Dr. TONNY SADJIMIN	1988/89	PENGEMBANGAN KURIKULUM EPID-UNDIP	DN

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ANNEX 10

FAKULTAS KESEHATAN MASYARAKAT

UNIVERSITAS INDONESIA

Academic Program

Preparation for a S3 training course has been started in FKM/UI. The structured teaching pregram will comprise 1st year in FKM/UI (18 SKS). Students have to attend classes in

- philosophy of science
- research methodology
- doctoral seminar
- advanced biostatistics

They have to pass TOEFL with a score of 500 minimum. In the 3rd and 4th semester students would attend courses abroad. Cooperation has been established with University of Hawai, Berkeley School of Public Health , UCLA, University of North Carolina, Johns Hopkins University and Tulane University. Credits earned will be transferred to UI and accepted by UI. Preparations are almost complete except for the formal concurrence of the Dean of the Faculty of Post Graduate Studies of UI.

There are 8 faculty members with an S3 degree: 2 in health education, 1 in epidemiology, 4 in public health

administration and 1 in enviromental health. Four people are at present abroad pursuing studies towards an S3 degree, 1 in public health administration, 1 in epidemiology, 2 in public health administration and 1 in enviromental health.

FKM/UI is the only project-assisted institution which has published a booklet containing fotographs with particulars of every staff member and every student attending courses in FKM/UI during the academic year 1988/1989.

Supporting Facilities

FKM/UI is located in the new UI campus in Depok, south of Jakarta, with a floor space of 3,850.5 sqm.

The library is well-placed in one of the pavilion type buildings with the faculty. It has a space of approx. 280 sqm. More than half of it is occupied by the bookstacks. The reading room next to the library office has seats for 35 students.

It is staffed by a qualified librarian, two assistant librarians, and 3 technicians. The chief librarian is not a faculty member of the FKM, but give lectures in the utilization of the library and assists students and faculty on conducting literature searches, etc.

The library services in FKM/UI employ a closed access system. It is open only during office hours, 6 days a week. The library serves 190 S1 and S2 students and 60 faculty members. Alumni willing to pay an annual fee of Rp. 5,000,- also has access to the library. Many teaching staff keep the borrowed books beyond the allowable time of one month. We recommend that an effective system for return of these books be developed soon.

Through the PMU, FKM/UI has received 158 Indonesian books and 361 foreign books. The collection is classified under the Dewey Decimal system. Accession lists are being updated quarterly. The teaching staff also has access to outside libraries and documentation/information networks.

In 1985 UI held an in-service training program for UNHAS, UNAIR, UNDIP, and USU to strengthen library capabilities. They also received a selected core of journals.

The methodology for computerized searching has not been established yet. However UI is installing one as part of the university network system, using the CDS ISIS program from UNESCO. A limited literature search could be done by using the Biblio program. The computer is also used for administrative work.

The project also has provided a set of microfiche (3 microfiche readers, a printer, and cabinet). The microfiche equipment is being used mostly by S2 students and the teaching staff. Supplies for the operation of the microfiche is borne by the FKM itself. A fee of Rp. 200 a page, and Rp. 1,500 a microfiche film is being charged to every user.

A copying facility is being provided in one of the corners at a fee of Rp. 25 a copy.

The FKM/UI AVA unit is located in the laboratory of health education and simulation technologies of the Health Education & Behavior Sciences department.

In a limited space of approx. 150 sqm this lab had already used AVA material of its own; additional equipment was provided as part of the project. Screenprinting, video recording/editing equipment, video cameras, photographic unit in the dark room, and PA system constitute the AVA lab of FKM/UI.

Staff personnel consists of 2 communication specialists (part-timers), faculty members of the department, and one full-timer, a technician.

A short course for AVA unit personnel of regional FKMs/PSKMs was organized last year. For S1 students the course on Media Communication Development and its Utilization in health is given not to produce material itself, but to become professionally capable to give critique and able to advise in its design. The exposure to sophisticated equipment of media production is meant to show its existence and potential for communication.

Together with FKM/UNHAS, PSKMs/UNAIR, USU, and UNDIP, a core of media production equipment has been selected.

The FKM/UI computer unit is part of the "Computerization & Population Simulation Laboratory" of the Population and Biostatistics Department. The lab has recently been established for academic purposes.

Including the computer set received from PMU, the lab has 10 IBM compatibles in a spacy aircontioned room. In adjacent smaller room 4 other IBM compatibles are being installed for general purposes.

Three staff personnel, attached to this lab (2 faculty and 1 technical staff), are responsible for lab management. Unfortunately they are no fulltimers for the computer unit.

When the lab was first established, 7 computers needed repair. All of them now are functioning well. There is no problem in obtaining supplies (diskettes, ribbon, paper). A contract is being processed for its regular maintenance.

The academic computer set is used for the S2 program at a ratio of 1 computer for 2 students. Occasionally the teaching staff of other departments also have access to the computer. But many of them have their own computer set in their respective departments.

The 4 computers for general use are meant to satisfy the need for students as well as other staff for preparing reports and calculations. The printer is available but the user are responsible for their own supply of ribbons and paper. A register system for computer usage is introduced but not yet carefully controlled. Frequency of usage is approx. 3 - 4 a day. Only during report presentations by the students it may be become as high as 20 - 30 per day.

In addition to this, at another floor of the same building, a smaller computer unit is installed for general, financial, and personnel management as well as the academic administration of the students. This unit is called the management information unit under the Assistant Dean of Administration.

Within the LMU of FKM/UI consultations with the regional sectors have not been established fully. Most consultations have been at the national level, mainly the health sector and BKKBN. The consultations have been carried out as informal official visits and at meetings on specific topics.

Due to its recent establishment, the local steering committee had not met formally by early December 1988.

FAKULTAS KESEHATAN MASYARAKAT

UNIVERSITAS HASANUDDIN

Academic Program

The development of teaching staff in the FKM/UNHAS is being pursued vigorously.

In the last three years the number of teaching staff has more than doubled. In 1985 there were only 14, at present there are 39 staff.

It is now the policy of the University to recruit each year 3 new teaching staff for FKM. Of the existing staff 22 are at present sent for post-graduate studies; fourteen in Indonesia and eight abroad. Nine will return in 1989, eleven in 1990 and two in 1991. Next year it is planned to send three teaching staff to do S2 training in Indonesia and in 1990 three more. Two others will be sent abroad for public health training in 1989. Two staff members have been sent abroad, one on a teaching externships and another for a short course of 3 months. Short courses have been requested for 4 staff members one of which is for a teaching

externships. A list of existing full-time teaching staff with information in which department they work and what qualifications list of staff to be sent for training are presented below.

List Of Full-Time Teaching Staff

Public Health Administration	Qualifications	Remarks
1. Dr. H. Siradjuddin SKM	S2	
2. Dr. N. Bahry Noor, MS	S2	
3. Drs. Martha L. S, MPH	S3	
4. Drs. Amran Razak	S1	
5. Dr. Alimin Maidin	S1	
6. Ir. Nurhayani	S1	
7. dr. Venny Hadju	S1	
8. Dr. Hamid Tahir	S1	
9. dr. M. Rum Rahim	S1	

Biostatistics And Population	Qualifications	Remarks
1. Dr. A. Latief Tjokke, SKM	S2	
2. Dr. Tahir Abdullah, MSc.	S2	
3. dr. Buraerah A. Hakim	S2	
4. dr. Burhanuddin Bahar	S2	
5. Dra Masni	S1	
6. A. Ummu Salmah, SKM	S1	
7. dr. Arifin Seweng	S1	
8. dr. A. Gani	S1	

Epidemiology		Quali-fications	Remarks
1.	Drs. Nur Nasry Noor, MPH	S2	
2.	Dr. Nadjib Bustan	S2	
3.	dr. Ibrahim Ali	S2	
4.	dr. Rasdi Nawi, MS	S2	
5.	dr. Junaedi	S2	
6.	Dra. Hardania Z.	S1	
7.	dr. Muh. Ichsan	S1	

Enviromental And Occupational Health		Quali-fications	Remarks
1.	Dr. M. Alimin Umar, SKM	S2	
2.	Dr. Rafael Djajakusli	S2	
3.	dr. Makmur Selomo	S2	
4.	Ir. Muh. Hasyim Djafar	S1	
5.	Drg. Sri Tjahyani BU	S1	
6.	dr. Syamsiar S. Russeng	S1	
7.	Indar, SH	S1	
8.	dr. Muchsen Sarake	S1	
9.	dr. Furguan Naim		

Health Education		Quali-fications	Remarks
1.	Dr. H.M.R. Ngatimin, MPH	S3	
2.	Drs. Watief A. Rahman	S2	
3.	Drs. Ridwan Thaha	S2	
4.	dr. Syafar	S1	
5.	dr. Seth Somba	S1	
6.	Dra. Sani Silwana	S1	

TRAINING OF TEACHING STAFF IN FKM - UNHAS

No.	N a m e	Field of study	Length of training	Site of training	De gree
I.	In Indonesia				
1.	Dr. Noer Bahri Nur	PHA	1985-1987	UI	S2
2.	Dr. Ibrahim Ali	Epid.	1986-1988	UI	S2
3.	Drs. Azis Matimu	Epid.	1986-1988	UI	S2
4.	Drs. Muh. Abduh	Health Ed	1986-1988	UI	S2
5.	Dr. Buraerah A. Hakim	Biost/Pop	1987-1989	UI	S2
6.	Dr. Makmur Selomo	Env.Healt	1987-1989	UNAIR	S2
7.	Dr. Burhanuddin Bahar	Biost/Pop	1987-1989	UNAIR	S2
8.	Dr. Djunaedi	Epid.	1987-1989	UNAIR	S2
9.	Drs. Watief A. Rachman	Health Ed	1987-1989	UNAIR	S2
10.	Drs. Muh. Yamin	Health Ed	1987-1989	UNAIR	S2
11.	Drs. Mustamin	Health Ed	1987-1989	UI	S2
12.	A. Ummu Salmah, SKM	Biost/Pop	1988-1990	UI	S2
13.	Drs. Amran Razak	PHA	1988-1990	UI	S2
14.	Drg. Sri Tjahyani B.U.	Biost/Pop	1988-1990	UI	S2
15.	Drs. Ridwan Thaha	Health Ed	1988-1990	UI	S2
16.	Ir. Nurhayani Tane	PHA	1988-1990	IPB	S2
17.	Drs. Ny. Hardania Z.	Epid.	1988-1990	UNAIR	S2
18.	Ir. Hasyim Djafar	Env.Healt	1988-1990	ITB	S2
II.	U S A				
1.	Dr. Nadjib Bustan	Epid.	1987-1989	S.C.U.-USA	S2
2.	Dr. Tahir Abdullah	Biost/Pop	1987-1991	Tulane-USA	S3
3.	Dra. Martha L.S., MPH	PHA/Nutr	1987-1991	Loma Linda	S3
4.	Drs. Mappeaty Nyorong	Health Ed	1987-1989	Pittsburgh	S2
5.	Dra. M a s n i	Biost/Pop	1988-1990	Tulane-USA	S2
6.	Dr. Alimin Maidin	PHA/Nutr	1988-1990	Michigan	S2
7.	Dra. Sani Silwana	Health Ed	1988-1990	Boston USA	S3
8.	I n d a r, SH	Env.Healt	1988-1990	Boston USA	S3

An interesting approach to develop teaching staff has been practiced in FKM/UNHAS. Newly appointed staff undergo a so called "pre-master training". They are assigned 2 to 3 months each in the varous departments. They attend all lectures given by the department they are assigned to. At the end of the 2 or 3 months they have to make a report.

Supporting Facilities

FKM/UNHAS is slowly being transferred to a new campus, with ADB assistance. The FKM site in the old campus of approx. 550 sqm will be retained and its purpose remains to be decided. At present S1-2yrs classes are still being held in this location. The S1-4yrs students are attending classes in the new campus. A 770 sqm floor space for classes, library, and AVA equipment is also available in this new location. Computers are still housed in the old building.

In addition, in the new campus a 3 storey building will be constructed to accommodate the Faculties of Dentistry, Public Health, and Postgraduate teaching. The floor space in each floor of the new building will be around 1,000 sqm.

The library unit, started in the old campus, is in the process of being moved to the new premisses. Presently it is housed in a room of 120 sqm. It also has an adjacent reading room with 10 - 12 seats. A photocopy machine, the microfiche equipment, and part of the AVA equipment are also available in the same location.

It is staffed by one person with a bachelor's degree in nutrition. She has attended the 3 months library training course provided by FKM/UI.

Since its beginning the services employ a closed-access system. It is opened during working days, 8.00 - 13.00 (Friday 8.00 - 11.00, Saturday 8.00 - 12.00). Average daily visitor's count amounted to 15 students and 5 teaching staff. Borrowing time is one week.

The collection consists of 370 Indonesian books, 412 foreign books and 63 public health journals. Annual accession lists are distributed through the Dean's office to the teaching staff. These lists are displayed on the notice book for the benefit of the students.

The microfiche reader and printer are being used approximately twice a week by the teaching staff. The charge for a microfiche print-out is set at Rp. 300,-. A fee of Rp. 30,- is charged for using the photocopy machine.

The FKM/UNHAS AVA unit does not have a specific location. It is being used for class teaching purposes.

A first set of equipment has been received, consisting of projectors with screen, PA system, photocopier and stencil machine and a short course for teaching staff and other staff have been conducted at FKM/UI.

Their computer unit is still located in the old campus. Two sets of computer/printer, corvus and UPS have been installed, and all are functioning well.

A teaching staff is responsible for this unit. One administrative / technical staff is taking care of the equipment, and he is also responsible for the operation of the photocopying machine and some of the AVA equipment received from PMU.

In the beginning some registration has been introduced for using the computer but it did not last, and at present no administration has been maintained.

Four teaching and one administrative staff have attended the computer course at FKM/UI, using the prescribed package of programs. Fortunately, on this occasion of technical assistance on research methodology from Udayana University,

the consultants have been teaching additional statistical package programs for the teaching staff. All teaching staff are advised to attend computer course held by the computer centre of UNHAS. No control has been introduced for its training.

On repair at malfunction a fast service has been received. Twice monthly a contract for regular service has been established.

Since the project's beginning consultations within the LMU of FKM/UNHAS took place with health and BKKBN. The LMU also received support from the university. In regional planning meetings and their preparation, the sectoral agencies have been involved. They included the office of manpower department.

The local steering committee, due to its recent appointment, had not met by early December 1988.

PROGRAM STUDI KESEHATAN MASYARAKAT

UNIVERSITAS AIRLANGGA

Academic Program

There are 38 full time teaching staff PSKM/UNAIR divided according "Jurusan" (focus of teaching) i.e. Public Health Administration, Epidemiology, Enviromental Health, Biostatistic and Population, Nutrition, Health Education and Occupational Health. No decision has yet been taken who will join the FKM when established and who will remain in the Public Health Department of the Faculty of Medicine.

There are 3 professors in Public Health Administration, Epidemiology and Biostatistics. Three persons obtained a doctoral degree (two abroad and one in UNAIR with technical assistance from Tropical Institute, Netherlands) in respectively Public Health Administration, Enviromental Health and Nutrition. Many of the teaching staff have obtained an MPH degree or MS in Indonesia. Those who have not yet obtained an MPH or MS have been sent for study last year and this year or will be sent next year. Three sent two years ago will take a doctoral degree. Teaching staff seem to be competent. From interviews with alumni (S1-2 yrs graduates) working in the provincial health

office we learned that the teaching of biostatistics and health administration was not practical enough relating theory with real life situations.

Below is a list of full-time teaching staff.

List Of Full-Time Teaching Staff

Public Health Administration	;Quali-fications	Remarks
1. Prof. dr. Sumarto Danusugondho, MPH, Dr.PH	S3	
2. dr. Widodo JP, MS, MPH	S2	In training for S3
3. dr. S. Supriyanto, MS	S2	
4. dr. Subur Prayitno	S2	
5. Drg. Nyoman Anita P.	S1	S2 training planned for 1989

Epidemiology	Quali-fications	Remarks
1. Prof. dr. Sabdoadi, MPH	S2	
2. dr.Eddy Pranowo S, MPH	S2	
3. dr. Priyono Satyabakti, MS	S2	Planned for S3 training
4. dr. F. Sustini, MS	S2	
5. dr. Chatarina Umbul Wahyuni,	S2	
6. dr. Susilowati Andayani, MS	S2	

Enviromental And Occupational Health	Quali-fications	Remarks
1. dr. Fuad Amsyari, MPH, Ph	S3	
2. dr. Soedibyo HP, DTM	S2	
3. dr. Siti Pariani, MS, MPH	S2	In training for S3
4. dr. J. Mukono, MS, MPH	S2	
5. dr. Soedjajadi, MS	S2	
6. Drh. Ririh Yudhastuti	S1	

Biostatistics And Population	Quali-fications	Remarks
1. Prof. dr. Hoepoediono S, MPH	S2	
2. dr. Kuntoro, MPH	S2	
3. dr. Sunarjo, MS	S2	Planned for S3 training
4. dr. Windhu Purnomo	S1	
5. dr. Arief Wibowo	S1	

Nutrition	Quali-fications	Remarks
1.Dr dr Sri Kardjati, M.Sc.	S3	
2.dr Sri Adiningsih, MS, MCN	S2	
3.dr.Bambang Wirjatmadi, MS,MCN	S2	
4.dr.Arsiniati MB Arbai DA.Nutr	S2	
5.dr. Sri Umiyati	S1	
6.Ir. Maria M. Erret Widodo	S1	

Health Education	Qualifications	Remarks
1. dr. Rika S. Triyoga, SKM	S2	Will obtain S3 in December 1988
2. dr. Rachmat Hargono, MS, MP	S2	
3. dr. Saenun, MS	S2	
4. dr. Oediyo Soedirham	S1	
	S1	

Industrial Hygiene and Occupational Health	Qualifications	Remarks
1. dr. Soeprapto As. DPH	S2	
2. dr. Tjipto Suwandi, MOH	S2	
3. dr. M. Sulaksmono, MS, MP	S2	
4. dr. Sho'im Hidayat	S1	
5. dr. Djohar Nuswantoro	S1	
6. dr. Tri Martiana	S1	

Teaching of epidemiology does not follow the curriculum agreed in Malino. The content of the syllabus shows that epidemiology taught is very much related to diseases and does not stress the importance and explains the use of epidemiology in relation to health activities and health programs other than disease control. Almost no epidemiological excercises are used.

Supporting Facilities

PSKM/UNAIR was previously located within the same building as the Faculty of Medicine. Presently it is housed in a large building which was formerly occupied by Faculty of Mathematics. The floor space for PSKM/ UNAIR is now approx. 4,400 sqm, but not all of this space is fully occupied.

For UNAIR, a new campus will be constructed with the assistance of ADB. The FKM will then be moved to this new campus along with the proposed Science Complex of UNAIR.

The library is located in a temporary room with a floor space of 36 sqm. In addition of the bookstacks the room also has a 4-seats reading table and a desk for library staff. Another reading room of 36 sqm is still in the process of being set up.

The library administrator attended the 3 months course at FKM/UI. She also attended a one month course at the university library of UNAIR. She is assisted by junior staff.

The service employs an open access system, and is opened daily from 8.00 - 12.00 (except on Friday 8.00 - 11.00). Students as well as teaching staff have been using the library regularly. On the average the library has 5 - 10 visitors a day. Sometimes this could be as high as 20 to 30.

The collection originated from the Faculty of Medicine included a total of 462 books (254 Indonesian and 208 foreign). From the PMU, the library has received 179 Indonesian and 406 foreign books. In addition there are 77 research reports and 21 journals (14 Indonesian and 7 foreign). Accession list has not yet been introduced. Those needing literature will have to come and do laborious book search.

The microfiche set has already been installed, but used only occasionally by the teaching staff. No registration is requested for its use.

The PSKM/UNAIR AVA unit has not a special location. A first set of equipment has been received, consisting of projectors with screen, PA system, photocopier and stencil machine.

The unit responsible for its usage is the Health Education department, by an administrative/technical staff. The projectors, and PA system is used for teaching purpose in class. The photocopier is used for photocopy service at a small charge of Rp. 25 per page. Stencil machine has been used for reproducing test papers.

Teaching staff and administrative staff have attended the short AVA course at FKM/UI.

The PSKM/UNAIR computer unit is located in a temporary room of approx. 20 sqm, and will be moved to another of approx. 30 sqm. The PSKM had one computer, prior to receipt from PMU, 2 sets of computer/printer with corvus and UPS. At present the UPS and one printer are not functioning and not yet repaired. The corvus is not yet functioning.

A teaching staff is made responsible for the computer unit. She, with 3 other faculty members and 2 administrative staff, have attended the computer course at FKM/UI using the package program. The teaching staff (8 - 17 a day) have been using the computers, and S2 students on Biostatistics.

The computer unit is also used for the administration of PSKM. No registration is introduced at computer operation.

No regular service has been introduced due to the high fee, one million Rupiah a year. Budget of less than one million a year for its operation has been allocated in the UNAIR budget. In addition, project's money is being used for computer supply.

Since the project's beginning consultations have been estblished with health and BKKBN within the LMU of PSKM/UNAIR. Not much attention has been given yet by the Pemda/BAPPEDA (local administration). On the other hand the rector has given proper attention to the PSKM's development by securing adequate accommodation at present in an older building as well as in the new campus which has to be built.

Regarding the arrangement of public health teaching for the medical student, the Dean envisaged the possibility to retain a unit at the Faculty of Medicine which could be called "community health".

PROGRAM STUDI KESEHATAN MASYARAKAT

UNIVERSITAS SUMATERA UTARA

Academic Program

Staff in PSKM/USU foresee difficulties in teaching S1-2 yrs and S1-4 yrs students in the 5th semester. They have tried planning special arrangements to separate the two groups of students, but failed in finding an acceptable solution. They propose that this matter be discussed in the National Seminar to be held next year.

Consultants from FKM/UI came in August 1988 to assist in developing the teaching of epidemiology and the use of computers. Staff of PSKM/USU have been very satisfied with this consultancy and reported that all the teaching staff have benefited from this consultancy. The Chairman of the PSKM reported that teaching staff are all interested and involved in conducting the research program of PSKM/USU.

Below a list of full-time teaching staff and a list of training are presented.

List Of Full-Time Teaching Staff

Biostatistics And Populations	Qualifi-cations	Remarks
1. dr. Rozaini Nasution, SKM	S2	
2. dr. Ria Masniari Lubis	S1	
3. Drs. Heru Santosa	S1	
4. dr. Yusniwarti Yusad	S1	
5. Yuanita S.E.	S1	

Health Education	Quali-fications	Remarks
1. dr. Zulkifli	S1	
2. dr. Linda T. Maas, MPH	S2	
3. Drs. Syarifah	S1	
4. Drs. Eddy Syahrial	S1	
5. drg. Murniati S.	S1	
6. Drs. Tukiman	S1	

Epidemiology	Quali-fications	Remarks
1. dr. Nerseri Barus, MPH	S2	
2. dr. Sori Muda Sarumpaet	S1	
3. Prof. Bachtiar Ginting, MPH	S2	
4. dr. Aman Nasution, MPH	S2	
5. dr. Achsan Harahap, MPH	S2	

Public Health Administration	Qualifications	Remarks
1. dr. David H. Simanjuntak	S1	
2. dr. Heldy B.Z.	S1	
3. dr. Hendi Suhendro	S1	
4. dr. Bisara L. Tobing	S1	
5. Drs. Noorsasi Ridwan	S1	
6. Dra. Lina Tarigan	S1	
7. Dra. Jumirah	S1	
8. Drs. Surya Utama	S1	
9. Ir. Zulhaida Lubis	S1	

Enviromental Occupational Healt	Qualifications	Remarks
1. dr. Nasap Sembiring, SKM	S2	
2. dr. Harwinta F.E., M.Sc.	S2	
3. dr. Mhd. Makmur Sinaga	S1	
4. dr. Surya Dharma	S1	
5. dr. Mhd. Arifin Siregar	S1	
6. dr. Wirsal Hasan	S1	
7. Ir. Kalsum	S1	

TRAINING OF TEACHING STAFF IN PSKM, USU

No.	N a m e	Site of training	Field of study	Degree	Comp date
1.	Noorsasi R	Boston	Health Adm.	MPH	Fail
2.	Heru S	GAMA	Pop. Studies	MS	6/89
3.	Syarifah	UNAIR	P.H.	MS	6/89
4.	Sorimuda S	Tulane	Epidemiology	MPH	6/90
5.	Murniaty	Pittsbur	HE	MPH	6/90
6.	Surya D	Hawaii	Env. Health	MPH	6/90
7.	Nor Arifin S	UI	Health Adm.	MS	6/90
8.	Harwinta E	Pittsbur	Env. Health	Ph.D	6/91
9.	Eddy Syahrial	UNAIR	PH	MS	6/90

Supporting Facilities

PSKM/USU, as part of the Medical Faculty of USU, temporarily has a floor space of approx. 500 sqm. New campus buildings are being constructed with the assistance of ADB, to be completed at the end of 1989. In the medical complex, the FKM will have a 3 storey building with a floor space of approx. 3,000 sqm; completion date, March 1989.

The library is housed in a small room of approximately 12 sqm for bookstack and reading (8 seats only). To enter this room the librarian's office, similar size, has to be passed for report and identification.

It is staffed by a qualified librarian, assisted by an administrative staff. Only the librarian has attended the short library course at FKM/UI. (In addition, she also attended the computer course at FKM/UI).

They service employs a closed access system and is well administered. The visitor's count amounted to 5 - 8 daily, students and teaching staff. It is open daily at office hours, the borrowing time is one week with renewal for another week. A card system for book retrieval has been introduced.

The microfiche is seldom used. The microfiche printer was not functioning during our visits due to worn-out spare. A microfiche is nowhere else to be found, not only in Medan but in the whole island of Sumatera (according to its sales representative), the particular spare part has to be ordered from Jakarta.

The PSKM/USU AVA unit is administered by the division of material and supply. The AVA unit from PMU is mainly used for class teachings (projector, screen, PA system).

The photocopier is operated only for internal use, free of charge. The PSKM stoppped its general use at a small fee. It is now well administered with complete registration of its usage. So is the stencil machine.

The PSKM/USU computer unit is located in a small room of 36 - 40 sqm. From PMU, 2 computer/printer sets, one corvus and UPS have been received.

Three teaching staff, the librarian, and an additional administrative staff have attended the 3 month computer course at FKM/UI. At return, 2 other administrative staffs have been trained by the group for operating the wordprocessor program. These trained administrative staffs are actually operating the computers at the instruction of

the teaching staff. Occasionally for research data processing the computer is used by the respective teaching staff.

No register has been introduced for using the computer.

Within the LMU of PSKM/USU consultations with the sectoral agencies have been established not only with health and BKKBN, also with the office of the manpower department, the association of plantations, and BAPPEDA.

The newly appointed local steering committee, chaired by the rector of USU, declared his early December meeting with us as the committee's first meeting. He gave high support for the PSKM's development.

Arrangement have not been made yet how to organize and carry out the courses in Public Health at the Faculty of Medicine once the FKM is established.

PROGRAM STUDI KESEHATAN MASYARAKAT

UNIVERSITAS DIPONEGORO

Academic Program

Field Practice In PSKM/UNDIP

UNDIP is very committed to the teaching of Community Health to medical students. In 1977 a project was started in community medicine/teaching in collaboration with the University of Leiden, Netherlands. A field study area was set in Mlonggo, Kabupaten Jepara. Dormitory facilities were built accommodating 20 students.

Based on the experience of conducting community education (COME) a programme of field experience teaching (Pengalaman Belajar Lapangan = PBL) has been set for students of PSKM. We visited the site used for the teaching of stage IV in Mlonggo, kabupaten Jepara. When asked how it would work when students of S2-4 yrs and S1-2 yrs would come together, faculty members replied that it might be advantageous. Older S1-2 yrs students with work experience would mix with younger S1-4 yrs students with more analytical capabilities.

One full-time UNDIP staff member lives in the study area. He is not married and has been devoting much time to the students, including discussions at night.

List Of Full-Time Teaching Staff

Health Education	Qualifications	Remarks
1. dr.Harbandinah Pietoyo, SKM	S2	
2. Laksmono Widakdo, SKM	S2	
3. Drg. Zahroh Sahuliyah	S1	In training for S2
4. Dra. Emmy Riyanti	S1	
5. Dra. Tinuk Istiyarti	S1	
6. dr. Sutadji Notohamidjojo	S2	
7. Drs. Karyono	S1	
8. dr. Gatot Suharto	S2	
9. dr. Indra Wijaya	S2	

Environmental and Occupational Health	Qualifications	Remarks
1.dr.Istiana Harsoyo MPH	S2	
2.dr. Soetomo	S1	
3.dr. Anies	S1	
4.dr. Arie Suwondo	S1	In training for S2
5.Dra. Nur Endah Wahyuningsih	S1	
6.Drs.Budhi Rahardjani(Fisiolog	S2	
7.Ir. Widya Widjayanti	S1	In training for S2

Epidemiology	Qualifications	Remarks
1. dr. Suharyo Dadisaputro	S2	
2. dr. Bambang Basuki, Msc. BA	S2	
3. dr. Lutfi Santoso, MSc	S2	
4. Drg.Henri Setiawan Susanto	S1	
5. dr. Sunarto	S2	
6. dr. Soebowo	S2	
7. dr. Sulamto	S2	
8. dr. Musrichan, MPH	S2	

Biostatistics And Population	Quali-fications	Remarks
1. dr. Budioro Brotosaputro,	S2	
2. M. Syaban, SKM	S2	
3. dr. Dharminto	S1	
4. dr. Suharto	S1	
5. Drs. Sugito Sudradjat	S1	
6. dr. Djoko Nugroho	S1	
7. Dra. Indri Hapsari	S1	
8. Dra. Noni	S1	In training for S2
9. Dra. Atiek Mawarni	S1	

Public Health Administration	Quali-fications	Remarks
1. Drs. Dantijo, SKM	S2	
2. dr. Sudiro, MPH	S2	
3. dr. Anneke Saparwati	S1	In training for S2
4. dr. Antono Suryoputro	S1	ditto
5. dr. Darmono SS	S1	ditto
6. dr. Endang Purwaningsih	S1	ditto
7. Drs. Ali Mufids, MPA	S2	
8. Dra. Kriswardhani Suryowat	S1	

Supporting Facilities

PSKM/UNDIP is located in the new campus which is gradually being built on premises provided by the provincial Public Works Department. This building is being constructed with funding from the Netherlands. In this site the PSKM is allocated a floor space of 1,150 sqm, quite adequate for its present needs.

The library has a floor space of 105 sqm. Half of it is occupied by bookstacks, and the other half for a reading room with 20 seats.

It is headed by a member of teaching staff of the Health Education / Behavior Science department on a part time basis. She is assisted by an administrative staff trained at FKM/UI for 3 months. The library also has one more junior assistant.

The service employs an open access system, and is open 8.00 - 13.00 daily (Friday 8.00 - 11.00). So far it attracts 20 - 30 visitors a day.

The present collection which stands at 1,573 books is being registered in the library register. It consists of 352 volumes of foreign books donated by the Consortium of Health

Sciences (CHS). It is difficult to separate the books donated by the PMU from those that were given by CHS. As it was admitted by the staff 1,573 volumes of foreign as well as Indonesian books has not been completely catalogued. Accession list have been distributed for internal use by faculty only.

The PSKM/UNDIP AVA unit has received its first set of AVA equipment. As with the other PSKMs, the equipment is mainly used for class teaching purposes. For photocopy service a fee of Rp. 25 per page is charged. The stencil machine is used for reproducing test papers.

Teaching staff and administrative staff have been attending the short AVA course at FKM/UI.

The computer unit is located in a small room of less than 20 sqm, adjacent to the room for faculty members. Besides its own computer, 2 sets of computer / printer, UPS, and corvus have been received from PMU.

No special person is in charge for the computer unit, and no registration of its usage has been introduced yet. Mainly the teaching staff are using the computer day and night, and only one student with special assignment in biostatistics is using the computer.

One computer/printer set is in repair, and no regular service contract has been established.

LMU of PSKM/UNDIP also received great support from the rector, who is chairman of the newly appointed local steering committee. The rector told us if his commitment to adequate accommodation and recruitment of additional staff for public health.

After the establishment of FKM, at the Faculty of Medicine there could be a coordinator who will coordinate the Public Health courses for the medical student in cooperation with the FKM.

ANNEX 11

RECOMMENDATIONS

Academic Program

1. A joint doctoral program be started as soon as possible between FKM/UI and UNAIR. Technical assistance be provided to both universities, preferably with guidance from a foreign consultant who is well-experienced in areas such as research methodology and statistical analysis. He should also have adequate expertise in setting up and administering doctoral programs in public health.

2. The PMU undertake a promotional effort along with five FKMs/PSKMs to identify and inform potential employers and high school graduates entering the S1-4yrs program. A brochure could be prepared and sent to these groups. Presentations at seminars and similar gatherings of professional groups may also be helpful.

3. Young faculty members who just return from their studies should be given the opportunity to assist in the development of detailed syllabi for teaching the subjects of their interest, including the use of innovative teaching methodologies. When consultants are invited to assist in

these areas, the young faculty could serve as counterparts. Working together--consultant and counterpart--could lead to significant improvement in overall objectives.

4. That each FKM review the role of part-time staff and institute mechanisms better to evaluate and integrate part-time teaching with the main stream of the S1 curriculum. Wherever possible, part-time faculty be encouraged to team-teach with full-time faculty members.

5. An Educational Committee (PANBANGDIK) be set up in each FKM and PSKM location. The PANBANGDIK would conduct a series of local two or three-day weekend workshops with technical consultation to reexamine the S1-4yrs curriculum in order to bring about adequate linkages of the teaching in five departments and to eliminate unnecessary overlap and duplication of present course content. The appropriateness of the present sequencing of the courses would also be considered. The content of basic medical sciences within the S1-4yrs curriculum would be examined with a view to eliminate unnecessary technical details which are not relevant to the practice of public health by S1 graduates and to avoid duplication of high school teaching.

6. The allotment of credit hours (SKS) be reevaluated in order that enough time be given to the proper teaching of subjects found difficult by the students and essential by

future employers, e.g. biostatistics and basic epidemiology. The results of these local workshops would be presented and discussed in a national workshop. Continuity from one national workshop to another would be considered, with each workshop's adopting an action research approach. They would follow several cycles of problem analysis, discussion, recommendation, action steps, implementation, monitoring, and follow-up, leading to further discussion, re-analysis and re-orientation of action steps.

7. Each FKM/PSKM develop mechanisms to integrate the teaching in the five departments. Developing an Integrated Seminar in Public Health may be one of the means of achieving this integration.

8. Local workshops in teaching methodology to be conducted at each FKM/PSKM. Teaching innovations, such as using local case studies, experimental exercises, problem-oriented culturally relevant teaching methods, and structured field observations be discussed and integrated into the teaching/learning activities of each course. Methods of evaluating teaching effectiveness to be discussed, and every department to set up its own targets for a full scale teaching evaluation system. At least five copies of all available course syllabi be placed immediately in each FKM/PSKM library.

9. In view that students have limited comprehension of the English language, English books for students be translated into Indonesian.

10. The development of teaching innovations in the FKM/PSKM, is in line with the requests from the FKM/PSKM for technical assistance presented this year to the PMU. Most of these requests are for consultants to assist the various departments to revise their teaching syllabi to including innovations in teaching methodology and to design relevant case studies.

11. On competence based curriculum:

a. The FKMs strive to identify and agree upon a set of key competencies that need to be developed as a result of the S1-4yrs curriculum. This should be based upon the job analysis and task analysis of present S1-2yrs graduates and the future S1-4yrs graduates.

b. Having identified the key roles, responsibility, and related competencies of its S1 graduates, the FKMs/PSKMs would start working backwards to revise their present specific and general objectives to make them relevant and instrumental to develop those generic competencies.

c. Once the first few batches of S1-4yrs graduates have assumed their new positions after graduation, the FKMs/PSKMs and PMU would follow them up carefully. This will provide the FKMs/PSKMs with a mechanism of obtaining feedback from the field with regards to the skills and competencies required of the S1-4yrs curriculum in developing identified competencies.

12. On field practice:

a. A national workshop be conducted in Jepara to review the present field training in order to relate a competence-based and practice-based field work curriculum to 'real life' constraints and problems.

b. A resident teaching staff person be in the field for each field practice.

c. After the national workshop each FKM conduct a local training workshop to reorient its own faculty members and also to train the PUSKESMAS staff to provide field training to the student.

13. Every FKM/PSKM explore with the university authorities the possibility of setting up a 6 weeks block field placement in public health in the students' 3-month community services (KKN) experience. It also may be

necessary for the project to provide some initial resources for setting up such a block field placement.

14. In our discussions in Medan and Ujungpandang we learned that in the province of North Sumatra and South Sulawesi industrialization has high priority. This suggests that field practice in factories could be designed for students who had great interest in industrial hygiene and would like to make a career in this field.

15. The teaching program for S1-2yrs and S1-4yrs students in 5th semester be examined closely, taking into consideration the content of syllabi of the Health Academies from which S1-2yrs students already had graduated and the field experiences they already had. If possible, different arrangements be made for these two groups of students in the first two months of the 5th semester.

16. To speed up the development of research capabilities in FKM/UNHAS and the three PSKMs and to generate data for region-specific planning and for improving local operational health/family planning programs, as a first step, a research committee in each PSKM and FKM/UNHAS be set up with representatives of each department as members. This committee could organize seminars regularly to discuss topics which would sharpen the analytic capabilities of the teaching staff. When the

teaching staff currently in training have returned, this committee could stimulate the submission of research proposals, specifically for these young just returned staff. This committee also would organize local seminars/workshops to identify researchable topics which would generate data needed for region-specific planning and for improving local health/family planning operational programs. Such seminars would be held again to disseminate research findings to relevant authorities and concerned professionals. Further research topics could then be identified.

17. Technical assistance may be provided under this project to give guidance on appropriate research design, data analysis, and reporting. Expertise be developed in conducting operations research.

18. Good communications must be established between officials responsible for planning in provincial Depkes and BKKBN, persons responsible for operational programs in these two offices, and persons from other health related agencies. In this respect local seminars/workshops are more important than national research seminars.

19. Presentations in a national seminar would be regarded as prestigious and would become an incentive to do research. And another incentive might be the publication of

research findings in national or international medical and public health journals. Some help from an experience person may be needed. Such assistance might be provided by correspondence with a previous faculty advisor in the university where a young staff member has studied.

20. FKM/UI be establishing a national resource center with its main role a research registry or central data base on research findings in public health. FKM/UI be developing a plan, utilizing part of the earmarked US$25,000 budget for this purpose.

Support Services

21. FKMs/PSKMs develop and utilize specific rules and regulations for their libraries. Specific attention would be given to FKMs/PSKMs without qualified librarians, so that new regulations could take the place of certified librarians.

22. More Indonesian and translated books and journals be provided in the library.

23. The use of microfiche be promoted for teaching staff as well as for students. Subscriptions to additional microfiche journals would help promote microfiche use.

24. The AVA equipment be utilized not only for class teaching but also for education and behavior change efforts in the departments of health education/behavior.

25. All students be familiar with computers. To do so, increasing the number of computers be considered.

26. For future expansion of usage, sufficient space be allocated for the computer division for academic as well as general use. Also provision of computers for general administrative use be considered.

27. Funds under this project be considered for procurement of equipment for laboratories of environmental/occupational health of other FKM/PSKMs.

National Resource Center Development

28. FKM/UI's guiding role as Fakultas Pembina be continued during the first years of project development. Considering the academic potentials in other universities, the national resource center, acting as a clearing house for academic resources and activities, could develop a "Resource Network System", which would extend beyond the five project-assisted FKMs/PSKMs.