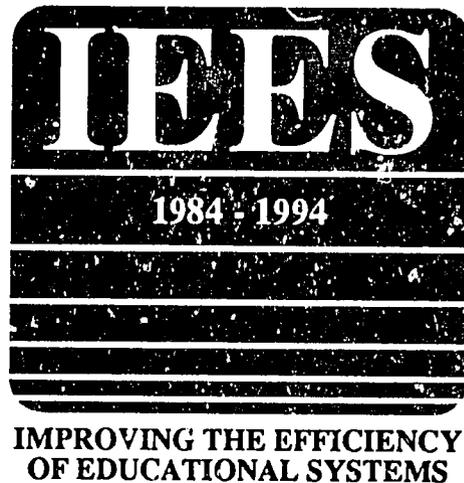


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# INDONESIA

## A Review of Teacher Education Issues in Indonesia

June 1990



A USAID Project

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# **A Review of Teacher Education Issues in Indonesia**

**Improving the Efficiency of Educational Systems Project**

**June 1990**

## **1.0 BACKGROUND: THE STATUS OF THE BASIC EDUCATION SUBSECTOR**

The policy context for the delivery of basic education services has changed dramatically in Indonesia over the past few years with the decisions to remove caps on primary teacher salaries, include junior secondary schooling (grades 7 - 9) in the basic education cycle, subject all teachers (primary through university) to the same criteria for promotion, upgrade current primary teachers from the high school graduate to the Diploma 2 (D2) level through inservice training, and move preservice primary teacher training from the senior secondary (SPG, SPO) to the tertiary level (LPTK). The intent of these decisions is to stabilize and strengthen basic education in order to improve the quality of labor force entrants.

This review of the new teacher policies represents the first step in what is envisioned as an on-going formative evaluation and policy adjustment process. The purpose of these papers, which for the most part precede implementation of the new policies, is to predict any unintended effects of the implementation strategies, identify unresolved policy issues, and outline the research necessary for on-going policy review and adjustment. To this end, the review is divided into five sections. In the first section, by way of background, the status of the primary and junior secondary subsectors in terms of organization and financing, the characteristics of the teaching force, and system performance is summarized. The second section examines the incentive structure for basic education cycle teaching. In the third section, the plans for upgrading current teachers through inservice/onservice programs are evaluated. And finally, in the fourth section, the new primary teacher preservice programs are analyzed. The review concludes with prioritized recommendations for research.

### **1.1 Organization and Financing**

Government, community, and parents collaborate in the provision of education in Indonesia. Consequently, the basic education system consists of all primary and junior secondary schools organized by government, as well as those organized privately. The numbers of schools, teachers, and students in the entire pre-collegiate system and at each level in the 1988/89 school year by type of organization are shown in Table 1.1. As the data in the table indicate, over 99 percent of the kindergartens (which are not included in the basic education cycle) and kindergarten enrollments are private, while only seven percent of the primary schools and enrollments are private. On the junior secondary level, the balance shifts again in favor of privately organized schools. Sixty-five percent of the junior secondary schools are private but the private schools only enroll 43 percent of all junior secondary students. The discrepancy between share of schools and share of enrollments is also evident at the senior secondary level, where 77 percent of the schools are private but only 59 percent of senior secondary students attend privately organized schools.

TABLE 1.1

The Number of Schools and Students  
by Organization, Level, and Type  
1988/89

Type	Schools		Percent Private	Students		Percent Private
	Public	Private		Public	Private	
Kindergarten	57	36,133	1.00	6,456	1,561,994	1.00
Special Schools	22	425	.95	1,544	18,315	.92
Primary	135,565	10,006	.07	24,813,810	1,911,554	.07
Junior Secondary	7,178	13,206	.65	3,683,840	2,766,265	.43
General	6,861	13,131	.66	3,588,407	2,757,653	.43
Home Economics	74	19	.20	14,831	1,397	.09
Technical	193	56	.22	77,463	7,215	.09
Other	50	0	0	3,139	0	0
Senior Secondary	2,684	8,747	.77	1,645,075	2,395,252	.59
General	1,555	5,849	.79	1,052,882	1,547,171	.60
Economics	307	1,242	.80	234,918	409,110	.64
Home Economics	83	60	.42	35,943	9,630	.21
Technical	149	726	.83	133,848	266,087	.67
Teacher Training	210	407	.66	98,013	93,664	.49
Sport Teacher Training	55	39	.41	27,495	10,159	.27
Other	325	424	.57	61,976	59,431	.49

Source: *Ranqkuman Statistik Perssekolahan 1988/89*. Jakarta: Departemen Pendidikan Dan Kebudayaan, 1989.

Public schools, with the exception of primary schools which are tuition free, are financed by government and by the imposition of tuition and fees (SPP) and other parental contributions (BP3). The level of parental contributions per enrolled student are determined jointly by parents and school principals. Secondary schools also often require a special fee at entrance. The SPP funds are forwarded to central government which reallocates them to districts to defray administrative overhead and to schools to support teaching, examination, and student activities. Thus after approximately one year secondary schools receive back a portion of the locally generated SPP. Unlike SPP, parental contributions remain at the school.

While there has been no systematic evaluation of the effects of differences in parental contributions among schools on student achievement at either the primary or secondary level, studies have noted the association of the wealth of the community, the level of parental contributions, the resources available in schools, and student success (IEES, 1986, World Bank, 1989).

Privately organized schools are routinely described as "among the best and worst in the nation." They display an even greater range in teacher and material stocks than do public schools; a range associated both with parental wealth and level of government subsidy. While a detailed study of the subsidies to private schools has yet to be carried out, the older, more prestigious private schools tend to attract both more affluent parents and higher levels of government support, since accreditation of private schools is based on the credentials of the organizers, the number and credentials of full-time staff, and the quality of the facilities. Special consideration is also given to schools organized by the Teachers' Union, some of which pay fees to use public school buildings and share textbooks.

Government subvention of private schools includes the secondment of teachers, administrators, and/or other staff, the provision of books and equipment, and/or assistance in upgrading facilities. The numbers of civil service principals, teachers, and administrative staff seconded to private schools as of January 1989 is shown in Table 1.2. In addition to the seconded personnel support, many private schools rely on the after-hour services of public schoolteachers. The new civil service credit scheme for the promotion of teachers, discussed later, in fact, rewards public schoolteachers who, with the approval of their principals, teach additional hours in private schools. Table 1.3 provides summary estimates of the numbers of seconded and "unofficial" public schoolteachers currently working in private schools. Averaged across levels, 34 percent of all full-time private schoolteachers are supplied by the government, while an estimated 41 percent of part-time private schoolteachers are public schoolteachers working a second job. Taken together, the data in Tables 2 and 3, even in the absence of data on other forms of government support, suggest that, in the Indonesian context, 'public' and 'private' refer primarily to the organization rather than to the financing of schooling.

The implications of the symbiotic relationship between the public and private sectors for governments' ability to meet the Replita V targets is not well understood at this time. Junior secondary school enrollments in public and private schools are expected to increase by 29 percent or 1.9 million students over the plan period (1988/89 - 1993/94). Public schools and

Table 1.2

The Numbers of Public School Staff Seconded  
Full-Time to Private Schools in 1989

Type	Private Schools	Seconded		Staff
		Principals	Teachers	
Kindergarten	36,465	629	23,765	3
Special Schools	425	118	3,077	84
Primary	81,915	6072	30,297	NA
Junior Secondary				
General	12,967	640	17,857	687
Vocational/Technical	61	14	210	5
Senior Secondary				
General	5,356	309	10,379	381
Vocational/Technical	1,985	143	2,960	114
Teacher Training (SPG)	401	133	1,751	146
Sports Teacher Training (SPO)	34	10	47	0
<b>Total</b>	<b>139,609</b>	<b>8,068</b>	<b>90,343</b>	<b>1,420</b>

Sources: Direktorat Sekolah Swasta; *Ranguman Statistik Persekolahan 1988/89*. Jakarta: Departemen Pendidikan Dan Kebudayaan, 1989.

Note: Since the primary school counts were derived from a different source, they may include part-time teachers.

**TABLE 1.3**  
**The Status of Private School Teachers**  
**1989**

Type	Private Schools	Total Teachers	Civil Service Seconded Unofficial		Non Civil Service		Percent Civil Service Seconded Unofficial	
			Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Kindergarten	36,465	82,952	24,495	2,972	30,336	25,149	.45	.11
Special Schools	425	3,841	2,593	101	412	735	.86	.12
Primary	NA	NA	NA	NA	NA	NA	NA	NA
Junior Secondary								
General	12,967	168,747	16,096	47,142	46,868	58,641	.26	.45
Vocational/Technical	61	1,097	220	223	306	348	.42	.39
Senior Secondary								
General	5,356	102,420	7,675	35,654	21,583	37,508	.26	.49
Vocational/Technical	2,023	44,401	2,966	12,399	7,124	21,912	.29	.36
Teacher Training (SPG)	401	7,453	1,693	2,248	1,348	2,164	.56	.51
Teacher Training (SGO)	34	437	63	316	14	44	.82	.88
Total	57,732	411,348	55,801	101,055	107,991	146,501	.34	.41

Source: Direktorat Scholah Swasta

Note: These counts were taken at a different time than those reported in Table 1.2 and data were not available for primary schools.

schools, respectively, are expected to accommodate 40 and 60 percent of the new enrollments. The fact that an estimated one-third of the current private schools operate in public school facilities, however, limits governmental options of expanding through the creation of double shifts. At the same time, the high level of the reported "unofficial" public schoolteacher involvement in the privately organized schools reduces the possibility of supporting the permanent staff of new public or private schools with part-time public schoolteachers who could be paid incentives to teach double shifts.

A second and equally serious issue raised by the strong government subsidy of privately organized schools is student equity. While the private organization of schools has permitted government to expand access to schooling at a lower cost than could have been achieved through expansion of the numbers of public schools, that access may not constitute access to equal quality resources. To the extent that it is true that the bulk of the private schools at the secondary level admit students who were unable to find places in public secondary schools and provide them with inferior resources, government is open to the charge of supporting a two tier system. While the answer to this problem is clearly not to withdraw government subsidy at this time, given both the demand for access and the incentive value of second jobs for public schoolteachers, research on the comparative quality of public and private schools and the effect of second jobs on the quality of public schools would serve to provide a stronger base for accreditation standards than is now available. In the long run, the information would provide the basis for decisions on whether or not to incorporate private schools unable to sustain themselves into the public subsystem.

## 1.2 Teacher Characteristics

Primary and secondary teaching in Indonesia, as in many other countries, has shifted over time from an occupation of the elite to a route to upper mobility. A study by Tjiptosasmito and Cummings in 1981 found that the older teachers tended to come from higher socioeconomic backgrounds as measured by paternal education and occupation than did the younger teachers. On average, both prospective primary teachers and secondary teachers had far fewer consumer items in their homes than did high school students who did not aspire to teaching. Further, the rankings on the consumer item scale suggested that the homes of prospective primary teachers were far more modest than those of prospective secondary teachers. The authors concluded that the majority of prospective teachers, particularly male teachers, "are the academically able children of rural homes and modest income urban homes where the parents lacked sufficient funds to support their children for a full University course" (p.188). The young women willing to teach tended to come from higher socioeconomic homes than did young men, suggesting possible educational discrimination at higher levels, labor market discrimination, or the compatibility of teaching with cultural values or traditional childraising activities.

The prospective teacher sample substantially agreed with other students that teaching is a valuable service, a challenging occupation, and poorly remunerated relative to other occupations. Prospective teachers, however, had a somewhat more favorable view of how interesting teaching is and the authority commanded by the average teaching (*Ibid.*)

On average, the study found that prospective teachers were somewhat more modest in assessing their own ability than were those who had no interest in joining the teaching force (*Ibid.*). This finding has more recently confirmed by forced choice between application for university or LPTK programs. LPTK applications now come from students who tend to be less certain of their academic competitiveness and who, therefore, choose to reduce risk of losing a tertiary seat by applying to teacher training institutions (Somerset, 1989a). The net affect of the forced choice, all else equal, has been to reduce the number of science students entering the LPTKs.

At the primary level, almost half of the currently serving public schoolteachers (49%) and slightly over half (52%) of the private teachers are women. Approximately, 97 percent of public and 94 percent of private teachers' educational attainment is lower than the new Diploma 2 standard. While equivalent data were not provided in 1988/99 for junior secondary teachers, it is estimated that about 60 percent currently hold qualifications of less than D2. This percentage is not insignificant given the supposed subject matter specialization of these teachers.

### 1.3 System Performance

The performance of educational systems can be measured along a wide spectrum of quantitative and qualitative indicators of the inputs, processes, outputs and longer term outcomes (Windham, 1989). The Replita V targets suggest considerable concern with improving performance, particularly, on the primary level with respect to all inputs but in particular the quality of teachers and curricula and the quantity of textbooks. Mechanisms for the on-going review and improvement of classroom processes have long since been established and continue to be supported (CBSA, PKG).

A recent performance review (World Bank, 1989) indicates that the focus of Replita V is well justified. Although substantial progress has been made in the past five years, only 42 out of every hundred students who enter grade 1 graduate in six years. Sixteen of the initial 100 dropout and 42 repeat a grade. On the junior secondary level, the situation is somewhat better, grade to grade promotion rates are higher and repetition and dropout rates considerably lower. For every hundred students now entering junior high school, 89 graduate in three years time, approximately six repeat a grade and six dropout of school.

Unfortunately, these statistics reveal very little about the quality of the primary and secondary graduates. The work underway on testing is critical if feedback is to be provided for ongoing improvement efforts. The old Ebtanas examination system neither measures competencies acquired through schooling nor is considered reliable or valid (Somerset, 1989). In addition to the data which will be yielded by the new examinations, the results of the new Balitbang Dikbud study on the *Quality of Basic Education*, which updates the assessment work done in 1978 (Moegiadi et al., 1979), should provide the level of detail necessary for on-going improvement of teacher preservice and inservice. The timely completion of the this study is consequently a high priority given government's investments in teacher incentives and in upgrading.

## 2.0 TEACHER INCENTIVES

The current focus on incentives for teaching in Indonesia is derived, in part, from concern about the quality of schooling and, in part, from the fact that government, beginning in August, will now compete in the labor market for individuals with higher academic credentials for primary school teaching. The analysis which follows of the current incentive system is divided into three sections. First, a model of an integrated teacher incentive system designed to support teacher performance is presented. Secondly, the current incentive system is examined in light of the model. And finally, the discussion is briefly summarized.

### 2.1 Teacher Incentives: Definition and Model

Incentives for teaching can be defined as the sum of the rewards related to entering and/or remaining in teaching and/or performing up to a criterion level. These rewards include both the intrinsic and extrinsic returns to teaching. While policy makers cannot directly influence the intrinsic satisfaction individuals derive from teaching, they can influence job satisfaction by manipulating extrinsic rewards. Incentive *systems*, therefore, are characterized by intentionality (they are designed for a specific purpose), externality (they provide concrete benefits), and standardization (they contain a set of procedures which clearly relate certain behaviors with specific rewards or certain behaviors with specific punishments).

Incentive systems may be centralized (provided by central government) or decentralized (provided by provinces or local communities) or local incentives can be used to supplement national incentives. For instance, local provision of housing in remote areas often strengthens the recruitment effect of special allowances for teaching in isolated areas. The potential effectiveness of local incentive systems at the margin is derived from the fact that provincial governments and/or local communities are in a position to have better knowledge of the environment faced by teachers and therefore can respond more quickly to countering existing or emerging disincentives for teaching.

Incentives systems frequently often contain both monetary and non-monetary awards for teaching. Monetary incentives include both direct (salary, allowances, pensions) and indirect transfers (instructional and materials support, subsidized or free housing and food, subsidized upgrading, etc.), while non-monetary awards include such things as public recognition, choice of next assignment, preference given to the admission of teachers children in university, etc.

In the last decade, the literature on teacher incentives has more than doubled as nations at every level of development have focused on issues related to improving the quality of their basic educational systems. Although the antecedents of these reform movements differ among nations, the recommendations of their study commissions are remarkably similar:

- recruit more talented individuals into teaching;
- improve teacher compensation;
- strengthen preservice teacher training to ensure subject matter competencies;
- provide greater instructional leadership and support (both supervision and inservice training);
- increase the quantity and quality of materials support (texts and materials appropriate to the characteristics of the teachers);
- provide career ladders (opportunities for promotion and advancement within the basic education cycle);
- provide greater recognition and reward for effort; and
- promote a greater role for teachers in school-based planning, evaluation, curriculum development, and governance.

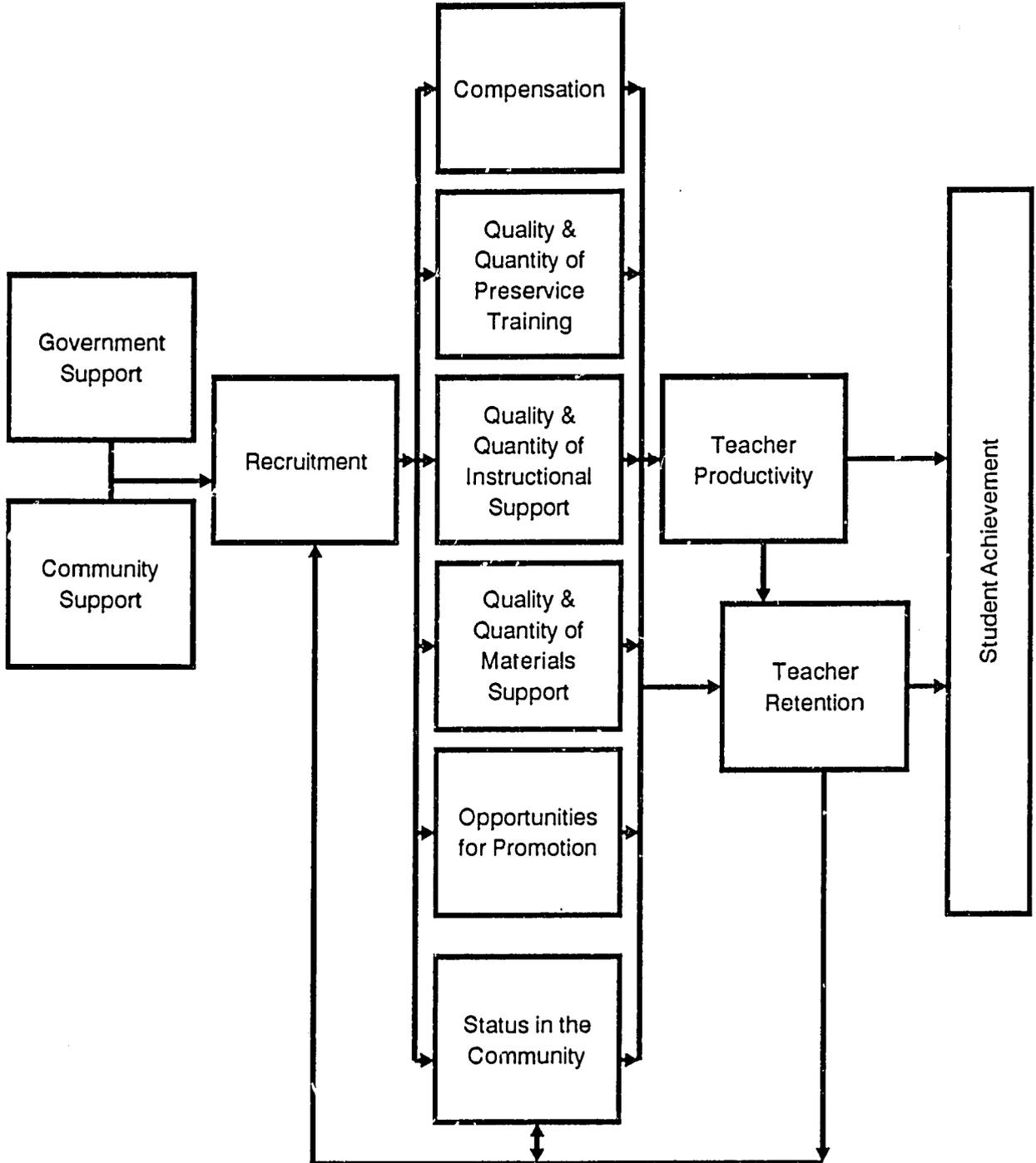
The similarity among the recommendations of the many different national commissions is not the effect of chance but rather of the growing body of research on teacher and school effectiveness. While older incentive systems often focused on recruitment, deployment, or retention issues separately, the incentive systems now being constructed view all teacher incentives issues from the perspective of teacher performance.

Although attempts have been made to objectively measure performance in terms of value added to student learning and reward it directly, these experiments have both been expensive and less than satisfactory (Murnane and Cohen, 1986). The effective school research has, in fact, validated common sense. Teachers are generally more productive if they prepare well for class, allocate class time to learning, and maintain a high interest in their subject fields and in teaching methodologies than if they do not.

The advantage of emphasizing teacher performance or productivity is three-fold. First, it forces policy alternatives related to teacher incentives to be explicitly weighed on the basis of their potential contribution to teacher productivity in the classroom. Secondly, it reduces the likelihood of substituting means (e.g. teacher recruitment or retention) for ends (e.g. improving student learning). And third, it promotes integrated decision-making with regard to the resources devoted to schooling. In other words, the chance of providing inservice training or teaching materials unsuited to the average teachers prior educational attainment level is minimized.

A model of an integrated incentive system is illustrated in Figure 2.1. The model assumes that teacher performance is directly related to student achievement. Teacher performance, in turn, is a function of the closeness of the fit between the teacher's entry level characteristics and the quality and quantity of (a) preservice training, (b) inservice training or

Figure 2.1  
An Integrated Model of Teacher Incentives



other forms of professional support and development, (c) the instructional and materials support provided, and (d) other monetary and non-monetary incentives. Thus appropriately trained teachers in systems characterized by competitive salaries and benefits, and opportunities for professional development and career advancement are more likely to be productive in the classroom than are teachers who have received poor training, lack the basic materials for teaching, or have little hope for advancement.

The indication of a direct relationship between performance and retention is based on recent evidence that teachers who experience a sense of efficacy (that they can do their job and do it well) are more likely to remain in teaching (and remain committed to teaching) than those who do not. Finally, the feedback loop between teacher performance and recruitment and retention suggests that teacher efficacy (and hence, retention) also affects government's ability to recruit new teachers since teachers' satisfaction with their job is communicated to their students and to the community.

As Figure 2.1 indicates the possibility exists for substitution among major incentive categories (compensation, instructional support, materials support, opportunities for professional development). Less qualified teachers can be hired and paid less but provided with superior material resources and inservice training sharply focus on teaching requirements or more highly trained teachers can be hired, paid more, but supplied with less costly resources.

If compensation, instructional support, opportunities for professional development and promotion, and status in the community affect teachers' ability and willingness to function productively in the classroom, the question arises of how much of any given incentive is enough. Unfortunately, there is no absolute answer to this question.

The answer depends largely on the characteristics which governments or schools can afford to recruit for and the educational task teachers face in the classroom. College graduates, for instance, are not likely to respond to the same set of incentives as secondary graduates or remote area teachers to the same set of incentives as urban teachers.

The difficulty lies in finding the threshold value for each type of incentive. For example, to provide adequate levels of materials support, research indicates that it is not necessary to supply a set of textbooks for every child in the classroom, particularly in the early grades. By the same token, Bray's study of double shift schools (1989) suggests that sharing of facilities and presumably books and some teacher's time does not automatically result in a loss of quality.

The threshold value for teacher compensation (bundle of salary and benefits) is not as difficult to discern. Salaries can be measured, on the one hand, against an absolute standard such as a poverty index to identify the lowest level at which individuals are likely to be attracted to the profession. The more useful measure is, of course, opportunity cost. The question then becomes what salaries and benefits (including income from all sources and security in continued employment) could Diploma 2 holders realistically command if they did not enter teaching? The answer to this question can be obtained either from census data

or from tracer studies of teacher training graduates and/or former teachers, or surveys of private sector hiring standards. In many developing countries, it has been found that government is its own prime competitor. Many of the brightest teacher training graduates and one time teachers apply for positions in the central ministries; positions which provide greater scope for advancement and which enjoy greater perquisites. This form of 'brain drain' is very difficult to stop.

## **2.2 The New Teacher Compensation and Promotion System**

Prior to May, 1989, the Indonesian teacher incentive system followed a pattern not unusual in a rapidly developing system. Greater salary incentives were offered to teachers at the secondary than at the primary level, teacher salary levels were artificially capped by the certification level of the school principal, and the level of teacher participation (or non-participation) in school affairs was neither rewarded nor punished. The new teacher salary schedule, effective April 1989, together with Replita V plans for greater materials support and upgrading opportunities and curricular reform represents a massive effort, on the part of government, to remedy the lack of incentives for entering, remaining in, and working productively in the basic education. The major issues which remain to be resolved can be categorized as those related to: (1) the structure of incentives; (2) opportunities for structural promotion; and (3) recruitment and deployment or what is more commonly called the teacher supply system; and (4) the differential access of primary and junior secondary teachers to Diploma 2 upgrading.

The new teacher compensation provides automatic salary increases within grade every two years and opportunities for advancement in rank every four years. Promotion to a new rank is based on a credit system, which provides the same weightings on a variety of items for all teachers, primary through university. The number of credits required for movement to the next rank, however, varies. Relatively few credits are required at the lower end of the salary scale (between ranks in Golongan 1), while large numbers of credits are required at the upper end of the scale. Although credits are cumulative over time, all credits do not have equal weight. For promotion 70 percent of the credits must be derived from educational credentials and hours of teaching. Only 30 percent of the remaining credits necessary for promotion can be accumulated from other categories (participation in inservice training, teaching/learning activities, remote area teaching, community service, curriculum development, publications, etc.).

In its present form, the new compensation plan provides very strong incentives for acquiring additional credentials, remaining in the teaching service, and teaching in more than one school (although such teaching must be sanctioned by the principal). Rather less weight is given to meeting the responsibilities which, as the effective school research suggests, lead to increasing both teacher and student productivity. Preparing for class, writing and correcting tests, counseling students, participating in curriculum development all are weighted at less than a full credit. Attendance is not weighted at all. One could argue that these low weights reflect the fact that these activities are fully compensated in the base salary. In other words, teachers are paid to prepare classes, write exams, etc. The reality is,

however, that all teachers are tenured from the time of appointment and there is an extreme reluctance to use (and, in fact, no mechanisms exist for the use of) negative incentives, such as firing or docking a teachers' pay.

The reward for multi-jobbing is particularly troublesome. First, it is probably not necessary as obtaining a second or third teaching or research job where such are available is a perquisite itself. Secondly, at some level of multi-jobbing, productivity in the original school is likely to suffer. In the preservice education section of this review, for instance, reports from IKIP students that they are generally taught by senior students rather than faculty are cited. If true, the availability of supplementary income generation activities is imposing a significant opportunity cost on the system.

Other worrisome reports come from the basic education level, where apparently inservice/onservice programs are taking place during scheduled school hours and regular classes are being canceled. Presumably, this is being done to preserve after school time for other jobs and, therefore, lower the cost to teachers of the inservice program.

Because of the reliance of teachers on income from supplementary activities and the facts that multi-jobbing acts as a powerful recruitment and retention incentive and within limits does not negatively affect student achievement (Moegiadi, 1979; Ross and Postlewaite, 1989), it is necessary to delicately balance the strict requirements of the first job against opportunities for additional earnings. On the face of it, the reduction of the time available to students does not indicate that such a balance has been struck.

These concerns suggest that a careful tracking of the new compensation scheme over its first four years is necessary in order to determine: (a) who benefits, who loses, and why; (b) the effect on the basic educational system performance of the strong incentives for upgrading credentials and rewarding multi-jobbing; and (c) the equity and appropriateness of using the same credit weightings for primary, secondary, and tertiary teachers. Correction of the small incentive in the system for remote area teaching cannot wait that long and separate recommendations are made below to address the problem of deployment of teachers to rural and remote areas.

Whatever benefits the new compensation scheme is likely to yield, they will have little meaning if "unofficial" deductions continue to be made from teacher salaries and salaries are not paid in timely fashion. While newspaper reports may greatly exaggerate the extent of these problems, the feasibility of payment of teacher salaries through Bank Rakyat Indonesia should be explored.

## **2. Structural Promotion**

Consideration apparently was not given to increasing the number of new structural positions at the time the teacher compensation scheme was revised. The positions now available are limited to principal and supervisor, although as a result of the many inservice or onservice programs, and particular, the Cianjur program, other informal leadership roles have developed. While past experience with mentor/master teachers may counsel against

formalizing such a position nationwide, the notion, however, could be piloted on a limited basis within the upgrading program. If the teacher were appointed to the position of master teacher, on the advice of other teachers in the subdistrict and the consent of his/her principal, the earlier difficulties experienced with lack of credibility could be avoided. Appointment might be for one year and extra allowance provided for travel. The responsibility of the mentor teacher would be to provide additional support to the study groups in a number of subdistricts, as well as work with any new teachers in the area.

A more pressing issue is the level of supervisors allowances. The many reports but lack of firm evidence that supervisors rarely make visits to the more rural schools in their subdistricts because of the cost of travel needs to be examined, as well as the fact that many rural subdistricts do not have supervisors.

The role of the supervisor, in the face of the many trainers now involved in the various inservice efforts, is at any rate one that needs to be confirmed. Is the supervisor, a data collector? an auditor? a trainer? a mentor teacher? or some combination of the above?

While the upward pressure of the system will forestall, perhaps, for years to come the appropriate preservice training of the principals and supervisors who occupy structural positions in the system, roles should be clarified and, as far as possible. The difficult psychological position many will find themselves in (studying along side their teachers) over the next few years could be offset by instituting a program which publicly recognizes exceptional effort (e.g. principal/ supervisor of the year).

### **3. The Teacher Supply System**

The current teacher supply system is characterized by strong incentives for entering teacher training, moderate incentives for waiting for a teaching post, and extremely weak incentives for teaching in rural or remote schools.

Both the secondary teacher training institutions, which are now in the process of being phased out, and the tertiary teacher training institutions have served as alternate routes to higher levels of education for those who are uncertain of their academic competitiveness, those unable to win seats in senior secondary or university, or those unable to afford the tuition or fees at general secondary schools or university. The recent improvement in teacher salary scale and the increased length of training for prospective primary teachers are unlikely to appreciably alter these characteristics.

One analysis suggests, however, that the introduction in 1987 of a forced choice between university and the tertiary teacher training institutions had the net result of an overall decline in science applicants and in non-science applicants, except at the rural FKIPS (Somerset, 1989). While it could be conjectured that the loss in the volume of applicants has been offset by the increase in the number of applicants for whom teacher training institutions are the first choice, there is no evidence that previous LPTK graduates for whom these institutions had been a second choice had failed to take teaching posts at a greater rate than did graduates who had initially expressed a preference for teaching. It is well to remember that students

entering the tertiary level are still often undecided about their careers and that one of the important developmental processes which takes place during this period is the alignment of aspirations with expectations. Somerset's (1989) recommendation that a study be undertaken of the effect of the 1987 rule on choice of university and LPTK courses has become even more salient since the decision has been taken that all teacher training (with exception of the Diploma III MIPA) courses will take place under the aegis of these institutions.

The D3 MIPA courses, as well as the special scholarship programs, also suggest that screening for preference at entrance to teacher training, is rather less useful than exercising the considerable prerogative of the MOEC to assign supported students to the location where they are needed. The current poor fit between the supply and demand for specialist secondary teachers and for rural and remote teachers at both the primary and secondary level is exacerbated by a number of factors including the following:

- the length of the delay between graduation and appointment. A number of studies have indicated that the average length of delay in the posting of graduate is from six months to over a year (CEGIR and PT Sanga Kencana, 1988; Joni et al., 1988).
- reluctance to impose disincentives, e.g. refusal to take up a position which has already been agreed to is apparently suffered with impunity (CEGIR and PT Sanga Kencana, 1988).
- lack of incentives for rural and remote teaching (Waskito and Cummings, 1981; Somerset 1989)

There is no easy solution to the problem of delay in the appointment of teachers and the mismatch between assignments and the specialist teachers needed by schools. The problem is likely to get worse before it is resolved now that primary teacher training has been shifted to the tertiary level and universal junior secondary schooling is being pioneered.

The long-term solution would be to transfer budgetary authority to the Provinces which would then allocate resources to Kanwils and/or Dinas on the basis of enrollments. Kanwils and/or Dinas could then hire individuals for particular jobs in specific schools. This approach would have the benefit of promoting a closer fit between the subject area specialists required by schools and the personnel allocated to schools. It would also short circuit the current practice of individuals taking their civil service "lines" with them to schools, which for one reason or another, they would prefer to teach in. Since such a change would require fundamental change in the operation of the civil service and improved capacity at the provincial level for data management and planning, it is not likely to take place in the near future.

A number of steps, however, can be taken to streamline the current process. For instance, LPTK students in all programs might be exempted from the civil service examination. In addition, a single test for desired competencies within a province could be administered at the beginning of the final semester for each program (D2, S1, etc.) and

security clearances obtained at that time. Other practical time and labor savings recommendations would be forthcoming from a meeting of relevant agencies. Clearly, what is needed in the very near future is a unitary deployment strategy for all basic education teachers. Such a strategy, however, would require unprecedented cooperation among levels of government and relevant government agencies.

Provision of teachers to rural and remote areas is a special case of the teacher supply problem. It is a serious issue and one given special attention in the Replita V documents because of its profound implications for both development and national unity. Moreover, the current problem is soon to be aggravated by the disproportionate phasing out of the SPG's outside of cities (see discussion in both the inservice and preservice sections.)

Special incentives for remote area teachers, as well as for other civil servants serving in these areas, have been discussed for years and constitute a priority recommendation in every major assessment of education (Beeby, 1979; MOEC, 1982; MOEC/IEES, 1986; Waskito and Cummings, 1981; World Bank, 1989). The specific recommendations of these reports include the following:

- provide an extra allowance for the higher cost of living in remote areas;
- reward remote teaching with greater opportunities for subsidized training;
- pay the cost of moving to rural and remote schools and subsidize home visits; and
- improve the system of salary payments to obviate both delays and the high cost of travel to obtain salary payments.

To date, however, no significant package of incentives has been formulated and many perceive that an important window of opportunity was missed when the new teacher salary scheme was introduced. As indicated earlier, the new plan provides only one-half of one credit for remote area teaching. Although remote teachers are to be given preference for upgrading to D2, such upgrading will be very difficult to deliver given the conditions in these areas.

Three reasons are given for the neglect of such teachers in the scheme. The first is lack of consensus on the definition of rurality. Obviously, more than one definition is needed and incentives need to be adjusted for level of rurality or remoteness. Promising discussions have been held on two definitions - one related to sociological distance from the mainstream of Indonesian life and the other on physical isolation (distance from the nearest town)- but neither definition has been operationalized.

The second reason why greater weighting was not placed on remote teaching in the new credit scheme was apparently a perception that teachers should not be singled out for such an incentive when they represent only one class of civil servants asked to serve in remote areas. This viewpoint is well taken. It can be countered, however, that since a separate compensation scheme for teachers has already been designed that scheme should be used to

its fullest, while other mechanisms explored for rewarding remote service of other civil servants. The third and most compelling reason given is that the credit weightings in the new teacher compensation plan are cumulative and remote area compensation should be paid only when teachers are serving in such areas.

To come to closure on the debate about appropriate package of incentives for remote service as soon as possible, it is recommended that alternative definitions of rurality be constructed, alternative incentive packages designed and their fiscal implications tested, and comments elicited from teachers currently serving in remote areas and prospective teachers. Approval then should be sought for a limited pilot test.

#### **4. The Differential Access of Primary and Junior Secondary Teachers to Diploma 2 Upgrading**

Approximately, 330,000 of the 1.1 million primary teachers will be upgraded through inservice/onservice training to the new Diploma 2 standard over the current plan period. While the decision has already been taken to provide this upgrading free of charge to civil service teachers, consideration should be given to imposing a modest charge on participants in future years. The reason for such a charge is twofold. First, participants who are paying for a course are more likely to take the time to do the required study than those who do not. Secondly, Open University officials have suggested that even minimal cost recovery combined with sharing of the modules within groups (rather than the provision of a set of modules to each teacher) could permit piggybacking the primary teacher groups with junior secondary study groups. This would provide a fairer chance at upgrading for the estimated 60 percent of junior secondary teachers who now have less than a D2 qualification.

The work of Nielson and Djalil (1989) indicates that enrollments of junior secondary teachers in the unsubsidized Open University upgrading program have dramatically declined due both to the monetary cost of the program and the opportunity cost (foregone income from multi-jobbing and foregone time with family). Their work suggests that the threshold of acceptable course fees is approximately 16 percent of total income for junior secondary teachers. Further work should be done to confirm this threshold in different provinces and the threshold identified for primary teachers (whose salary, particularly outside of cities is more closely correlated with income).

### **2.3 Summary**

The new compensation and promotion plan represents a highly innovative approach to rationalizing teacher incentives. The strength of the plan lies in its structure which permits fine-tuning, that is, the future alteration of rewards to meet identified system needs. Like most teacher incentive plans, the plan currently rewards education and experience at a greater rate than it does actual performance. The strong incentive for obtaining higher credentials is, however, particularly appropriate at this time given government's emphasis on upgrading teacher qualifications. It is, however, difficult to justify the current definition of experience as time spent teaching at both first and second job schools. A narrower definition of

experience would not provide a disincentive for obtaining a second job but would free funds which could be used to strengthen the incentive for remote area teaching.

The pressing need for remote area teachers underscores the necessity of designing a teacher supply system which guarantees the placement of trained teachers in schools where they are needed. It also suggests the need for close monitoring of the new incentive structure and a willingness to adjust both particular incentives and the requirements governing teachers to the differential needs of provinces.

### **3.0 Training And Upgrading For Current Teachers Of Basic Education**

There are two main vehicles for the improvement of the quality of the basic education teaching force: a) the upgrading of academic qualifications (to the D2 level) through distance education by the Open University; b) inservice training at the school or district level, consisting of study groups at the primary school level (KKG) and refresher courses at the secondary school level (PKG).<sup>1</sup> Other vehicles have also been assembled, often for specific purposes, such as creating an awareness of population and environment problems and training teachers to use a new curriculum. These are generally organized and delivered by special task forces or committees emanating from a particular directorate of the MOEC in Jakarta, or more recently from the Provincial Education Office (Kanwil). A complete training picture would need to take into consideration the vast tangle of programs, organograms and resource centers that such a fragmented approach to inservice training has created. Although this situation will be mentioned in passing, we focus primarily on the main vehicles just mentioned. Our approach will be to describe their current and projected future status by level (SD;SMP), identify policy issues, and suggest alternative ways of addressing these problems.

It would be desirable for these complementary training efforts to be developed within a teacher training and supply system, which would allow for coordination and rational and integrated decision-making in both vertical (SD/SMP) and horizontal (upgrading/in-service) directions. Unfortunately no such training and supply system exists at present, although one did briefly operate in the 1970's. There are, however, indications that one is reemerging in the context of the Ministry's forthcoming integrated management scheme; a timely development since at present there are so much initiatives in teacher education and training. Until such a system is in place, the field is bedeviled by the fact that teacher pre-service training and credentials upgrading are under the aegis of the Director General of Higher Education and the field-based inservice training are under the authority of the Director General of Primary and Secondary. Much of what will be recommended in this section assumes that there can and will be smooth collaboration between these two arms of the Ministry.

#### **2.1 Primary Education**

##### **1. Up-grading: Recertification at the Diploma 2 Level**

Recertification of teachers is thought to be necessary given the fact that new primary school teachers will enter the force with a D2 credential. To allow existing teachers to have the same professional growth opportunities as new recruits, and to make sure that they are grounded in the general knowledge expected of a high school graduate (plus some tertiary education), the D2 "equivalency" course was born. (The term equivalency is used by the Ministry since teachers with over 5 years of experience receive some academic credit in the

program for teaching experience.) The course has been constructed during the past six months, by teams of course developers mostly from the Open University (UT), the Curriculum Development Center, and IKIPs Jakarta and Bandung. It was officially launched by Ministerial Decree on December 30, 1989. The first students are scheduled to begin classes in August of 1990.

a. Purpose. The purpose of this course, as set out by the Minister of Education, is to provide practicing teachers with the D2 qualification in order that they:

- possess the personal characteristics of an educated Indonesian citizen, able to assist in the country's development;
- master educational precepts, especially those concerned with teaching in the primary school;
- master primary school subject matter as well as the concepts and principles upon which it is based;
- are able to develop a program of instruction for the primary school;
- are able to implement a program of instruction for the primary school appropriate to the skills and development levels of children of primary school age;
- are able to evaluate the process and results of the learning and teaching in the primary school;
- are able to develop good relations with colleagues, the community and the school-age children; and
- are able to understand and use the results of research in support of their performance as a primary school teachers.

In the introduction to the course description it states that its basic purpose is to "increase the professional qualification and competence of primary school teachers in order that they can execute their duties with patterns of human behavior and thought that are consistent with the development of science and technology."

b. Curriculum. The curriculum consists basically of a list of courses and the credits for each. The total number of credits is 80, which makes the program equivalent to a two year full-time diploma course. (Teachers are expected to complete it in three years.) As with other Faculty of Education programs, this course has four main categories. Since the participants are experienced teachers (and thus assumed to be relatively competent in teaching skills), the course is heavily weighted towards subject matter mastery. Courses are as follows:

"Jakarta thinking." The fact that the D2 program is expected to be implemented in remote areas as first priority makes this situation even more ironic.

The Open University through its modular learning approach is in a position to create optional "modules" for primary school trainees in different categories and situations. Those who opt to teach lower grades should not have to go as deeply into subject matter specialties as those who are teaching upper grades; they should be able to opt for modules related to early childhood education, with an emphasis on techniques for teaching basic skills. Upper grade teachers should have the option of going deeply into two or so subjects of their choice and less so in the other fields. Principals should have the option to choose a school/instructional management series. This does not mean that they would be completely excused from teaching and subject matter courses, for having some refreshment courses, especially in CBSA methods, will help them to give appropriate professional support to the teachers in their schools. Finally, those who teach in small schools should have the option of taking a small schools management/teaching series and having practical sessions in various forms of multigrade/multiclass management and teaching techniques. *The most important concept here is that of flexibility and student choice; a feature which will demonstrate to teachers and principals that the course is relevant to their needs and circumstances.*

With respect to subject matter difficulty, there appear to be courses that are far beyond the reach (and the needs) of the typical primary school teacher. It is ironic that students will be asked to study trigonometry and calculus, when the average teacher has mastered only 45% of the primary school subject matter in science. Somerset writes about the need for teachers to master subject matter "well beyond the level at which they are expected to teach it." This would seem to be especially true of teachers who are expected to encourage questioning among students: they need this "competence advantage" to free them from the need to cling to safe, didactic means of instruction. Somerset suggests, as a rule of thumb, a competence advantage of 3 years: a rule that would suggest the need for primary school teachers to master the content at the junior high school level (that is, after they have mastered SD level subject matter). Many of the topics listed above will only appear in the senior high school syllabus. Also, given academic performance of teachers when they were themselves secondary school students (most failed to qualify for the academic senior high school), one would expect the failure rate on the advanced courses to be high (to say nothing of the discouragement factor). *There is a crying need for a reconsideration of what knowledge and skills current primary school teachers need to master in order to increase their teaching competence. Research on primary school quality currently being completed by Bali/bang should provide the basis for decision-making on course content, complemented by short exploratory studies on what teachers feel they need.*<sup>4</sup>

One encouraging aspect of the proposed D2 program is that it requires that the weekly tutorials be carried out in an "active learning manner" (see below), as an example to the trainees on how to promote active learning in their classrooms. The program also suggests that teachers can get course credit for participation in other inservice training programs. In the next section (on inservice training) we will advocate the granting of D2 course credit for participation in teacher working groups (KKG), as long as these groups are organized to provide a logical sequence of skills. If this is done, it would eliminate the need for the D2

course's practice teaching program, which as currently conceptualized is heavily oriented towards lesson planning and does not carry any course credit.

Finally with respect to course load, the program will cover a two years of full-time study in three years. Even for teachers who have some courses waived this is a heavy load. Research on the D2 course for lower secondary school teachers provide some insight into this. They found course loads difficult given the fact that they held full time employment, often had extra jobs and had familial obligations as parent or head of household. In this course the average time for the completion of a one year full-time-equivalent course was about 3.5 years! The new D2 course for primary school teachers has better pacing mechanisms (weekly tutorials) and financial incentives than D2 course for lower secondary school teachers. Nevertheless, the load appears to be quite heavy. Giving more credit for other inservice training activities (such as those in the KKGs) could be one way to reduce the load. Also, rate of progress and course load pressures (and their effect on teacher attention to their own teaching) should be elements in the formative evaluation of the D2 course, which we emphatically propose as one important piece of research for policy and program adjustment in this field.

c. Student selection and course organization. Of the 1.2 million teachers (public and private) who will be in the teaching force by the end of the five year plan, about 330,000 are expected to have at least entered the D2 course by 1994. Between 1989 and 1994 approximately 75,000 teachers will retire and perhaps another 75,000 will be near retirement (and probably not interested in being upgraded). In addition, there are already about 35,000 teachers who already have a university education, 50,000 who will enter the teaching force having received the D2 pre-service course, and 95,000 who have less than a senior high school equivalent, and thus don't have the prerequisites to enroll. Finally, around 65,000 of the eligible teachers now serve in private schools. Although they will be permitted to enroll, it is likely that they were not counted in the 330,000 enrollment target. In another four years at current rates there may be about 85,000 SD teachers in this group. Taking all of these factors into account, the pool of candidates from which the 330,000 should be drawn can be reduced to about 780,000. This leaves about 450,000 (less +/- 200,000 lost to or near retirement) to be retrained during the next five year plan.

Who is to be trained during the current five year plan? The Directorate General of Primary and Secondary Education, which is in charge of teacher recruitment and group formation, has set the guidelines, using numerical formulas. During the first year (1990/91) 20,000 teachers are to enter the program, with places in the program distributed among the 27 provinces in proportion to their total populations (e.g., West Java will receive 3000 places; West Kalimantan 420; and Irian Jaya 300). Within each province the Kanwil is expected to form groups of 30 teacher trainees from among nearby schools in relatively poor sub-districts. Only teachers who are between 35 and 45 years are eligible during this first round (principals up to 50 years old); those chosen must also be effective and dedicated "to the learning-teaching process." Given the fact that around 50% of primary school teachers are age 30 or under, only two to three teachers per school will qualify for involvement.

The groups formed to date differ sharply from those which have already been formed for school-based teacher in-service training (under CBSA or the Cianjur Project). The CBSA learning groups include all the teachers in a cluster of schools drawn together because of proximity and ease of transportation and intercommunication. Teacher working groups or clubs (KKG) are just beginning to function as the basis for professional support and a teacher self-help system.<sup>5</sup> *Many persons interviewed for this study predict that the new D2 groupings, which take only a few teachers from each school and are supported by MOEC funds and a network of tutors from outside the fledgling cluster school network, will undermine the CBSA project and destroy the concept of school/cluster-based professional support systems. It is strongly recommended that the current D2 grouping scheme be reconsidered and that the program attempt to enhance and work through the newly established CBSA networks (see more about this in the following section). If this is not possible, at the very least there should be an evaluation set up before the start-up of the project (allowing for the collection of baseline data) and the tracking of the functioning of the D2 learning groups and their impact on existing cluster school support systems. Since the decision on group composition is ultimately in the hands of Kanwil officials, some variation in group composition is anticipated, and this could form the basis for good natural experiment.*

d. The learning and teaching process. Students are expected to take, on the average, 4 courses per semester. They are to study the course modules (developed and distributed by UT) individually and in small groups at school. Once a week there will be tutorials in all four subjects (lasting about four hours or about one hour per subject) at a sub-district center. The tutorials (led by outside subject matter specialists) will cover content identified by the module writers as particularly important or difficult.<sup>6</sup> Content is supposed to be presented in an "active learning" (CBSA) manner to the learners, namely by involving the learners in group work and discovery learning techniques, so that they can better grasp how to use CBSA in their own teaching. There will also be some practical sessions in subjects like science and handicrafts. Learners must attend 75% of the tutorials in order to pass the course. Final examinations will be constructed by the Open University and administered under the supervision of the Head of the sub-district office.

e. Financing. All the major expenses for this course will be borne by the Ministry. Students will pay no fees and receive modules free of charge. They will probably have to bear modest transportation costs and the opportunity costs related to foregone income from a second job. It is expected that the course will also eventually be open to private school teachers. Such schools will probably have to bear some (up to half) of the program costs and will undoubtedly pass some of their costs on to the student. Handsome credits will be provided for course graduates under the new civil service credit system, including credits for the weekly seminars and a 100% increase in the points teachers receive for academic background (a change for 25 to 50 points).

The decision to make the course free to participating public primary school teachers has important implications, both for the primary school teachers and teachers at the lower secondary school level. Social psychologists who study dissonance reduction (Zimbardo et al.) suggest that people are more committed to a cause when they make a financial

contribution to it, no matter how small. Although this has not to our knowledge been validated in the Indonesian context, we feel that, ironically, student commitment to the D2 course would probably be enhanced if they were charged a nominal fee instead of being served the course gratis. Preliminary results from a small survey done in four regions within the IDRC project mentioned above indicate that teachers find the idea of the D2 course to be attractive enough that they would be willing to pay between Rp 10,000 to Rp 40,000 per semester for the opportunity to pursue it. An Open University study conducted under the USAID-funded BRIDGES project revealed that junior high school teachers stay committed to UT training courses as long as the fees are no more than about 16% of their total income. If the same threshold applied for primary school teachers they could bear about Rp 120,000 in fees per year. However, given that there are so many fewer extra income opportunities for primary teachers compared to SMP teachers, the threshold may well be much lower. This is a problem which bears further investigation.

A full subsidy to primary school participants in the D2 course will also influence recruitment of SMP teachers into the UT course available to them. This will be discussed in more detail in the section on SMP teachers. Since they already consider their costs excessive and costs are a significant factor in their decision to enroll, a perception that SD teachers are receiving a parallel course free of charge will more than likely kill interest in the course altogether. Serious consideration should be given to allowing the University to recover some of their costs from primary school D2 participants, using some of that revenue to partially subsidize the participation of SMP teachers in their D2 program.

## **2. Inservice Training in Primary Schools**

The mid-1970's was a watershed period in the history of Indonesian education, since it was then that it conducted its first comprehensive assessment of educational quality. Since that time there have been a long series of assessments and sector reviews all of which have identify the weakness in teacher preparation and professional support (from principals and supervisors) as a contributing factor in the poor quality of primary schooling. Recent investigations in relatively well-off West Java reveal that the "average teacher does not clarify learning objectives to students, explain clearly, give examples, provoke rational thinking by appropriate questioning, nor provide helpful feedback on test results." With respect to professional support, a 1988 MOEC study revealed that principals spend about 70% of their time on routine administration and tend to neglect the more challenging and time consuming tasks of instructional leadership and development management. Moreover, supervisors, who until recently supervised as many as 40 schools each, are overloaded and, like the principals, rarely take the time or have the skills to visit classrooms and give any form of professional support to teachers.

a. The Cianjur Project: its genesis and purpose. In 1979 the Indonesian Ministry of Education took a bold step to deal with these problems by launching a program called "qualitative improvement through professional support to teachers," which also came to be known as the "Cianjur Project." The general objective of this project was to "construct working models in contrasting educational contexts in Indonesia in order to explore means of

improving the quality of education through improving the quality of support for teachers at the local level..."

The project was mounted with the assistance of Institute of Education, University of London (Hugh Hawes and colleagues) with financial support from British ODA. It aimed not only to set up mechanisms of professional support to teachers but ultimately to improve the teacher's capacity to promote active student learning. Both of these aims required programs of inservice training, initially provided by Balitbang Dikbud's Curriculum Development Center (the lead organization in Indonesia) and the University of London, but eventually to be provided at the local level through the professional support system itself. (The active learning component of the project is referred as CBSA -- Cara Belajar Siswa Aktif. The project has either been referred to as the CBSA project or the Cianjur project, the latter because of the original site. Since neither captures the current scope of the project, a new name is frequently used, that is, ALPS (Active Learning and Professional Support). We prefer to use this name.)

b. Organization and Functioning. At the core of the ALPS project is the organization of a local network or cluster of primary schools, usually 8-10 from the same sub-district. Teachers in those schools form working groups, Kelompok Kerja Guru or KKG, which become the main vehicle through which professional support and inservice training is provided. During working group sessions teachers ideally demonstrate active learning techniques to one another, discuss and cooperatively solve problems which arise as they try out new strategies, work together on lesson planning and materials development, and receive feedback and further training from principals, supervisors or "subject matter advisors." Principals are expected to work with KKG's and also to form their own working groups, KKKS (Kelompok Kerja Kepala Sekola) in which they help one another develop techniques and plans for instructional support. Supervisors are expected to support these two working groups and, in addition, to form their own groups at the sub-district level. In the original concept one of the schools was to be designated a core school and the others satellite schools. The core school was expected to be the site of KK meetings and contain special resources and exhibits. In practice, however, most clusters prefer to rotate the meeting place and to maintain a sense of equality among their members. Often there is also a separate resource center (PKB) at the sub-district level where teachers/principals/supervisors meet and where good CBSA practice is demonstrated.

Officially primary school teachers are considered to be *class teachers* (as distinct from *subject matter teachers*), but in recent years there has been a tendency for the teachers in grades 3-6 or 4-6 to choose a particular subject matter to teach to both their home room and to other upper grades/classes. The emergence of "semi-specialist teachers" has been acknowledged by the ALPS project. Separate KKGs generally now operate for lower grade teachers and upper grade "semi-specialists." Within each cluster teachers acknowledged to be effective in teaching particular subject matters are designed "subject matter advisors." They receive special training at the PKB (usually during annual intensive training by Balitbang) and subsequently help to facilitate discussion and activities in the working groups.

The above features represent radical departures from traditional programs of inservice training. All skills development was to be done through hands on practice and experience (and not through the usual expert lecture). Teacher groups were formed so that they could help one another and deal with immediate needs and problems. Confidence was placed in the teachers' ability to guide one another, but supervisory support was added to keep the groups motivated and refreshed with new ideas. Also unique is that fact that the system is essentially self-financing (group meetings require modest assessments of the participants or their schools), a factor which was to make it more likely to be widely disseminated than other innovations which have required investments in expensive materials and/or equipment and even teacher incentive pay. Second, the project has given much latitude to the implementers themselves to innovate and reshape the system as they go.

c. Growth and dissemination/replication. The system was originally piloted in Cianjur District, West Java, a site near both Jakarta and Bandung<sup>7</sup> and blessed with enthusiastic leadership both at the district and provincial levels. Three sub-districts were initially involved in the project, representing urban, semi-urban and rural (or remote) areas, but the program soon spread throughout the district both through planned replication and spontaneous diffusion. By 1986 practically all schools in Cianjur district were said to be practicing activity-based learning--involving well over 6,000 teachers. The overall plan was always to implement the system in "contrasting educational contexts." In the mid 1980's as news of the program's success in promoting student active learning and professional support began to spread nationally, the Balitbang organizers began to receive and respond to requests from other provinces for assistance in setting up an ALPS program. Soon the system was established in Nusa Tenggara Barat (Lombok) and in North Sumatra (Binjai District). In Lombok it was first introduced into 50 schools spread over six sub-districts, but within two years a decision was made to spread it throughout the province. By the end of the decade the system was also replicated with the help of Balitbang in South Sumatra (Bandar Lampung), South Sulawesi (Maros), and East Java (Sidoarjo). This year (1990) plans are underway to replicate the program in four more sites, South Sumatra (Palembang), Central Java (Ungaran), South Kalimantan (Banjarmasin) and Nusa Tenggara Timur.

As ALPS is drawn into regions of low population density and difficult terrain, such as found in the last two provinces mentioned above, it will confront conditions: a) in which teachers need to supervise more than one class at a time; b) in which teachers face formidable difficulties in meeting with neighboring school teachers (especially when floods or droughts make roads or waterways impassible); and c) in which there may not even be a principal or a visiting supervisor.<sup>8</sup> New models for "small schools" will need to be developed in these regions, building upon previous work in small schools development (stemming from the PAMONG project). This will require the infusion of new kinds of technical assistance (perhaps from Northern Australia, where this problem has been dealt with creatively), innovative use of distance education for teacher training and classroom management (e.g., interactive radio), and a willingness to carry out tightly controlled field experiments using a variety of approaches. The results of such model building should be fed back not only to ALPS managers at Balitbang but also to Open University and IKIP/FKIP course developers (pre- and inservice), who will need to develop special "modules" on small schools management and multi-grade teaching.

From the outset the ALPS project seemed destined to attract attention and a favorable press. Those who visited Cianjur were impressed by the way children completed group tasks, asked questions, made things out of local materials, and sought information outside of their classrooms. They found the teacher working groups to be active and enthusiastic; they responded to the rearrangement of class furniture and the displays on class walls. Soon Cianjur became a virtual Mecca for Indonesian educators and politicians (the entire Parliamentary Commission on Education visited Cianjur school during an entire day). In 1986 the site received 3000 visitors during a single month. Those who couldn't visit the site could view it through video tape, as did the Education Minister and all his Directors General, again with a positive effect).

Such visibility has been both a blessing and a curse. Active learning (CBSA) soon became the buzz-word in curriculum reform efforts. Before long, children were studying everything in CBSA groups, whether the teacher knew what this was supposed to mean or accomplish or not. In addition, the Directorate General of Primary and Secondary Education, acting under pressure from the Parliamentary Commission, decided that ALPS-type teacher support groups should be started up in every district throughout Indonesia. The Balitbang program managers and their U of London partners have resisted this wholesale dissemination in favor of a more deliberate phasing in of the system, based on the establishment of a network of "Centers of Better Practice" and feedback from various research and evaluation efforts. At this time both diffusion systems are operating: the Directorate General is disseminating the system (albeit a watered-down version) throughout the country using a cascading model of training and Balitbang continues to move deliberately with its replication centers. Moreover, the World Bank is currently negotiating a project with the Indonesian government on the quality of basic education which might well use the ALPS system as its centerpiece.

This is a delicate time for this highly regarded innovation. While there is a sense in the project management that the system is still evolving and that implementation is still patchy and fragile, heavy political and administrative pressures are mounting for quick--and shallow--dissemination. In addition, new resources for further ALPS development is likely to be available within a year through World Bank financing and efforts to merge some aspects of CBSA with the D2 training program are already underway. These pressures threaten to undermine what will continue to be a long-term and relentless struggle to create new roles, relationships, social groups, professional self-concept and self-confidence, and unfamiliar/unconventional behavior patterns. Policy makers should resist the temptation to spread the system too quickly--"by the numbers."<sup>9</sup>

- A series of policy studies should be commissioned to determine what the best sequence of events for wider dissemination should be and how this package of innovations should relate to other major changes in teacher training, such as the new pre- and inservice training programs, the new mandate of the IKIPs and FKIPs to be involved in primary school teacher education (should the project try again to build a support base in them?), the new impulse for CBSA approaches in lower-secondary education and what this means under the new 9-year basic education cycle.

- Local initiative should be the key to how, where and when the program should be disseminated. Instead of disseminating a uniform model or models, MOEC could provide general guidelines and information on/travel to existing centers of better practice, and then encouraged the Kanwils or district MOEC office to draw up their own ALPS program plans for review/approval.

d. Evaluation of the ALPS System. The evaluation data available on the ALPS system can be distinguished as data related to student learning gains and data related to processes of professional support.

1) Student learning gains. Gardner et al. (1989) point out that student test scores on EBTANAS (national primary school leaving exams) in Cianjur dropped during the first years of implementation but in subsequent years steadied and then began to "rise well above pre-project levels." They also show that the average scores of Cianjur students on the "NEM" (State Final Examination at the end of primary school) were the highest in the province (33.8 compared to 22.9 in the other 23 districts in the province). These results should be interpreted with caution, since: a) such exams measure recall of facts and information covered in the textbooks and not the kinds of reasoning and process skills that the ALPS project was primarily set up to affect; b) the Hawthorne effect in Cianjur must be substantial: being the most observed and celebrated district in the country, students and teachers must take themselves very seriously.

A good assessment of student learning gains related to ALPS learning system has yet to be done. Such an assessment should be conducted prior to and as input into the decision-making concerning any further dissemination of ALPS systems during the Primary School Quality study to be supported by the World Bank. The point would not be to use standard test scores in order to accept or reject the merits of CBSA approaches; rather to determine where in the ALPS network and under what circumstances children best learn how to reason and solve problems (or in the language of the project) "use process skills".

2) Processes of professional support. An in-depth survey carried out in 1986 by one UK consultant and two Balitbang staff members, who spent one month observing processes in Cianjur, shows that learning groups didn't take place very often: on average, teachers attended 4 to 6 meetings during the course of a year; moreover, not a lot of professional support was provided: the principal typically spent about ten minutes in each classroom twice a week, mainly concerned with "lesson preparation, pupils' books and general administrative detail." And despite project prescriptions, supervisor visits continued to be rare: teachers were visited in their classrooms only once or twice a year for about 5 to 10 minutes on each occasion.

- Active learning-teaching processes in class. Formal and informal evaluations have documented that ALPS classrooms are certainly more active than conventional ones. In the best cases, teachers are engaging groups of students in problem solving and exploratory learning experiences (sometimes out of the school); in the worse, teachers assign student groups to complete worksheets (often emphasizing simple

collection of facts and information), which they themselves have copied from the subject matter advisor.<sup>10</sup> There is a danger, especially as the system spreads like wildfire to all districts, to reduce active learning processes to such rituals. This is undoubtedly a reflection of the rather infrequent operation of support groups and supervision systems and the fact, documented elsewhere in the report, that there are no professional standards nor incentives in the credit system for teachers to spend time in lesson preparation. Without time to prepare lessons, it is difficult to see how teacher could do anything but use ritual or "canned" approaches to active learning. There is also some evidence that enthusiasm for implementing ALPS wanes over time (unless principals somehow maintain their momentum). No amount of inservice training can overcome for long a reward system which does not give credit for excellence in teaching and maintain minimum standards of on-task time allocation. (See section on incentives for a fuller discussion of these issues and recommendations.)

The operation of inservice training mechanism. Gardner et al. assert that it was in the approach to inservice training "that the most dramatic effects of the project were observable." The project did succeed in breaking the pattern of didactic teacher education. The activity-oriented approaches of ALPS were found by teachers to be exciting and enjoyable. Nevertheless, there still remains much to be improved upon: most notably are the fact that there is "no master plan for a series of courses" and no thought to the building up of a "sequence of competencies" within the ALPS network. Moreover, inservice training is not yet functioning to help teachers design and implement the mandated local curriculum (Kurikulum muatan lokal). It is in these areas that joint planning and program development with the university community is essential, especially as that community gains credibility in dealing with primary school issues. This community can help ALPS developers elaborate an appropriate hierarchy/sequence of skills and competencies, which can be acquired both through conceptual clarification (via UT) and hands-on practical sessions at KKGs. Such a sequence could be given academic credit within the Open University D2 course (as mentioned in the previous section), presumably with the effect that teachers would be motivated to higher levels of KKG attendance and participation. This would also have the effect of shortening the D2 course and making it more relevant to teachers immediate needs. Intensive formative evaluation during the D2 course's first two years would help to identify how well the workshops/working group activities are meeting teacher needs and how sound and relevant the identified sequence of competencies seems to be.

## 2.2 Junior Secondary Education (SMP)

### 1. Qualification of Teachers at the SMP Level

Even though the Diploma 2 is considered the minimal qualification for SMP teachers in Indonesia, relatively few teachers are qualified at that level. According to Balitbang statistics, 40% of SMP teachers in 1987/88 (public and private) were qualified at the D2 level or above. The rest have a D1 certificate or below. The extent of underqualification can be seen from the following:

Table 3.1

Proportion of SMP Teachers Whose Qualifications are below D2 Level  
1987/1988

	Senior High School Only	D1 or equivalent	Total (Up to D1)
Public SMP	10%	54%	64%
Private SMP	30%	27%	57%
TOTAL	21%	39%	60%

Source: MOEC, Balitbang Dikbud

Given the large SMP teaching force, these percentages represent a very high number of underqualified teachers: approximately 82,000 who are high school graduates only and 155,000 who have received the D1 qualification.

Private schools have an especially large proportion of high school graduates on their teaching force (more than D1 holders), whereas for public schools the majority of teachers (54%) have the D1 certificate. One can not generalize from this that the private schools have a weaker instructional force. They also have a high proportion of overqualified teachers. In

fact, 36% of their teachers have a college degree (sarjana muda or above); the proportion for the public schools is only 4%. This confirms what is widely known about private education in Indonesia: in quality of teaching resources it includes both the best and the worst. Also, although we have no precise figures it is widely acknowledged that a large proportion of the overqualified private teachers are public sector senior high school teachers or college lecturers who have taken a relatively unchallenging part-time job at the SMP level (the schools also get mileage out of this, since they can claim having a highly trained faculty).

Regional breakdowns might be expected to show that the bulk of the undertrained teachers are in the outlying islands and regions. In reality it did not prove to be so, as seen from the figures from some illustrative provinces as follows:

Table 3.2  
Proportion of Public SMP Teachers Whose Qualifications Are Below  
The D2 Level for Selected Provinces  
1987/88

Region	Senior High School Only	D1 or Equivalent	Total (up to D1)
DKI Jakarta	6.7%	64.7%	71.4%
Central Java	6.3%	54.7%	61.0%
West Kalimantan	14.3%	54.1%	68.4%
Irian Jaya	26.8%	45.8%	72.6%

Source: MOEC, Balitbang Dikbud

Clearly underqualification is not just an outer island or a rural phenomenon. The level for Jakarta municipality is almost as high as the level for Irian Jaya. Moreover, the level of D1 holders in Central Java is the same as it is in West Kalimantan. It is only in the number of high school graduates that the two outer islands are higher than the two Javanese Provinces.

These findings are mirrored by the within Province figures, as seen below:

Table 3.3

Proportion Of Public SMP Teachers In West Kalimantan Whose Qualifications Are Below D2 Level By District (1988/90)

District	Senior High School Only	D1 or Equivalent	Total (Less than D2)
Pontianak Municipality	3.4%	70.0%	73.5%
Pontianak (District)	0	67.8%	67.8%
Sambas	2.1%	65.0%	67.1%
Sangau	12.7%	48.6%	61.3%
Sintang	6.1%	40.2%	46.3%
Kapuas Hulu	0	44.4%	44.4%
Ketapang	2.6%	60.0%	62.6%

Source: MOEC, Kanwil West Kalimantan

The District which has the highest level of underqualification in the province is the municipal area of Pontianak, with almost three quarters of its SMP teaching force underqualified. The districts which have the lowest levels of underqualification are Sintang and Kapuas Hulu (both under 50%), the most remote and sparsely populated districts in the province.

## **2. SMP Teacher Upgrading: Options and Participation**

Given this high level of underqualification, one might expect to see a concerted effort towards teacher upgrading. In fact, there are programs for teacher upgrading: the PGSMTTP (one year) program for upgrading from senior HS to D1 and the Open University (UT) distance education program for upgrading from D1 to D2. As it turns out, the PGSMTTP course has already been officially closed at the national level. In West Kalimantan it has received its last cohort of students this year. The UT course has for upgrading to D2 has had only a minor impact on improving teacher qualifications. Country-wide it has graduated only 822 D2 students so far and has a current enrollment of slightly less than 5,000. In West Kalimantan, where there is no faculty, public or private, which is authorized to train SMP science teachers, one might expect there to be a large enrollment in the UT course. In fact, there have only been 10 enrolled in the D2 science program from the province during the entire history of UT. This year there were no new enrollments. In Jakarta where in 1987/88 there were 5220 D1 level SMP teachers, only 444 (about 9%) had enrolled in the UT/D2 course, and fewer than that will graduate. Clearly the Open University is nowhere near filling the demand for SMP teacher upgrading.

Why are these courses being closed or avoided, given the fact that the need for upgrading is so great? We did not have time to investigate the reasons for the closing of the PGSMTTP program. Since the PGSMTTP program has been operated by the DG of Primary and Secondary Education, it may have something to do with the movement to have all teacher education placed under the DG of Higher Education. Up until recently the IKIPs and FKIPs did have D1 programs, but these are also being phased out. The D1 program is a prerequisite for entering the D2/UT program, thus distance education is unavailable to them also. About the only option open to them the group of 80,000 teachers (80% of whom teach in private schools) is to become a D2 student at a public or private IKIP/FKIP/STKIP at their own expense, a option which must seem unfair given the fact that primary school teachers are being offer the D2/UT option for free (public) or at a subsidized rate (private). Unless some other avenue is opened these SMP teachers most will probably be stuck at the lowest rung of the teaching latter.

This issue needs further investigation: first to determine why the options of upgrading to D1 have been closed, and second to determine if there are ways in which these teachers can be included among those to get subsidized D2 upgrading.

As far as the D2/UT program is concerned, students and administrators who were interviewed indicate that the principal deterrent is the cost of the course. Research conducted by UT in collaboration with the Institute for International Research under the BRIDGES project shows the private costs per year for the UT/D2 course in 1986 to be on the average

about Rp 212,000 (about \$125 at prevailing exchange rates). A more recent (based on 1988 data) but unfinished BRIDGES study shows the private costs to be Rp 244,000 (\$139). These don't seem like very high costs until it is pointed out that the annual income of the typical SMP teacher is between \$840 and \$1,200.

Also, whereas in the early years of the D2 program government scholarships were plentiful, in recent years they have become scarce, one explanation for the recent fall in enrollment. Out of pocket expenses are not the only costs that students have to bear. Study time for the course seems to compete with time devoted to seeking additional income (usually from teaching at a private school). The BRIDGES study found that opportunity costs were quite high (in 1988, on the average Rp 86,000 (or around \$50)...over 25% of the real costs of the program to them. The BRIDGES research revealed that many students found their opportunity costs higher than expected and this was often cited as a reason for drop out.

As of yet there has been no detailed study of the degree to which perceived opportunity costs are a deterrent to enrolment in the first place. However, the fact that underqualification is highest in the metropolitan areas, where the most opportunities for teaching at a private school exist, suggests that teachers are deciding in droves that enrolment in a D2 course is not worth sacrificing an extra teaching job for.

To the financial explanations should be added four others:

- It is not clear whether the government actually considers the D2 to be the minimum qualification for practicing SMP teachers. There is much more clarity in the case of SD teachers. In the press towards tertiary qualifications for primary school teachers the lower secondary school teachers seem to have fallen through the cracks;
- Even if it is the case that D2 is required, there are no sanctions or legal instruments which press teachers to acquire it;
- A large proportion of potential UT students in SMPs may not know about the opportunities available. In recent years, UT has done some social marketing, but it may not have reached "down" to the SMP teachers.
- There are some social status gains associated with obtaining a UT degree/diploma, but this is observed more in the rural areas than in the urban, where there are a variety of more conventional higher education options (Nielsen and Djalil, 1989). This may be another explanation for the relatively high qualifications of SMP teachers in the outlying areas.

### **3. Issues And Implications Related To SMP Teacher Upgrading**

Beginning this year the government of Indonesia intends to provide free D2 upgrading to all practicing primary school teachers (except for those near retirement). This puts the existing SMP teaching force in an awkward position, since 60% of them have qualifications

below the D2 level. Before too long they will find themselves outranked academically and in the civil service by those who have traditionally been lower in status. This cannot help but have an impact on their morale and performance.

There are those who think that since SD teachers are being upgraded to the D2 level that SMP teachers should be upgraded to the D3 level or higher. However, since the basic education reform ties the SD and SMP together in a single cycle, this impulse may not be appropriate. What is apparent is that there simply has not been any strategic thinking about what the reform means in terms of the relative status of SD and SMP teachers. If they are to have the same status, will this seriously affect the morale of the existing SMP teachers and the government's capacity to recruit the new SMP teachers that it will need under forthcoming SMP expansion program? To what extent will teacher motivation for D2 upgrading be changed by the new civil service credit system, which grants 50 credits for a D2 qualification (as well as the D3) as opposed to 25 for the D1? These are questions which need to be addressed through a research effort, focussing on the career and educational aspirations of current SMP teachers and teacher trainees and the incentives that will motivate them to upgrade their qualifications (and presumably their competence).

Another important line of inquiry would be to determine to what extent higher qualifications through UT programs actually does improve teacher competence. Preliminary findings from the BRIDGES project (Djalil and Nielsen, forthcoming) reveal that participants in the D2 Indonesian Language did show significant improvement in subject matter mastery but not in teaching skills. On the other hand, existing inservice training programs for SMP teachers (the PKG and Sanggar PKB) seem to be effective at improving teaching skills but are not geared up to make significant changes in subject matter mastery.<sup>11</sup> These perceptions, however tentative do suggest that it would be fruitful to consider ways of combining the two kinds of programs, allowing one to increase subject matter mastery and the other mastery of teaching skills.

Such a combination would also have an impact on teacher incentives for credentials upgrading since it could make the D2 upgrading both shorter and less expensive than it currently is. For those who currently have the D1 upgrading to D2 requires about 40 credit hours of UT instruction (or one year of full-time study). This is expected to be covered in about two years, although in practice most take longer than that. After a full examination of the objectives and outcomes of the PKG program (focussing on the new program which is emerging), it may be that the UT could grant up to 20 units of credit for active participation in a full year of PKG activities. Then it would have only 20 units to provide through distance education. At current rates (or at least 1988 rates) 20 units costs the student about Rp 80,000 in tuition fees. Module and travel expenses were relatively high, but these could be reduced by holding tutorials at local centers (the Sanggar perhaps?) where there could be a module library. In the previous section we suggested that there be a modest subsidy for SMP D2 participation (to be made possible by a modest cost recovery effort from SD D2 participants). One way to balance this would be for MOEC to cover student tuition costs (the Rp 80,000 mentioned above) and require the students to make their own arrangements for tutoring (so far in UT experience, privately arranged tutorials have been more attractive to students than those organized by the university).<sup>12</sup> An alternative to this would be for UT to

charge the students the Rp 80,000 for tuition but let this cover a tutorial and module lending program to be held at the local PKG (Sanggar).

Such hybrid systems sound good on paper, but require a considerable amount of reconciliation between programs and actors. It is proposed that the Ministry mount a modest pilot project (involving collaboration among the UT, Balitbang and the Directorate of General Secondary Education) in order to test the viability of such systems and their attractiveness to SMP teachers.

#### **4. SMP Teacher Inservice Training: The PKG Program**

The program called Pemantapan Kerja Guru or PKG (strengthening the work of teachers) has been considered a highly successful innovation. It started as a project to improve the skills of secondary science teachers by using an approach it called "inservice/onservice" --two weeks of intensive training at a center (inservice) followed by six weeks of supervised practice at one's own school (onservice). This routine was done twice, making the total cycle 16 weeks long, enough to cover two semesters of high school science content. The main focus has been on hands-on, experiential training and practical skills mastery.

Over the years the project has gradually and deliberately expanded in two directions: a) covering more subject areas -- first science, then math and English, and now towards social studies and the Indonesian Language; and b) covering more participants by moving to more localized settings -- from the provincial to the district level, where the system now operates with local trainers at a place called a Sanggar. The Sanggar PKG program has had a less intensive inservice program and fewer on- service visits than the original PKG program. It has, however, allowed the training to become widely available.

Issues related to this programs and its changes have been the subject of two excellent reviews by Tony Somerset. In general the approach to training and the training effects have been well regarded, but there have been recent concerns about the quality of the Sanggar PKG program. In addition there have been concerns over the uneven coverage of the program, the lack of training for the Sanggar program trainers (guru inti) and the need to involve principals and supervisors in the program as both trainees and managers. There have also been some concerns expressed on behalf of the students since the rewards and recognition for PKG upgrading have not been clear or explicit (e.g., it has not been possible to earn career advancement or academic credits through PKG activities).

Recommendations based on the recent reviews have been well received and plans are now being formulated to adjust the direction of the Sanggar PKG program. The plans include the strengthening of Sanggar-based training through better training of the guru inti and the reformulation of course structure. In addition, more flexibility will be given to the provincial level managers for scheduling and content/structure design. Overall the PKG is being reconceptualized as an intermediate step towards the development of a provincially-based training system which will become the responsibility of subject teacher organizations and which will provide professional support and upgrading to subject matter teacher on a continuous basis (instead of in the project mode).

Areas for further investigation include the following:

a) an evaluation of the effectiveness of the Sanggar PKG in improving SMP teacher teaching skills and subject matter knowledge;

b) ways and means of integrating the training programs and outputs of the inservice training programs (PKG) and the teacher upgrading programs (D2), including:

- joint exploration with UT program managers of the competencies and content of PKG training that could be used towards advancement in the D2 course;
- - possible revision of UT modules to make them more consistent with the teachers' real content mastery needs; - an exploration of the possibility of using the Sanggar as a site for UT tutorials and an UT module library;

c) an exploration of the relationship between the Sanggar PKG system for SMP teachers and the parallel system of KKG system which is operating at the primary school level, with preliminary investigations of how these two systems could relate to one another. This idea should be pursued as an initial step towards integrating of the SD and SMP teacher training programs, a problem which should be given increasingly more attention given the mandate to develop a nine year basic education cycle.

## Notes

<sup>1</sup>Both of these can be considered inservice training, since the diploma course is also provided to practicing teachers for self- and group instruction during their "spare time." The main difference is that the diploma course provided cumulative credits towards certification, while the other deals with immediate issues related to classroom instruction. To distinguish between them we call the former "upgrading" and the latter "inservice training."

<sup>2</sup>Acknowledged by the Curriculum Development Center officers in its organization of CBSA training.

<sup>3</sup>In West Kalimantan 1,174 out of 3,354 public primary schools are categorized as "small schools," i.e. schools with 60 pupils or fewer. One teacher and one (acting) principal from 180 of the small schools recently participated in a week long training course on "small schools management and instruction" organized by the FKIP of Sebelas Maret University of Solo. Kanwil officers, however, doubt that this is sufficient to get the system running. The Kanwil has made no effort so far to determine if the training had any impact.

<sup>4</sup>A quick survey among teachers involved in the IDRC study of "Cianjur Project" implementation conducted by the Curriculum Development Center and coordinated by Gunadi Tanuputra (not yet completed) shows teachers to be interested mainly in improvement in practical teaching and problem-solving skills (e.g., how to deal with learners with vastly different learning speeds.) This contradicts the assumption, at the base of the UT/D2 course, that experienced primary school teachers already have adequate teaching skills.

<sup>5</sup>In some places (e.g., CBSA "replication sites") they function with the solid support of Balitban's Curriculum Development Center and in most other places under a rather loose mandate from the Director General of Primary and Secondary Education.

<sup>6</sup>This in itself is a problem since the module writers are likely never to have been primary teachers and since the modules were never tried out among target group teachers. It is far from clear that they would be able to anticipate the learning problems that teachers will have. This should be the task of the formative evaluation advocated here.

<sup>7</sup>IKIP Bandung was to be involved but in reality never became so, partly because it has had no structure or mandate for involvement in primary school issues.

<sup>8</sup>In West Kalimantan we were told that there are sub-districts which do not yet have supervisors. In such sub-districts schools rarely have a full-time principal - one of the teachers is designated as acting principal perhaps over more than one school.

<sup>9</sup>There is a tendency in the bureaucracy to interpret social equality as meaning all districts should receive the same resources at the same time. By dissemination "by the

numbers" we mean using numerical formulas to determine where a program should move instead of mounting it at different speeds depending on how fast an area is willing and ready to move.

<sup>10</sup> Documented by researchers in a four site qualitative evaluation of ALPS sponsored by IDRC which is still in progress.

<sup>11</sup> There has been no recent evaluation of the PKG/SPKG program. This suggests another important research priority.

<sup>12</sup> A subsidy of this sort for all 96,000 public SMP teachers who are at the D1 level now (minus the 10% near retirement) would cost the government about Rp. 6.8 billion. This amount could be raised by charging each SD D2 participant about RP 25,000.

## 4.0 TEACHER TRAINING AND PERFORMANCE

As indicated in the last section, increasing the quality and quantity of teacher training is, perhaps, the most frequently made recommendation for school improvement. This section of the report examines the policies for preservice teacher training which will go into effect in 1990. The analysis is based upon the following assumptions:

- The design of teacher education, including its structure, content, and institutional setting is a matter of national policy.
- The structure and content teacher education have consequences for the behavior of teachers in their classrooms.
- The classroom behavior of teachers is directly related to the achievement of students.

### 4.1 Program Changes in the D2 Program for Primary (SD) Teachers

The new expanded preservice program for the SD teachers consists of courses organized into four groups of experiences, which carry a total of 82 credits over four semesters:

- 1) General Studies, or MKDU; 8 credits. This includes two credit, one semester courses in national values (Pancasila) and ideology (Kewiraan) and a four credit, two semester course in religion (there is a choice among the major religions of the country).
- 2) Foundations of Education, or MKDK; 8 credits. These courses provide an introduction and overview of educational theory. Principles of Education (Dasar-Dasar Kependidikan), Guidance and Counseling (Bimbingan dan Konseling), Educational Psychology (Psikologi Pendidikan), and Educational Administration (Administrasi Pendidikan) are all taken in the same semester for two credits each.
- 3) The Teaching-Learning Process (MKBM); 16 credits. Media used in Teaching (Media Pengajaran), Developmental Psychology (Psikologi Perkembangan), Development and Innovation of Curriculum (Pengembang dan Inovasi Kurikulum), Teaching-Learning Strategy (Strategi Belajar Mengajar), and Evaluation of Students (Evaluasi Pengajaran) are each required for two semesters for two credits for each course. Making Lesson Plans (Perencanaan Pengajaran) is required for two credits one semester. Practice Teaching (PPL) is a very important four credit block of work taken in the last semester. This is supposed to be an experience during which the student is totally dedicated to the practice teaching responsibility, but it has proved difficult to arrange such a schedule for all students.

4) Subject Matter to be Taught, or Field of Study (MKBS); 50 credits. This is the largest group of courses. The objective of this group of courses is to provide both content mastery and training in subject specific methodologies. The fields of study include:

- The Teaching of Pancasila (Pendidikan Pancasila) 4 credits in two semesters;
- The Teaching of Indonesian Language (Pen. Bahasa Indonesia), 10 credits in four semesters;
- The Teaching of Mathematics (Pen. Matematika), 10 credits in four semesters;
- The Teaching of Natural Science (Pen. IPA), 9 credits in four semesters;
- The Teaching of Social Science Pen.(IPS), 7 credits in three semesters;
- The Teaching of Physical and Health Education (Pen. Jasmani dan Kesehatan), 3 credits in three semesters;
- The Teaching of Art and Music (Pen. Kesenian), 4 credits in two semesters; and
- The Teaching of Handicrafts (Pen. Keterampilan), 3 credits in two semesters.

As is evident from this description, there are many similarities between the upgrading program offered for teachers in service, described in the last section of this report, and the preservice program. The major difference between the two programs is the amount of time devoted to observation and practice teaching. A full semester of practice teaching is offered in the preservice program.

In the MKBS portion of the preservice program the subject matter content is presented along with the methodology. The first semester is dedicated to the study of the Primary School Curriculum as it includes the subject matter. The following semesters cover the methodology appropriate for teaching the subject matter in the SD, including the use of appropriate materials, planning lessons, and evaluating student progress. The final semester is reserved for an intensive review the subject matter. All of the D2 curriculum is obligatory; no electives (except choices in religion) are offered.

The increase in the requirements for the SD teachers is expected to be followed eventually by an upgrading to the S1 level (BA equivalent) which would require an additional two years (for a total of four years) of post secondary training.

## 4.2 Implementation of the Change in Primary Teacher Training

It is anticipated that 7,000 new teacher trainees will be inducted into the D2 program in 1990, of which some 4,200 will come from the high schools which have served as teacher training institutions, the SPG's and SGO's. This contrasts with the 20,000 serving teachers which are targeted for the D2 upgrading program offered by the Open University (UT). In 1991-92, 12,000 new teacher trainees and in 1992-93, 16,000 teacher trainees are expected to enter the preservice LPTK D2 program.

The phasing out of the SPG and SGO programs will be accomplished by allowing existing cohorts of students to finish their studies, but the graduates will not be certified unless they complete the D2 in an LPTK. The facilities themselves will be used either as secondary schools or as satellite campuses of LPTK.

In 1990-91, 28 SPG's and SGO's will be made branches of LPTK's, and in 1991-92, 98 more will be used as satellite campuses of these institutions. IKIP Jakarta, for example, will annex three SPG's and one SGO in 1990-91, and one more SPG in 1991-92. IKIP Ujung Pandang will eventually have ten such branches.

The decisions governing which SPG's and SGO's will become branches of LPTK's and which will become secondary schools have been made in Jakarta. An unanticipated result of this decisionmaking process has been that the majority of the SPG's and SGO's designated as LPTK branches (by reason of the qualifications of their staff) are in provincial capitals. The current location of the branches, therefore, does not take into account either the cultural variability within provinces or the need to provide access to rural students who would like to become teachers. A few examples suffice to make the point.

- two of the four branches of IKIP Padang will be in Padang
- both of the branches of the FKIP Bengkulu will be in that city
- two of the three branches of FKIP Tanjungpura will be in Pontianak and
- both of the branches of FKIP Mulawaran will be in Samarinda
- two of the five branches of IKIP Surabaya will be in that city.

The decision to create branches campuses of the LPTK's was made on the basis of assumptions about the need for expanded capacity given the consolidation of teacher preparation programs. The purposes of the policy might well bear review for several reasons. First, the need for more SD teachers has peaked and is now down to replacement levels for those who retire or who leave their posts for other reasons. Hence, increasing capacity is not a sound rationale for establishing branches.

Secondly, the need for more SD teachers from rural areas is serious, as most primary teacher graduates have come from cities and larger towns. Many of these graduates prefer not to serve in rural schools, remote from transportation routes and urban conveniences. If the branches were to serve as recruitment centers for rural trainees, however, they would accomplish an important policy goal since they would be more likely to attract teacher candidates who would be willing to serve in rural areas. The current location of so many of the branches in urbanized areas defeats this policy purpose.

And third, the increase in the number of higher education plants or establishments has long range implications for the office of the Director General of Higher Education. If the branch campuses are to remain viable, they may have to serve some purpose other than teacher training as the need for new primary teachers declines over time. By adding branches to institutions which already have severe problems in placing teachers, the MOEC has sharpened the need for examination of the future purpose and role of these institutions. The history of branch campuses in other countries is instructive in this regard. In most cases branch campuses began as small, narrowly-focused institutions but gradually assembled other roles. In the long run, they became more costly to operate than the main campus since economies of scale related to spreading costs over large enrollments could not be realized.

The faculty members from the SPG's and SGO's will, in the case of the Jakarta IKIP, be given the opportunity to become lecturers. Those selected (on the basis of their interest and qualifications) will have the opportunity to obtain the S1 and S2 degrees. Those faculty who do not opt (or are not chosen) for advancement to lecturer will remain as *gurus* or teachers. Their salaries will be considerably lower than those of the lecturers.

While a large number of additional faculty members without advanced degrees may be a decided disadvantage in attempting to create a climate of excellence and academic challenge in the LPTK's, one advantage of bringing the staff of SPG's and SGO's into the LPTK's is that these staff are likely to have had teaching experience in the primary schools. Few of the current LPTK faculty members have had experience teaching in any school and there is a great need in the LPTK's for faculty who are dedicated to helping students in observing and practicing in the primary schools, as this role has been neglected in the LPTK's.

Another advantage in bringing in new faculty is that these faculty will be "outsiders", that is, they will not have been selected from the ranks of the LPTK's own graduates. Their insights into the problems of SD schools, especially the more remote ones, should be welcome in the LPTK's.

The *Report on Student Opinions* examined student opinions in two LPTK's. The study found that 38 percent of the students believed that the LPTK program was irrelevant in their preparation. One-third believed that the staff were not competent. Informal interviews with students attending an IKIP outside Jakarta confirmed these findings. Students were especially critical of the laboratory equipment available, the help provided in laboratories, and library holdings. The students also complained that faculty often turned their classes over to assistants and were seldom available for help.

A potential unintended consequence of the location of a new primary preparation program in the LPTK's might well be that the SD program is given lower status than the programs which prepare teachers for the SMP and SMA schools. If the faculty assigned to the D2 program is not encouraged to upgrade to the S2 or S3 level, or if the lecturers assigned resent the assignment, it is inevitable that the D2 program will suffer. The faculty transferred from the SPG's and SGO's are dedicated to the mission of the SD schools, and so there will be a cadre of those who champion the role of the LPTK in preparing the teachers of SD schools, if these faculty are not made marginal to their institutions.

### **4.3 The Relation of the LPTK Program to the National Curriculum**

The D2 program is to begin at almost exactly the same time as the reorganization of the curriculum for the new Basic Education system of 9 years. The last curriculum reform was in 1985.

The shape of the national curriculum is important for the training of the SD teachers. Not only are the teacher trainees oriented to the content outline of the curriculum, but the goals of the curriculum drive the formation of teachers in many other ways. If the curriculum is simply a list of content to be presented at various levels, in increasing complexity and amount, it will provide little guidance for teacher training institutions in preparing teachers. Because the content of the D2 program itself was centrally determined, it is unlikely that IKIPs will experiment greatly with the kinds of skill preparation which research suggests is highly effective. The new D2 curriculum mentions certain skills which will be taught as part of the MKBS portion of the curriculum.

However, a national curriculum can be viewed as a shell, rather than as a fully fleshed entity. That simply means that no matter how detailed a curriculum is, there is room for interpretation and for professional judgement as to the need for providing students with skills if there is little or no mention of them in the curriculum. The new curriculum of the D2 program is an example of a shell into which many other concepts and competencies can be fit, provided there is a rationale or model for interpreting the curriculum.

There must be justification, however, for organizing a teacher preparation program so that teachers can help their students develop competencies or skills which are not specifically mentioned in the national primary curriculum. That justification is not difficult to find. An interpretation of the new national SD curriculum is one part of the justification, and the presence of the new D2 curriculum is another part of the justification. In the following section, information is reviewed which provides additional justification for a competency/skills interpretation of the national curriculum and which the LPTK's should consider to be part of a training program for SD teachers.

Definition of a curriculum as a content guide or a teacher's manual is to unrealistically restrict its meaning and function. The national curriculum has consequences for teacher behavior, for student achievement, and for the relevance of schooling to particular communities and cultures. The curriculum is one aspect, albeit a powerful one, of why and

how an educational system functions as it does. It is important to recognize the relationship of the curriculum to other elements in the system so that teacher training can be seen in the context of this system.

The educational system is a creature of national policy. It is also dependent upon and related to many other systems or sectors. Systems which employ people interact with the educational system, and other systems compete with it for resources and certain of its teaching roles, while the educational system is dependent upon the political supra system for its resources. In Indonesia, BAPPENAS is the agency which reviews budget requests from the Ministry of Education and Culture (MOEC), and the Ministry of Home Affairs (MOHA) makes decisions about allocations of resources and deployment of teachers to provinces and districts. All of this means that the range of decisions concerning education in Indonesia is restricted to what the political system delegates to it. It also means that in the implementation of national policy options are limited by severe resource and bureaucratic constraints.

Four elements of the instructional system are worthy of mention as they relate to the national curriculum and the role of the LPTK's in preparing teachers to function in and hopefully to improve the instructional system. These four are the structure of the curriculum, the achievement in Indonesia's primary schools, the instructional processes employed by teachers, and the administrative climate of schools.

### **1. The Structure of the National Curriculum**

The structure of the national primary curriculum, as set out in 1985, was largely that of content outline. Cognitive skills which were to be taught and mastered were not the focus of the curriculum. Therefore, by default, memorization of facts remained the dominant cognitive activity as it had been for decades previously. Other possible cognitive activities which can be developed in students are comprehension, seeking relationships among facts, application of knowledge, asking questions for reasons or clarification, suggesting reasons or hypotheses for facts or relationships, and making conclusions from data. However, none of these cognitive skills can be assumed to be acquired by students whose curriculum is limited to a list of facts. Cognitive processes other than memorization require training by teachers who know how to teach students to acquire these higher mental processes. The implications for teacher training institutions are that they must prepare their teachers to teach such skills, along with the content that the teacher trainees are being taught. The combination of mastery of content with training in teaching higher level cognitive skills in LPTK's is easily defeated by the demand for mastery of content in the current examination structure.

A striking feature of the 1985 primary curriculum was its centralized themes. Supposedly there was some room (variously estimated at about 20%) for local definition, but according to one source, at least in the science curriculum that portion was interpreted by the centralized curriculum authority to mean that certain flora and fauna of various parts of the Republic would be used as examples. In a country as large and culturally diverse as Indonesia, with its emphasis on both cultural diversity and national unity, the impact of a centralized curriculum on school children in remote areas should be considered.

The problem of relevance of the curriculum to children of different cultures in the Republic is one that should be considered by the LPTK's as they train teachers for service among the many language/cultural groups. The LPTK's with their branches can experiment with the application of the national curriculum and ways of teaching different kinds of cognitive skills to children of different cultures. The branch campuses provide the potential for these urban institutions to reach out to the people of the various cultural groups, and to study ways of teaching which take into account the unique strengths of the individual cultures. IKIP Jakarta has had a policy of providing teachers first for the Jakarta area, and secondly, for Kalimantan Barak, and the rest of Java and Lampung. This requires the IKIP to consider the relevance of its own preparation and the national curriculum in its training of teachers.

The KKN is an interesting feature of the LPTK program which allows students to observe and work in communities of different income levels and cultures. IKIP Jakarta students go to Cilincing and Kabunjuruk to work with parents and children. The former is one of the poorest areas of the city. These experiences provide students with the opportunity to study the social conditions which affect school learning and observe and consider ways of assisting poor people to help their children survive in school.

## **2. Student Achievement**

There has been little systematic research on the achievement in Indonesia's SD schools between the work of Moegiadi, Magindaan and Elley reported in 1979 and the BPD study now underway. Moegiadi et al. found significant differences in achievement between urban and rural schools and between students in large classes and small classes, regardless of school location. The authors explained that more affluent parents typically sent their children to larger, generally urban, schools. In addition to their economic advantage, these parents also tended to take more interest in their children's' schooling, including encouraging them to read, correcting their speech, asking about their school work, and reacting to a good report. As a consequence children with parents exhibiting these behaviors had higher achievement than those with parents who did not exhibit these behaviors. In addition, the authors found that the larger the number of family members and the more books in the home, the higher student achievement. Family size, however, was more strongly associated with achievement in the urban areas than it was in rural areas. The authors believed that the presence of a large extended family was supportive to students in many ways, and was probably a positive sign of income for the family. Father's occupation was a powerful predictor of achievement but not as powerful as it is in developed countries. Classroom facilities and materials were also associated with pupil achievement, and these were more likely to be found in schools attended by students from higher income families. They also found that LPTK-trained teachers, generally located in urban schools, had students with higher achievement than did SPG-\*trained teachers.

The policy implications from the achievement study are not difficult to deduce. Rural children in isolated schools suffer from a convergence of disadvantage (relatively low parental wealth and education, teachers with lower educational attainment, schools and homes with fewer material resources). Training teachers for one kind of school, which is

usually more favored and urban does not prepare them for the kind of special interventions needed in rural, remote schools in which the teacher must try to make up for the resource deficits which affect achievement. Working with parents is especially important in rural areas because it is there that parents do not have the books in the home nor the advantage of educational experiences in helping their children cope with the structure of expectations in schools. French sociologists have a term for this set of advantages which parents provide for their children, and it is called cultural capital. More will be said about this later. The LPTK's have a special responsibility to help their teacher trainees prepare for service in schools which suffer the disadvantage of remoteness and poverty of materials. The new branch system may be a way of helping the teacher trainees prepare for this mission, if indeed such is desired.

Another excellent idea is found in IKIP Jakarta's plans for the future. That is the organization of specially designated SD schools which will be annexes for observation and practice. These designated schools can be excellent centers for experimentation as well, where trainees can prepare for special missions to remote schools. The agreements between Kanwils and LPTK to allow for specially designated schools can also overcome the lack of orientation of LPTK faculty to teaching experience.

### **3. Teacher Behaviors**

Djalil has studied the instructional processes used in Indonesia's schools in depth. He has conducted micro studies of classrooms in order to draw conclusions about the kinds of teacher behaviors which are typical of the classrooms. Unfortunately, this type of study is rare in Indonesia. Its importance cannot be overestimated because it verifies the extent to which teacher training affects teacher behavior. The concept of effective classrooms came from this kind of research conducted in the U.S., the U.K. and in developing countries such as Botswana. It is hoped that much more classroom level research will be done by faculty members of the LPTK's which should be the powerhouse of such research.

Djalil found that in Indonesian primary schools, memorization was the technique used more time than all others combined. The school day, designed to be four hours, was generally much shorter due to the late arrival of teachers at school. Textbooks, learning materials, and facilities such as libraries and laboratories were rare. Teachers were distracted by the need to make money on other jobs so they did not plan instruction or analyze homework carefully or diagnose and evaluate each pupil's progress. On average, they were not skilled in defining lesson objectives, explaining lessons, using relevant examples, or examining for comprehension of concepts. Feedback was not used to provide either positive or corrective reinforcement. Responses from pupils were often of the choral type, with some students wrong and some right. Students did not ask questions. Teachers did not teach to individuals but only to the large intact group of the entire class, which prevented them from assessing individuals' performance. They did not seem to know how to set objective criteria in order to measure the performance of pupils. Each of these behaviors described by Djalil is a negative predictor of achievement, according to effective class principles. Apparently, too many unrelated presentations of effective teaching have been presented to teachers with little

or no follow-up on their practice behavior or even comprehension or interest in what was presented.

Djalil's findings suggest that when student teachers go into practice experiences, they will be inducted into these kinds of behaviors. Research on teacher preparation shows that the most powerful formation of new teachers is not their university experiences or lecture, but the teachers whom they observe during student teaching and those with whom they teach during their first year of teaching.

In order to prepare teachers who can use effective classroom methodology, it will be necessary for the LPTK's to design a set of powerful observation and practice experiences which will prepare the teachers so well that even if they see great amounts of ineffective teaching they will persist in the effective methods in which they have been trained. The need for more intensive practice and observation provides further justification for the use of branch campuses for experimentation and practice and designated practice schools as pilot schools for teacher trainees.

If an LPTK selects a model of teaching (e.g. effective classroom) around which it organizes its curriculum, it can use simple video technology to reinforce training. Micro teaching is a powerful tool for training teachers because they can observe themselves as well as others in controlled situations. The use of video taping without the direction of a model of teaching is entertaining but not effective.

The LPTK's must first decide what kinds of models of teachers they wish to train, before discussing strategies for training. The preparation of teachers for effective classrooms is one model, based in research and practice. The commitment of an institution to prepare teachers according to this model requires a thorough organization of the cognitive experiences and field experience of the trainees. This assumes, of course, that the LPTK faculty will acquire the necessary knowledge base to carry out this kind of preparation. The choice of a model of teaching and learning is important for an institution so that it can plan its curriculum and field experiences in accordance with a rationale which can be understood and communicated to faculty and students, as well as to the future employers of the students. The model used in this paper as an example is that of the effective classroom, which is also sometimes called "direct teaching".

#### **4. The Administrative Climate of Schools**

According to Djalil and the report of the Educational Management Studies, Study 5 (CEGIR and P.T. Sanga Kencana International, Nov. 1988) the role of the principal of the SD is largely that of administrative functionary rather than of instructional leader. The principal completes forms, monitors the attendance of pupils and teachers, manages the supplies and maintenance of the school, and coordinates with supervisors and upper level administrators of the Kecamatan, Kabupaten and Kanwil offices. He or she is virtually restricted to these activities because of the lack of training in roles related to instructional support.

At the present time there is no preservice training for supervisors or principals, so that the only opportunity such personnel have to gain knowledge of the instructional support roles of principals is from such inservice activities as provided by the CSBA project with its KKKS and KKP components. While these groups are excellent for morale building, they cannot be considered a substitute for formal training. Their possibilities as Quality Control Circles are limited unless they are clearly focused on the problems of productivity in the school organization, with expert helpers to assist in the definition of problems and in the formulation of alternative solutions. The CSBA project does not have, at the present time, the capacity to providing directive experiences for administrators and supervisors.

The lack of teacher mastery of the skills needed for effective teaching discussed earlier is also a commentary on the administrative climate of the schools, the subdistrict territory for which the supervisor is responsible, and the district and Kanwil administrators who should be aware of the state of the skills of their teachers. Mastery targets have not been set for personnel at any level of the system. The current examination system, shortly to be reformed, suffers from both reliability and validity problems. There is no systematic set of expectations by administrators and supervisors that pupils will master certain sets of skills and knowledge at different grade levels.

There is no substitute for systematic training of principals and supervisors if they are to become leaders of effective schools. Teachers by themselves cannot create effective schools. They can organize effective classrooms only if they are encouraged and helped by principals and supervisors. Research in Thailand has shown that the training of principals is even more highly related to effective schools than is the training of teachers, because principals can work with teachers in creating and maintaining a climate of high performance. There is too much knowledge to be acquired and too many role demands on principals to expect them to acquire the knowledge and skills required for creating effective school climates on-the-job. Time off for training, such as a sabbatical, is necessary if they are to play an important role in improving school quality.

The implications of the above discussions for the LPTK's and their responsibilities in teacher training are many. As teachers become better prepared and more effective, the principals and supervisors will either have to be retrained or suffer the loss of status experienced by personnel who no longer have useful roles to play in a productive organization. Their training of 25 years ago simply does not suffice for their roles today in a system which must contribute to national productivity.

If LPTK's should begin to plan systematic preparation of principals and supervisors, the MOEC will have to work out with the Dikdasmien and the Kanwils the timing of the release of the principals and supervisors for training. The most important aspect of any future administrator training is: What purpose will it serve? If the training is simply a review of the structure and function of the ministry, it will be a waste of time and resources, because that kind of knowledge has already been acquired by the incumbents from each other or from superiors. The purpose of the training will suggest a model - and there are many possibilities, including that of the effective school and classroom. It should be remembered that if a system is to be made more effective, the leadership roles must be carefully defined

and appropriate training provided. This does not imply that preparation of principals and supervisors should be narrow, drawing on the same knowledge base for teacher training, because leading the school level requires behaviors which are different than those of the teacher. While the model of the principal and supervisor is being worked out, the interaction of these roles with other levels within the system will have to be worked out. Eventually, the roles of the district and provincial level administrators should be worked into the model as well, so that there is a complementarity of role preparations. All of these actors in the instructional system somehow impact the work of the teacher, and a system should be planned with the final point of effort being the improvement of teacher practice, resulting in higher achievement of students.

In addition, the content of the D2 educational administration courses also needs to be changed from simple structure and function of the MOEC to a dynamic interpretation of what administrator roles should be in a productive organization, so that D2 graduates can expect something more of their principals than paper management. Of greater importance is the vision that dynamic instructional leadership can provide for teachers who themselves wish to become principals. This career orientation can help change the leadership of lower levels of the system from stasis to change.

### **3.4 Conclusions**

#### **1. Redesigning the Instructional System**

It is surely ambitious to speak of redesigning an instructional system such as large as Indonesia's. However, the policy changes begun in 1990 are an attempt to do just that. The new incentive plan, the reform of primary teacher education, the upgrading of currently serving teachers coupled with the redefinition of Basic Education to include nine years are large scale steps. The policy initiatives are related in time and concept and will have consequences which go beyond the apparent boundaries of the policy statements themselves. The teacher education policies, in particular, have made inevitable the efforts which have just begun to reform the curriculum of Basic Education to embrace the nine years now offered to all students.

The reason for the redesign undertaken has been stated as improvement of the quality of education. National economic development will presumably be assisted by qualitative improvement as graduates of the system will be better prepared for jobs. Further, improvement of quality across the country will provide people from all regions the opportunity to share in economic growth.

Quality, however, means many different things to people who have studied the matter carefully. A working definition of what quality means for the IKIP's, FKIP's, etc. and students is necessary for the system. Some educators believe that quality means that access to an educational system must be restricted to those of demonstratable ability. Others believe that higher quality means more inputs to schools, or more economically favored schools. Still others hold that improvement in quality means increasing the effectiveness or

productivity of schools. Others reject these definitions and hold that qualitative improvement means accommodating a variety of cognitive and non-cognitive or value goals in schools, such as Pancasila in Indonesia. The choice of a working definition of quality along with standards and specific objectives can avoid a great deal of confusion over the purpose of policies and their implementation. Teachers in a system need to know the goals of the system so that the objectives they set for students are in accordance with the MOEC policies and priorities, and with national development policies. If parents know the meaning of quality they can either choose a public school with that direction or choose another school with a different orientation.

As part of the system redesign, it also appears that service centers or resource centers will be provided for teachers and supervisors so that they can get help with instructional problems, such as appropriate materials and continuing training in certain skills. The work of the resource centers will benefit from the establishment of a working definition of quality improvement so that their work can be focused rather than diffused into a myriad of unrelated bits and pieces of effort.

The installation of an MIS (Management Information System) has provided the means to monitor efficiency and effectiveness indicators in the system. Eventually it will become a Decision Support System (DSS). That important element of system redesign is also being put in place. At the same time, the examination center is increasing its capability to improve national, provincial and local examinations, so that they can more reliably indicate the state of school effectiveness. A continuing effort will have to be made to assure that the examinations are valid measures of the instructional content and objectives of the entire system and the schools. The combination of MIS-DSS and an examination system provides the means to monitor the instructional system at the policy level, at the technical (Kanwil-Kabupaten) level, and at the operational level (Kecamatan and school).

The structure of the MOEC makes it possible for the curriculum designers and those responsible for Informatik and for the Examination Center, to work closely with each other because they are housed in the BPD. The head of the Research Division of BPD is also head of the Examination and Curriculum Centers. The organizational proximity of these important MOEC functions should facilitate discussions among those who are redesigning the system and consequently agreement about the operational meaning of qualitative improvement, as well as more detailed directions for the schools.

The installation of new technology and with it new terminology and an application and interpretation of science puts curriculum planners at a disadvantage unless the dialogue among them all is open, frequent and based upon professional trust and respect. Curriculum people often have to be oriented to new ways of thinking about their responsibilities which make it possible for them to carry on discussions with the people who are responsible for MIS or DSS. Planning for teacher training must envision a public sector in which the demand for information concerning the use of inputs by the levels of the educational system and the achievement of the various units is continuous and unforgiving of error and incompleteness.

To provide a more complete system redesign, implications for the changing roles of principals and supervisors need to be considered, along with ways of preparing and upgrading these very important actors in the system. Teachers alone cannot redesign or reform an instructional system. The developing world offers many examples of large scale reforms of teacher education which did not accomplish the goals of improving teacher practice because the teachers were not provided with the support (human and material) necessary to carry out their mission of changing classroom practice. At the same time all administrators in the system need to be reoriented and retrained to carry out their mission of quality enhancement. The administrators at district and province levels are particularly well placed to either retard or assist the intended qualitative reform. These personnel will require systematic orientation and eventually their successors will require special preparation in order to be effective leaders in their positions. What was stated above concerning the need to orient teachers to a world of continuous and ever more detailed information demand is equally if not more true of principals, supervisors and administrators. Without proper orientation to the external demands for information about the productivity of schools and the allocation of resources within the educational system, the administrators and supervisors of the future will be unable to perform intelligently. Administrators, principals and supervisors who do not understand information processes can damage an educational system and cause it to be considered ineffective and archaic by national policy makers.

Teacher incentives and recruitment are being examined in this report. These are essential parts of the system redesign.

The relationship between the instructional system and other public systems, such as the MOHA needs to be examined so that MOEC personnel can deal with this dual structure in a more efficient way. Studies do not exist which describe the interrelated functions of the two ministries at lower levels. The staff at lower levels of the MOEC learn on the job how to cope with this peculiar system. It is impossible for an outsider to prescribe the ideal political system which should house an educational system and its instructional system. However, it seems clear that the current dual system in Indonesia is not an easy or efficient one to work with. If this dual system is to remain in some form, then at least it ought to be described as clearly as one would describe the workings of a health care system which works with a Ministry of Education. Producing a description along with a program of carrying out field studies on its effectiveness and peculiarities would take some of the mystery out of it and make the dual control system more predictable to work with and more productive.

## 2. Changing the Role of the LPTK's

How important will teacher training continue to be for the LPTK's? The decline in the birth rate suggests a declining need for new teachers in the foreseeable future, except for those periods in which the nation decides to expand the offering of education to all children. Expanding in the future to a twelve year offer to all children once again will create a temporary need for more teachers. Indonesia's success in family planning suggests, however, that in the long run the size of the student population will stabilize if not decline.

The data on placement of graduates from LPTK's suggests that the number of graduates who enter teaching has declined considerably in the past two years. Where, then are graduates placed? According to the information provided by IKIP Jakarta, many of their S1 graduates of Home Economics go into private sector businesses, such as hotel and restaurant management and airlines. English majors completing an S1 program are placed immediately with private English teaching organizations and other firms which require English. Similarly, graduates with French and German majors are employed by firms of those countries with branches in Indonesia. The employment opportunities for IKIP Jakarta graduates may be superior to those of other LPTK's located on other islands of the country. The estimate made by an administrator was that 60% of the graduates of IKIP Jakarta have jobs within two years of graduation.

So far, there are no systematic records kept of the placement of IKIP and FKIP graduates. Such data is badly needed for intelligent planning. The data would provide information on which students are placed in what positions at what time, the waiting period for jobs (currently estimated at up to two years), and how long the typical teacher remains in service.

LPTK's are multipurpose institutions. Their historic mission to provide secondary teachers has not prevented them from gradually providing other kinds of preparation. These kinds of preparation may well become more important in the future as a variety of public and private sectors begin to work with MOEC in providing diverse types of education and training. For example, adult education and distance education will probably become very much more important as the nation desires to raise manpower skill levels across age cohorts. Mass communication is now educating people in many ways, so this sector will become more important as the government and private sector depend upon it for certain kinds of education. Business education can also be expected to grow rapidly as government encourages private sector development and government agencies use more business practices. Tourism may become much more important. Health care and education must become more important in this country because of the very high ratio of modern health practitioners to citizens and the scarcity of health care facilities. Mass campaigns for preventive health care will require trained personnel.

Within the education sector, it is important for LPTK's to decide what kinds of training and preparation roles they should play in the future, as the nature of teaching changes, as management and instructional leadership become separate functions, as the impact of rational planning using MIS-DSS and information feedback to schools becomes a part of the professional skills expected of everyone, and as the educational system becomes more open with certain teaching roles delegated to the private and other public sectors more efficiently. The LPTK's may evolve with a larger proportion of graduate students. Or they may use their branches for certain purposes which the main campuses are not capable of, for example as outreach centers to communities which are still in the traditional economic sector and which have non-modern cultures.

Will the LPTK's in addition to their teaching roles assume service roles to schools and communities and research roles which will inform their teaching? There is a need for both of

these functions but LPTK's must decide how and to what extent they can exercise those functions within their resources and faculty capabilities.

The capabilities of the LPTK faculties are the key to all future decisions which will be made concerning their roles in teacher preparation or any other kind of preparation. In order to prepare teachers and other educational personnel in this decade, the lecturers will have to become much better prepared in terms of their own knowledge base and their research skills. In the years since 1975, there has been an explosion in the knowledge of what kinds of teacher behaviors promote student learning, what kind of principal behaviors promote effective schools, as well as how people learn on their own. This has been accompanied by the information revolution in which schools now have the capability to monitor every student's progress every day and to feed that information to higher levels of administration and policy making.

IKiPS's compete with a large number of other institutions to prepare teachers for a declining market. Analyses of graduate flows from different types of institutions are needed to inform policy as to the relative contributions of each type while cost data would help to inform policy as to the efficiency of each the various types of training institution. A type of study which is very valuable is the one by Moegiadi et al., reported above in which the type of institutional preparation was used as a predictor of student achievement. This might reveal that while one type of institution is relatively low in cost, it is also low in its relationship to school effectiveness. Assignment of roles to teacher preparation institutions should not be undertaken unless something is known about their effectiveness.

### 3. Relevance of LPTK Preparation

Relevance (or external efficiency) has to do with the relationship between an institution and the people it is supposed to serve. A medical school in a developing country may be outstanding, preparing medical personnel using the latest scientific knowledge and the latest medical technology. But if the physicians so trained know little about the diseases of their own country or are so dependent upon advanced technology that they choose to work in developed countries, the relevance of the medical school is very low. Schools which train professionals need to keep in close touch with the people they are to serve, including the poor, the rural and the culturally diverse if their mission is to be successful.

A teacher training program cannot be based on the assumption that everyone is like the middle class child from the capital city. Indonesia's diversity is a strength but a challenge to its teacher training institutions which must not ignore the needs of the many cultures. Children from these cultures come to school with different languages and from families which may place a different value on school learning. Helping the the least advantaged children and their families to benefit from schooling is a very difficult task but one which the LPTK's must work at. They now have the means to reach out to the communities if they so desire, and to help their students learn about the challenge of teaching culturally diverse children learning in the classrooms. Parents all may want their children to attend and finish some amount of school, but what the parents expect the school to do for their children varies greatly from one culture to the next.

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The LPTK's primarily serve one geographic area, that closest to the LPTK. And that is where most of their students come from. Students also come to the LPTK from many areas outside the main service area. Placement efforts outside the main service area, as is true of IKIP Jakarta, also help the LPTK maintain a climate of cultural diversity. Continuing studies of the geographic origin of LPTK students as well as their social origins can provide data which will help in planning to serve all areas of the country. The selection practices of the LPTK's which depend heavily upon the use of cognitive tests and personality tests may discriminate against the rural student in favor of the urban student. Personality tests are rarely independent of cognitive achievement, so they measure the same thing as the cognitive test which is used by the LPTK. Personality tests have not been greatly successful in other countries in selecting teacher candidates because they require a profile of a "successful teacher". Unless this profile is that of an effective classroom teacher, the term "successful" is really without relevance to the modern research of teaching and therefore not useful, and perhaps even harmful if it is used to reject otherwise good candidates.

Any methodology has to be validated in a new setting and inevitably requires adjustment to that setting, because of local differences in values and behavior. LPTK's have the responsibility to test their training models in micro settings in the localities for which they are responsible. This is one of their primary research tasks, because no single research organization within a Ministry can carry out the detailed experimentation or survey studies required in order to modify the teaching of learning skills in such varied settings as there are in this country. The faculty of the LPTK's will have to become interested in and skilled in the problem of validation of teaching-learning models in different locations. The faculty of the LPTK's will have to be trained for this responsibility, as few now have the background for it.

The LPTK's will have to develop personnel who are very skilled in observation and practice and working with communities in order to keep preparation programs relevant. LPTK's have the difficult task of preparing educational personnel in the science of teaching and learning at the same time making that preparation relevant to the multicultural context of this country. This means that the personnel trained must be able to effectively teach in rural remote communities as well as in modern urban communities.

This delicate balancing of knowledge and relevance requires planning and organization in the LPTK's as well as excellent faculty who are dedicated to these goals. Part-time faculty distracted by second jobs simply cannot carry out this responsibility. This underscores both the importance of the new incentive system and the need for developing faculty standards.

## 5.0 SUMMARY RECOMMENDATIONS

The IEES team was asked to review the new teacher policies related to teacher incentives, inservice training, and preservice training, as a first step in what is envisioned as an on-going formative evaluation and policy adjustment process. The purpose of the review was to predict any unintended effects of the proposed implementation strategies, identify unresolved policy issues, and outline the research necessary for on-going policy review.

The recommendations resulting from that review in order of priority area are listed below. The recommendations related to inservice training are presented first because the magnitude of the proposed government upgrading effort demands priority be given to all initiatives related to it.

### Inservice Training

1. Conduct a research review (and new exploratory research if necessary) into the learning needs and abilities of primary teachers (in different regions and at different levels--lower grades and upper grades) and principals, keeping in mind the unique set of skills required by those in remote (small schools areas). Use this as the basis for creating options in the D2/SD learning package and to reducing to difficulty and density of the curriculum.
2. Organize a task force to examine the ways in which existing teacher training and support groups (KKG) can be used as the basis for D2 level upgrading and to examine what, how much, and what aspects of the KKG program can be accepted for UT/D2 course credit. The same or a similar task force could formulate a sequence of competencies which should be covered by KKG activities in collaboration with UT.
3. Conduct a formative evaluation of the implementation of the D2/SD program, paying special attention to different forms of learning group organization, rate of student progress, problems and difficulties in following UT courses and ways in which D2 program activities relate to other in-service training programs and teacher time-on-task. This should be organized as soon as possible to allow for the collection of baseline data.
4. Examine the implications of offering the D2 program to SD teachers free of charge, including the negative impact it might have on their commitment to the course and on the morale and motivation for upgrading of the SMP teachers.
5. Conduct an assessment of the learning gains of students in classroom which ALPS (or CBSA) programs are being implemented in order to determine where in the ALPS network and under what circumstances children best learn how to solve problems and use/master progress skills.

6. Involve Balitbang staff and outer island educators (Kanwils, universities) in the formulation and testing of a variation of ALPS systems appropriate for small schools settings; convey the new variations to UT and pre-service training programs so that they can be put into small school training packages.

7. Draw attention to the problems of underqualification of SMP teachers and the weakness of incentive structures for their advancement to the D2 level. Clarification of the MOEC policy concerning the minimum qualification for teaching at that level.

8. Develop ways of making D2 level upgrading for SMP teachers more attractive, including providing course credits for appropriate PKG involvement, the use of local training centers/ mechanisms for tutorials, the establishment of a D2/UT library at the local study centers (to cut down on the costs of learning materials), the provision of a partial subsidy for D2 level training, and encouragement of student-formed or privately operated study groups.

9. Conduct pilot projects on different approaches to integrating the teacher upgrading (UT/D2) and in-service training (PKG).

10. Continue research already begun at the Open University to determine the effect of UT course participation on various SMP teacher competencies with purpose of identifying in which areas (subject matters, skills) the university is making/can make an important contribution and which areas need to be strengthened or given over to the in-service training systems.

11. Conduct a new evaluation of the effectiveness of the Sanggar PKG program.

12. Organize a task force to explore the similarities and differences in the programs of in-service training for primary and lower secondary school teachers and examine ways in which they might be related to one another as the two levels become more integrated under the 9 year basic education cycle.

## **Teacher Incentives**

1. Develop a unitary strategy for the deployment of all basic education teachers.

2. Track the effects of the new teacher compensation plan over its first four years in order to determine: (1) who benefits, who loses, and why; (2) the effect on instructional time of its incentives for upgrading and multi-jobbing; (3) the equity and appropriateness of using the same credit weightings for teachers at the primary, secondary, and university level; and (4) its effects (if any) on teacher willingness to teach in remote areas.

3. Study the incentive value of adding the structural position of mentor teacher to create greater career opportunities within the basic education field.

4. Clarify the role of the supervisor and consider alternative forms of non-monetary rewards for exceptional service of principals and supervisors.
5. Develop alternative definitions of rurality, construct alternative incentive packages for remote teaching, and test the fiscal implications of each incentive package.
6. Study the quality of private schools (at all levels of the system) relative to that of public institutions in order to provide a firmer basis for accreditation standards than is currently available and to determine to what extent these institutions could become self-sufficient if the present considerable government subsidy were withdrawn.

### **Preservice Training**

1. Study the future roles of the LPTK's. This study should include analyses of:
  - student flows, including drop outs and completion and characteristics of the students including their home areas and their aspirations.
  - cohorts of students as they go through the different programs and are placed after graduation, including the location of their placement,
  - the perception of the students concerning the effectiveness of their preparation,
  - the use of the branches with special attention to their uses as recruitment centers, centers of experimentation, observation and practice,
  - cost data,
  - faculty preparation and productivity with respect to students, classes, research activity, service activity, and direction of student observation and practice, arranged by level of faculty appointment,
  - plans for the changing of programs in accord with changing student flows, needs of communities served, and targets for faculty upgrading,
  - incentives used to upgrade faculty and to reward outstanding productivity.

This study will provide information as to the comparative effectiveness of the major institutions (public and private) involved in teacher preparation. The purpose of this study is to obtain a data base for use in making policy decisions and obtaining benchmark data. This information base should be used to inform students about their chances for employment as teachers and in other sectors. Career counseling is very weak in LPTK's so these kinds of data are needed to help students make informed decisions about careers.

In addition to the above kinds of data, the LPTK's should carry out studies of their own institutions' purposes, strengths and weaknesses. Planning is weak in LPTK's and this function needs to be improved by continuous self study of resources, external demands and opportunities for LPTK's and the data base collected on students described above. The LPTK's must increasingly compete for resources for their missions in a complex and production-oriented society. It is difficult to defend the allocation of resources to institutions simply to carry on a mission for which there is competition from more efficient deliverers. The enlargement of the basic education system to nine years, and perhaps a later extension by another three years will give the LPTK's only a temporary advantage in competing for resources. After these system expansion stages are complete, the resource competition will become much keener. Therefore, the LPTK's must examine missions in a developing society which are related to a growing economy and an expanding participation in the economy and polity by larger numbers of people who are still marginal.

Part of the examination of the LPTK mission must be a review of their decisions to select so many urban SPG's and SGO's as branches which limits the possibility of their improving practice in rural communities and recruiting rural young people for teacher training. The possible roles of these branches has been described above.

The MOEC needs information on different types of teacher institutions so that it can set expectations for them when they are accredited or reviewed. If the effectiveness of teachers from different kinds of institutions is reviewed carefully, the MOEC will be able to consider a policy change to a wider variety of teacher preparation programs, including those which are more heavily supported by student fees.

2. Support and encourage the agreement between IKIP Jakarta and the Kanwil(s) preparatory to designating certain SD and SMP units as special locations for practice and observation.
3. Support the type of micro classroom-level research conducted by Djalil according to a plan which would involve LPTK's and the MOEC officials of Balitbang Dikbud and Dikdasmen. This research provides information as to how the national curriculum is being implemented by teachers, how teachers are using their training and preparation, and what principals and supervisors must know concerning teacher behavior related to pupil achievement. It is also necessary to provide the information as to whether pupils are being treated as absorbers of content or whether they are being treated as active participants in the learning process. Such information is valuable for policy making as well as school level decision making.
4. Conduct research on the political system as it operates at the Kanwil, Kabupaten and Kecamatan levels with respect to allocation of funds and assignment of personnel should be carried out. There is a great deal of comment about the dual system of control and plenty of description of how the MOEC operates at those levels with respect to budget formation, allocation of funds and assignment of personnel, but virtually nothing of any systematic nature concerning the interaction of the two ministries at the lower levels of operation. Before extensive modifications of the dual system are made, it would be helpful to obtain

some case studies of how the system actually operates, as well as the effects on resources which have been assigned to schools and lower level MOEC units. If abuses exist they need to be systematically detailed. Interviews as part of the case study technique will reveal plenty of detail concerning the workings of this system. It may be necessary to have researchers trained in public administration carry out this kind of study. The case study is recommended because it allows a great amount of detail to be collected which enriches the meaning of the study. The case study also implies that a small number of units will be studied in depth rather than a large survey which would yield a limited amount of data which could be interpreted in many ways by readers.

5. Make the special preparation of principals, supervisors and upper level administrators of the educational system a high priority item on the agenda of system redesign. The rationale has been presented above, and it bears repeating that a much more complex system than the one now in operation cannot depend upon people who are trained only for short periods of time in unrelated skills.

Upgrading and inservice training are always going to be necessary and efficient ways of imparting skills to those who are already well prepared with a base of knowledge of management or instructional systems. The UT will be able to carry out some of these short term training exercises but even these become very complex as the norm of behavior becomes more technical. The private sector will increasingly have to be depended upon to provide inservice training of a highly technical nature.

6. Construct or explicitly adopt a school improvement model compatible with the diversity of Indonesia, use the model as a basis for reviewing the preservice programs, and systematically collect the data necessary to operationalize the model in schools and classrooms.

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