INDONESIA
EDUCATION AND HUMAN RESOURCES SECTOR REVIEW
April 1986

CHAPTER EIGHT
TEACHER EDUCATION AND TRAINING

IEES

IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

Coordinated for the Government of Indonesia by the
Ministry of Education and Culture with USAID

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For the Ministry of Education and Culture

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8.0 TEACHER EDUCATION AND TRAINING

8.1 Introduction

Teacher education in Indonesia has been successful in spite of tremendous demands on the system. The driving mechanism for success has been effective response to emergencies. In like manner, the greatest need at this time is to recognize the areas in teacher education requiring urgent attention and to respond appropriately.

The pressing need to prepare primary teachers has passed, and the existing primary teacher training system has the capacity to fulfill the need for the near future. Indeed, there are projections to suggest an oversupply of primary teachers. The areas demanding attention now are training of teachers for the junior and senior secondary level as this subsector expands and the improvement of quality in all teacher training programs.

The inservice D2 and D3 diploma programs to prepare junior and senior secondary teachers, respectively, are designed to respond to the need for teachers at the secondary level, as the system expands, and to shortages of secondary teachers in rural and remote areas. In most instances the need is both qualitative and quantitative, particularly in the preparation of mathematics and science teachers, English teachers, and teachers in vocational skills training.

The institutional delivery system for teacher education should also be improved. If Indonesia aspires to upgrade its teacher training facilities, the government must consider ways to allocate resources more efficiently for preservice primary teacher training (now conducted at the senior secondary level) and secondary teacher training (carried out

in two separate branches of higher education). This upgrading will require a combination of administrative, logistical, and professional/technical improvements.

Teacher quality will influence the development of the nation for generations. As Indonesia moves to expand its educational base, teacher education must be restructured to lead rather than follow this expansion.

This chapter presents an examination of the status of teacher education for the primary and secondary school levels, an analysis of some of the issues affecting teacher education, and several recommendations for improvement. Teacher training for higher education and vocational/technical education is discussed in the chapters addressing these subsectors.

8.2 Status of Teacher Education and Training

8.2.1 Historical Background

8.2.1.1 Primary Teacher Training

In Indonesia's rush to improve basic education and literacy after it gained its independence in 1945, primary school graduates were enlisted as teachers in primary school. A few years later the Government established its first emergency upgrading course, Teacher Training for Introductory Training Toward Compulsory Education (Kursus Pengajar untuk Kursus Pengantur Kewajian Belajar or KPKPKB). This program set the basic standard for primary school teachers as training at primary school plus two years of teacher training. In 1951, standards for the KPKPKB inservice program were raised again to primary

education plus four years of inservice training (p + 4 yrs). Two years later, a preservice training program (Sekolah Guru B or SGB) was established. Both preservice and inservice courses were offered in the same building, establishing a pattern of multi-purpose education facility utilization which has continued to be the national pattern to the present.

The current primary teacher training program (Sekolah Pendidikan Guru or SPG [lower secondary school + 3 yrs]) and its sports and health teacher training counterpart program, (Sekolah Guru Olahraga [SGO]), evolved from the integration of the Sekolah Guru Taman Kank-Kanak (SGTK) which prepared teachers for preprimary-primary schools and the Sekolah Guru A (SGA) which prepared teachers for the primary school level. At the SPG the teacher can specialize in either kindergarten or primary school. Teachers for the parallel religious schools (Madrasah) are prepared by Religious Teachers Training Colleges (Pendidikan Guru Agama or PGA) operated by the Ministry of Religion. Preparation for primary teachers of special education requires an additional two years of training (lower secondary school + 5 yrs.) and is provided at the Sekolah Pendidikan Guru Luar Biasa (SPGLB).

8.2.1.2 Secondary Teacher Training: Preservice

The first junior secondary teacher education program, a one-year course of study following successful completion of the senior secondary school (Pendidikan Guru Sekolah Lanjutan Pertama or PGSLP), was developed in 1956. Evolving from this program was the Higher Education Institute for Teacher Training (Pendidikan Tinggi dan Pendidikan Guru or PTPG). The PTPG later became the Faculty of Teacher Training and

Pedagogy, (Facultas Keguran Ilmu Pendidikan or FKIP), a faculty within a university with a mandate to train secondary school teachers and education specialists at the undergraduate and graduate levels. In addition to the FKIP, emergency demand led to the development of a three-year teacher training institute, (Institute Keguran Ilmu Pendidikan or IKIP). These IKIPs are now autonomous institutions. Thirty FKIPs remain as parts of public and private university faculties.

8.2.1.3 Secondary Teacher Training: Inservice

Prior to Repelita I, the first five-year plan (1969-74) teacher inservice training was sporadic and was not implemented on a national scale. Training was often funded by teachers themselves or by private persons or institutions interested in teacher education. During the first five-year plan, inservice training was expanded and systematized through a loan from the World Bank. This Primary Education Development Project (Proyek Pembangunan Pendidikan Dasar [P3D]), also known as the IDA Third Education Project, trained a total of 400,000 primary school teachers between 1973 and 1980. Since 1975, the Directorate General of Primary and Secondary has conducted inservice training in centers established for this purpose.

In 1978, seven inservice teacher training development centers (Pusat Pengembangan Pendidikan Guru or PPPG) were established for training teachers in specific curriculum areas (science, social studies, mathematics, language education, technology, and vocational sciences). A correspondence teacher inservice training program was also established at Bandung. All PPPGs are responsible for developing teacher training

materials and methodologies in their subject areas. Regional inservice teacher training programs have also been developed by the PPPGs. Fourteen of the inservice centers (Balai Pendidikan Guru or BPG) are already in operation. Thirteen more are scheduled to be built, one in each of the 27 provinces during the current Repelita IV.

8.2.2 Goals and Strategies

8.2.2.1 Goals

The first two five-year plans, Repelita I (1969/70 - 1973/74) and Repelita II (1974/75-1978/79), placed emphasis on expansion and improvement of education and the related need for teacher training. Repelita III (1979/80 - 1983/84) focused on reducing the disparities in distribution and quality of teachers in an effort to equalize access to schools in all regions. Repelita IV (1984/85 - 1988/89) focuses on the improvement of quality in primary education as well as the expansion of education at the secondary and tertiary levels. Table 8.1 summarizes the projected targets for primary and secondary education from the end of Repelita III through the end of Repelita IV.

Listed below are other objectives of the Ministry of Education and Culture (MOEC) for Repelita IV relating to teacher training:

a) The development of new curriculum for all levels;

b) Provision of textbooks and inservice training to support the new curriculum through the World Bank's 3d Teacher Education Project;

c) Development and implementation of new curriculum for teacher training colleges and specialized facilities at 15 secondary

TABLE 8.1

EXPANSION OF PRIMARY AND SECONDARY EDUCATION

1983/84 to 1988/89

Level	Existing Levels 1983/84 (in thousands)	Targeted levels 1988/89 (in thousands)
Primary School		
Students	28,869	29,380
Teachers	879	1,139
Junior High School		
Students	4,713	7,738
Teachers	269	412
Senior High School		
Students	2,490	4,393
Teachers	162	280

Source: Republic of Indonesia (1984, May). REPELITA IV: The Fourth Five Year Development Plan. Jakarta. p. 59.

teacher training colleges through the first Teacher Training Project of the World Bank;

d) Expansion of inservice opportunities for the faculties of IKIPs and FKIPs at the universities;

e) Training of 28,000 teacher/supervisors for the Primary Teacher Training School (SPGs);

f) Training of 1600 teachers for Sport and Health Training Schools (SGOs);

g) Building of additional Sports and Health Training Schools (SGOs) to increase the number to 57;

h) Building of 12 vocational and art teacher training schools;

i) Recruitment of 35,000 preprimary and primary teachers;

j) Recruitment of 6,100 teachers for the Primary Teacher Training Schools (SPGs);

k) Renovation of eight Inservice Teacher Training Institutions (BPGs), and one Inservice Teacher Development Center (PPPG).

8.2.2.2 Strategies

Over a period of 30 years the Government has implemented a series of emergency strategies to cope with the expanding need for teachers. The record has been impressive. In an effort to improve the quality of education, the government has required even higher levels of preparation for teachers, each more difficult to achieve, and each requiring more resources to accomplish. Current government strategies to upgrade the quantity and quality of teachers include the following:

1) Recent upgrading of teachers' salaries - As teaching gradually fell behind other sectors in salary levels, recruiting teachers

became more difficult. A fairly substantial salary increase of about 15% was implemented several years ago. This has helped, but is not yet sufficient to attract highly qualified candidates to the field.

2) Fluctuating standards to meet enrollment quotas -

The MOEC has accommodated declines in the quality of candidates by reducing admissions standards by whatever is required to fill the available openings in entering classes. The Government is trying to combat this erosion of quality through training and upgrading programs financed in part by foreign grants and loans.

3) Quality recovery programs in inservice teacher education -

The MOEC has emphasized inservice education as a means to address quantity and quality improvement requirements. Short courses, however, have not often achieved desired improvements. New inservice/onservice programs are now being developed with promising early results. Radio inservice education of primary teachers is also being tried, but this effort lacks the concentration of resources required for materials development to enhance participants' interest level, and for incentives for long-term participation. It is evident that no single program is likely to meet all needs.

4. The projected oversupply of primary teachers - The SPG and SGO senior secondary teacher training schools have been successfully expanded to meet heavy demands for primary school teachers resulting from rapid expansion of primary education

programs. Now there is an oversupply of primary teachers. The MOEC is currently conducting policy discussions on how the projected excess capacity can best be used. One proposal is to have the SPGs upgraded to train junior secondary math teachers on an emergency basis.

5) Emergency science teacher training programs - The Minister of Education asked nine universities to mount emergency training programs for science teachers. Whether these programs will continue after their initial mission has been completed is now a matter of concern to the regular teacher educational establishment.

8.2.3 Structure of Teacher Education and Training

8.2.3.1 Primary Teacher Teacher

Pre-service teacher training for primary and pre-primary school teachers is provided at the senior secondary level teacher training schools (SPGs). Specialized training for sports and health teachers is provided in the Sports Training Schools (SGOs). This training consists of six semesters (three years) of general and specialized course work after graduation from junior secondary school. Teachers trained for work in schools for handicapped children require an additional two years of training.

The Ministry of Religion has also established teacher training programs for primary religion teachers for both public and private schools.

8.2.3.2 Secondary Teacher Training

Teacher training for the junior secondary school (SMP) and for the senior secondary school (SMA) is provided at the tertiary level by the 10 public and two private Institutes of Teacher Training and Pedagogy (IKIPs), and 20 public and eight private teacher training programs within the universities (FKIPs). These institutions offer bachelor degree programs (Sarjana or S1) as well as non-degree programs; a few offer a master's degree (Pasca Sarjana or S2) and a doctorate (Doktor or S3) in education. A graduate from an IKIP receives the Sarjana, having completed a minimum of 140 credits after four years of study, and becomes qualified to teach in senior secondary school.

In addition to degree programs, non-degree or diploma programs are offered at IKIPs and FKIPs. These programs include a one-year course (D1) for primary teachers, a two-year course (D2) for junior secondary teachers, and a three-year course (D3) senior secondary teachers. The D1 is being discontinued. It was designed as an emergency program tofill the need for new primary education. Regular programs of the SPGs are now more than adequate for the numerical needs.

8.2.3.3 Vocational/Technical Teacher Training

Preservice training for vocational/technical teachers is conducted by the technical faculties of the FKIPs and in 16 programs in the 10 IKIPs (four in arts and crafts, five in technical areas, three in home economics, and four in business and commerce). The IKIPs provide training in 14 vocational/technical specializations but suffer from a severe lack of facilities for practical skill training and a shortage of experienced staff. The traditional method of preparing vocational/

technical teachers in the IKIPs and FKIPs has not been able to match the demand. A shortage of approximately 3000 teachers was reported by the World Bank in 1985 (see Chapter 7). Other programs have been implemented to help fulfill the need for vocational teachers. In 1975, The Directorate of Technical and Vocational Education established a Technical Teachers' Upgrading Center (TTUC) in Bandung to provide inservice training. Programs also were introduced in 1984 at the TTUC in Medan. In these institutions, D3 programs are conducted over a period of six semesters covering three years. The vocational/technical teacher centers (PPPGs) also offer preservice and inservice vocational teacher training at the various diploma levels. Additionally, there is a Vocational Teachers' Upgrading Center (VTUC) in Jakarta offering diploma programs in business education and home economics education. Vocational/technical teacher training is discussed in Chapter 7.

Vocational/Technical Teacher Training by the Ministry of Manpower

In addition to the educational programs under the direction of the Ministry of Education and Culture, there is a vast student population studying in schools under the direction of the Ministry of Manpower. These students range in age from 18 to 26 and receive training in skills required at a basic job entry level. The programs are 80% hands-on activity and 20% related theory. Preparation for immediate employment is the goal of these programs. The schools must, therefore, have teachers who have a high level of practical skill and posses industrial and technical experience. These programs are offered by the Center for Vocational and Extension Service Training (CVEST) established with assistance from the government of Japan.

The types of instruction include the following;

a) Vocational training for teachers qualified to be assistant instructors for public vocational training facilities;

b) Upgrading and retraining for incumbent teachers in public vocational training facilities;

c) Training of directors for vocational training instruction;

d) Training for vocational instructors, training officers, and training managers of private vocational training institutions.

8.2.3.4 Tertiary Teacher Training

The IKIP and FKIP certification structure for teachers has five levels: AKTA I through V. The diploma program (D1 and D3) corresponds to the first three certification levels. For example, a person who desires to teach in primary school must complete D1 courses which qualify him/her to be certified at the level of AKTA I. A Diploma II (D2) is equal to the AKTA II level and a Diploma III (D3), to the AKTA III level.

A graduate with a Sarjana (or S1) degree would be placed at the level of AKTA IV meaning they have completed at least 120 university credits plus 20 credits of preparation to teach at the university. If the person graduates from the university and desires to teach mathematics, he would complete the AKTA IV program in order to be certified. To be promoted from junior lecturer to lecturer in a university a person must complete 20 credits in the AKTA V program with at least 160 credits of other university course work. One of the original mandates of the Open University, established in 1984, is to

help develop the AKTA V program of inservice training for university teachers.

8.2.4 Teacher Training Program for Primary Schools

8.2.4.1 Enrollment

In the 1983-1984 school year, there were 261 public primary teacher training schools throughout Indonesia (208 SPGs and 53 SGOs) enrolling approximately 150,000 students. In addition, there were 440 private schools enrolling approximately 100,000 students. The mean enrollment in public teacher training schools is over 500; it is less than half this number in private schools. In 1984, the 261 public schools graduated approximately 35,000 students while private schools graduated only 25,000 students. Tables 8.2 and 8.3 present this information for each of the 27 provinces in Indonesia.

As shown in Table 8.4, a national oversupply of primary school teachers is projected through the rest of the Repelita IV period (updated projections are also presented in Chapter 5). Table 8.5 presents a breakdown by province of the output of SPGs and SGOs in 1984/85. This table indicates provinces with an overproduction of teachers and an underproduction in 1984/85. It also points out the large variation that exists in student/teacher output ratios per province, e.g., from 100 to 1 in Yogyakarta to 5,132 to 1 in Sulawesi Utara. These statistics demonstrate only in part the critical need for teachers in more remote areas; the shortage can be more severe within a province than between provinces.

The quality of students entering SPGs and SGOs is a concern. Most students completing junior secondary school select the SPG as a second

TABLE 8.2

ENROLLMENT IN SPGs BY PROVINCE
1984/85

NO.	PROPINSI / PROVINCE	NEGERI / PUBLIC	SWASTA / PRIVATE	JUMLAH / TOTAL
1	DKI JAKARTA RAYA	5,416	2,864	8,280
2	JAWA BARAT	19,319	18,449	37,768
3	JAWA TENGAH	16,233	11,264	27,497
4	DI YOGYAKARTA	3,247	10,744	13,991
5	JAWA TIMUR	19,260	11,890	31,150
6	D I A C E H	3,930	1,232	5,162
7	SUMATERA UTARA	9,445	13,197	22,642
8	SUMATERA BARAT	7,070	1,246	8,316
9	R I A U	3,090	1,393	4,483
10	J A M B I	2,682	2,344	5,026
11	SUMATERA SELATAN	2,506	12,476	14,982
12	L A M P U N G	4,288	11,049	15,337
13	KALIMANTAN BARAT	3,120	823	3,943
14	KALIMANTAN TENGAH	1,826	358	2,184
15	KALIMANTAN SELATAN	2,206	2,534	4,740
16	KALIMANTAN TIMUR	1,411	570	1,981
17	SULAWESI UTARA	3,879	747	4,626
18	SULAWESI TENGAH	1,957	1,194	3,151
19	SULAWESI SELATAN	6,667	1,029	7,696
20	SULAWESI TENGGARA	1,455	-	1,455
21	M A L U K U	1,719	1,239	2,958
22	B A L I	2,082	1,195	3,277
23	NUSA TENGGARA BARAT	3,021	335	3,356
24	NUSA TENGGARA TIMUR	1,976	5,748	7,724
25	IRIAN JAYA	808	1,575	2,383
26	B E N G K U L U	882	599	1,481
27	TIMOR TIMUR	900	134	1,034
**	I N D O N E S I A	130,395	116,228	246,623

TABLE 8.3

ENROLLMENT IN SGOs BY PROVINCE
1984/85

NO.	PROPINSI / PROVINCE	NEGERI / PUBLIC	SWASTA / PRIVATE	JUMLAH / TOTAL
1	DKI JAKARTA RAYA	573	-	573
2	JAWA BARAT	4,565	2,396	6,961
3	JAWA TENGAH	3,416	-	3,416
4	DI YOGYAKARTA	741	-	741
5	JAWA TIMUR	3,171	-	3,171
6	DI A C E H	269	-	269
7	SUMATERA UTARA	1,084	2,501	3,585
8	SUMATERA BARAT	756	-	756
9	R I A U	670	-	670
10	J A M B I	369	557	926
11	SUMATERA SELATAN	502	-	502
12	L A M P U N G	360	1,318	1,678
13	KALIMANTAN BARAT	458	246	704
14	KALIMANTAN TENGAH	728	-	728
15	KALIMANTAN SELATAN	324	360	684
16	KALIMANTAN TIMUR	197	-	197
17	SULAWESI UTARA	1,131	286	1,417
18	SULAWESI TENGAH	414	555	969
19	SULAWESI SELATAN	1,248	-	1,248
20	SULAWESI TENGGARA	422	-	422
21	M A L U K U	953	-	953
22	B A L I	1,228	-	1,228
23	NUSA TENGGARA BARAT	433	292	725
24	NUSA TENGGARA TIMUR	515	-	515
25	IRIAN JAYA	199	-	199
26	B E N G K U L U	337	116	453
27	TIMOR TIMUR	-	-	0
**	I N I O N E S I A	25,063	8,627	33,690

TABLE 8.4

PROJECTED SUPPLY OF PRIMARY TEACHERS
FROM SPGs AND SGOs, 1984 TO 1990

Year	SPG and SGO Graduates	Supply of (SPG+SGO)	Difference
1984 - 1985	61,379	62,449	+ 1,070
1985 - 1986	75,467	79,965	+ 4,498
1986 - 1987	82,313	86,011	+ 3,698
1987 - 1988	84,223	86,629	+ 2,406
1988 - 1989	85,046	94,552	+ 9,506
1989 - 1990	84,660	101,828	+17,168

Source: Report on the Study of Universalization of Education at the Primary Level in Indonesia

TABLE 8.5

COMPARISON OF PRIMARY SCHOOL ENROLLMENTS AND PRIMARY TEACHER OUTPUT BY PROVINCE 1984/85

	Provinces	1984/85 SD ENROLLMENTS Public	Private	Total	PRIMARY TEACHER OUTPUT SPG	SGO	Total	Ratio SD Enrollment/ Teacher training Output	
1.	DKI Jakarta Raya	781,336	262,102	1,043,438	2,065	90	2,155	484:1	
2.	Jawa Barat	4,722,626	107,426	4,830,052	7,103	827	7,930	609:1	#
3.	Jawa Tengah	4,038,737	155,407	4,194,144	8,374	548	8,922	470:1	
4.	Di Jogyakarta	369,294	68,834	438,128	4,188	188	4,376	100:1	•
5.	Jawa Timur	4,169,687	212,917	4,381,604	9,837	461	10,298	445:1	
6.	Di Aceh	488,528	15,912	504,440	937	40	1,013	425:1	
7.	Sumatera Utara	1,537,499	234,790	1,772,289	6,413	416	6,829	259:1	•
8.	Sumatera Barat	687,961	20,128	709,089	1,194	108	1,302	544:1	
9.	Riau	408,418	36,402	444,820	657	102	759	586:1	#
10.	Jambi	308,651	11,741	320,741	841	150	991	323:1	•
11.	Sumatera Selatan	920,018	86,806	1,006,824	2,245	93	2,338	431:1	
12.	Lampung	908,142	6,552	914,694	2,244	242	2,486	368:1	•
13.	Kalimantan Barat	464,330	44,376	508,706	783	146	929	548:1	
14.	Kalimantan Tengah	243,689	4,825	248,514	219	95	386	644:1	#
15.	Kalimantan Selatan	370,360	10,767	381,127	592	94	686	644:1	#
16.	Kalimantan Timur	263,980	23,418	287,398	261	56	317	907:1	#
17.	Sulawesi Utara	324,723	129,857	454,580	1,047	372	1,419	5132:1	#
18.	Sulawesi Tengah	278,494	20,182	298,676	408	86	494	605:1	#
19.	Sulawesi Selatan	1,189,328	31,914	1,221,242	2,359	292	2,651	461:1	
20.	Sulawesi Tenggara	231,557	4,320	235,877	308	0	308	766:1	#
21.	Maluku	218,209	84,886	303,095	564	108	672	451:1	
22.	Bali	452,961	8,482	461,443	1,461	232	1693	273:1	•
23.	Nusa Tenggara Barat	552,614	1,411	554,025	1,247	38	1285	444:1	
24.	Nusa Tenggara Timur	280,755	296,237	576,992	1,385	87	1472	417:1	
25.	Irian Jaya	287,070	110,858	197,928	258	27	285	694:1	#
26.	Bengkulu	173,954	529	179,882	280	20	300	642:1	#
27.	Timor Timur	84,809	14,400	99,289	153	0	153	649:1	#
	Total	24,556,810	2,010,878	26,567,688	57,531	4,918	62,449	462:1	

Total Annual Teacher Production for Five Provinces (•) with serious overproduction

Output	Req. to meet Ratio	Over Production
16,375	8,457	+7,918

Total Annual Teacher Production for Eleven Provinces (#) with serious underproduction

Output	Req. to meet Ratio	underproduction
13,037	16,576	-3,539

Source: School Statistics, Balitbang Dikbud, 1984/1985.

or third choice after failing to gain admission to a general academic program (SMA) or one of the schools offering commercial or technical studies. In general, therefore, SPG candidates are not the high ability junior secondary graduates. It has been suggested that many able students score low on the entrance exams because they have studied in low quality schools. One factor discouraging the more able students is that the SPG is designed as a terminal program. There are, however, plans to allow the most able students to compete for the D2 and D3 programs at IKIPs or in selected SPGs which would be upgraded and accredited.

Teacher Training for Remote Areas

The Directorate of Teacher Training within the Directorate General of Primary and Secondary Education has been working on the problem of posting teachers to remote areas throughout Indonesia and keeping them in their assignments once they are posted. The extent of the problem is difficult to assess, given the availability of subprovincial-level data. Data on teachers are commonly gathered at the national level and then aggregated without reference to urban, rural, and remote area statistics. This aggregation masks the extent of the problem in the more localized remote areas.

There do not seem to be widely-accepted criteria for what characterizes a remote area, although studies have been conducted. It is commonly accepted, however, that very remote areas exist in many provinces. Sulawesi, Kalimantan, Irian Jaya, Nusa Tenggara Barat, and Nusa Tenggara Timur all contain large areas that could be considered remote. Even areas of Java fall into this classification.

In 1982, as part of the First Teacher Education Project of the World Bank, a study was prepared to identify the type of incentives that teachers might find appealing enough to offset the disincentives of work in remote areas. In documenting the nature of the problem, the study reported many cases in which the appointment and placement of teachers in remote areas was ineffective as the teachers rejected the appointments. A report from North Sulawesi indicated that teachers, especially from Java and Ujung Pandang, who were assigned to the hinterlands or remote islands, either did not report initially or left their assigned positions. Within a period of three months, 100 teachers assigned to the remote regions of North Sulawesi failed to take their letter of appointment and the transportation fee [MOEC, 1982]. Report of the Study Toward the Pattern of Giving Incentives to Teachers Working in Remote Areas.)

The report stated that the most desirable incentives for teachers already in remote areas related to increasing their opportunities to enhance their professional preparation. These included continuation of study, inservice training, and opportunities to develop competencies, to conduct research or self-study, and to develop new ideas. For the trainee still in teacher training school, incentives related to reward, such as certificates of merit, etc. held the most appeal.

The Directorate of Teacher Training is currently developing programs to remedy the problems of supplying teachers to remote areas. One approach (that has been tested in the area of Bandung) is to provide graduates of secondary schools in outlying areas, with three months of special training, to be followed by a period of correspondence course

instruction to bring their level of training up to that of an SPG graduate. Additional approaches, such as scholarships and other rewards, are being discussed.

8.2.4.2 Instructional Staff

Critical to the quality of primary and secondary education is the quality and commitment of the trainers in the teacher training institutions. In general, SPG and SGO faculties are well trained. Only 18% of the full-time and part-time faculty in public and private SPGs have less than a Sarjana Muda degree (AKTA IV) (See Table 8.6). The staff at the primary teacher training schools receive their training at the IKIPs or at university FKIPs. Although most trainers are educated in subject matter specializations in IKIPs and FKIPs, they often lack training and experiences with teaching methods appropriate for primary school children. Subject matter trainers in Indonesia, as with subject matter teachers worldwide, see their role as primarily imparting knowledge in subject matter; as a result, trainees may not receive sufficient background in the general pedagogical skills needed to teach primary-level children.

Of these 15,841 SPG teachers, 6,616 teach in public SPGs and 9,225 in private. Seventy-eight percent of the private SPG instructors have a Sarjana Muda or Sarjana, compared with 88% of the public SPG teachers. Full-time teachers comprise 55% (8,706) of the total number of teachers (both public and private). In public SPGs the proportion is 91% compared to only 29% in private SPGs. This large disparity between public and private SPGs in the proportion of full-time teachers raises

TABLE 8.6

NUMBER OF SPG TEACHERS (FULL-TIME AND PART-TIME) BY DIPLOMA IN EACH PROVINCE 1984/85

NO.	P R O P I N S I / P R O V I N C E	SMTP / SMTA	S P G / S G O	PGSLP	D1	D2	PGSLA	D3	SARJANA MUDA	SARJANA	JUMLAH TOTAL
1	DKI JAKARTA RAYA	8	6	14	1	1	-	3	285	117	435
2	JAWA BARAT	126	57	71	6	5	11	46	1,552	711	2,585
3	JAWA TENGAH	82	32	35	3	8	11	7	1,382	288	1,848
4	DI YOGYAKARTA	107	93	87	4	11	2	48	780	351	1,483
5	JAWA TIMUR	152	127	100	3	6	21	50	1,726	365	2,550
6	DI A C E H	3	11	14	1	6	-	1	165	46	247
7	SUMATERA UTARA	64	40	65	7	14	9	45	1,124	319	1,687
8	SUMATERA BARAT	8	5	-	2	-	-	12	259	45	331
9	R I A U	16	8	20	3	5	-	5	125	19	201
10	J A M B I	5	6	16	3	5	1	28	184	16	264
11	SUMATERA SELATAN	82	82	64	10	16	6	17	451	127	855
12	L A M P U N G	43	38	14	4	2	1	10	341	119	572
13	KALIMANTAN BARAT	9	18	45	-	-	-	3	70	24	169
14	KALIMANTAN TENGAH	5	5	5	-	1	-	12	75	17	120
15	KALIMANTAN SELATAN	19	38	49	12	11	-	7	149	41	326
16	KALIMANTAN TIMUR	9	11	11	6	-	-	7	36	14	94
17	SULAWESI UTARA	6	12	15	-	-	-	3	139	39	214
18	SULAWESI TENGAH	10	5	4	-	-	-	4	72	14	109
19	SULAWESI SELATAN	13	13	16	2	-	2	2	259	88	395
20	SULAWESI TENGGARA	2	2	6	3	-	-	-	36	8	57
21	M A L U K U	12	9	-	-	-	-	1	62	13	97
22	B A L I	19	9	12	2	-	1	33	209	62	347
23	NUSA TENGGARA BARAT	14	7	2	1	1	-	1	177	19	222
24	NUSA TENGGARA TIMUR	20	24	20	2	4	-	24	244	37	375
25	IRIAN JAYA	12	11	11	4	-	-	3	75	9	125
26	B E N G K U L U	6	1	2	1	5	-	3	76	4	98
27	TIMOR TIMUR	1	1	-	-	-	-	-	26	7	35
***	I N D O N E S I A	853	671	698	80	101	65	375	10,079	2,919	15,841

questions about the quality and efficiency of private SPGs. It may help to explain why public SPGs have a higher total cost per student than the private institutions (Rp.149,894 compared to Rp.119,562) while students take slightly longer to graduate in private SPGs (3.41 years in private SPGs compared to 3.29 years in public SPGs).

8.2.4.3 Curriculum and Instructional Materials

The curriculum for primary teacher training (SPG and SGO) consists of general and professional core programs (which are compulsory for all students) and courses in areas of specialization. Typically, students in the second and third years have two periods of study per week in each academic area except their areas of specialization, to which they devote five periods per week. Instructional time is equally divided between (a) subject matter, and (b) educational studies, teaching methods, and practice teaching. Graduates must be prepared to teach all subjects but are expected to specialize in one or two. Table 8.7 and Table 8.8 present the curriculum of general teacher training schools (SPGs) and the sports and health teacher training schools (SGOs), respectively.

Since 1975 a variety of strategies have been implemented to correct weaknesses in the curriculum and methodology throughout primary teacher training. A recent inservice training program, the First World Bank Project (1977 through 1984), introduced over 6,100 teachers from IKIPs and SPGs to student-centered learning, competency-based instruction, and the use of "learning activity packages."

Over 40 learning packages in mathematics, science, social studies, language, and education were developed. The SPG curriculum was modified to incorporate a new focus on competency-based education. Course

TABLE 8.7

THE SPG CURRICULUM

Program	Field of Study	Basic Level I			Primary II			Preliminary III			
		1	2	3	4	5	6	3	4	5	6
General	1. Religious Education	3	3	3	2	2	2	3	2	2	2
	2. Pancasila Moral Education	3	3	3	2	2	2	3	2	2	2
	3. Indonesian Language	4	4	6	6	6	4	4	4	4	4
	4. English	3	3	2	2	2	-	2	2	2	-
	5. Physical and Health Education	3	3	2	2	2	-	4	4	2	-
Professional	Education										
	6. Pedagogy	4	-	-	-	-	-	-	-	-	-
	7. National Education	-	4	-	-	-	-	-	-	-	-
	8. Educational Evaluation	-	-	3	3	-	-	-	-	-	-
	9. General and Social Psychology	4	-	-	-	-	-	-	-	-	-
	10. Development Psychology	-	4	-	-	-	-	2	-	-	-
	11. Educational Psychology	-	-	4	-	-	-	2	-	-	-
	12. Guidance and Counseling	-	-	-	4	-	-	-	-	2	
	13. Curriculum Development	4	-	-	-	-	-	-	-	-	-
	14. General Methods of Teaching	-	4	-	-	-	-	-	-	-	-
	15. Special Methods of Teaching	-	-	4	4	-	-	4	4	-	-
	16. Teaching Aids	-	-	-	-	2	-	-	-	2	2
	17. Education and community Development	-	-	-	-	2	2	-	-	2	2
	Practice Teaching										
	18. Observation and Simulation	-	-	-	2	2	-	-	2	2	-
	19. Student Teaching	-	-	-	-	2	20	-	-	2	20
Specialization	(5 credits in specialization)										
	21. Social Studies	2	2	5-2	5-2	5-2	3	2	2	2	-
	22. Science	2	2	5-2	5-2	5-2	3	2	2	2	-
	23. Mathematics	2	2	5-2	5-2	5-2	3	2	2	2	-
	24. Arts	3	3	5-2	5-2	5-2	3	5	5	5	4
	25. Vocational Skills	3	3	5-2	5-2	5-2	3	5	5	5	4
	TOTAL	40	40	40	40	40	40	40	40	40	40

Source: Teacher Education in Indonesia
Jakarta: Ministry of Education and Culture, 1982, p.8

TABLE 8.8

THE SGO CURRICULUM

		Grade:	I		II		III	
		Semester:	1	2	3	4	5	6
Program		Field of Study						
General	1.	Religious Education	2	2	2	2	2	2
	2.	Pancasila Moral Education	2	2	2	2	2	2
	3.	Indonesian Language	2	2	2	2	2	2
Professional	4.	Pedagogy and National System of Education	4	2	-	-	-	-
	5.	Educational Evaluation	-	-	-	4	-	-
	6.	School Administration	-	-	-	-	4	-
	7.	General, Development, & Educational Psychology	4	-	-	-	-	-
	8.	Psychology of Sport	-	-	2	4	-	-
	9.	Guidance and Counseling	-	-	-	2	-	-
	10.	General Teaching Methods and Didactic	-	-	2	-	-	-
	11.	Education and Community Development	-	-	-	-	2	4
	12.	Observation and Simulation	-	-	-	-	2	-
	13.	Practice Teaching	-	-	-	-	2	19
Specialization	14.	Anatomy	-	2	2	2	-	-
	15.	Psychology	-	2	2	2	-	-
	16.	School Health Education and Its Teaching Methods	4	4	4	4	2	-
	17.	Massage	-	-	-	-	2	-
	18.	Principles of Health Education	-	4	-	-	-	-
	19.	General Knowledge of Sports	-	-	4	4	4	-
	20.	Games and Its Teaching Methods	4	4	4	4	4	3
	21.	Athlectics and Its Teaching Methods	4	4	3	3	2	2
	22.	Gymnastics and its Methods	4	2	3	3	2	2
	23.	Swimming and its Teaching Methods	2	2	2	2	3	-
	24.	The Arts of Self-Defense and its Teaching Methods	-	-	2	2	3	2
Supportive	25.	English	2	2	2	2	-	-
	26.	Mathematics	2	2	-	-	-	-
	27.	Science	2	2	-	-	-	-
	28.	Social Studies	-	-	-	-	2	2
	29.	Arts	2	2	2	-	-	-
		TOTAL	40	40	40	40	40	40

Source: Ibid, p. 9-10

outlines were also developed for other subject areas such as sports, health, home economics, and civics. A competency-based education approach also has been incorporated in programs offered by the Sports Training Institutes (SGOs) and the Special Education Teacher Training Institutes (SPGLBs). The requirement for demonstrating identified competencies is designed to insure that the teacher trainee develops not only desired teaching behaviors, but also an attitude toward the teaching-learning process that will influence his/her teaching in the primary classroom.

Major efforts have been aimed at making instructional materials more available in teacher training institutions as a part of the overall national development effort. More than 138 million books were distributed from 1973 to 1981. An even more ambitious program is presently being conducted by the Curriculum Center (Pusat Kurikulum) of Balitbang Dikbud with support from the World Bank. Balitbang Dikbud is responsible for the development of curriculum for the primary and secondary level.

The curriculum development process combines the efforts of subject matter specialists, curriculum groups, and pedagogy specialists. Curriculum modifications tend to be incremental. The focus is on improving instructional patterns within the existing curriculum framework rather than challenging the basic structure of the curriculum.

8.2.4.4 Equipment and Facilities

Equipment and facilities within the teacher training schools are often in poor repair or obsolete. There has been a chronic shortage of maintenance funds, resulting in part from the budgeting structure which

provides funds for the purchase of equipment from the development budget (often foreign assistance), and maintenance funds from the routine budget. The latter is seldom sufficient; consequently the families of students often provide support for maintenance of the school through the Parent/Teacher Association fund (BP3). Since the primary teacher training institutions are usually the second of third choice of junior secondary school graduates, they do not attract students from higher socio-economic backgrounds who can afford to attend private general secondary schools. As a result, the BP3 funds in the primary teacher training institutions are generally much more limited than those in the general secondary schools.

Some help has been available from special project development funds. Teacher training schools (SPGs) that participated in the First World Bank Teacher Training Project received funding for improved facilities. Forty SPGs were provided with libraries, multi-purpose workshops, and general science laboratories. Fourteen schools (which included the Special Education Training Institutes - SPGLBs) also received video rooms, darkrooms, and recording rooms. There is need for renovation of all public primary school teacher training institutes (buildings, classrooms and dormitories).

8.2.4.5 Examinations/Evaluation

Each teacher training institution is responsible for administering its own exit examination. The national primary teacher training examination was eliminated at about the same time the new general education national examination was established at grade 12. This change

to an individual institution-developed exam was made in order to strengthen the validity of the teacher training exit examination as a measure of the curriculum the student had studied. The intent was to have a better assessment of whether the student had mastered the content of the training course. Whether these locally-developed tests effectively and accurately measure the skills relevant to teaching is a question requiring study.

8.2.4.6 Administration and Supervision

Primary teacher training is coordinated by the Sub-Directorate of Teacher Training Schools of the Directorate General of Primary and Secondary Education. Despite resource constraints, the leadership of this office has been dynamic and creative in implementing emergency strategies and tapping new personnel pools to meet the previously expanding need for primary school teachers and to improve the quality of instruction in teacher training institutions. Current plans call for expansion of the role of primary teacher training institutions in an effort to divert their current excess capacity to help solve emergencies in other areas of personnel shortage. One such need is for mathematics and science teachers at the junior secondary level, and the related requirement to upgrade science and mathematics instruction within the teacher training institutes.

The supervision of the teacher training institutes is complex. The Sub-Directorate for Teacher Training Schools functions through the provincial educational office which has supervisors at the district, and in some instances, the sub-district level. Difficulty stems from the fact that, for accountability and supervisory purposes, the teacher

training schools are considered to be a part of the general secondary education structure. The 500 - plus primary teacher training schools can become lost among the thousands of general secondary institutions requiring supervision. This dilemma reflects the paradox of a high degree of centralization for policy and administrative decision making coupled with a very low level of central control of supervision and information flow.

8.2.5 Teacher Training Programs for Secondary Schools

8.2.5.1 Enrollment

The training of teachers for junior and senior secondary schools takes place at Higher Education Teacher Training Institutes (IKIPs) and in faculties of education (FKIPs) in comprehensive universities. There are six basic faculties: education, science teaching, technology teaching, social science teaching, arts and letters teaching, and sport and health teaching.

Table 8.9 shows a 10-year comparison of IKIP and FKIP enrollment for the bachelor's degree or Sarjana (SD program in 1974 and 1984). Table 8.10 details the enrollment in public institutions in 1984/85 for the diploma programs. The summary data for private sector institutions tripled from 32,667 to 98,567. Enrollment in IKIPs has been approximately twice the enrollment in FKIPs. The 1974, 24,676 students were enrolled in IKIPs and 7,991 in FKIPs. In 1984, enrollments were 63,780 and 34,787, respectively. The ratio of applicants to students admitted has been higher in FKIPs, but this ratio is dropping as the number of applicants increases. The rate of increase of applicants is

TABLE 8.9

ENROLLMENTS IN S1 DEGREE PROGRAMS IKIP/FKIP

IKIP	1974 Annual Applic	Annual Admit	Ratio Admit/ Applic	Total Enroll	Grad S1
Jakarta	639	263	41%	1629	63
Bandung	1194	955	57	2187	76
Semarang	858	486	-	418	29
Jogyakarat	1989	866	44	3502	90
Surabaya	1208	783	65	3392	22
Malang	993	604	61	2035	45
Medan	841	841	100	2950	84
Padang	5743	429	7	1710	20
Manado	527	429	93	1449	20
Ujung Pandang	698	615	88	2540	75
Total	14690	6271	43%	24676	563
FPIK					
Sebelas Maret	1001	628	63%	2719	46
Jember	149	80	54	400	9
Syian Kuala	378	176	47	994	18
Riau	46	46	100	416	4
Tanjungpura	87	87	100	421	1
Palangkaraya	134	134	100	268	-
Sriwijaya	351	264	75	634	37
Lampung	88	75	85	293	-
Mangkurat	161	142	88	471	8
Mulawarman	-	-	-	-	-
Pattimura	80	80	100	-	-
Udayana	354	238	67	639	21
Mataram	-	-	-	-	-
Samratulangi	-	-	-	-	-
Nusacendana	235	235	100	858	-
Cendrawasih	99	56	57	294	-
Tadulako	-	-	-	-	-
Halu Oleo	-	-	-	-	-
Bengkulu	-	-	-	-	-
Jambi	-	-	-	-	-
FKIP Total	3183	2241	71%	7991	144
IKIP Total	14690	6271	43	24676	563
IKIP + FKIP	17853	8512	48	32667	707

TABLE 8.9 (CONTINUED)

Annual Applic	Annual Admit	1984 Ratio Admit/ Applic	Total Enroll	Grad S1
7581	1498	20%	6524	770
6176	1720	28	9901	924
13673	988	7	4780	552
13408	1658	12	9169	473
13405	1214	9	4771	756
10324	1175	11	5972	1015
7865	1161	15	5668	552
4692	1333	28	4749	755
2122	1068	50	4290	440
5675	1175	21	7956	71
83921	12990	15%	63780	6410
9807	1125	11%	4980	315
1228	345	28	1410	32
5982	849	14	3939	123
601	463	77	1673	-
575	216	38	1261	31
339	292	86	1258	44
810	427	53	1944	109
4056	676	17	1882	181
1533	574	37	1844	112
579	177	31	686	5
525	350	67	1372	95
2468	414	17	2733	240
1275	233	1	1037	-
604	444	7	2256	36
525	414	79	2042	120
554	359	65	1150	9
522	350	67	-	76
702	423	60	-	-
189	100	53	-	-
225	166	-	-	-
31890	7231	23%	34787	1348
83921	12990	15	63780	6410
116815	20221	17	98567	7958

Source: MOEC. Data Mahasiswa dan Tenaga Akademis Perguruan Tinggi Negeri. 1985. pp.1-22;189-240.

still much smaller in the FKIPs. Seventy-one percent of applicants were actually enrolled FKIPs in 1974, compared to 43% in IKIPs. In 1984, 23% of the applicants to FKIPs were admitted, compared with 15% to IKIPs. In spite of this drop in ratio of applicants to admissions, the expansion of FKIPs (seven since 1974) has not kept pace with demand.

Table 8.10 presents the 1984/85 enrollment in diploma programs in public IKIPs and FKIPs. Again, enrollment in IKIPs is approximately double that of FKIPs. However, the percentage of applicants to admissions is identical. An average of 31% of the total number of students in the IKIPs graduated each year, compared to 33% in the FKIPs. These nearly identical graduation rates indicate that both types of institutions are graduating approximately one-third of their students in the two to three-year (D3) diploma program each year, as they should. Admissions ran higher then graduations in 1984/85 at both institutions, indicating a possible need for expansion of facilities to cope with these larger student bodies, assuming facilities are currently being fully utilized.

Table 8.11 summarizes national enrollment in the bachelor's degree or Sarjana (S1) programs and diploma programs in public and private secondary teacher training institutions. Enrollment in Sarjana (S1) programs was four times higher in private than in a public institutions in 1984/85, but total graduations as a percent of enrollment were considerably lower in private institutions than in public institutions: 1% to 10% in public IKIPs and 4% in FKIPs. The efficiency of private programs is, therefore, highly questionable. The same inefficiency is indicated in private diploma programs. The total enrollment in the

TABLE 8.10

ENROLLMENT IN DIPLOMA PROGRAMS
IKIP/FKIP
1984/85

I K I P	Annual Applic	Annual Admit	Admit/ Applic	Total Enroll	Grad.	Grad./ Enroll
Jakarta	4,565	1,087	23%	1,494	238	16%
Bandung	11,111	1,670	15	4,246	1,268	30
Semarang	14,925	1,205	8	2,525	148	7
Yogyakarta	4,663	914	20	2,479	940	38
Surabaya	8,775	1,179	14	2,477	849	34
Malang	6,615	920	14	2,054	654	32
Medan	3,599	1,812	50	4,020	1,054	26
Padang	6,954	1,227	18	3,169	1,492	4
Manado	936	388	41	836	328	39
Ujung Pandang	2,890	985	34	2,167	782	36
Total	65,283	11,387	17%	25,467	7,789	31%
F K I P						
Sebelas Maret	21,091	1,278	6%	2,093	576	28%
Jember	1,854	265	14	511	331	65
Syiah Kuala	848	672	79	1,112	424	38
Riau	1,360	373	27	890	269	30
Tanjungpura	546	274	50	501	-	-
Palangkaraya	311	285	85	502	156	31
Sriwijaya	3,025	980	32	1,290	405	31
Lampung	610	353	58	555	342	62
Mulawaraan	300	122	41	252	186	74
Lambung Mangkurat	1,130	599	53	722	402	56
Pattimura	495	215	43	344	225	65
Udayana	1,520	505	33	980	-	-
Mataram	890	253	28	253	207	82
Samratulangi	703	201	29	463	3	7
Jambi	492	210	43	306	164	54
Nusacendana	715	377	53	754	305	42
Cendrawasih	400	269	67	295	21	84
Tadulako	1,040	455	44	766	222	29
Halu Olao	473	110	23	189	-	-
Bengkulu	605	170	28	334	-	-
Total	45,609	7,738	17%	13,112	4,338	33%

Source: Laporan Tuhunan Direktorat Jenderal Pendidikan Tinggi Tahun 1984/1985
Jakarta: Ministry of Education and Culture, 1985, pp. 69.

TABLE 8.11

SUMMARY OF PUBLIC AND PRIVATE SECONDARY TEACHER TRAINING ENROLLMENTS IN 1984/85

Sarjana S1 Program 1984-1985

	Application	Admit	%	Total Admit Enroll	Grad/S1	Graduate to Enroll
Public FKIP Total	31,894	7,231	23	34,787	1,548	4
Public IKIP Total	84,921	12,990	15	63,780	6,410	10
All Private Total	258,407	142,714	55	477,846	6,557	1
Total S1	375,222	162,935	55	576,403	14,515	3

Diploma Programs

	Application	Admit	%	Total Admit Enroll	Grad/S1	Percent Graduate to Enroll
Public FKIP Total	45,609	7,738	17	13,112	4,338	33
Public IKIP Total	65,283	11,387	17	25,467	7,789	31
All Private Total	2,746	2,409	88	7,184	514	7
Total Diploma	113,638	21,534		45,763	12,641	28

Source: Laporan Tuhunan Direktorat Jenderal Pendidikan Tinqqi Tahun 1984/1985. Jakarta: Ministry of Education and Culture. 1985. pp. 69-76.

private diploma programs, however, was only 19% of the enrollment in public programs. This is not to say that private IKIPs and FKIPs are efficient in graduation rate. While the diploma program graduation rates seem appropriate, the S1 program rates of 10% and 4% are low.

8.2.5.2 Instructional Staff

Table 8.12 summarizes the projected need for teachers through the current five-year plan and the projected capacity of the teacher training institutions. Shortfalls are projected in all areas, with the most severe shortfall in junior general secondary schools (87,000), followed by senior vocational secondary (14,267) and senior general secondary (11,650).

In addition to the need for more teacher trainers to fulfill this demand, there has been concern for the quality of the existing faculties responsible for the training of secondary school teachers in IKIPs, which account for approximately 40% of all tertiary teachers training. IKIP faculty members should ideally have a minimum of a Pasca Sarjana (S2) or master's degree. Table 8.13 shows the percent of IKIP faculty at each level of training in 1984. With 89% of the IKIP faculty underqualified by this standard, teacher upgrading in IKIP is a clear priority.

The World Bank Teacher Education Project has as one of its objectives the retraining of teacher educators in new curricula and methodology. By March 1985, 137 master's (S2) and 32 doctoral (S3) degrees had been awarded abroad since the project began. A number of faculty members were also enrolled in degree training programs in-country as a part of this project.

TABLE 8.12

COMPARISON BETWEEN THE PROJECTED FACULTY NEED AND THE PROJECTED CAPACITY OF TEACHER TRAINING INSTITUTIONS

	JUNIOR SECONDARY (D2 + D3 Level)			SENIOR SECONDARY (D3 +S1 Level)		
Year	Need	Capacity	Diff	Need	Capacity	Diff
1984/1985	31,700	14,000	-17,700	9,500	8,250	-1,250
1985/1986	41,800	9,900	-31,900	11,300	10,300	-1,000
1986/1987	35,500	11,800	-23,700	11,900	11.600	- 300
1987/1988	25.400	12,100	-13,300	16,200	12,300	-3,900
1988/1989	12,800	13,600	+800	18,200	13,000	-5,200
Total	147,200	61,400	-87,400	67,100	55,450	-11,650

	Junior Vocational (D2 + D3 Level)			Senior Vocational (D3 + S1 Level)		
Year	Need	Capacity	Diff	Need	Capacity	Diff
1984/1985	100	100	-	3,300	2,133	-1,167
1985/1986	250	250	-	6,200	2,500	-3,709
1986/1987	1,690	1,690	-	7,700	6,000	-1,700
1987/1988	700	700	-	11,700	8,000	-3,700
1988/1989	718	718	-	14,000	10,000	-4,000
Total	2,458	2,458	-	42,900	28,633	-14,267

Source: Kebutuhan dan Kemampuan Pengadaan Guru Pada Pelita IV, Jakarta: Departemen Pendidikan dan Kebudayaan, 1985, p.11.

TABLE 8.13

IKIP FACULTY
BY LEVEL OF QUALIFICATION
1983/1984

	Under Qualified		Qualified						Total		
	Bachelor (S1)		Master (S2)		Doctor (S3)		Other				
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-Time	Part-time	Grand Total
1. Jakarta	489	141	40	6	35	30	21	7	585	184	769
2. Bandung	723	363	9	1	26	3	7	207	765	574	1,339
3. Semarang	377	135	4	1	6	21	-	8	387	165	552
4. Yogyakarta	370	129	33	2	12	5	18	18	433	154	587
5. Surabaya	533	61	18	-	7	2	-	6	558	69	624
6. Malang	405	112	32	-	21	-	-	-	458	112	570
7. Medan	596	29	19	-	4	-	-	9	619	38	657
8. Padang	438	39	25	-	11	1	-	-	474	40	514
9. Manado	383	353	20	16	5	16	2	15	410	400	810
10. Ujung Pandang	384	381	17	-	15	12	-	-	416	393	809
Total	4,698	1,743	217	26	142	90	48	270	5,105	2,129	7,231
% by qualification	64%	25%	3%	3%	2%	1%	6%	4%			
% by qualification total	89%		3%				8%				
% by each category	92%	82%	4%	1%	3%	4%	1%	13%			

Source: Laporan Tahunan Direktorat Jenderal Pendidikan Tinggi Tahun 1984-85
Departemen Pendidikan dan Kebudayaan 1985, pp. 88 and 91.

The World Bank has focused its human resource development efforts in the area of expanding capacity for vocational and technical training and improving educational quality. The following summarizes the major World Bank loan activities relating to teacher training that are approved over the next several years:

Title	Time Period	Amount	Description
University Development I	12/13/80 - 12/31/86	$45 million	The first phase of a program to improve efficiency and quality of university education. Campus construction, staff upgrading, management information, training and technical assistance included.
Second University Project	06/18/85 - 12/12/81	$47 million	Develop capacity to train university teachers and researchers and strengthen IUCs.
Secondary Training (Element A)	04/05/82 - 06/30/88	$80 million	Improve the quality of primary, secondary and special education teacher training, and expand the training of educational administrators.
Second Teacher Training (Element B)	04/05/82 - 06/30/88	$80 million	" "
Second Teacher Training (Element C)	04/05/82 - 06/30/87	$80 million	" "
Polytechnic II	06/23/83 - 12/31/89	$107.4 million	Expand Polytechnic enrollment and output by construction and equipping extensions of existing polytechnics and eleven new polytechnic; strengthen management capability of MOEC.
Third Agricultural Training	08/22/83 - 06/30/90	$63.3 million	Preservice and inservice training for middle-level manpower.
Second Nonformal Education	12/16/83 - 09/30/89	$43 million	Improve access to nonformal education and quality of NFE. Strengthen management capabilities of community education agency.

Title	Time Period	Amount	Description
Secondary Education and Management Training	11/05/84 - 09/30/88	Unit I $78 million Unit II $78 million Unit III $78 million	Improve quality of secondary education and strengthen management and planning skills.

Indonesia received approximately 18 percent of the total funding of the World Bank in the area of education making it one of the largest recipient countries in the world in this sector.

A more detailed examination of the need for trained teachers at the secondary level reveals serious shortages in specific subject areas, and a resultant need for teacher trainers in these areas. Tables 8.14 and 8.15 outline the projected teacher needs at the junior and senior secondary level by discipline.

At both the junior and senior secondary levels, the most severe shortages are likely to be in the basic academic subjects--language, mathematics, science, and social studies. Indonesian and mathematics are the areas of greatest need. Planners within the Directorate of Teacher Training have begun discussion of measures to cope with these projected shortages. One emergency measure under consideration involves identifying talented graduates of the primary teacher training institutes (SPGs) to receive special upgrading courses in mathematics, language or other required subject areas at the SPGs or IKIPs and FKIPs.

8.2.5.3 Curriculum and Instructional Materials

The higher education curriculum is heavily oriented toward specialized fields of study. An analysis of the data in Table 8.16

TABLE 8.14

PROJECTED NEED FOR JUNIOR SECONDARY TEACHERS
1984-1989

No.	By Subject	1984/5	1985/6	1986/7	1987/8	1988/9	TOTAL
1	Religion	1,714	2,259	1,919	1,373	692	7,957
2	Moral Education	1,714	2,259	1,919	1,373	692	7,957
3	Sport/Health	2,570	3,389	2,878	2,060	1,038	11,935
4	Art	1,714	2,259	1,919	1,373	692	7,957
5	Indonesian Language	4,283	5,649	4,797	3,432	1,729	19,890
6	English	3,427	4,519	3,838	2,746	1,384	15,914
7	Mathematics	4,283	5,649	4,797	3,432	1,729	19,890
8	Science	3,427	4,519	3,838	2,746	1,384	15,914
9	Social Science	3,427	4,519	3,838	2,746	1,384	15,914
10	History	1,714	2,260	1,919	1,373	692	7,958
11	Skill Training	3,427	4,519	3,838	2,746	1,384	15,914
	TOTAL	31,700	41,800	35,500	25,400	12,800	147,200

Source: Kebutuhan dan Kemampuan Pengadaan Guru Pada Pelita IV. Jakarta: Departemen Pendidikan dan Kebudayaan. 1985. p. 13.

TABLE 8.15

PROJECTED NEED OF SENIOR SECONDARY TEACHERS
1984-1989

Year By Subject	1984/1985	1985/86	1986/87	1987/88	1988/89	Total
Religion	500	610	639	880	987	3,616
Moral Education	500	610	659	660	967	3,610
Indonesian Language	752	914	972	1,312	1,476	5,426
History	1,000	1,017	1,073	1,459	1,634	6,183
Economics	527	559	586	800	902	3,374
Geography	500	512	526	729	818	3,085
Sports/Health	467	406	424	579	656	2,532
Art	512	512	526	729	818	3,097
Skill Training	512	512	526	729	818	3,097
Mathematics	505	1,223	1,306	1,753	1,973	6,760
Biology	520	720	759	1,028	1,155	4,182
Physics	591	691	728	986	1,101	4,097
Chemistry	554	654	695	939	1,053	3,895
English	871	1,171	1,241	1,674	1,878	6,835
Sociology & Anthropology	329	329	347	475	537	2,017
Civics	125	125	136	185	209	780
Foreign Language & Local language	329	329	374	475	536	2,016
Cultural History	203	203	215	294	331	1,246
Literature	203	203	215	294	331	1,246
Total	9,500	11,300	11,662	15,982	18,180	66,624

Source: Kebutuhan dan Kemampuan Pengadaan Guru Pada Pelita IV Jakarta: Departemen Pendidikan dan kebudayaan. 1985. p. 12.

TABLE 8.16

THE CURRICULUM STRUCTURE AND DISTRIBUTION OF COURSE FOR IKIP AND FKIP

Types	Diploma Program for Primary Teacher	Diploma Program Jr. Sec. Teachers	Diploma Program Sr. Sec. Teachers	Primary Teacher Educators & Sr. Sec. Teachers Bachelor's Degree (S1)
		Course Hours		
General Education	6	12-16	12-16	12-16
Area of Concentration	22	42-46	56-60	81-86
Total Subject Preparation	28	54-62	68-76	93-102
Education Foundations	2	8-12	10-14	10-14
Teaching/Learning Processes	8	13-17	25-29	29-34
Field Practice	2	3	3	4
Total Education	12	24-32	38-46	43-52
Total	40-50	80-90	110-120	144-160
% General Education	30%	33%	33%	33%

Source: Teacher Education in Indonesia. p. 9.

shows that students in both diploma and degree programs have a ratio of one-third general education courses to two-thirds specialized subject matter courses. The emphasis is on theoretical training in education; less than 10% of class hours are devoted to field practice. This distribution is similar to the curriculum emphasis in many other countries.

As mentioned earlier, teacher education at all levels in Indonesia now follows the competency-based teacher education approach. This approach is based on the belief that the trainee, in performing educational tasks, should be able to demonstrate competence certain specified performance criteria. There are 10 basic competencies which are the basis for designing the IKIP curriculum. These are the capability to

1) master the content;
2) administer the teaching-learning program;
3) manage the class;
4) use media resources;
5) master the educational foundations;
6) manage the teaching-learning interactions;
7) evaluate the student's achievement;
8) identify and implement the function and program of guidance and counseling services;
9) identify and conduct school administration;
10) understand the principles and interpret the educational research outcomes.

Most faculty have been trained in a teacher-centered approach stressing the lecture method. How well they adapt to a totally different type of instruction, such as the competency-based approach is an important question requiring study.

Teacher training students in IKIPs and FKIPs are required to purchase their own textbooks. Interviews with faculty and administrators at IKIPs and FKIPs indicated a consensus that wide variation exists in the actual content of the curriculum and what is presented by the instructional materials; not only between institutions but in courses taught by individual faculty members in the same institution. It was also reported that there is a chronic problem of absenteeism of faculty from class sessions. One senior official described some private universities as "seasonal" because it is known that they conduct classes only at the beginning and end of the semester.

8.2.5.4 Facilities

College libraries are reasonably well used by students. Due to lack of availability of textbooks in some institutions, several copies of each textbook title are placed in the library, and students are sometimes asked to copy information for their classes. Table 8.17 shows library use at public IKIPs.

IKIP and FKIP facilities in general tend to be limited. Seating capacity is often a critical problem. When an assessment was made in 1977, it was found that there were no special facilities for observation of teaching, and few laboratories for science instruction or for development of materials. Where there were science laboratories, they were equipped poorly or had non-functional equipment. The First World

TABLE 8.17

USE OF LIBRARIES

	Aver. Use per week	Average Books Borrowed/per week	#of Seats	Enrollment
Jakarta	714	1,173	213	6,524
Bandung	Data not available			
Semerang	2,468	399	349	4,780
Jogyakarta	Data not available			
Surabaya	Data not available			
Malang	4,800	1,000	364	5,972
Medan	799	387	250	5,668
Padang	7,060	2,206	453	4,749
Menado	1,920	581	258	4,290
Ujung Pandang	796	398	145	7,956

Source: Laporan Tahunan Direktorat Jenderal Pendidikan Tinggi Tahun. 1984/1985. op. cit. p.96.

Bank Teacher Training Project helped remedy this situation in the public IKIPs by providing funding for libraries, laboratories, and demonstration/observation facilities, but the IKIPs have been slow to utilize them. Sometimes the new facilities have been used simply as extra classrooms, or not used at all.

8.2.5.5 Examinations/Evaluation

The new national examinations (EBTANAS) for grades 6, 9 and 12 have been in use for only one year. Secondary schools can use EBTANAS results as the criteria for school graduation, but this is not required. There are separate university admissions examinations. The most important is the Sipenmaru required for admission to all public universities. The examination questions on the Sipenmaru are all multiple-choice and do not stress assessment of the higher order

conceptual skills that have received increased emphasis in teacher training. In Indonesia, as in other countries, the relationship between the objectives of the curriculum and measurements used to evaluate their accomplishment remains problematic.

8.2.5.6 Administration and Supervision

There is some policy coordination between IKIPs and FKIPs, which are overseen by the Directorate General of Higher Education, and primary teacher training institutions, which are supervised in the Directorate of Secondary Education; but systematic mechanisms for continuing coordination need improvement. As a result of the dualistic administrative structure, it is difficult to ensure that the training provided to teacher trainers responds to the real needs of their trainees. The emphasis on theoretical rather than practical training is one example. (Field practice comprises only four of the 140-160 course hours for the S1.)

There is a lack of training available for academic leaders in higher education. The rectors, assistant rectors and deans who administer institutes and universities are recruited from regular academic staff and hold office for a limited period of time. They are expected to continue to teach on a limited basis while in administrative positions. This group needs training in administrative methods.

8.2.5.7 Special Programs

Training Programs for Teacher Educators at the Open University

A non-degree certification program, AKTA V, is designed to provide requisite graduate level training to the teacher trainers in IKIPs and

FKIPs, 85% of whom are underqualified by formal Indonesian standards (the S2 degree). An AKTA V program is one of several in a variety of disciplines offered by the Open University (Universitas Terbuka) in Jakarta for off-campus students. The Open University combines self-instructional materials with tutoring and correspondence systems in flexible programs that do not require full-time attendance by students.

8.3 Analysis of Teacher Education and Training

8.3.1 Needs

There is a pressing need to upgrade the quality of candidates in teacher education at all levels. Typically, students seeking admission to senior secondary school will select, a public general secondary school as first choice. If the student lives in an urban area, he or she may choose one of the prestigious private schools. Private senior secondary schools tend to be the second choice if family resources permit. Senior secondary vocational school may be third choice and the SPG/SGO is often considered a final option. Yet many of the candidates who perform poorly on examinations and, therefore, have fewer career options, are still quite capable of becoming effective teachers if mechanisms can be found to train them properly.

The needs of secondary teacher education curricula and methodology mirror needs in higher education in general. These include problems of professor absenteeism, dull lecture/recitation forms of instruction, and isolation of individual curricula and courses so that there are problems of overlap. The curriculum should be rationalized and integrated. A need also exists to develop a realistic expectation

for staff performance given the reality that many teachers hold second teaching jobs. The inflexibility of some departments and individuals must be overcome to open up programs to alternative training methods.

The relative efficiency of IKIPs and FKIPs both public and private, must be determined. There should be a major, systematic effort to collect data on the quality, cost, and effectiveness of both types of institutions.

8.3.2 Plans

At present, the output from primary teacher training schools (SPG) is exceeding demand. One proposal for better allocation of these resources is to convert some SPGs to general senior secondary schools. There are also plans to upgrade the SPGs giving them a role in training junior secondary teachers in mathematics and other specialized subject areas. Converting part of their capacity to training subject specialists who are in very short supply would be considered an emergency measure. It could, however, provide the foundation for adding one or two years to the general training requirements for primary teachers. The current six years of training beyond primary school has been the standard since 1961.

One advantage of this emergency proposal is that it will tap a previously underutilized personnel pool, namely outstanding SPG graduates who, because the SPG program is terminal, have had limited career alternatives. Top students would be selected for the D3 program at cooperating IKIPs. Here they would be trained to return as SPG faculty members in mathematics or other specializations where the need

is greatest. A larger, second echelon of students would be placed in D2 training in selected SPGs which would become accredited by IKIP and licensed by them to offer D2 training. Present plans in this regard focus on training of mathematics teacher for secondary schools. A substantial advantage of training the emergency cadre of teachers at the SPGs instead of the IKIPs or FKIPs is that SPGs cover a broader geographical area. Decentralizing the training and increasing the effectiveness of assignment procedures for remote areas would help fill a significant need.

A number of programs for the improvement of inservice education are underway and planned for expansion by the Director General of Primary and Secondary Education as well as the Directorate General of Higher Education. The most impressive of these programs is the inservice/onservice teacher training program, the Sanggar. This is a leveraged, inservice scheme for mathematics, science, and English teachers under the sponsorship of the World Bank (see Chapter 6). Teachers in the Sanggars are given specific materials, teaching suggestions, and evaluative instruments. There is great potential for effective upgrading of teachers through this system. The capacity of the Sanggars should be expanded to make this delivery system more accessible throughout the country. Also, a formative evaluation should be made so that its effective techniques can be applied elsewhere. Planning is also being conducted between the Directorates General of Higher Education and Primary and Secondary Education to have the Open University play a more active role in inservice training, in addition to its role in preservice teacher training.

8.3.3 Constraints

Teacher training programs suffer the familiar constraints of lack of resources, time, and personnel, but in Indonesia there is a specific need for a coherent vision and a mandate outlining the future of teacher education. The system has been preoccupied with response to emergencies. As a result, many development efforts have been less effective than they could have been with more coherent overall conceptualization and coordination.

Because primary teacher education has operated as an adjunct of the Directorate General of Primary and Secondary Education, its history and practice differ significantly from those of secondary teacher education which is overseen by the Directorate General of Higher Education. This situation fosters barriers between primary and secondary teachers at the local level that discourage dialogue and assistance. A coherent, long-term strategy for teacher education that guides and ensures coordination of the programs of the two Directorates General might prove a very useful in helping to overcome constraints in planning that arise from a dual administrative system.

Programs must also recognize the practice, widespread among personnel delivering primary and secondary education of holding more than one teaching job. Recognition that such multi-jobbing will be characteristic of the system for the foreseeable future could improve planning of preservice and inservice training programs.

Another important constraint is that teacher training capacity is often not available in geographical areas where there is greatest need for trained personnel. There are teachers trained for primary schools

who are teaching successfully as unqualified teachers in the private junior secondary schools. Their training and performance often surpasses that of technically qualified teachers trained in marginal settings in secondary teaching training institutions. Special courses to upgrade both types of teachers might be a focal point of inservice training to improve efficiency of private schools.

Overcomplexity is a constraint, especially in secondary education where multiple study tracks create problems in standardizing the curriculum delivery system. It is difficult to train teachers to identify a realistic level of achievement for their students when there are such varying levels of expectation in the different curriculum streams they must teach.

In addition, the lack of effective supervision of teachers in the school is a serious constraint. If the headmaster, inspectors, and supervisors cannot give consistent and timely direction, a lack of quality in the teaching-learning process will inevitably result.

8.3.4. Issues

8.3.4.1 External Efficiency

The teacher education sector performs well in placing graduates of teacher training programs in professional education assignments. However, many teachers, especially vocational teachers, are often not adequately prepared to teach in the area of specialization for which they are hired. Once hired, the teacher is often found to be ill equipped to teach, even though certified.

The examination process is a problem. Students may be successful in local school examinations, but it is not clear whether these

examinations adequately measure attainment of the skills required of effective teacher trainers. Locally developed examinations may help to ensure that the students are tested on what they have studied, but they do not ensure that the student is prepared for what is required of him/her upon graduation.

There is an urgent need for more information on external efficiency. Studies are required which utilize a quality measure of teacher performance. Tracer studies should be developed to help determine the extent to which the graduates of the teacher training schools are able to meet the requirements of the job for which they are being prepared. It is important to learn the effect of multiple employment among teachers. For teachers to hold more than one teaching job has the same effect as increasing the number of available teachers; however, this advantage may be offset by a decrease in performance level.

8.3.4.2 Internal Efficiency

The efficiency of the teacher training system has been continuously rising over the last several decades in terms of raising the formal qualifications of teachers. Yet, there is a widespread view that the actual quality of the instructional delivery system has been declining, that the standards for degrees and programs have been eroding due to the demand for increased numbers of graduates. The recently reinstituted national examination should yield data on the internal efficiency of the system over the next few years in terms of the quality of the output.

Repetition and drop-out rates in the teacher education institutions

are generally low. For example, repetition rates in levels one and two in the SPG in 1984/85 were only about 1%. Repetition at level three was slightly higher at 3%. There are exceptions to this, however, especially at the S1 level where it is customary for students to take four to six years to complete the program.

One measure of productivity is indicated by the ratio of graduates to total enrollment. In the public SPGs in 1983/84, graduating students as a percentage of enrolled students ranged from 39% in Bali, to 15% in Aceh, Sumatra Barat and Jambi, to 12% in Irian Jaya. Teacher training schools in Bali seem much more efficient than SPG in these other areas. The reasons for these regional variations should be better understood.

The amount of time faculty members spend with teaching and assistance of students is often low (reported in some instances to be only 25% of the time of full-time IKIP and FKIP members) and contributes to an inefficient delivery system. The need of the faculty members to seek other sources of income negatively influences internal efficiency as well as quality.

Information is needed on the relative leverage of the principal as an agent of quality in teacher education. There is consistent evidence from other countries to suggest that the quality of the principal can have more effect on the quality of the education provided by the school than almost any other factor. The preservice training, appointment, and inservice upgrading and training of principals are all internal efficiency issues.

Also important is the ratio of pedagogical training to specialized

training, which provides the most effective balance between content and method. The efficiency of different patterns of instruction must be considered. For example, short, intensive instruction in a language is often more productive than the same total amount of time spent in less focused and more infrequent teaching sessions. It has been found that for language learning in particular, the same amount of instruction can produce a higher level of learning if it is concentrated rather than if it is spread out over several semesters or years.

In primary education teacher training, the current overproduction of teachers nationwide offers an opportunity for improvements in efficiency if resources can be appropriately redirected to areas of greatest need, such as secondary mathematics and science. The situation also offers an opportunity to experiment with methods for redirecting teacher surpluses to remote areas where teachers are scarce. Efforts to identify other alternatives to improve cost effectiveness in this area should be encouraged. For example, much of the teacher production is from private SPGs. Reduction of subsidies to these institutions would help to reduce the oversupply of primary teachers.

8.3.4.3 Access and Equity

There is a great imbalance between Java and the other islands in terms of access to teacher training institutions at all levels. There are also disparities among provinces in the distribution of classroom accommodations and availability of resources.

Access to higher levels of education in rural areas is a problem generally. Often the very students who have less resources available to them have to assume the added cost of living away from home if they are

admitted to a senior secondary school or university. Both primary and secondary teacher education are substantially dependent upon the financing provided by the individual student.

8.3.4.4 Administration and Supervision

Although there is a high level of centralization of authority for supervision of teacher training, responsibility is divided between two Directorates General in the Ministry of Education. Primary teacher education is the responsibility of the Director General of Primary and Secondary Education. Secondary teacher training is under the authority of the Director General of Higher Education. The lack of cohesion resulting from this divided leadership creates ambivalence toward the adoption of effective supervisory programs requiring cooperation between the two Director Generals. For the near future, preparation of a long-term (5 to 10 year) teacher training plan to assist coordination between the two offices may be appropriate. Structural changes should be considered for implementation in Repelita VI and beyond.

Supervision of primary teacher education is conducted by supervisors who have little training in teacher education and whose responsibilities will also include the supervision of other secondary schools. Training programs for supervisory personnel are needed. Not only are supervisors poorly trained, but often they do not choose to visit primary teacher training institutions simply because they feel uncomfortable with their role, having never taught in primary school.

There is little tradition of supervision in higher education. Perhaps as a first step in deciding how to improve programs, a visiting

committee should be established to assist the local faculty and administrators in gaining an outside perspective.

8.3.4.5 Costs and Financing

Analysis of Unit Costs and Returns to Teacher Training-Introduction

In this and the following section, current investment in the teacher training subsector of Indonesian education is examined within the framework of three branches of economic analysis: unit cost analysis, cycle cost analysis, and internal rate of return analysis. Unit cost analysis and cycle analysis can provide policy makers and planners with important information about existing inefficiencies when the need arises to cut costs, and about future opportunities that will increase the contribution to growth of each rupiah spent on education within each of the education and human resource development subsectors. More important, these analyses together with benefit/cost (rate of return) analysis provide policy makers and planners with a standard that can be employed to evaluate the relative efficiency with which current levels of resources are being used in each of the main education subsectors.

Each of the three types of analysis included in this and the following section provides a different type of information regarding the cost and financing of education. The unit cost analysis attempts to measure recurrent (or annual) inputs of resources into each of the subsectors. In this analysis, the aim is to identify and measure the total annual cost of instruction per student regardless of the source of funds. In Indonesia's public schools a large portion, but not all, of educational costs are borne by the government. The portion of schooling that is funded from private sources is also a cost to the economy and is

a part of the current level of resources needed at each level of education that must be considered by the government when decisions made as to whether education is contributing effectively to economic growth.

Unit costs that encompass both public and private sources of funds can also help policy makers and planners reach decisions about the minimum of resources needed for schools or human resource development programs, about internal efficiency, and about the level of resources that would be required for some level of expansion or quality improvement. Although increases in per student expenditures are often associated with improvement in the quality of schooling, planners should not expect to maintain or improve the educational quality of schooling simply by raising unit costs. The effectiveness with which resources are used is also an important determinant of the level of educational quality attained.

The analysis of cycle costs relates the educational inputs examined under unit costs to the full costs of a student's degree program used as a measure of educational output. Specifically, the cycle cost analysis combines costs and student flows (i.e., prevailing rates of progression, repetition, and drop out) to yield a cost per graduate. Instructional years per graduate are calculated from student flow information and provide a measure of a system's relative internal efficiency. For example, in a three-year teacher training program found to be 100% efficient (e.g., 0% repeaters and 0% dropouts), the average number of instructional years per graduate would be three. The cycle cost would then be the unit cost multiplied by instructional years per graduate. Hence, an education program with relatively high unit costs could have

lower cycle costs than a program with much lower unit costs if the first program had significantly smaller numbers of repeaters and dropouts. The cycle cost analysis, which will be illustrated in greater in detail, is an indicator of how efficiently schools or programs are using current allocations of resources. This analysis helps policy makers and planners identify what output can be expected from a given level of investment in a specific subsector or program. From a macro planning perspective, instructional years per graduate and cycle costs can aid in identifying those subsectors that are using resources less efficiently.

While cycle cost analysis is a measure of how efficiently resources are used within a given subsector of education, internal rate of return analysis examines investments in education in the broader context of its external efficiency in relation to the entire economy. Internal rate of return analysis is useful for identifying the potential for private contributions of resources toward education, and in providing decision makers with a criterion for examining the returns from and the relative growth payoffs from the investment in the different levels and types of schooling. Although it is beyond the scope of this report to provide a detailed description of the theory underlying economic returns to education, it is useful to outline the difference between social and private rates of return.

Briefly, a social rate of return attempts to enumerate and evaluate all relevant costs and benefits of a specific project or program. In education, costs are comprised of direct costs (public and private) and opportunity costs, which attempt to measure earnings foregone by students while participating in education programs. Benefits are

measured as incremental lifetime earnings resulting from a student's participation in a particular education program. Social rates of return include all costs associated with a particular education program, while private rates of return examine only the direct costs and foregone income of the individual participating in the programs. Typically the social rates of return are the ones relevant for education planning and government decisions. When presented with complete information on both total and private internal rates of return, the policy maker should be able to decide on appropriate actions - whether to invest in a given level of education and how much to invest.

Teacher Training - Per Student Costs

This section examines annual per student costs for teacher training. In Indonesia, teacher training is carried out at two levels of education: the training of primary school teachers is carried out at senior secondary teacher training schools (SPGs) while the training of junior and senior secondary school teachers is carried out at teacher training colleges (IKIP) and faculties of education in universities (FKIP). There are both public and private teacher training programs at the senior secondary and postsecondary levels. In this section, the differences between the costs of public and private teacher training programs will be considered briefly. In general, the same problems regarding estimation of per student costs in private schools that exist for general senior secondary and higher education also exist for the teacher training programs. These difficulties are discussed in greater detail in those particular sections.

Per student costs for the two levels of teacher training will be considered separately below.

Training for Primary School Teachers

As noted previously, training for primary school teachers in Indonesia is carried out at the senior secondary level in the SPG. To estimate annual per student costs for both public and private SPGs, the typical school approach is used; this has been explained in other chapters of the Sector Review (Chapter 2). The analysis for SPGs begins with the same typical school profiles as those given for other senior secondary education programs.

These "typical" school profiles serve as the basis for annual per student cost calculations for public and private SPGs. The beginning point is the analysis of aggregate annual school costs and annual per student costs for public SPGs.

The assumptions made for teaching and non-teaching salaries in SMAs are also used in the calculation of SPG salary costs. Assumptions about fees collected under the SPP and BP3 and their subsequent allocation to the expenditure categories of teachers' welfare, materials, and maintenance are also the same. When these assumptions about salaries and benefits for teachers and support staff are combined with the SPG school averages given in Table 8.18, estimates for salary costs per school can be obtained (Table 8.19).

Textbook cost estimates are based on the same assumptions as those used in calculating SMA textbook costs (see Chapter 2). Using the

TABLE 8.18

TYPICAL SCHOOL PROFILES FOR
PUBLIC AND PRIVATE SPG

Type of School	School Enrol.	Ave.Class Size	Student/FT Teacher	FT Teacher/ School	PT Teacher School
SPG/Public	626	40	22	29	4
SPG/Private	274	41	43	6	17

FT=full-time; PT=part-time
Source: 1984-85 General Education Statistics, Balitbang Dikbud, MOEC.

TABLE 8.19

ANNUAL TEACHING AND SUPPORT STAFF
SALARIES PER SPG

1.	Teaching Salaries	
	(a) From Public Sources:	
	1 Headmaster	Rp.2,445,612
	28 FT Teachers	49,846,272
	Subtotal	52,291,884
	(b) From Private Sources	
	SPP/DPP	8,556,168
	BP3	7,887,600
	* Subtotal	16,443,768
	Total Teaching Salaries	Rp.68,735,652
2.	Non-Teaching Salaries (all are from public sources)	
	1 Administrative Head	Rp.1,105,476
	1 Accountant	940,896
	3 Typists	2,420,100
	4 Janitors	2,933,088
	Total non-teaching salaries	Rp.7,399,560

* This amount includes Rp.3,432,000 for 4 part-time teachers which are assumed to work 14.3 hours/week at a rate of Rp.5,000/hr/month.

enrollments per typical public SPG given in Table 8.18, the following annual textbook costs can be calculated for public SPGs:

Annual Costs/School	Public Costs	*Total Costs
	Rp.2,182,913	Rp.2,910,550

(* It is assumed that 25% of textbooks are purchased directly by students or their families).

Assumptions for estimating SPG materials and maintenance costs are also exactly the same as those used in making SMA cost estimates. Combining these previously stated assumptions (see Chapter 2) with the averages given in Table 8.18 yields the aggregate annual materials and maintenance costs for public SPGs. Table 8.20 summarizes and distinguishes between costs funded by public sources (i.e. MOEC) and total costs, which combines total private contributions made by students and parents with public costs.

In addition to student contributions to textbook costs and to SPP and BP3 fees, it is assumed that an additional contribution of Rp.10,000 per student per year is made to cover uniform costs, special additional BP3 fees, transportation, and other miscellaneous school-related expenses. As noted earlier, this estimate is quite conservative when the level of actual special BP3 fees/contributions is considered.

From the preceding assumptions on salaries, textbooks, materials, maintenance, and additional student contributions, the following estimate of annual cost per school can be made for public SPGs (Table 8.21).

TABLE 8.20

TOTAL ANNUAL SPG MATERIALS/MAINTENANCE COSTS
BY SOURCE OF FUNDS
(1985 Rupiah)

Source	Cost Category	
	Materials	Maintenance
Public		
(a) MOEC	921,940	12,629
Private		
(a) SPP/DPP	2,554,080	1,660,152
(b) BP3	1,690,200	1,690,200
Total	5,166,220	3,362,981

TABLE 8.21

AGGREGATE ANNUAL OPERATING COSTS FOR
PUBLIC SPGs BY SOURCE OF FUNDS
('000 1985 Rupiah)

Cost Category	Total	Public
Salaries		
- Teaching *	68,735.65	52,291.88
- Nonteaching	7,399.56	7,399.56
Textbooks	2,910.55	2,182.91
Materials	5,166.22	921.94
Maintenance	3,362.98	12.63
Students' Contributions	6,260.00	--
Total	93,834.96	62,808.92

* Includes annual costs of 4 part-time teachers' salaries.

From the aggregate annual school data for public SPGs summarized in Table 8.21, and average per school enrollments from Table 8.18, annual per student costs can be estimated for public SPG programs (Table 8.22).

TABLE 8.22

ANNUAL COST PER STUDENT
BY SOURCE OF FUNDS *
(1985 Rupiah)

Cost Category	Total	Public
Salaries	121,621	95,353
Textbooks	4,649	3,487
Materials	8,252	1,472
Maintenance	5,372	20
Students' Contributions	10,000	--
Total	149,894	100,332

* Unit costs may differ slightly if calculated from rounded figures in Table 8.21 as the per student costs given in Table 8.22 are calculated from exact totals.

The main conclusion to be drawn from the analysis of public SPG per student costs is that they are slightly higher than those found for SMAs. Private contributions from parents and family as a percent of total annual costs are 33.1% for SPGs which is somewhat lower than the contributions of students in SMAs.

Estimates of annual cost per student in private SPGs are based on the assumptions made under scenario II for private SMAs (see Chapter 6). When those assumptions are combined with the information on full- and part-time teachers given in Table 8.18 the following estimates of aggregate school costs can be made for private SPGs.

Teaching Salaries	Annual Cost
1 Headmaster	Rp.1,740,000
5 FT Teachers	5,880,000
17 PT Teachers	12,036,000
Sub-Total	Rp.19,656,000
Other Costs	13,104,000
Total Annual Costs	Rp.32,760,000

Annual cost per student can be calculated by dividing the total annual cost per school by the average enrollments per private SPG (i.e., 274 students). This calculation yields Rp.119,562 as the estimate of annual per student cost for private SPGs. On the basis of this estimate, the per student cost of private SPGs appears to be lower than that of public SPGs (Rp. 149,894 per student per year). The cautions regarding the accuracy of this number or the relevance of the comparison are the same as those given for private SMAs. These cautions must be considered when conclusions are drawn about the relative cost of public versus private primary teacher training.

Training for Secondary School Teachers

Training for secondary school teachers is offered by a range of postsecondary institutions. In the public sector, IKIPs (teacher training colleges) and selected public universities offer programs in teacher training. In the private sector, teacher training programs are also offered by private IKIPs and universities as well as by private academies. Separate chapters in this Sector Review (Secondary Education and Higher Education) offer a more detailed discussion of the variation in quality and content of these programs.

The assumptions underlying annual cost per student for teacher

training at the post-secondary level are also discussed in some detail in the section of unit cost analysis that discusses higher education.

Cycle Cost Comparisons

This section brings together the unit cost information and the information on instructional years per graduate of the Chapter 2 of the Sector Review. When cost data are combined with the information on student flows and instructional years per graduate, costs per graduate or "cycle costs" can be estimated for each educational level. These cycle costs overestimate the total costs incurred per graduate to the extent that they disregard the value of education acquired by students who do not complete the cycle. With cycle cost, however, it is possible to account for the inefficiencies of dropouts and repeaters in monetary terms. Simply multiplying annual unit costs by the average number of years it takes a graduating student to complete the cycle underestimates total costs because it does not account for the resources that have been spent on repeaters and dropouts. The cycle cost measure also allows for the calculation of an "attrition cost index" which indicates the difference between cycle costs in an ideal cycle with no repeaters or dropouts (assuming a constant unit cost) and actual cycle costs under prevailing drop-out and repetition rates. In a very rough way, the difference between actual and optimal cycle costs represents the level of resources wasted on internal inefficiencies. The attrition cost index is a ratio of actual to optimal cycle cost. Hence, an attrition cost index of 1.00 would show there is no "waste" of resources on attrition. The higher the index, the higher the level of resources spent on repeaters and dropouts.

Table 8.23 summarizes unit costs, optimal cycle costs, instructional years per graduate, actual cycle costs, and attrition cost indices for all levels of education. This summary allows for a comparison across subsectors of annual costs and the relative efficiency with which these resources are used. (For higher education only total cost per student is calculated.)

The ratio of unit costs at the various levels of education to primary education allows for a comparison of annual per student costs across subsectors. All unit costs were calculated in 1985 prices except those for higher education. These were based on 1984 budget data and do not reflect the large salary increase for civil servants (including public university professors) that occurred in 1985. To make higher education unit costs roughly comparable to the other unit costs, the portion of higher education unit costs that gone to salaries was adjusted to reflect the 1985 salary scale increase.

In general, there is not a great deal of variation in unit cost from one level of education to another. Compared to the average unit cost for primary, public SPG is 1.90 times higher, and public general senior secondary is 1.67 times more expensive. The ratio of public higher education to primary is quite low by international standards.

Optimal costs per graduate are calculated for each level of education. This indicates the ideal cost per graduate if unit costs were held constant and there were no repeaters or dropouts. The unit

TABLE 8.23

SUMMARY OF UNIT AND CYCLE COSTS
ALL LEVELS OF EDUCATION

	TOTAL COST/ STUDENT	RATIO TO AVG PRIMARY	OPTIMAL COST/ GRAD	INSTRUCTION YEARS PER GRADUATE	ACTUAL COST/ GRAD	ATTRITION COST INDEX
I. PRIMARY						
- AVG. INDONESIA	78,948	1.00				
- JAKARTA	63,455	0.80	380,730	6.88	436,570	1.15
- JAVA + BALI	82,702	1.05	496,212	7.80	645,076	1.30
- OUTER ISLANDS	75,011	0.95	450,066	8.43	632,342	1,41
II. JUNIOR SECONDARY						
(A) GENERAL:						
- PUBLIC SMP	107,300	1.36	321,900	3.29	353,017	1.10
- PRIVATE SMP (I) *	118,609	1,50	355,827	3.56	422,248	1.19
- PRIVATE SMP (II)**	94,205	1.19	282,615	3.56	335,370	1.19
(B) VOCATIONAL/TECHNICAL						
- PUBLIC ST/SKKP	107.300	1.36	321,900	3.57	383,061	1.19
III. SENIOR SECONDARY						
(A) GENERAL:						
- PUBLIC SMA	131,797	1.67	395,391	3.45	454,700	1.15
- PUBLIC SMA/JAKARTA	131,797	1.67	395,391	3.25	428,340	1.08
- PUBLIC SMA/JAVA+BALI	131,797	1.67	395,391	3.21	423,068	1.07
- PUB. SMA/OUTER ISLANDS	131,797	1.67	395,991	3.71	488,967	1.24
- PRIVATE SMA (I) *	198,456	2.51	595,368	3.80	754,133	1.27
- PRIVATE SMA (II) **	114,276	1.45	342,828	3.80	434,249	1.27
(B) TECHNICAL						
- PUBLIC STM	176,724	2.24	530.172	4.58	809,396	1.53
(C) COMMERCIAL						
- PUBLIC SMEA	135,747	1.72	407,241	3.33	452,038	1.11
(D) TEACHER TRAINING						
- PUBLIC SPG	149,894	1.90	449,682	3.29	493,151	1.10
- PRIVATE SPG (II)	119,542	1.51	358,686	3.41	407,706	1.14

TABLE 8.23 (CONT.)

IV. HIGHER

A. PUBLIC	
- (AVE. PUBLIC)	399,000
- MEDICINE	501,000
- NATURAL SCIENCE	656,000
- ENGINEERING	377,000
- AGRICULTURE	270,000
- ECONOMICS	196,000
- SOCIAL SCIENCE	170,000
- EDUCATION	297,000
(AVG./WEIGHTED)	(280,000)
B. PRIVATE	
- MEDICINE	350,000
- NATURAL SCIENCE	832,400
- ENGINEERING	616,800
- AGRICULTURE	511,900
- ECONOMICS	301,600
- SOCIAL SCIENCE	266,900
- EDUCATION	356,700
(WEIGHTED AVG)	343,800

* Scenario I — Affluent private schools; based on actual budget data for 10 schools in Jakarta

** Scenario II : Estimates based on current salaries figures + other assumptions for "typical" private school.

cost for each level of education is multiplied by the number of years in a cycle (e.g., 6 years for primary).

Instructional years per graduate are given for all levels of education in the next column. By standards for developing countries, these years per graduate are quite low. The only figure that is noticeably different from the rest is the 4.58 years per graduate observed for STMs. Even more interesting, from an Indonesian policy maker's perspective, are the variations in instructional years per graduate and their impact on cycle costs.

In the economics chapter (Chapter 2) these costs are related to the returns to education at each level to produce a benefit/cost ratio. The reader is referred to Chapter 2 for these important comparisons.

Financing Teacher Training

Financing of teacher training is an intricate combination of required fees, optional parent/teacher association fees, and central government funding. Government financing is complicated by the fact that it comes from two sources: the routine budget and the development budget. The routine budget provides less than the amount required for ongoing support for schools. The result is that increasingly the funds to sustain the institutions must come from private sources.

A major problem is the lack of routine budget funds for maintenance of facilities and/or equipment purchased with development funds. For 1985/86, the total routine budget for 208 SPGs is Rp.12,021,352,000. The current development budget is Rp.6,500,000,000,000 for 39 SPGs, 6 SPGLBs, 10 SGOs, and 1 SGKK (this is likely to change, however, given

current budget constraints). The foreign loans to the same institutions totaled Rp.4,164,634,000. A large development budget will strain the routine budget unless additional funds are supplied from new sources. Given the existing budget situation, if cuts must be made, it is more appropriate that these reductions occur in the development budget items. The routine budget has been increasing in the past, but more information is required on how rapid a rate of expansion is necessary, given certain levels of development expenditure.

At the tertiary level, student tuition accounts for an important proportion of the budget, ranging from Rp.30,000 to 50,000 per semester at the IKIP to Rp.100,000 at the university (FKIP). Student fees accounted for 8% of the total public IKIP budget in 1985 with the routine budget accounting for 44% and the development budget 48% (Table 8.24). The role of donor agencies has been significant during the past 15 years. The World Bank has been involved to a great extent in providing loans to Indonesia in its effort to improve the quality of teacher education.

TABLE 8.24

1985 BUDGET

Public IKIPs	Routine	Student Fees	Development Grant	Foreign Grant	Grant	Other	Total
1. Jakarta	1,965,572	465,150	2,131,060	-	-	-	4,561,882
2. Bandung	2,716,250	512,200	2,709,860	-	-	-	5,983,310
3. Semarang	1,356,186	353,730	1,470,060	-	1,500	-	3,181,476
4. Jogyakarta	2,922,582	225,340	2,102,690	285,700	-	-	4,636,312
5. Surabaya	1,825,572	270,230	1,614,060	-	-	-	3,709,862
6. Malang	1,464,093	237,800	2,101,350	519,000	-	-	4,323,243
7. Medan	1,850,406	416,180	1,712,370	-	-	-	3,978,956
8. Padang	1,599,040	216,220	1,918,180	-	14,500	-	3,474,940
9. Manado	1,352,467	197,610	2,029,340	-	62,000	-	3,641,417
10. Ujung Pandang	1,476,049	343,960	1,568,980	-	68,000	40,260	3,497,249
Total	17,628,217	3,238,520	9,358,950	-	146,000	40,260	40,411,947
%of total budget	44%	8%	48%	-	-	-	100%

Source: Laporan Tahunan Direktorat Jenderal Pendidikan Tinggi Tahun 1984-85. Jakarta: Ministry of Education and Culture, pp. 110-111.

8.4 Conclusions

Conclusion 1

Assignment of teachers to schools in remote areas remains a serious problem. Development of programs to motivate new teachers to accept assignments in remote schools and to reward teachers who remain in remote schools after assignment must continue and receive high priority. It is important that when any new strategy is tested in this regard, effective monitoring and evaluation systems be put in place to provide information to decision makers on the success of the program.

Conclusion 2

Most supervisors responsible for the teacher training schools are former headmasters of secondary or primary schools who occupy these supervisory positions without sufficient training. The number and distribution of supervisors is low and not always realistic given the geographical spread of schools. Transportation and communication in many regions are difficult. Sufficient funding is seldom available for transportation. The frequency of supervision, therefore, is low. Supervisors, when they are able to visit, tend to focus on administrative matters rather than on the improvement of the teaching/learning process.

Conclusion 3

An examination of the curriculum of the primary and preprimary SPG programs (Table 8.7) suggests that the small differences in training courses between the two specializations may make it simpler to coordinate the training between the two streams. (This conclusion is

based on the assumption that enough specialized training is being provided for the preprimary track under the current structure). The rationale for many of the differences between the two curriculum streams is not obvious. It is possible that the staff of the local teacher training schools are able to interpret these curriculum requirements in a manner that allows them to effectively present the material. However, on the surface the structure appears complex and consideration could be given to simplification of the system.

Conclusion 4

The inservice training programs for teachers at the primary level are varied. Rather substantial resources have been invested in inservice training programs at the local teacher training centers and short courses at the IKIPs and FKIPs. Significant improvements can be made through innovative inservice/onservice approaches to teacher training. An example is the effort to provide training and develop materials which do not require the secondary school teacher to spend so much time preparing lesson plans. These inservice efforts require coordinated implementation and careful evaluation to determine which programs or combinations of programs result in the maximum benefits.

Conclusion 5

Teachers entering the job market trained at the diploma level are not required to take civil service examinations. Their better trained S1 counterparts must take civil service exams which can delay their employment for as much as two years. Consideration should be given to modifying this requirement.

Conclusion 6

Multi-jobbing is an issue at all levels of teaching. Many teachers hold a second job, and some hold even a third. While this practice may increase the capacity of the system which suffers from a lack of well trained staff, it may be accompanied by decreased productivity in terms of a reduction in instructional time, attention and assistance the full-time teacher can provide to his/her students.

Conclusion 7

There is a common view among officials interviewed that teachers are not well prepared to teach the subjects they have been assigned. Approximately 90% of the teachers are assigned to subject areas for which they have been trained. The adequacy of the training is, therefore, in question. Many other countries have recognized the importance of reducing the proportion of general pedagogical training to specific subject matter training. However, given their current resource limitations, preservice teacher education programs would have a difficult time responding to a need for improved subject matter training.

Conclusion 8

Field practice is more limited for secondary teacher trainees than for those at the primary level. Because students and faculty favor field experience assignments close to the university, some schools near training institutions feel overrun accommodating trainees for field experience.

Conclusion 9

Practical experience in English language use is generally so rare that it is difficult to find teachers who are sufficiently well prepared to teach English effectively. Current training strategies, emphasize the study of grammar rather than usage, leave little hope that this condition will improve in the foreseeable future.

Conclusion 10

The present responsibility for secondary teacher education is primarily in the Directorate General for Higher Education whereas the supervision of primary teacher education is in the Directorate General of Primary and Secondary Education. This split results in very little coordination of teacher training efforts or the development of coherent strategies between sectors.

8.5 Recommendations

8.5.1 Policy Recommendations

Recommendation 1. Continue Emphasis on Programs to Improve Assignment and Retention of Teachers in Remote Areas.

Discussion:

The Directorate of Teacher Training has placed a priority on developing programs to remedy the problem of assignment of teachers to remote schools and keeping them in these schools once they have been assigned. Many teacher training graduates simply do not accept assignments to remote areas opting instead to find nonteaching jobs. This is not a new problem. It has been studied in the past and a number of potential solutions attempted. None of the solutions has proven fully effective. The current emphasis of the MOEC on finding a solution to the problem is an appropriate one, but other innovative approaches need to be explored. Given the current and projected oversupply of primary school teachers nationwide, now may be an appropriate time to experiment with incentives and disincentives that would not normally be implemented in a period of teacher shortage.

Any such programs, however, must be accompanied by monitoring and evaluation systems to effectively judge the success of the program and provide the information to decision makers in a timely fashion.

Implementation Alternatives

1. The Directorate of Teacher Training should work with the research and evaluation units within Balitbang Dikbud during

the planning stage of each new program to design monitoring and evaluation mechanisms prior to experimentation.

2. All experimental programs designed to address this problem, such as the current program to provide short (three or six-month) training courses to general secondary school graduates, should undergo small-scale try-out in a variety of remote areas throughout Indonesia. It is not an efficient use of resources to try-out experimental programs in areas where conditions may not be typical of conditions in remote areas or with groups of persons who are uncharacteristic of those who would be used in later program implementation.
3. Given the current budget constraints and the projected oversupply of primary school teachers, certain disincentive programs might be considered for graduates of SPG who do not accept posts to which they are assigned.
4. Internship programs could be explored as a potential solution to the problem of assigning and retaining teachers in remote areas (See recommendation 13).

Recommendation 2. The Development of Competency-Based Teachers Examinations

Discussion:

Almost all recommendations for the improvement of education in Indonesia stress the upgrading of quality. It is absolutely essential that a baseline be obtained for teacher quality so that progress can be measured. Competency-based teacher examinations, in

accord with the current competency-based approach for training teachers, should be developed centrally and required for all levels of teacher training, both preservice and inservice including the tertiary level (IKIP and FKIP). Such examinations would be of great assistance in the design of programs to improve the quality of education in Indonesia. The current practice of relying on local institution-developed examinations does not ensure that all graduates can demonstrate the skills actually required for effective teaching.

Implementation Alternatives

There are at least two alternatives:

1. The first would be to develop a series of general competency-based teacher examinations required for teachers to progress from one level to another and for quality control purposes, to measure the internal efficiency of the system. Such a series of examination, would be given to teachers at the end of each year of preservice training or at the end of inservice training. They would be developed and tested with a sample of teachers throughout Indonesia. Careful formative evaluation would be conducted to improve the instruments prior to wider dissemination.
2. The second option would be to develop a set of teacher examinations to be given to teachers after they receive specialized training appropriate to the level of their teaching responsibility and their specialization. These examinations, which would be more subject matter specific, could be used for diagnostic purposes and for course completion. Perhaps an

adequate reward system could be devised for use with these exams. For example, the teachers scoring in the top one-third could be designated "master teachers" and given an increase of one step on their salary schedule; alternatively, a point system based on examination results could be applied as a promotion criterion.

Recommendation 3. Reduction in Complexity in Teacher Education

Discussion:

There is great potential for improving performance given limited resources if complexity is reduced. For example, training programs, already relatively short and less than ideal, are likely to achieve a better result if teacher preparation is focused at the secondary level on only one subject area, such as science, with no requirement for a teaching minor. Minimum competency in other subject areas that must be taught on an emergency basis will come from the current requirements in general education. There is a multiplier effect: when teachers become more competent, less instruction can produce a higher level of student achievement which will allow students to learn more efficiently. Hence, the system achieves a higher level of efficiency for the time and resources invested as both teacher and students become more competent. Baseline data from the teacher examination recommended above can ratify or discredit such efforts over time.

Implementation Alternatives:

1. Limiting pedagogical training to no more than 25% of any training program will allow more focus, encourage less complexity and

hence provide a stronger context for development and improvement.

2. Further leverage from reducing complexity will occur of the curricula in junior and senior secondary schools are also simplified to provide more block studies (see recommendations in Secondary Education).

Recommendation 4. All levels of Teacher Education Should be Responsible to the Same Authority.

Discussion:

A decision should be made now to set a goal for Repelita VI for restructuring teacher education, either within its own directorate general or within the Directorate General of Higher Education. This action should be taken in an orderly manner with ample lead time. An example of the need for this restructuring comes from examination of the capacity of the primary teacher training institutions (SPGs) at this time. Although there is a surplus of primary teachers, there is a shortage of junior secondary teachers, particularly in mathematics and science. Coordination would help to improve the early identification of such situations and streamline the response to changing needs.

With some selective, systematic upgrading, the SPGs could be prepared to train junior secondary teacher's, this action would lead naturally to the upgrading of primary teacher preparation to SMP plus five years (or SMA plus two years). Creative alternatives for achieving such possibilities have been advanced by teacher education leadership in the Directorate General of Primary and Secondary Education.

The allocation and investment of scarce resources are bound to

preoccupy decision-making for national development for the foreseeable future, therefore, it is important to underscore the advantage of collecting baseline data on teacher competence as essential input for the analysis of data from EBTANAS examinations. Such analysis will give policy makers more information upon which to base teacher training decisions and the deployment of teachers.

Implementation Alternatives:

Inservice education is one facet of teacher education which must be improved. One option is to place all inservice education in the Open University. Another is to assign responsibility for the development of different programs to various IKIPs and FKIPs, placing the PPPGs under their supervision. Still another option is split responsibility for inservice education with primary inservice education under the Director of Primary Education, and secondary inservice education under the Director of Secondary Education. Yet another option is to separate responsibility for inservice/onservice programs and boarding courses. In any of these cases, however, some coordinated responsibility is would be required.

Recommendation 5. Resource Support for the Private Teacher Education Sector

Discussion:

As part of the overall strategy for teacher education, the government should adopt a policy of subsidizing the private sector based on changing public need. An example can be drawn from the present

extreme oversupply of SPG graduates in Yogyakarta where there is need to reduce the SPG output considerably. The majority of the output comes from the private sector, which outproduces the public sector substantially. Therefore, if the government is to rationalize SPG output, it must have a mechanism for encouraging private sector schools to redefine their purpose.

Implementation Alternatives:

In this instance, it would be desirable to reduce the subsidy (primarily the provision of subsidized, full-time teachers) to about 50% of the current level because of the existing oversupply of primary teacher graduates. The subsidy could remain at present levels if the schools were converted to SMAs or SMPs because the need for these graduates is greater. If the government is to achieve its stated intent of considering the public and private sectors of education in a unitary way, there must be developed for encouraging the sectors to cooperate in modifying this capacity according to national need. The issues involved in altering subsidies are very delicate and will require much study to ensure a minimum of dislocation to the persons and institutions affected.

Recommendation 6. Consolidation of the Primary Teacher Training (SPG) Curriculum

Discussion:

Although the SPG curriculum is at present complex and fragmented (see Recommendation 3), it can very easily be consolidated without

changing the overall curriculum balance or the required competency of staff.

Implementation Alternatives:

One possible alternative for consolidation is shown in Table 8.25. This plan shows a reduction in the number of subjects studied by students each semester. The number of weekly preparations for teachers is also reduced. Course patterns are simplified. All of these reductions in complexity can lead to higher productivity for students and teachers.

A concern which must to be addressed is preparation of students for their final examinations. One motivation for fragmenting the curriculum and offering small segments of all subjects throughout the three-year study program is to assure students of being reasonably current in each subject at the time of the final examination, which comes at the end of the three-year program of study.

There are several ways to address this problem.

1. One is to establish a two to four-week review period just before the examination to help students in prepare for the test.
2. A second approach is to give summative examinations at the end of the Year I and Year II; subjects examined at that time would not be included on the final examination (see parallel Recommendation in the Secondary Education Chapter where an annual examination pattern has been recommended for secondary schools).

TABLE 8.25

PROPOSED CONSOLIDATION OF SPG CURRICULUM

	Subject Preparation By Semesters								Prof. Preparation By Semester						
	1	2	3	4	5	6	Total		1	2	3	4	5	6	Total
Religious Education	2	2	2	1/1**	2	2	12	General Methods	5						5
Pancasila	2	2	2	1/1	2	2	12	Teaching Aids		5					5
Science	5	5	5	3/2	5	5	30	Evaluation			5				5
Math	5	5	5	3/2	5	5	30	Administration				5			5
Indonesian	4	4	4	3/1	4		20	Soc. Found of Educ.					5		5
English	4	4	4	3/1	4		20	Dev. Psychology	5						5
*Social Studies		4		3/1		4	12	Counseling guidance		5					5
								Educ. Psychology			5				5
*PE/Health	4		3/1		4		12	Ed and Comm Development				5			5
Arts	4		4		4		12	Simulation & Observation					5		5
*Voc. Skills		4		4		4	12	Student						18	18
								Total Professional	10	10	10	10	10	18	68
Total Subject Preparation	30	30	30	30	30	22	172	Total Subject Preparation	30	30	30	30	30	30	172
								Total Program	40	40	40	40	40	40	240
The Kindergarten Option															
*Social Studies		4		3/1			8	Number subjects studied							
*PE/Health			4		3/1		8	each semester, proposed							
*Early Childhood Educ		4		4		4	12	program	10	10	10	10	10	9	
*Arts & Crafts for Kindergarten	4					4	8	Number subjects studied each semester current							
Total Kindergarten Option	4	8	4	8	4	8	36	program	13	13	13	14	15	11	

* Curriculum hours differ for Kindergarten

**Denotes one hour per week allocated to special teaching methods in the subject.

Recommendation 7. The Gain Program (Gurus Advance Inservice)

Discussion

A comprehensive Inservice Program for Secondary Teachers in Indonesia, this five-year training program delivers 72 hours of direct, on-site inservice training per trainee at a cost of less than $2.00/hr. This cost shown below, includes all development, support, and delivery costs for a five-year project life, in addition to two years of small group support for each teacher.

For all SMA + SMP teachers in Indonesia	$28,000,000
For Senior Secondary Teachers (SMA only)	$12,000,000

Implementation Alternatives.

(See Appendix A)

Recommendation 8. Limits on the Proportion of Pedagogical Training

Discussion

Teachers lack of subject matter competence at all levels is too glaring to ignore. For example, those who teach English in the junior and senior secondary schools have difficulty speaking the language. Junior secondary teachers are not trained to use laboratory equipment, which remains idle in the classroom. The latter problem is partly because of the teachers lack of knowledge, and partly because the complexity of the curriculum makes it very difficult to plan

simple, well-coordinated experiments at predictable points in a stable block of curriculum.

Implementation Alternatives

1. It is recommended that no more than 25% of a teacher training program at any level be devoted to pedagogical training. The consolidated curriculum proposed for the SPG meets this criterion.
2. It is recommended that 10 of 40 hours of instruction each semester be devoted to pedagogical training, and the remaining 30 hours be devoted to subject matter training. One of the most substantial differences in the proposed consolidated curriculum at the SPG level is removal of the guideline that approximately half the instruction in each subject area be devoted to the methodology of teaching that subject.
3. In the current proposal it is recommended that one weekly class hour during one semester only be devoted to teaching methodology for each subject area. Much more advantage will be gained from teachers' substantive level of achievement in the subject areas studied than from additional methodological preparation. The perennial argument about which is more important, content or teaching method, is simply a bad argument. Both are important. What is needed is balance, and evaluation can help to determine the proper balance. The same principle should be implemented in the Diploma Programs (D1, D2, and D3) and S1 (Sarjana) where teachers trained in the

IKIP and FKIP should be limited in pedagogical training to a maximum of 35 hours out of 140 credit hours, specialized training enhanced, and more emphasis placed on practice teaching.

Recommendation 9. Immersion Training for Teachers of English

Discussion

There is a crisis in English language instruction in Indonesian schools, and a substantial effort to improve the quality of this instruction must be made immediately. English instruction in junior secondary schools is ineffective because the teachers have only marginal competence in the language. competence of the teachers. It is unreasonable to predict a satisfactory level of achievement in the foreseeable future, unless dramatic interventions are undertaken.

Implementation Alternatives

Several approaches should be tried.

1. A one-year immersion training course for English teachers could be developed to become an automatic part of the S1 training for all potential English language teachers. This course should have sufficient priority that for English teachers other subjects should be reduced or waived as necessary, or additional compensation and recognition given for the higher level requirement. It should be possible, with some adjustment, to include a full one-year immersion language experience within the current timetable. Demonstration of the effectiveness of immersion training is conclusive, but care

should be taken to implement such a program according to the highest international standards. If such a program cannot be initiated immediately, it should become one of the goals of Repelita V.

2. A more universal solution may be available through the Open University. Through a combination of inservice strategies, high priority should be given to the upgrading of English teachers.
3. For either of these alternatives, outside assistance should be sought to help upgrade English language training. A variety of excellent practical rather than academic approaches to teaching English as a second language have been applied around the world. Experts from these more practically-oriented programs (stressing usage) should be drawn upon.

Recommendation 10. The Development of Special AKTA Programs at Levels I, II, and III

Discussion

Several of the required teacher competencies lend themselves to becoming extensions of the AKTA program. It is recommended that a new series of AKTA programs be developed which could require 30 units of study, approximately equivalent to one year of academic study. These new programs should be carefully evaluated and improved on a continuing basis. The successful completion of these programs would entitle certificate holders to one lateral step improvement on the salary scale, regardless of their current level.

Implementation Alternatives

1. One example of such a program comes from recommendation 7 and would be designed to upgrade English language teachers. Such a program could be designed in common for the AKTA II/III level, appropriate for either junior or senior secondary teachers. It would use standard Open University methodology, and could include such activities as listening to Radio Australia and use of English language cassettes, as well as reading and writing exercises in the English language. Similar AKTA II/III diploma programs would be appropriate for upgrading science and mathematics teachers.
2. Another AKTA program could be designed for item writing and evaluation. One of the target populations would be a cadre of teachers to write items for the EBTANAS examinations. In time, a person should be required to hold AKTA certification in evaluation as a prerequisite for serving as an Examination Consultant, which provides an honorarium for item construction for the EBTANAS examination.
3. Another AKTA program for primary and secondary school principals could focus on human resources management and instructional leadership. One-year special training modules would encourage principals and teachers to take the initiative for on-the-job training, with the incentive of a one lateral step increase on the salary scale upon completion of certification. This would be one way to identify a cadre of

professionally oriented persons who would become a leadership pool for educational development.

4. The Open University delivery system could be used in conjunction with the enhanced resource capability that could result from the development of resource centers in the IKIPs and the FKIPs. It would be well to consider a policy of allowing salary credit for any teacher or principal who would complete a one-year upgrading AKTA course, as this could exert high leverage on the quality of instruction.

Recommendation 11. Recognize the Reality of Multiple Jobs for Teachers

Discussion

In the foreseeable future, teachers will continue to hold more than one teaching job, and it is important that the teacher education process anticipate this multiple-job environment for teachers.

Implementation Alternatives

Teacher education should include an emphasis on efficiency in delivering educational materials. If it is known that the teachers will have limited preparation time, teacher education should help the teacher trainee become more efficient in the use of time. It is important to instruct the teachers in methods to effectively allocate their time, and in other time-saving techniques such as using students to help correct their own work or the work of others. A major effort should be made to retrain teacher training personnel to be sensitive to

the need for training teachers to use time-saving practices which will add to productivity in a multi-job environment.

Recommendation 12. The Development of Donor-Funded Teacher Education Resources Centers in Higher Education

Discussion

Depending on available funding, it is recommended that resource centers, possibly as many as 10, be established in IKIPs and FKIPs as separate centers, drawing on the resources of the subject disciplines in the institutes and universities in which they are located.

The objective of this program is to upgrade higher education through the development of centers which would have international standing in overall competence. Products from these centers would be at a level creditable in any sophisticated university setting in the world. Indonesia needs to create pockets of excellence which can later be generalized.

The establishment of one such center would stimulate insights into setting of priorities for development. Possible subjects of focus for such centers, which would contribute to the upgrading of teachers, could be English, mathematics, science, vocational education, communication, social science and administration, and human resource development.

Implementation Alternatives

1. Indonesia should pick one or two areas in higher education in which to excel. The existence of such centers would have an impact on the training of leadership personnel and could

have substantial influence on the Open University and on the local Teacher Inservice Training Centers (PPPGs) and their efforts in teacher education and curriculum development.

2. Resource Centers should be limited to graduate level S2 and S3 programs. They could experiment with exchange programs in which recent graduates from the center would be exchanged with established faculty at universities. These faculty members would come to the center to teach full-time as well as study full-time study for an S2 or S3 degree. Exchange scholars from other universities could co-teach double section courses with a senior faculty member from the center. The major advantage, of course, is allowing senior faculty to take graduate training in residence at centers of excellence.
3. Centers could establish endowed chairs for senior center faculty with the requirement that they have no outside employment but give full commitment to the work of the center. Salary levels for such positions might approximate a million rupiah a month. Visiting distinguished professors from overseas could also be attracted with endowed chairs. Such a program would ensure that the center kept up-to-date as a result of 1-3 year visits of leading scholars.
4. Centers could experiment with different administrative structures. A center with a focus on science might be associated with a FKIP and serve as an independent science faculty. It could be independent as a structure but have very few faculty of its own, utilizing selected faculty of the

university who would be paid additional stipends. Extensive discussions should precede any such major investment.

Recommendation 13. The Establishment of an Internship year for IKIP and FKIP Teacher Trainees

Discussion

Internship experience would substitute for student teaching but would not reduce the 140 credit hours required for an S1 degree, allowing additional subject preparation.

Implementation Alternatives

An internship year could be inserted between the third and fourth year of study for Sarjana (S1) students, with a full salary for students posted to areas of high need for teachers. Remote teaching positions could be assigned to the IKIPs or FKIPs which in turn would fill these positions with student interns, based on need in the remote position and availability of the kind of teacher needed. The student would not select the assignment but would be sent to a school where he or she was needed. If housing and transportation could be provided, this would be preferred; but such a program would be functional without such support. With internship occurring in the third year of the student's academic program, the fourth year of training would be more effective, as the student would bring to this last year the practical experience he or she had acquired from practice teaching.

8.5.2 Recommendations for Further Research

Recommendation 14. Systematic Follow-up Studies for Teacher Training Graduates at all levels

Systematic and periodic tracer studies of job success, career patterns, further academic preparation, and inservice teacher education opportunities are needed for all programs. These studies should trace demographic characteristics at several points beyond the program. If studies were systematic and carried out over a decade, they would produce a wealth of data which would improve decision-making in the planning and execution of teacher education programs. With such information available resources could be much more effectively deployed to combat weakness and exploit opportunity. Weak programs could be revised, transformed or eliminated. Strong programs could become models, and be considered for other applications.

Recommendation 15. Study of Potential Change of the Relationship Between FKIPs, and Other Subject Area Faculties in the Universities Where They Are Housed

Anecdotal reports suggest that FKIPs often duplicate course offerings of subject area faculties in the same university or offer parallel courses which are sometimes alleged to be of lower quality. Studies should be conducted: (1) to determine present patterns of course offerings in a single university and their variations in these, and (2) to suggest experimentation with a variety of creative relationships between subject area faculties and the FKIP faculties, including ways in which subject area faculties can contribute to strengthening FKIP subject area offerings, offer separately or with FKIP faculty as joint

teachers courses in special teaching methods of instruction in subject areas, and provide inservice education to upgrade FKIP subject area and pedagogical faculty.

Recommendation 16. Study of the Relative Efficiency of IKIPs and FKIPs

One of the continuing debates in higher education is the relative relative efficiency, and advantages and disadvantages of the two major patterns of teacher education delivery at the higher education level. There may be more within-group difference than between-group difference in IKIPs and FKIPs. Studies of these delivery systems might result in recommending maintenance of the two-tier system, with specific suggestions for upgrading both. A recommendation might be to change the nature of the IKIP, making it a general purpose university with a broader set of offerings; the model for this change could be the transformation of teacher training colleges in other countries into general purpose academic institutions. On the other hand, the studies might lead to a recommended separation of the FKIPs from their host universities, granting them independent status as free-standing institutions even if they continue to occupy the same facilities. The existence of these two parallel delivery structures offers a wonderful opportunity for the monitoring of a naturalistic experiment. A substantial research effort should be mounted to gain an in-depth perspective on the efficiency of these important delivery systems in higher education in Indonesia, as they will require substantial expansion to meet the training targets of Repelita V and VI. Improvement

should be made in existing facilities before additional expansion is considered.

Recommendation 17. The Adoption of Research Guidelines for Experimentation in Teacher Education

Discussion

Experimental programs should be confined to well-identified demonstration programs designed to remedy general national needs and funded at realistic resource levels. It is perhaps too easy during an experimental period to get donor support at unrealistic levels which could never be maintained through budget allocations for normal operation. The result is that these programs, even if successful, cannot be applied generally.

Recommendation 6, to develop a block curriculum for the SPG, is an example of an experiment that would require no additional operational resources. As many experimental resources as seem appropriate should be provided to assist with the development of transition strategies, to develop pilot programs, to provide added resources for implementation, to monitor progress, to develop and test alternatives and procedures, and for other costs that are associated with the experiment itself but will not be required for universal adoption.

APPENDIX A

THE GAIN PROGRAM
GURUS ADVANCE INSERVICE

The GAIN program is an example of a possible inservice/onservice teacher education program for the junior and senior secondary teachers of Indonesia.

There has never been a systematic in-service education program at all levels in Indonesia. A variety of short courses, distance teaching efforts, and specific inservice/onservice programs have effectively demonstrated the positive effects of systematic inservice education. The problem has been that none of these programs has been able to reach the full population of teachers. As beneficial as the training efforts have been, the results have been limited in scope, often reaching a relatively small percentage of the total teaching population.

Inservice training has been confounded by the complex nature of the junior and senior secondary curriculum. An inservice training program could accompany a curriculum block scheduling reform and greatly simplify the course structure of the secondary schools. This approach has potential for a substantial impact on the quality of secondary education.

Effective models of inservice onservice programs have been developed by the Director of Secondary Education in cooperation with the World Bank, in science, mathematics, and English. These models are built on the assumption that the most effective inservice training is onservice and does not require teachers to be absent from their teaching responsibilities. Cooperating schools limit the scheduling of participating teachers to five of the six school days so that one day a

week is available for in-service training. Once a month this inservice training takes place in a local center, called a Sanggar.

The GAIN Program would build upon this experience in further decentralizing inservice GAIN groups. GAIN classes would average 30 teacher participants who have a commitment to participate in classes one day a month for an entire year, a total of 12 training sessions for six hours each. Each GAIN class participant would be part of three teacher GAIN groups, one representative of which would attend the GAIN training sessions each year. Over a three-year cycle each of the three members of the GAIN group would receive a full year of inservice training, two years of small group support, and feedback and materials that the group representative would share from face-to-face training.

GAIN leaders would be selected by provincial supervisors, identifying the most effective teachers in each subject area for leadership of GAIN teacher clusters. In rural areas with small teacher populations, GAIN clusters could be on a one-year cycle with all teachers being trained in a single year.

Curriculum development could be channeled through current PPPG curriculum centers. There are seven such centers, five of which are appropriate for this use. Curriculum advisors could be placed in these centers to assist with the development of curriculum support materials, patterned after Sanggar study units. The same PPPGs could be used as training sites for GAIN group leaders, brought there for four-week training courses. The resources and facilities of the PPPGs are under-utilized, and efforts such as inservice programs complement their current training efforts.

For leading 12 monthly sessions, GAIN group leaders would receive a modest honorarium, perhaps Rp.200,000/yr., a significant supplement to an individual teacher's income. A teacher selected as a GAIN leader is likely to be teaching in both a public and private school. While he is absent for the four week leadership training course, an honorarium could be provided for colleagues who teach his classes during his absence. A reasonable honorarium for this service would be about Rp.5,000 per weekly teaching hour for the month. Room and board and transportation would bring the total annual training cost per GAIN leader, to approximately Rp.600,000. It would be desirable to have some resources at the provincial level for the special supervision of GAIN leaders, and an allocation of approximately Rp.150,000 per GAIN leader per year seems reasonable; the leadership cost per GAIN teacher would be about Rp. 25,000 per year, with 30 teachers in each GAIN class.

Reproduction costs for work sheets in Indonesia are inexpensive, commercially available on the street at Rp.15 per page which means a training program could provide more than 300 worksheets for a cost of about Rp.5000. Adding a teacher transportation allowance, averaging Rp. 25,000, the total cost per trainee would be about Rp.55,000 or US$50,00.

GAIN teachers might be placed in groups of three; one would be trained each year, with the responsibility of taking materials back to the two other colleagues in the group. GAIN groups would be selected from full-time SMA and SMP teachers (part-time teachers are usually full-time teachers in a second job).

Currently, there are 50,000 full time SMA teachers and 160,000 full-

time SMP teachers. Therefore, there is a potential population of over 210,000 teachers or 70,000 GAIN groups. To reach all these teachers over a three-year cycle would cost about 3.5 million dollars per year.

In addition, leverage would result from a substantial investment in materials development support. If two overseas technical advisors could be provided to each of five PPPGs for technical support in curriculum development and for traveling throughout provinces with their counterparts, a five-year assignment of 10 technical advisors, 2 per PPPG, would cost about 10 million dollars, including their support services. Providing additional local support staff and equipment in each PPPG would require another 4 million dollars. If 4 million dollars is allocated for monitoring and evaluation support from Balitbang Dikbud the total project cost would be 28 million dollars for five years. To reach only the senior high teachers (the highest priority would cost 10 million dollars over five years.

To reach only the senior high teachers (the highest priority) would cost 10 million dollars over five years.

If this project were successful, it would not only provide substantial training for almost all secondary teachers in Indonesia, but provide a legacy of classroom materials, and support for the possible transition to a simplified block curriculum, much more easily delivered. It would energize currently underutilized inservice training facilities (SPPGs) and leave in place a functional, low cost inservice/onservice training program that will continue to evolve during the life of the project and beyond.

TABLE A.1

GAIN POPULATIONS

Full-time SMA + SMP Teachers

Full-time SMA Teachers	50,000		
Full-time SMP Teachers	160,000		
Total secondary teachers	210,000		
Total GAIN Study groups @ 30 tch each		70,000	
@ $50/year		$3,500,000	
(one teacher per GAIN group trained each year with a three-year training cycle)			
$3,500,000 X 3 years total			$10,000,000
2 overseas technical advisors for each of 5 PPPG curriculum centers			
@ $200,000/yr with support X 5 yrs,			
$1,000,000 per advisor X 10 advisors total			$10,000,000

GAIN Material Support

5PPPG

40 Prof. Staff @ Rp.200,000/mo	Rp.8,000,000	
40 support staff @ 100,000/m	4,000,000	
Total per month	12,000,000/mo	
X 5 PPPG	60,000,000	
X 12 months	720,000,000	
X 5 years	3,600,000,000	
Total GAIN materials support	3,000,000	
Material Supply	300,000	
PPPG equipment	300,000	
Contingency	200,000	
		$ 4,000,000
Monitoring and eval. Balitbang		$ 4,000,000
Total-5 year Direct Costs		$28,000,000

(about $125 per GAIN teacher for 3 years)

ANNEX A

LIST OF INTERVIEWEES

Boesono, Vice Rector, University of Gajah Mada, Yogyakarta
Dali Naga, Director of Research Institute, IKIP Jakarta
Djazuli, Achmad, Head of Planning Division
Dikdasmen, MOEC
Joni, Raka, Project Director, World Bank Education Project XI
Karwapi, Retired, MOEC
Lucy, Staff of Planning Division, Dikdasmen, MOEC
Mansoer, Hamdan, Head, Sub Directorate of Culture and
and Educational Facilities
Purnomo Abdulkadir, Head, Sub-Directorate of Instructor and Higher
Skill Development
Ramelan, Head, Research Center, IKIP Semarang
Retmono, Dean of Language Education and Art, IKIP Semarang
Reverend James Spillane, Faculty IKIP Sanata Dharma, Yogyakarta
Sarjono H.S., Vice Rector II, IKIP Semarang
Sembiring, R., Head, Sub Directorate for Academic Manpower Development
Department of Manpower
Semiawan, Conny, Rector IKIP Jakarta
Setijadi, Rector, Open University
Soeharto, Vice Rector I, IKIP Yogyakarta
Soeprapto, Benny, Director, General Secondary Education,
Dikdasmen, MOEC
Subijati, M., Vice Rector II, IKIP Yogyakarta
Sudradjat, Harry, Director Vocational Technical Division
Department of Manpower
Suparno, Anna, Faculty, IKIP Jakarta
Suwarno, Endang, Head Sub Directorate of Teacher Training
Dikdasmen, MOEC
Tjipto Sasmito, Waskito, Head of Personnel, MOEC
Umar, Vice Rector I, IKIP Semarang
Usodo, Head, Sub-Directorate for Monitoring and Implementation of
Teacher and Staff Training, D.G. of Higher Education

ANNEX B

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ANNEX C
TERMS AND ACRONYMS

	ENGLISH	INDONESIAN
ADB	Asian Development Bank	Bank Pembangunan Asia
AKTA I	Tertiary Level Teacher Training Certification: Primary	Program AKTA I
AKTA II	" " Jr. Sec.	Program AKTA II
AKTA III	" " Sr. Sec.	" AKTA III
AKTA IV	" " University	" AKTA IV
AKTA V	" " University	" AKTA V
APBN	Gov.t Expenditure & Revenue Budget	Anggaran Belanja Negara
APDB I & II	Local Gov.'t Budgets	Anggaran Pembangunan Daerah I & II
BAKN	National Personnel Office	Badan Administrasi Kepegawaian Negeri
Balitbang Dikbud	Office of Education and Culture Research and Development	Badan Penelitian dan Pengembangan Pendidikan & Kebudayaan
Bappeda	Regional Planning Office	Badan Perencanaan Pembangunan Daerah
Bappenas	National Development Planning Board	Badan Perencanaan Pembangunan Nasional
Biro Perencanaan	Bureau of Planning	Biro Perencanaan
PLKI	Vocational Training Center	Pusat Latihan Kejuruan Indonesia
BP3	Parent Teacher Assoc. Fee	Beaya Pungutan Persatuan Orang Tua dan Guru
BPM	Regional Training and Material Center	Badan Pembangunan Masyarakat

BPG	Teacher Education Center	Badan Pendidikan Guru
BPKB	National Training and Activity Center	Badan Pusat Kegiatan Belajar
BPS	Office of Statistics	Biro Pusat Statistik
Bupati	Head of District	Kepala Kabupaten
BUTSI	Indonesian Volunteer Service Corporation	Badan Tenaga Sukarela Indonesia
Camat	Head of Sub-District	Kepala Kecamatan
Dalam Negeri	Ministry of Home Affairs	Departemen Dalam Negeri
Dati I and II	Local Gov.'t levels	Daerah Tingkat I & II
DepKeu	Ministry of Finance	Departemen Keuangan
Dept. Agama	Ministry of Religion	Departemen Agama
DGB	Directorate General of the Budget	Direktorat General Anggaran
Dharma Pertiwi	National Org. of Wives of Army Officers	Persatuan Istri ABRI
Dharma Wanita	National Org. of Wives of Civil Servants	Persatuan Istri Pegawai Negeri
DIK	Budget Document	Daftar Isian Kegiatan
Dikdas	Direktorate of Primary Educ.	Kantor Pendidikan Dasar
Dinas	Regional Office	Dinas
DIP	Project Document	Daftar Isian Proyek
Ditjen PDM (Dikdasmen)	Dir. Gen. of Primary & Secondary Educ.	Direktorat Jendral Pendidikan Dasar & Menengah
Ditjen PT (Dikti)	Dir. Gen. of Higher Education	Dir. Jendral Pendidikan Tinggi

Ditjen PLSPO	Dir. Gen. of Out-of-School Education Youth & Sport	Dir. Jen. Pendidikan Luar Sekolah, Pemuda, dan Olah Raga
Ditjen Kebudayaan	Dir. Gen. of Culture	Dir. Jen. Kebudayaan
Dosen	Lecturer	Pengajar
DUP	Project Proposal Document	Daftar Usulan Proyek
D1	Teacher training Certificate: Primary	Program Diploma 1
D2	" " Jun. Sec.	" " 2
D3	" " Sen. Sec.	" " 3
EBTANAS	Primary School Finishing Examination	Evaluasi Belajar Tingkat Nasional
FKIP	Faculty of Education in University	Fakultas Keguruan Ilmu Pendidikan
GBHN	Guidelines for State Policy	Garis-Garis Besar Haluan Negara
GDP	Gross Domestic Product	Pendapatan Dalam Negeri
GOI	Government of Indonesia	Pemerintah Indonesia
IAIN	State Institute of Islamic Religions	Institut Agama Islam Negeri
IBM	International Business Machines	International Business Machines
IBRD	International Bank for Reconstruction and Development	Bank International Pembangunan & Rekonstruksi
IGGI	Inter-Governmental Group on Indonesia	Group Antar Negara untuk Indonesia
IIEP	International Institute for Education Planning	International Inst. for Educ. Planning
IKIP's	Teacher Training Colleges	Institut Keguruan Ilmu Pendidikan

Inpres SD	Primary School built under Presidential Decree Funds	Sekolah Dasar Inpres
Inspector Jendral	Inspectorate General	Inspektor Jendral
IPA	Science	Ilmu Pengetahuan Alam
IPB	Institute of Agriculture at Bogor	Institut Pertanian Bogor
IPS	Social Studies	Ilmu Pengetahuan Sosial
ITB	Institute of Technology at Bandung	Institut Teknologi Bandung
Kancam	MOEC Sub-District Office	Kantor Kecamatan P & K
Kandep	MOEC District Office	Kantor Departemen P & K
Kanwil	MOEC Provincial Office	Kantor Perwakilan P & K
Kas Negara	MOF Regional Office	Kas Negara
Kasi Dikmas	Head of Community Education Section	Kepala Seksi Pendidikan Masyarakat
Kasi SD	Head of Prim. School Section	Kepala Seksi SD
KBKM	Vocational Skills Training	Kursus Belajar Kejuruan Masyarakat
Kejar Paket A	Basic Education	Kelompok Belajar Paket A
Kejar PD	Community Education Out-ofSchool Learning Group	Kelompok Belajar Pendidikan Dasar
Kejar Usaha	Income Generating Learning Group	Kelompok Belajar Usaha
Kewajiban Belajar	Universal Compulsary	Kewajiban Belajar

Primary Education

KKG	Teacher Work Group	Kelompok Kerja Guru
LKMD	Village Development Program	Lembaga Ketahanan Masyarakat Desa
KPUA, B, C	Pre-Primary Teacher Training	Kursus Pendidikan Umum A, B, C
LIPI	Research Foundation of Indonesia	Lembaga Ilmu Pengetahuan Indonesia
LNG	Liquified Natural Gas	Gas Cair Natural
Madrasah Ibtidaiyah	Islamic School (Primary)	Madrasah (Tingkat SD)
MenPan	Ministry of Administrator Reform	Menteri Aparatur Negara
MOEC	Ministry of Education and Culture	Departemen Pendidikan dan Kebudayaan
NFE	Nonformal Education	Pendidikan Luar Sekolah
NTCC	National Technical Coordinating Committee	Koordinator Bantuan Tehnis Luar Negeri
ODA	Overseas Development Assistance	Lembaga Bantuan Luar Negeri
Patjar	SD PAMONG Out-of School site	Tempat Belajar
Pancasila	State Ideology	Pancasila
PEDC	Polytechnic Education Development Center	Pusat Pergembangan Pendidikan Politeknik
Pengawas	Supervisor	Pengawas
PENMAS/Dikmas	Community Education	Pendidikan Masyarakat
Penilik	Education Supervisor in Kancam	Penilik Tingkat Kancam
Penilik TK/SD	Supervisory for Pre-Primary and Primary	Penilik TK/SD
PGA	Religious Teacher Training	Pendidikan Guru Agama

Pimpro	Development Project Leader	Pimpinan Project
Pusinfot	Office of Information (Balitbang)	Pusat Informatik
Puslit	Office of Research (Balitbang)	Pusat Penelitian
Pusisjian	Office of Testing (Balitbang)	Pusat Pengujian
Puskur	Office of Curriculum (Balitbang)	Pusat Kurikilum
PTPG	Higher Education Institute for Teacher Training	Perguruan Tinggi Pendidikan Guru
P3D	Primary School Development Project	Proyek Pengembangan Pendidikan Dasar
P3GTK	Technical Teacher Training Unit Center	Pusat Pengembangan Pendidikan Guru Taman Kanak2
PKK	Family Life Education Program	Pendidikan Kesejahteraan Keluarga
PKG	In-Service/On Service Teacher Training Program	Pusat Kegiatan Guru
PKG	Teacher Activity Office	Pusat Kegiatan Guru
PMP	Civics	Pendidikan Moral Pancasila
Pola Tinggi	Integrated Public /Private Higher Education	Pendidikan Tinggi Terpadu
PPPG	Teacher Education Development Office	Pembinaan & Pengembangan Pendidikan Guru
PPSP	Development School Project	Sekolah Pembangunan

Pramuka	Scouts	Pramuka
Proyek Buku Terpadu	Integrated Textbook Project	Proyek Buku Terpadu
PSPB	Indonesian Political History	Pendidikan Sejarah Pengembangan Bangsa
PU Wajar	Office of Universal Compulsary Educ.	Pendidikan Umum Wajib Belajar
RADIN	Meeting of Provincial Officials for Budgeting	Rapat Dinas
RAKERNAS	National Working Meeting of Budget	Rapat Kerja Nasional
RARAS	MOEC Echelon I Officials Meeting	Rapat Teras
REPELITA	Five Year Plan	Rencana Pembangunan Lima Tahun
Raudhatul Athfal	Pre-primary Religious (Moslem)	Taman Kanak Kanak Islam
Sakernas	National Labor Force Survey	Survey Tenaga Kerja Nasional
Sanggar	World Bank In Service On Service Teacher Training Center	Sanggar
SBPP	Government Subsidy to Primary School	Subsidi Bantuan Pemerintah untuk Pendidikan
SDLB	Integrated Schools for Handicapped	Sekolah Dasar Luar Biasa
SD-Negeri	Public Primary School	Sekolah Dasar Negeri
SD PAMONG	Primary Education by Parents Teachers, and Community	Pendidikan Dasar oleh oleh Masyarakat, Orangtua dan Guru
SD-Swasta	Private Primary Schools	Sekolah Dasar Swasta
Sekjen	Secretariate General	Sekretaris Jendral

Sekneg	National Secretariat	Sekretariat Negara
SGA	Religion Teacher Training Secondary School	Sekolah Guru Agama
SGB	Teacher Training Primary School	Sekolah Guru Bantuan
SGTK	Pre-Prim Teaching Certificate	Sekolah Guru Taman Kanak Kanak
SGO	Sports Teacher Training Secondary School	Sekolah Guru Olah Raga
SIAP	Unexpended funds	Sisa Anggaran Pemerintah
SIPENMARU	University Selection Examination	Sistim Penyaringan Mahasiswa Baru
SKB	District Training & Material Center	Sanggar Kegiatan Belajar
SKKP	Home Economy Junior Secondary School	Sekolah Kejuruan Kepandaian Putri
Skripsi	Undergraduate thesis	Karangan Ilmiah Mahasiswa
SLB	Schools for the Handicapped	Sekolah Luar Biasa
SLB Terbuka	Open Schools for the Handicapped	Sekolah Luar Biasa Terbuka
SMA	General Senior Secondary School	Sekolah Menengah Atas
SMEA	Commercial Senior Secondary School	Sekolah Menegah Ekonomi Atas
SMKK	Home Econonomy Senior Secondary School	Sekolah Menengah Kesejahteraan Keluarga
SMP	General Junior Secondary School	Sekolah Menengah Pertama

SMP Terbuka	Open Junior Secondary School	SMP Terbuka
SPG	Teacher Training Senior Secondary School	Sekolah Pendidikan Guru
SPGLB	Teacher Training Senior Secondary School for Special Education	Sekolah Pendidikan Guru Luar Biasa
SPP	Gov.'t Subsidy to Secondary School	Sumbangan Pemerintah untuk Pendidikan
ST	Vocational Junior Secondary School	Sekolah Teknik
STM	Technical Senior Secondary School	Sekolah Teknik Menengah
STTB	Primary School Graduation Certificate	Surat Tanda Tamat Belajar
Subdit Monitor	Sub-directorate for Monitor	Sub-direktorat Monitor
S1	Bachelor's Degree	Sarjana Muda
S2	Master Degree	Sarjana Lengkap (Pasca Sarjana)
S3	Doctoral Degree	Program Doktor
SUPAS	Intercensal Population Survey	Survey Penduduk Antar Sensus
SUSENAS	Economic & Social Survey	Survey Ekonomi dan Sosial
TK (Taman Kanak Kanak)	Pre-Schools	Taman Kanak-kanak
TTUC	Technical Teacher Upgrading Center	Pusat Upgrading Guru Teknik
UDKP	Village Development Unit	Unit Kerja Pembangunan Desa
UGM	University of Gajah Mada	Universitas Gajah Mada

U.I.	University of Indonesia	Universitas Indonesia
Ujian Persamaan	Primary School Equivalence Examination	Ujian Persamaan
UNAIR	University Airlangga at Surabaya	Universitas Airlangga
UNDP	U.N. Development Program	U.N. Development Program
Universitas Terbuka	Open University	Universitas Terbuka
UNPAD	University of Pajajaran at Bandung	Universitas Pajajaran Bandung
USAID	U.S. Agency for International Development	U.S. Agency for International Development
WB	World Bank	Bank Dunia
Yayasan	Private Institutes	Yayasan