53732 v1

Transforming Indonesia's Teaching Force

Volume I: Executive Summary

Human Development
East Asia and Pacific Region

THE WORLD BANK | BANK DUNIA

DEPARTEMEN PENDIDIKAN NASIONAL
REPUBLIK INDONESIA

Kingdom of the Netherlands

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Preface

This executive summary is the first volume of a two-volume comprehensive report on teacher management in Indonesia entitled "Transforming Indonesia's Teaching Force." This volume summarizes the key findings of the detailed technical analysis in Volume II, but with much greater focus on the key areas where policy reforms will likely generate a large impact in Indonesia. While Volume II is aimed at public policy researchers and technical staff of the Government of Indonesia, this shorter volume provides policy makers and the general public a condensed version of the larger report's analysis, results, and recommended policy reforms for developing a better teaching force in Indonesia.

It is hoped that this report not only can assist the government in setting up a future reform agenda, but also add value to ongoing educational reform in Indonesia, in terms of improving the effectiveness of reform and ensuring its institutional and fiscal sustainability.

Acknowledgments

The team of authors who produced both volumes of this report is grateful to the officials and staff of the Ministry of National Education (MONE) for their overall support. Special thanks are in order to Prof. Dr. Fasli Jalal, the Vice Minister of National Education, who was the visionary behind this report and a key supporter of many of the teacher management studies that contributed to it. The team is indebted to Arnold van der Zanden (First Secretary Education, Royal Netherlands Embassy, Indonesia) for his insightful inputs into the report. The report also benefited greatly from the inputs of the Ministry of Religious Affairs (MORA), the National Development Planning Agency (BAPPENAS), the Ministry of State Administration Reform (MENPAN), and the Civil Service Agency (BKN), together with inputs of donor agencies, which were received during various consultation meetings and policy forum discussions. Key government support came from Prof. Dr. Baedhowi (Directorate General for Quality Improvement of Teacher and Education Personnel), Dr. Giri Suryatmana (Secretary General, PMPTK), Dr. Ahmad Dasuki (Director Profesi, PMPTK), Dr. Gogot Suharwoto (former Director IT, PMPTK), Dr. Maria Widiani (Deputy Director of Secondary Education, Profesi, PMPTK), Dian Wahyuni (Deputy Director of Teacher Profession), and Dr. Santi Ambarukmi (Section Head, Teacher Profession). It should be noted that while inputs of various officials have been incorporated into the report, the policy recommendations in this document do not necessarily reflect the policies of the Government of Indonesia or the Government of the Netherlands.

Volume I of the report was prepared by Dandan Chen and Andrew Ragatz, and Volume II, by Andrew Ragatz. Important contributions were made by Halsey Rogers (Senior Economist, Development Economics Vice Presidency, World Bank), Ratna Kesuma (Operations Officer, World Bank), Ritchie Stevenson (consultant), Richard Kraft (consultant), Ralph Rawlinson (consultant), Muhammad Firdaus (consultant), Jups Kluyskens (consultant), Adam Rorris (Education Economist, Australia Agency for International Development), Siwage Dharma Negara (Operations Officer, World Bank), Susie Sugiarti (Operations Assistant, World Bank), Imam Setiawan (Research Analyst, World Bank), and Megha Kapoor (consultant).

This report is the culmination of over four years of analytical work in support of Indonesia's comprehensive teacher reform effort. The analytical work was generously supported by the Dutch Education Support Trust Fund under the technical leadership and management of Mae Chu Chang (Lead Educator and Sector Coordinator, Human Development Sector Department, World Bank).

The report was prepared under the supervision of Mae Chu Chang and with the overall guidance and support of Eduardo Velez Bustillo (Education Sector Manager, East Asia Human Development, World Bank). The peer reviewers were Emiliana Vegas (Senior Education Economist, Human Development Network, World Bank), Aidan Mulkeen (consultant, Africa Education Unit, World Bank), and Neil Baumgart (Professor Emeritus, University of Western Sydney, Australia).

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Abbreviations

BALITBANG	Research and Development Department, Ministry of National Education
BAPPENAS	National Development Planning Agency
BKN	National Civil Service Board
BOS	A grant to schools provided by the central Indonesian government
DAU	General Allocation Fund distributed by central government to districts
D1, 2, 3, 4	Post-secondary diploma (1-year), (2-year), (3-year), (4-year)
EMIS	Education Management Information System
IDR	Indonesian rupiah (currency)
LPMP	Institute for Educational Quality Assurance
LPTK	Teacher training institutes within universities
MENPAN	Ministry of State Administration Reform
MONE	Ministry of National Education
MORA	Ministry of Religious Affairs
M&E	monitoring and evaluation
OECD	Organisation for Economic Co-operation and Development
PGSD	Teacher training institute (LPTK) course to upgrade elementary teachers' education to S1 level
PISA	Program for International Student Assessment, OECD
PMPTK	Directorate General for Quality Improvement of Teacher and Education Personnel
PNS	Civil servant
PPG	Postgraduate professional course of one or two semesters taken in order to gain teacher certification
PP	Government regulation
RPL	Recognition of prior learning
S1	Degree equivalent of a Bachelor's Degree
STR	Student-teacher ratio
TIMMS	Trends in International Mathematics and Science Study

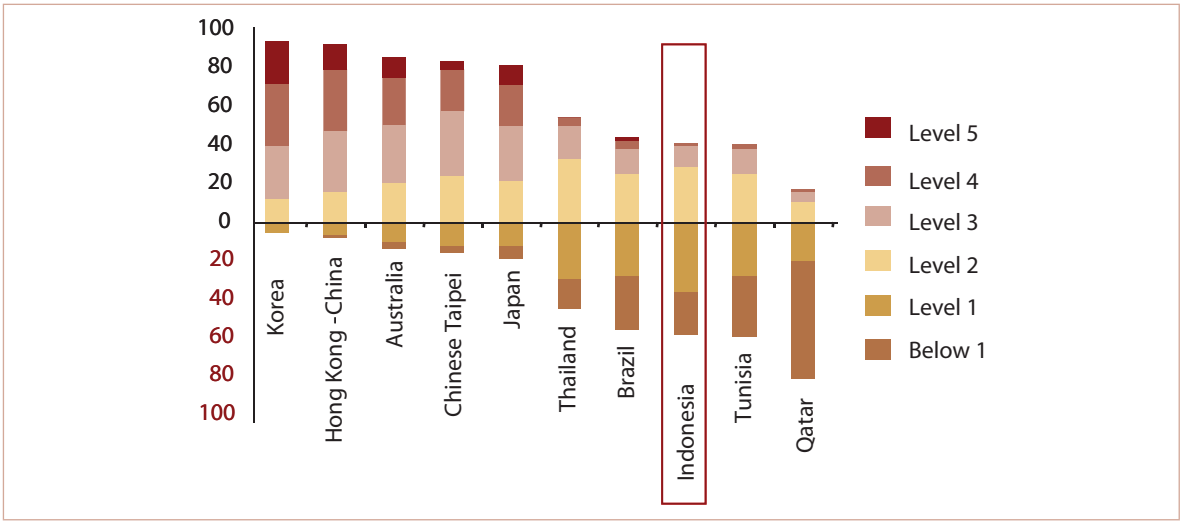
Teachers: A Key Determinant of Education Quality

Photo by: Amanda Beatty

A. Concerns regarding learning outcomes in Indonesia

While Indonesia has made great strides in providing universal access to basic education in recent decades, the quality of education in the country has lagged. The Indonesian educational system has not consistently produced graduates with high-quality knowledge and skills. The country appears to have made some learning gains in recent years, as reflected in its scores on the 2007 Trends in International Mathematics and Science Study (TIMSS) test. Nevertheless, the same test showed that the math skills of over half of the Indonesian students who participated were below the defined basic proficiency level (see figure 1). Indonesian student outcomes on the TIMSS test were lower than those of students from other TIMSS participating countries, even after adjusting for family socioeconomic status. This result suggests that deficiencies in the school system, rather than household conditions, are the principal contributors to lower performance.

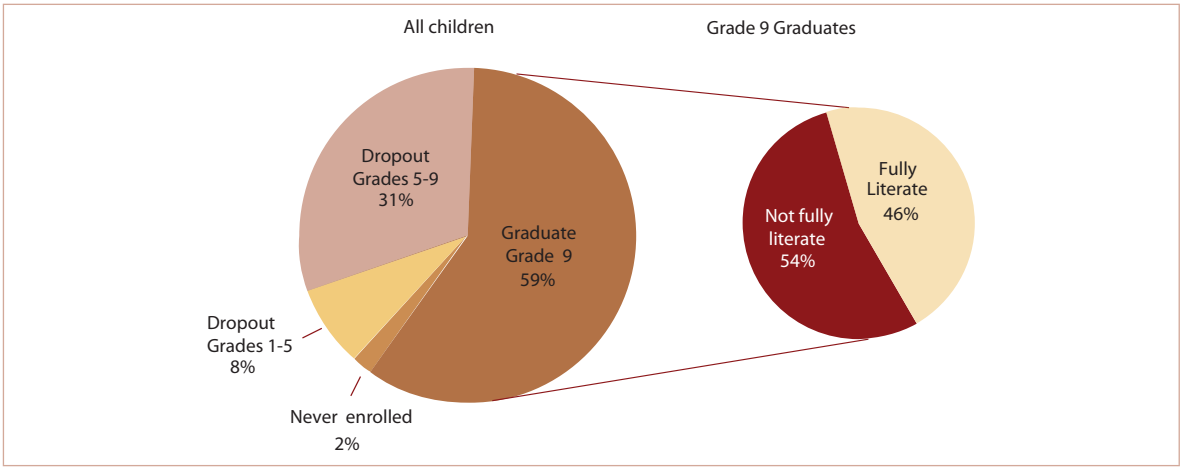
Figure 1. **Math Scores of Selected Countries Participating in the 2007 TIMSS Exam**



Source: Mullis, Martin and Foy (2008)

Indonesian students' basic literacy is also a serious concern. Research by Hanushek and Wößmann (2007) measured literacy in a number of countries, based on household survey data, combined with international student achievement tests. The results for Indonesia (see figure 2) show that among a recent cohort of children who completed grade 9, which is the final year of "basic education," only 46 percent had actually attained functional literacy.

Figure 2. **"Functional Literacy" of Indonesian Grade 9 Graduates**



Source: Hanushek and Wößmann (2007).

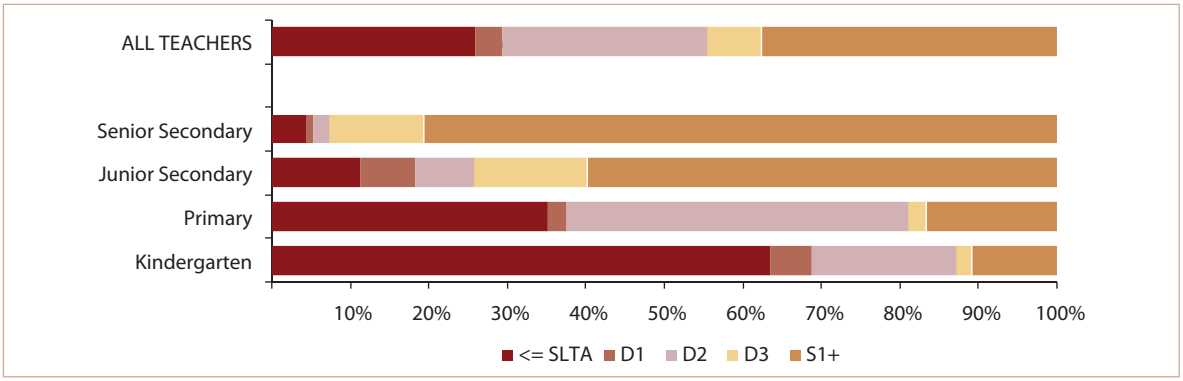
B. Teacher quality as the key determinant of learning outcomes

The quality of teachers is the most important factor in improving the quality of education. Research shows that what teachers know and what they are able to do has a significant impact on the academic performance of their students. As a recent McKinsey report notes, "The quality of an education system cannot exceed the quality of its teachers" (Barber and Mourshed, 2007, p16). While there is no conclusive evidence on what characteristics of teachers most influence student performance, research studies almost universally demonstrate the importance of quality teachers. Research on the Tennessee Value-added Assessment System, for example, estimated that more than 50 percent of a three-year achievement gap between two groups of students aged 8 and 11 was attributable to the fact that they were taught by high-ability teachers (top 20 percent of teaching staff?) and low-ability teachers (bottom 20 percent), respectively. As a result, by age 11, the upper group was scoring in the 93rd percentile and the lower group was scoring in the 37th percentile (Sanders and Rivers 1999).

C. Knowledge, skills, and performance of Indonesian teachers

A few recent studies and analyses have begun to provide a broad picture of the general competency of Indonesian teachers, in terms of their academic background, subject and pedagogical knowledge, and teaching practices in classrooms. **The education attainment of many Indonesian teachers is still lower than what is required by law.** The Teacher Law passed in 2005 requires that all teachers have a four-year degree. Teacher data from a 2006 census showed, however, that only 37 percent of all teachers held such a degree and 26 percent had only a high school degree or less. As a matter of fact, many teachers have not even attained the education levels required by the prior teacher law: a two-year diploma for primary school teachers, a three-year diploma for junior secondary school teachers, and a four-year degree for senior secondary school teachers. Currently, 20 to 25 percent of teachers in Indonesia still have not met these previous, lower criteria. The share of unqualified teachers is now much larger as a result of the stipulations of the 2005 law. For example, the proportion of primary school teachers that has a four-year degree is particularly low—merely 16 percent (see figure 3).

Figure 3. Teacher Education Attainment by Teaching Level



Source: MONE PMPTK Teacher Database (SIMPTK), 2006. [1]

There are also concerns about the subject knowledge, pedagogical competency, and general academic aptitude of teachers in Indonesia. In 2004, the Ministry of National Education (MONE) administered an aptitude test to selected primary and secondary school teachers in order to obtain a snapshot of their professional competency. Even though the teacher sample was not nationally representative, the teachers' low scores, particularly on key subjects, were worrisome. The average score (i.e., percentage of correct answers) of primary school teachers was only 38 percent. For secondary school teachers, the average score across 12 subjects was only 45 percent, with physics, math, and economics scores at 36 percent or less (see table 1).

Table 1. Teacher Aptitude Test Scores, by Teacher Type and Subject

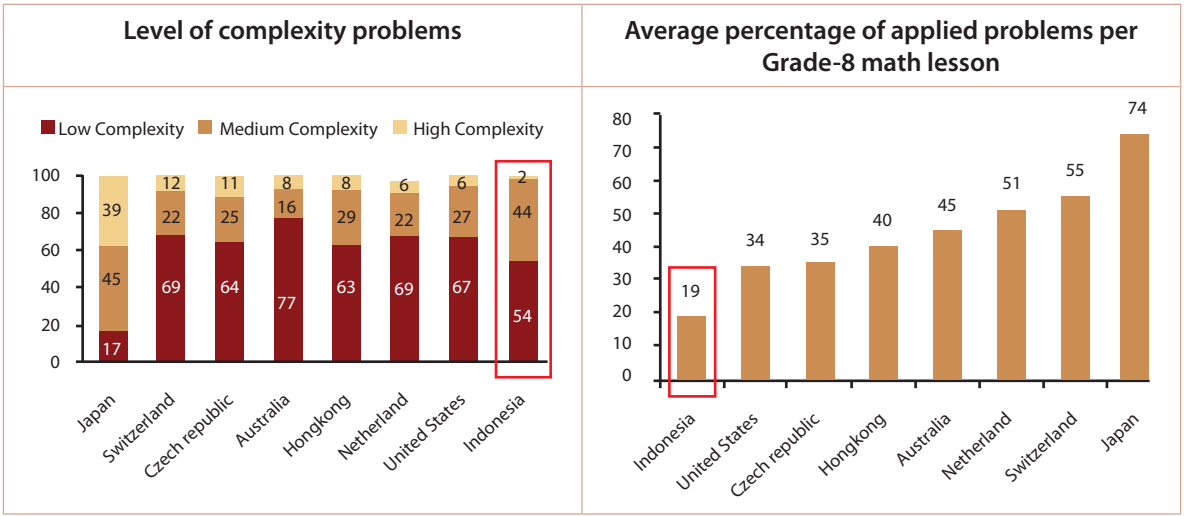
	No. of items on test	Mean	% correct answers	Standard deviation
Type of Test:				
Scholastic test for all teachers	60	30.20	50%	7.40
Kindergarten teacher test	80	41.95	52%	8.62
Primary school teacher test	100	37.82	38%	8.01
Secondary School Teachers test (by subject):				
Indonesia language	40	20.56	51%	5.18
English	40	23.37	58%	7.13
Mathematics	40	14.39	36%	4.66
Physics	40	13.24	33%	5.86
Biology	40	19.00	48%	4.58
Chemistry	40	22.33	56%	4.91
Economics	40	12.63	32%	4.14
Sociology	40	19.09	48%	4.93
Geography	40	19.43	49%	4.88
History	40	16.69	42%	4.39

Source: PMPTK, 2004.

1 Since the writing of this report, more current data has become available. Some figures presented above may be off by as much as 7 percent.

The pedagogical practices of Indonesian teachers may also be deficient and lack proper focus. A 2007 video study undertaken in a sample of grade 8 mathematics classes in Indonesia sought to relate classroom teaching and learning behavior to student achievement on the Trends in International Mathematics and Science Study (TIMSS) exam, as well as determine which teaching methodologies appeared to be most effective. The data collected was then compared with the teaching behavior and classroom characteristics of seven relatively high-performance countries participating in the TIMSS, which assisted the study authors to identify weaknesses in pedagogical practices. The study found that, compared with these countries, grade 8 math lessons in Indonesia tend to deal with a lower percentage of high-complexity problems and place less emphasis on applied math problem solving (see figure 4).

Figure 4. Complexity and Nature of Math Problems in Grade 8: A Cross-country Comparison



Source: Leung (2009).

In addition to low levels of professional knowledge and skills, the motivation and effort of teachers in Indonesia are also of serious concern. The rate of teacher absenteeism, for example, remains high, despite a slight improvement in recent years. Through unannounced visits to schools by survey teams, a cross-country study found thatal most one in five teachers in Indonesia was absent from the classroom (see table 2). In 2008, using a similar methodology, the SMERU Research Institute (2008b) noted an overall reduction in the teacher absenteeism rate from 19.6 to 14.1 percent. The same study found that the overall reduction in teacher absenteeism was due to the combined influence of improved management by districts, greater experience in decentralized education service delivery, and better incentives for teachers. In particular, the study associated lowered absenteeism with more regular supervision of schools, higher salaries, and teacher's overall sense of improved welfare. However, the teacher absentee rate remains very high in remote areas (23 percent), indicating that the effects of these factors have their limits.

Table 2. **Teacher Absentee Rate in Indonesia**

		2002-3	2008
Teacher absence (all schools)		19.6%	14.1%
Panel schools (39 non-remote schools)		22.7%	12.2%
Remote schools		-	23.3%
Employment status:	Civil servant	18.8%	12.5%
	Contract teachers	29.6%	19.4%
Role	Principal	25.1%	20.2%
	Classroom teacher	19.3%	14.0%

Sources: SMERU (2008b).

Managing Teachers in Decentralized Indonesia: A Challenging Endeavor

Photo by: Erly Tatontos

A. Teacher certification: A reform to improve teacher quality

The passage of the latest Teacher Law in 2005 is Indonesia's most recent endeavor to address certain fundamental issues of teacher quality. The law creates a "certification" mechanism to ensure teachers' professional competency level. In order to be certified, a teacher must have a four-year college or university degree, accumulate sufficient credits from post-graduate teacher professional training, and teach a minimum of 24 hours per week. A certified teacher is then entitled to a professional allowance in an amount equivalent to his or her base salary. It is the government's intention that by 2015, Indonesia's school system will only allow certified teachers to teach.

The initial years of teacher certification have provided insight on successful measures, as well as areas for improvement. Many skeptics originally questioned whether certification would even become a reality. The fact that MONE has been able to put structures in place and orchestrate various stakeholders—including universities, provincial and district education offices, and schools and teachers—in such a diverse and complex country is a major feat in itself. The initial years of implementation involved both political and operational compromise in order to get the process started. Still, the certification process is not static or set in stone, and its purposes and processes have been revisited and fine-tuned from time to time, allowing certification to evolve into a continuously better tool.

Looking ahead, before it can be ascertained whether the teacher certification initiative will be effective in improving student learning and, ultimately, education quality in Indonesia, a range of questions needs to be answered. These questions include: (1) Can increased teacher compensation attract university graduates—still a small cohort among Indonesia's total labor force—to become teachers? (2) How can pre-service training better select and prepare future teachers so that the additional training period is not a waste? (3) How can the enhanced qualification of teachers be translated into better quality of education in the Indonesian context, if at all? (4) How can existing teachers' qualifications be better upgraded without sacrificing certification standards or teacher morale? (5) How can incentives for better teaching performance be created and maintained, particularly after certification? (6) Will tight fiscal constraints delay the payment of teacher allowances and thus break the promises of the reform? (7) How can teacher quality be better linked with responsibility for teacher hiring and firing, as well as school financing? The subsequent part of this section analyzes these issues.

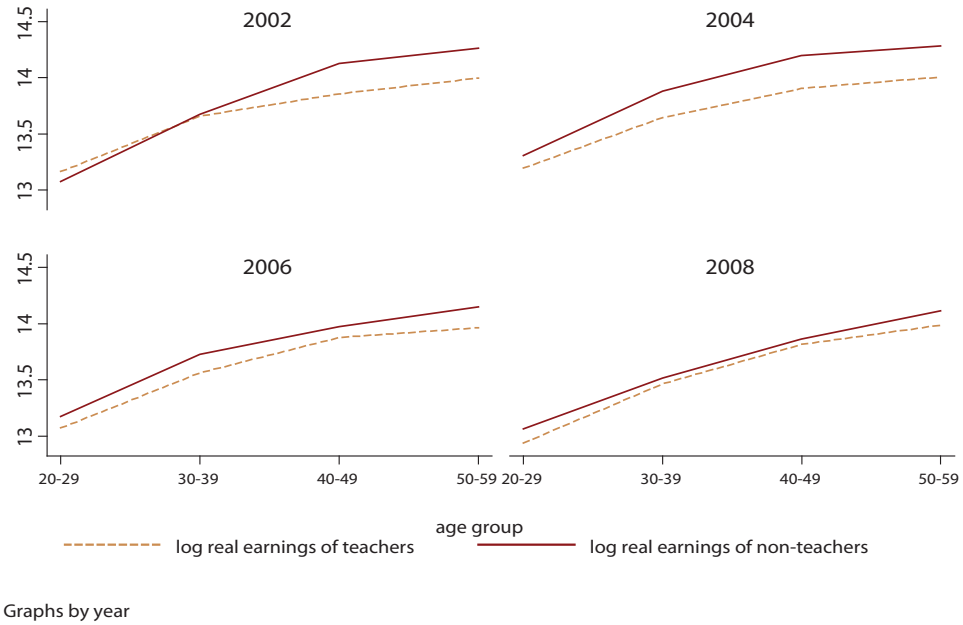
B. Can the law attract qualified candidates to become teachers?

The share of the Indonesian labor force with a college or university degree is still low, currently less than 10 percent. **Requiring a four-year degree to enter the teaching profession will eventually mean competing for the small portion of the workforce with higher qualifications.** A competitive compensation package is therefore a prerequisite to ensure that the future teaching profession does not lack good applicants.

A degree teacher's earnings have been below those of other workers with the same level of education for the past few years. However, the real earnings gap is narrowing. Historically, the government set teachers' salary levels higher than those of average workers with a diploma-level education, but lower than those of college- or university-level graduates (S1 or D4). Therefore, it is not surprising that fewer than 40 percent of existing Indonesian teachers have a D4- or S1-level education and above. Nonetheless, this situation is changing. Figure 5 shows the relative earnings of teacher and non-teacher college graduates by age group. Teachers' real

earnings have increased faster than those of non-teachers in recent years. A closer look reveals that teachers' real earnings have been mostly constant over the time period shown here, while non-teachers' earnings have actually been eroded by inflation.

Figure 5. **Log Real Earnings of Teachers and Non-teachers with a College Education in Indonesia, by Age Group, 2002–2008**



Source: Central Bureau of Statistics (BPS), SAKERNAS, 2002, 2004, 2006, 2008.

Labor force survey data indicate that the relative wage rates of teachers and alternative occupations significantly influence the decision to become a teacher. The large-scale pay increase for teachers with a college education promised by the latest law will attract college-educated workers to become teachers. It is estimated that the wage rate set in the law will be able to increase the share of teachers among the entire college-educated labor force from approximately 16 to approximately 30 percent. This estimation implies an average of 24 to 25 pupils per teacher with a college education but would increase the teacher salary bill more than 30 percent (Chen 2009).

Another indication that the teaching profession has become more attractive is that teacher colleges and universities are experiencing considerably increased enrollment. Many teacher training programs are now expanding to accommodate increased demand for pre-service education. The candidates entering teacher training programs are of increasingly higher quality, in terms of higher college entry test scores.

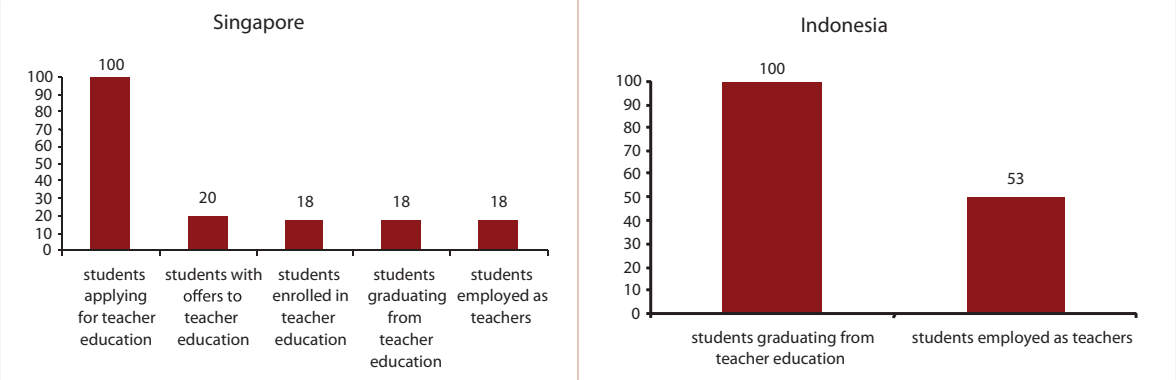
C. From many qualified candidates to a few good teachers: Pre-service selection and training

Given the increased attractiveness of the teaching profession, **selecting the right candidates and providing the right training have become ever more challenging for teacher training colleges and education faculties** in Indonesia.

Teacher training colleges currently do not have strict selection and screening processes. Apart from the enforcement of minimum requirements, there is little attempt to control the number of students entering their programs. Allowing the law of supply and demand to drive the number of candidates entering teacher colleges will not work in this case, as a majority of teachers are government employees, and market forces alone will not ensure that the correct number of required teachers is produced. In Indonesia's current situation, more candidates are entering the system than are needed. Teacher colleges and universities are currently benefiting from increased interest but have little incentive to control the intake of enrollees.

The teacher candidate selection process in Indonesia is very different from that in certain top-performing countries. Entering the teaching profession in Indonesia mostly occurs through employment upon graduation from teacher training. Compared with most top-performing countries, which select appropriate individuals before they begin teacher training, Indonesia leaves the selection process to the moment when prospective teachers have graduated from teacher training. Teachers are then selected for employment from this larger group. For example, in Singapore, for every 100 teacher training college applicants, only 20 are accepted. Among these selected trainees, 90 percent will graduate and enter the teaching workforce. In Indonesia, by contrast, it is estimated that only about half of teacher training college graduates eventually enter the teaching force. A rigorous selection process for entering teacher training would have at least two advantages: it would build the image of teaching as a prestigious profession, and it would encourage more demanding teacher training programs. International experience shows that effective selection places an emphasis on the academic achievements of candidates, their communication skills, and their motivation for teaching.

Figure 6. Comparison of Teacher Selection Processes in Singapore and Indonesia



Source: Singapore data from Barber and Mourshed (2007); Indonesia data based on World Bank staff calculations.

The four-year degree programs for primary school teacher training and post-graduate professional teacher training programs are still in their infancy. Previously, primary school teachers were only required to have two years of training and obtain a two-year teaching diploma (D2). Virtually since the ratification of the 2005 Teacher Law, approved teacher training institutes (LPTKs) have been planning and are now implementing a four-year course (Pendidikan Guru Sekolah Dasar, or PGSD) leading to the S1 degree for a limited number of primary school teachers. In addition, the Teacher Law requires that both primary and secondary school teacher trainees acquire experience and further post-graduate professional training. This qualification—the Pendidikan Profesi Guru, or PPG—is intended to ensure that they are better prepared to be quality teachers and qualifies them for certification. However, the new program has not yet commenced. Efforts continue to stretch available capacities, given the vast amount of resources needed to upgrade facilities, design and produce curricula and materials, and retrain lecturers.

D. Queuing up: Upgrading and certifying the existing teaching force

With 3.3 million teachers, only 37 percent of which have a four-year degree, how Indonesia will make the transition to a completely certified teaching force is the crucial question at the moment. **There appear to be significant risks that the certification process will suffer from compromises in quality.** The original concept of certification included strict competency measures, including objective competency exams of teachers in their specific subjects. Under political pressure, however, the view that certification should be primarily a mechanism to improve teacher welfare (it doubles teacher salaries) took precedence while the quality aspect has been relegated to a secondary purpose.

The current certification process relies for the most part on a portfolio review to assess teacher quality, a process that is generally recognized as insufficient to separate high- from low-quality teachers. The portfolio process is also prone to potential teacher manipulation (given an already prevalent black market in forged certificates and other necessary portfolio items). In addition, the certification process itself has been left entirely to the university sector, creating issues of standardization and corruption.

E. Certified, then what? Continued performance and accountability

As per the current design, certification is a one-time process; teachers who become certified are not required to undergo periodic re-certification or demonstrate adequate performance in order to maintain this status. These limitations can be both a cause and a result of the weaknesses explored below.

Teacher certification currently lacks the support of an accompanying quality assurance and accountability framework. Certification can only evaluate a teacher's attributes at a point in time, but cannot assure performance over time. Other mechanisms, such as performance appraisal, rewards, sanctions, standards enforcement, student tests to measure educational outcomes, and the distribution of transparent information to key stakeholders must also be in place to ensure quality and accountability.

It is unclear how teachers are held accountable for the quality of their teaching performance. While Indonesia does have defined accountability mechanisms, they are rarely implemented in an effective manner. Teacher accountability is monitored by the school principal who reports to the district office that is responsible for teacher remuneration. Teachers are also directly accountable to students' parents and the community for the quality of the education that they provide. With the decentralization of the education system, greater responsibility for teacher management has been given to the school principal and local district government officers, particularly the school supervisor. Teacher management decisions have thus become increasingly school-based, but local school officers generally are not well equipped for this responsibility, including holding teachers accountable for the quality of their work.

A progression or promotion system based upon teacher profiles, complete with merit barriers and a differential salary scale, is also currently missing. Such a progression and promotion system is common in other countries and provides a predictable career path for teachers, based on the continuous improvement of their skills. Improvement in teaching skills and performance in such systems is rewarded by financial incentives linked to professional advances and promotions.

There is also no effective mechanism for managing an underperforming teacher. The generic appraisal process common to the rest of the civil service is inadequate for appraising teacher performance. A separate process for teachers would enable school principals to link teacher performance goals to both school performance goals and the personal improvement goals of each teacher. Most importantly, there is no requirement that teachers undertake an induction training program as part of their required probationary year, followed by a report on their performance at the end of this year. The end of the probationary year should become a critical point in teacher management which should be used to further screen and weed out people who are unfit for the teaching profession.

F. Financial risk: Will there be "unfulfilled promises"?

Teacher costs will increase significantly in the coming decade. As new teachers enter the system and existing teachers go through the certification process, an increasingly larger portion of the education budget will be allocated to salaries, inclusive of the professional allowance. Due to both financial and logistical constraints, it was not possible to have all eligible incumbent teachers undergo the certification process immediately. In an effort to control the number of teachers who received the professional allowance, MONE established a quota system. Under this system, each year a batch of teachers becomes eligible to complete the certification process. According to MONE's current estimates, all teachers will be certified by 2014. Teachers that become certified in a given year begin to receive their professional allowance the following year and continue to receive it until retirement.

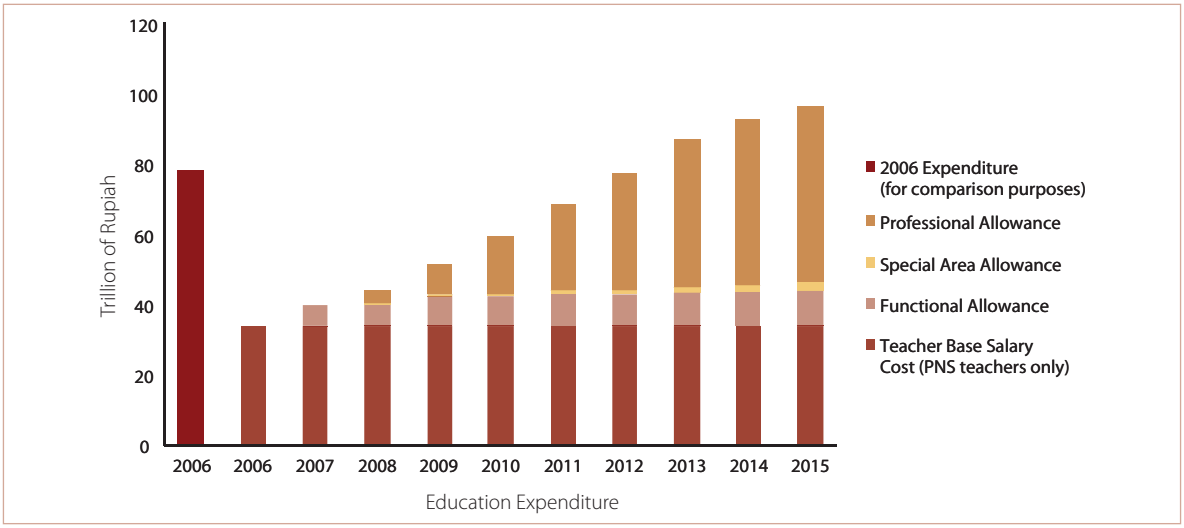
Table 3. Quota for Certification and Associated Professional Allowances

Year	Quota of teachers	Cumulative number of teachers certified	Percent of total teacher workforce	Annual cost (IDR millions)
2006	20,000	20,000		--
2007	180,450	200,450	8.5%	158,742
2008	200,000	400,450	20%	3,608,100
2009	346,500	746,950	40%	8,649,720
2010	396,504	1,143,454	55%	16,134,120
2011	396,502	1,539,956	70%	24,698,606
2012	396,502	1,936,458	80%	33,263,050
2013	258,055	2,194,513	90%	41,827,493
2014	111,502	2,306,015	100%	47,401,481
2015		Completion of incumbents		49,809,924

Source: PMPTK estimates, 2009.
Note: Assumes that the number of teachers remains constant, with the same number of teachers retiring as being hired.

It is estimated that by 2015 the professional (certification) allowance alone will be equal to approximately two-thirds of total education expenditures in 2006 at central, provincial, and district levels**.** By 2012, taking other teacher salary costs into account (e.g., base salary, the new functional allowance, and special area allowances), all teacher salary expenditures will surpass *total* educational expenditures in 2006 at central, provincial, and district levels (see figure 7). **Without managing the significant fiscal pressure created by certification, there is a risk that certified teachers will not receive their professional allowance on time, the process will slow down, and the teaching profession will cease to attract high-caliber university graduates.**

Figure 7. Illustration of the Increased Costs (in real terms) of New Teacher Allowances

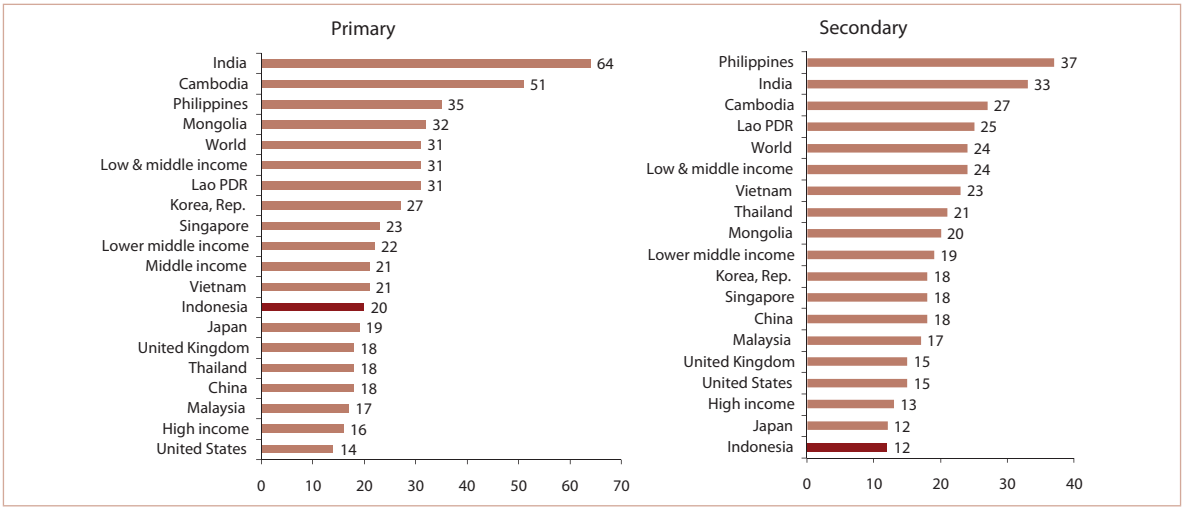


Source: MONE PMPTK data from "Education Sector Assessment" presentation, 2008.
Note: Assumes that the number of teachers in the system does not increase. The costs above are in real terms in order to compare years. If shown in nominal terms (adjusting for inflation), the amount in future years would be higher.

The massive financial implications of teacher certification raise concerns about the efficiency of teacher utilization. Indonesia's student-teacher ratios (STRs) at both the primary and secondary levels are very low in comparison with its neighbors and other countries. As shown in Figure 8 below, the global average STR at the primary school level is 31:1. That of Indonesia is considerably lower, 20:1—on par with Japan. At the secondary school level, the result is even more striking, with the average Indonesian STR at 12:1.[2] This is the lowest STR in the East Asia region, along with Japan. It is well below the STR of countries such as South Korea, the United Kingdom, and the United States. Although low STRs can be closely linked to smaller class sizes, as well as better management of classroom teaching and learning by giving each student more attention, this does not seem to be the case in Indonesia. Due to infrastructure constraints, class size is not closely linked to STR in the country. The average class size in Indonesia is still around 35 students. Low STRs are mostly the result of teachers sharing the teaching workload.

2 Data from the World Bank's online Edstats database does not separate junior secondary and senior secondary levels, but instead provides a combined secondary value.

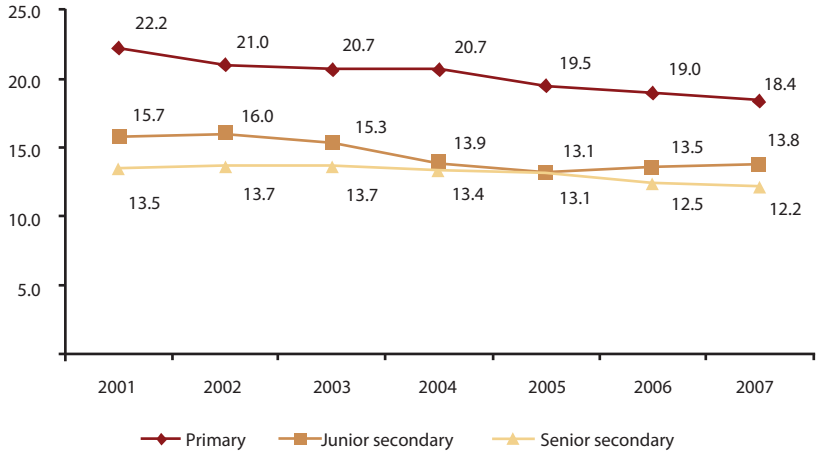
Figure 8. **Cross-country Comparison of Student-teacher Ratios, 2007**



Source: World Bank, Edstats online query database, using 2007 data (or next available year for countries without 2007 data).

Since decentralization there has been a dramatic *decrease* in STRs in Indonesia, despite the fact that these ratios were already low. As can be seen in figure 9, the STR for primary schools has fallen from 22.2 in 2001 to 17.7 in 2007. In junior secondary schools, it fell from 16.0 to 12.7, and in senior secondary (general) schools, it fell from 13.5 to 11.0.

Figure 9. **Pupil-teacher Ratios in Indonesia, 2001–2007**

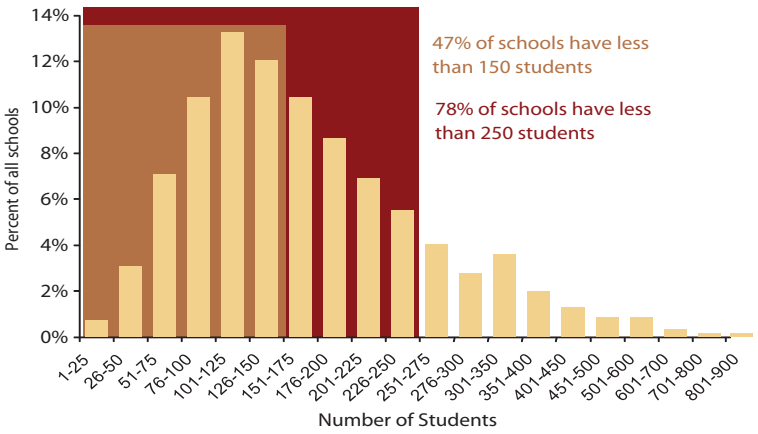


Source: MONE Balitbang data, 2001–2007.
Note: If the MORA and MONE data for 2007 are combined, overall STRs drop to 17.7 for primary, 12.7 for junior secondary, and 11.0 for senior secondary.

Staffing rules are one of the key causes of the inefficiencies reflected inlow STRs in Indonesia. These rules do not fit the reality of the country's school system and encourage the over-hiring of teachers. For example, the current formula allocates a minimum of 9 teachers (a class teacher for grades 1–6, plus a sports, religion, and head teacher) to primary schools, regardless of their size. Indonesia's policy in the Suharto era was to establish primary schools with 240 students, which consisted of six grades with 40 students in each grade (1–6).

Currently, however, the majority of Indonesia's primary schools are very small—78 percent have less than 250 students and almost half have less than 150 (see Figure 10). Even in small schools, it is common practice to have the traditional model of six grades with one teacher per class. For example, in a school of 90 students, the current policy of at least 9 teachers in a primary school would lead to an STR of only 10:1.

Figure 10. Size of Indonesian Public Primary Schools



Source: MONE PMPTK Teacher Database (SIMPTK), 2006.

In the case of secondary schools, one major constraint is that teachers are expected to teach only one subject. This stipulation was intended to prevent teachers from teaching subjects for which they were not qualified, a legitimate concern if adequate training, support, and a quality assurance mechanism are not in place. However, together with a broad curriculum, single-subject teaching can be a key factor in low teaching loads, particularly that of teachers who teach very specific elective subjects. In contrast to Indonesia, most middle and high income countries allow for and even encourage multisubject teaching. Such teaching must, however, be accompanied by appropriate training and a teacher support system.

The successful implementation of the minimum 24-hour classroom teaching load stipulated by the 2005 Teacher Law will largely rely on the extent to which these staffing rules can be changed. While the new policy is an innovative method of indirectly controlling teacher costs, to date it has been a challenge to enforce for both logistical and political reasons. Actual tracking of teacher hours, particularly over time, requires an accurate, up-to-date teacher database system. The Directorate General for Quality Improvement of Teacher and Education Personnel (PMPTK) has established the NUPTK teacher database, which is now online and updateable in real time. The bigger challenge has been the resistance of teachers unable to meet the requirement. PMPTK has been forced to soften the rule, allowing other ways for teachers to gain additional hours outside the classroom. While understandable as a short-term solution, this relaxation of the rule is likely to make the policy lose its teeth and become ineffective in the long term.

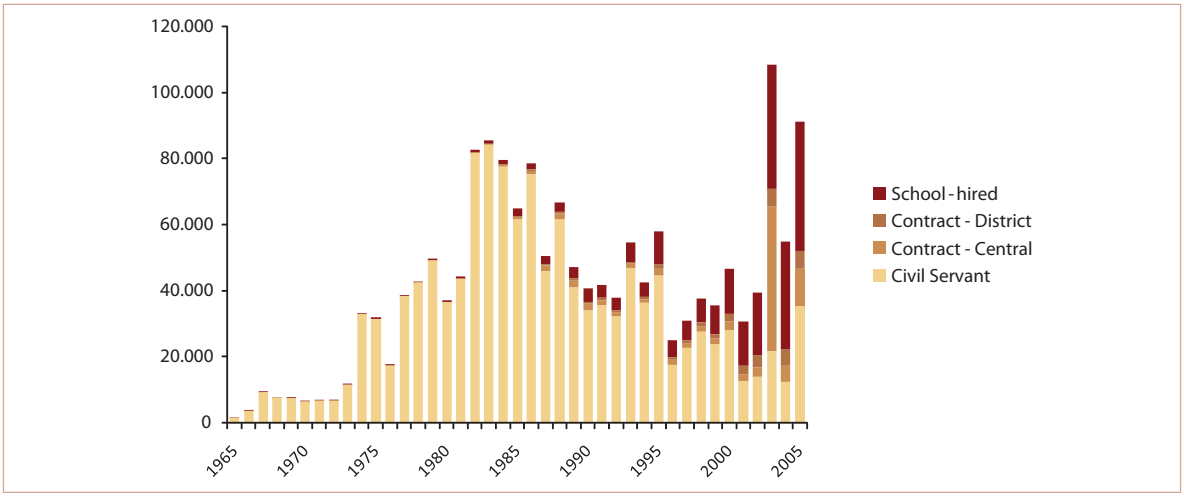
G. Teachers under decentralization: Whose employees are they anyway?

Decentralization has changed the landscape of teacher management in Indonesia, but the transition is far from complete. Under decentralization, teachers are supposed to be local government employees. But in reality, a majority of teachers remains central government civil servants, having gone through the current civil

service employment process. Any new hiring of civil servant teachers can only occur under an assigned quota, which is centrally controlled and allocated through the Ministry of Administrative Reform (MENPAN) and the Civil Service Board (BKN). In addition, all civil servants are paid by the central government through a General Allocation Fund (DAU), which is transferred to the districts, giving the districts implicit incentives to hire more civil servants in general, as no real cost is incurred by them.

In recent years, new teachers have been predominantly hired directly by schools. This has been a particularly new phenomenon in public schools since decentralization began in 2001. There are two main reasons for this trend. First, under the recent civil service reform, controlling the size of the civil service has mostly limited the net increase of civil servant teachers. The quota allocation for new civil service hires from BKN usually only meets the replacement need for retiring teachers. Second, there are increased resources at the school level. As figure 11 shows, the implementation of school operations assistance grants (BOS) after 2005 coincided with a sudden increase of new hiring by schools. In 2009, the BOS program has been allocated IDR 19 trillion, or 25 percent of the total central budget for education. Of these funds, it is estimated that approximately 30 percent will be spent by schools on teachers. While some of these funds are spent on already-hired teachers, much goes to hiring additional teachers. These school-hired teachers are typically willing to work for low salaries, often as low as 10 percent of the salary of a civil servant teacher, in the expectation of being converted to a civil servant teacher in the future.

Figure 11. Type of Public School Teacher by Year Hired



Source: SIMPTK data, 2005–2006.

While international experience shows that moving the power to hire and fire teachers to the school level can bring increased accountability, transparency, and, eventually, better efficiency, the hiring of teachers by Indonesian schools has to date been done without much guidance or support. School-hired teachers, for example, tend to have lower qualifications, which could be due to the difficulties of attracting willing, better-qualified teachers to schools that have the same difficulties in hiring and keeping civil servant teachers. In addition, there is no clear regulatory framework or institutional arrangement to support both schools and school-hired teachers. As a consequence, most of these teachers ultimately aim to convert to civil service status, which contradicts the original argument for school-based teacher management.

Transforming the Indonesian Teaching Force: A Future Reform Agenda

Photo by: Antara

A. A quality assurance framework

Overall teacher management needs an effective quality assurance system that has well-defined functions for each stakeholder. Such a system should also have strategies and instruments to measure and hold individuals and institutions accountable for how well teachers perform and students learn. In general, a quality assurance framework has the following key aspects: (1) performance standards; (2) performance assessments; (3) performance reporting; (4) impact evaluation of policies and programs; (5) operational requirements; (6) adequate and equitable resources; (7) autonomy, intervention, and support; and (8) accountability and consequences for poor performance. Currently, the teacher management effort in Indonesia is still largely based on standards and requirements, and to some extent, teacher certification; the other aspects have not yet received enough attention.

Addressing the deficiencies in teacher quality assurance would require putting schools at the center of the debate. The school is the frontline—where the demand for teachers is generated, a teacher's performance can be observed, and teaching and learning results can be measured. In many countries giving schools the power to hire and fire teachers has ultimately proved effective in improving teacher performance and accountability. However, a comprehensive quality assurance framework needs to be put in place in Indonesia to support effective decentralized decision making. The principal reforms needed to institute such a framework are summarized in table 4.

Table 4. **Quality Assurance Framework: Future Reform Agenda**

	Schools	Local government	Central government	Teacher Training Institutes (LPTKs)
Performance standards			Establish what students should know and are able to do at the end of each grade Establish a teacher career ladder, including what they should know and be able to teach at each level	Design and improve curriculum for teacher training
Performance assessments	Assess teacher performance according to standards	Help supervisors give support schools	Design instruments and methodologies; develop a framework for diagnosis and accountability	Select high-caliber trainees and prepare qualified teachers
Performance reporting	Distribute assessment reports to local government and communities	Make teacher performance data part of EMIS	Collect national teacher data for policy and research	
Impact evaluations			Continue to investigate whether, how, and at what cost teacher certification works	
Operational requirements			Revise staffing norms; formalize multigrade and multisubject teaching	
Adequate and equitable resources	Receive resources to hire teachers	Allocate grants to schools for hiring and managing teachers	Revise the DAU formula	
Autonomy, intervention, and support	Receive power to hire and manage teachers	Support low-performance schools	Support low-performance districts through focused technical assistance	
Accountability and consequences	Reward and sanction teacher performance	Reward and sanction school performance	Implement civil service reform to make teachers employees of schools	Answer school and local government needs for good teachers

B. "School power": The key to holding teachers accountable

The long-term solution for better teacher management is to move the power to hire and fire teachers to schools. BOS funding has already begun the process of school-hired teachers, even though salaries are not explicitly an eligible expenditure item according to official BOS guidelines. The BOS allocation could be expanded in the future to include both a salary and non-salary component, based on a school's need. Even though a majority of public schools does not have much experience in managing teachers now, they can learn much from the private schools which represent a large share of basic education service provision in Indonesia.

Under the oversight of the school committee, school-based teacher management requires strong professional leadership on the part of the prinicipal. As a result of Ministerial Regulation 44/2002, principals are expected to provide leadership in a range of areas, including school planning, curriculum development, school financing and budgeting, staff management, and community involvement. Consequently, principals in Indonesia need greater skills to play a crucial role in the overall quality assurance framework. This framework will require them to play a role in managing teacher induction, performance assessment, and appraisal; mentoring, promoting, and sanctioning teachers; disseminating teacher performance information to the local community and local government; and, finally, being accountable for overall school performance.

C. Local government: Differentiated support to schools

Local governments in Indonesia already have a mandate to play a role in setting district education policy, including sector planning, financing, curriculum development, infrastructure and facilities development, educational personnel management, and quality assurance (PP No. 38/2007).

A special **school staff monitoring unit (SSMU)** could be established in districts to support the continuous re-assessment of teacher requirements. This unit should, among other tasks, be responsible for establishing the teacher staffing needs of each school, reviewing and updating school- and district-level STRs, monitoring student enrollment trends and projections for teacher demand, reviewing teacher workloads, and liaising with LPTK about teacher demand, especially regarding subject specialist needs. This unit could also have an audit role; that is, it could monitor the qualifications of teachers employed at schools, particularly to avoid mismatches and overstaffing.

A key challenge for local governments is to provide differentiated support to schools. A large proportion of available resources will need to be spent on the lowest-performing or neediest schools, with the district's strong support and close oversight. The disparities within districts are huge in terms of learning outcomes, school facilities, and teacher quality, as well as students' socioeconomic background. Low-performing or needy schools must be targeted in order to obtain additional support from the districts, in alignment with each district's obligation to assist schools in meeting the minimum service standards. Top-down assignment of teachers by district is likely to continue in the medium term for these schools in order to ensure teacher quality as well as availability.

D. Central government: Fundamental institutional and policy reforms

Fiscal and civil service reforms

Giving schools more power in teacher management also means a wider scope of institutional reform that is, deepening decentralization, letting go of remaining nominal central control, and, most importantly, establishing an enabling regulatory and policy framework to provide guidance and support for school-level decision making.

First, the formula for the General Allocation Fund (DAU) needs to be revised, followed by an abolishment of the central BKN "quota" system. Revision of the DAU should remove the implicit principle of "the more one hires, the more budget allocation one gets." The teacher salary component of DAU should be given to districts as "block grants" proportional to a district's school-age population. Remote and disadvantaged districts can be allocated supplementary funds for their additional needs including teacher incentives. In addition, the teacher professional allowance should become part of the DAU and thus go through the districts to schools.

In the long run, the teaching profession should be delinked from the civil service, with a separate professional performance appraisal system and career track established for teachers. One key performance benchmark of the new performance appraisal system should be student learning outcomes. The system should also stipulate the major steps of entering the profession (probation and induction), professional development (progression from beginner to master teacher), and performance appraisal (reward or retraining). Implementing such a system will require regular reporting on the effectiveness of all teachers; identification of failing teachers and adoption of practices for their improvement; and the definition of mechanisms for the management of underperforming teachers, as well as rewarding outstanding teachers.

Promoting multigrade teaching and revising staffing norms

Multigrade teaching has been perceived as an emergency measure for schools that have a shortage of teachers, but international evidence shows that multigrade teaching is, in fact, extremely effective from a quality perspective. In many cases students in a multigrade setting have even outperformed those in a traditional grade structure. The best-known example is *Escuela Nueva* in Colombia, where students from poor families in rural areas actually outperformed their urban counterparts from wealthier backgrounds who attended traditional single-grade schools. Results from numerous research initiatives and evaluations conducted by national and international organizations since 1980 have confirmed the superior academic, personal, and civic achievements of Escuela Nueva students, in addition to their lower drop out and repetition rates.

A successful multigrade school system should stress an active and participatory approach. This approach encourages: (1) child-centered, participatory, self-paced learning; (2) a flexible calendar, promotion system, and grading; (3) a relevant curriculum based on life skills and children's daily lives; (4) a closer relationship between a school and its community; (5) a new role for the teacher as facilitator of learning, and (6) improved student self-esteem and egalitarian and democratic attitudes. Flexible promotion eases the boundaries between formal and nonformal education by allowing students to advance from one grade or level to another and complete academic units at their own pace. Interestingly, some countries, such as Australia, are now deliberately choosing to implement multigrade teaching in large schools, where such teaching is not necessary. Other countries, such as Nicaragua, have adopted a national policy to implement multigrade teaching in all schools.

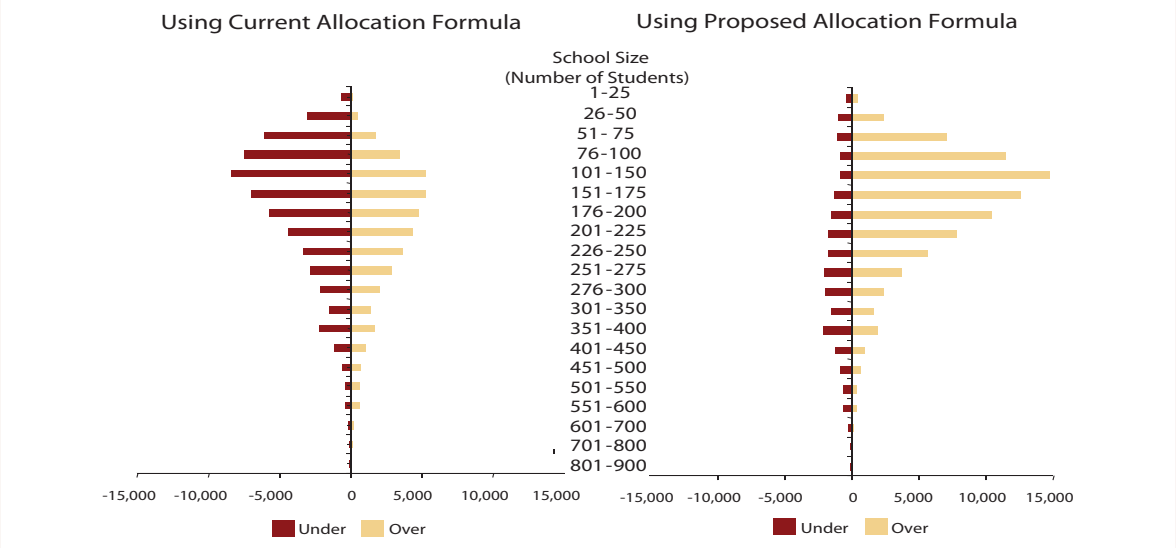
Indonesia also has experience with multigrade teaching. The district of Pacitan, for example, had continuing difficulties in staffing its many small schools in rural and remote areas. Teachers found that it was not as difficult to implement multigrade concepts as they had first imagined; they also found that it made their teaching tasks easier and more rewarding. Teachers who were overworked by attempting to teach each grade in separate shifts are now able to use their time more effectively. A comparison of test scores showed greater improvement in the multigrade than the single-grade schools of the district, indicating that multigrade teaching can be effective from a quality standpoint.

In the meantime, school staffing formulas and policies related to teaching specific subjects or classes must be adjusted to fit the realities of Indonesia's system, which has an inordinately large proportion of small schools. Specific staffing policy recommendations include: (1) schools should be staffed on the basis of the number of students, rather than the number of classes; (2) staffing formulas should take into consideration the small size of a large number of schools so that no schools have fewer than three teachers plus a principal; (3) regular primary schools should be staffed on the basis of one teacher for approximately every 30 students, plus a principal (with a minimum of four teachers in every school); (4) maximum class size at the primary level should be 40; (5) multigrade classes should be formed when the combined enrollment of any three or more consecutive grades is 25 or less.

For secondary schools, teachers should be deployed based on the number of students, with a proposed target student-teacher ratio of 24:1 for junior secondary school and 22:1 for senior secondary school. Teachers should also be required to teach a full workload (i.e., 24 hours) in order to receive the professional allowance for certification. (Part-time teaching should continue to be allowed for teachers who are willing to work without receiving the professional allowance). Teachers should be accredited in and teach more than one subject, particularly in small schools where there is an insufficient workload for a single subject.

Changing staffing policy will have a profound effect on estimates of teacher over- or undersupply. Figure 12 compares the estimated results of using the current and the proposed staffing formula. Using the new formula, a majority of schools would switch from teacher shortages to teacher surpluses. For example, the teacher needs of a 90-student primary school would be reduced from ten to about four teachers.

Figure 12. Comparison of STR by School Size, Using Two Allocation Formulas



Source: MoNE PMPTK Teacher Database (SIMPTK), 2006.

E. Pre-service teacher training: Producing what is needed

Whether the latest teacher law and certification will ultimately be successful will largely be determined by its impact on the quality of new teachers coming into the profession. In this sense, Indonesia is now at a critical point in reforming its teacher training programs. The effectiveness of pre-service training can be improved through: (1) effective screening of teacher trainees; (2) relevant training content and modality delivery to ensure closer links between university courses and practical classroom teaching in schools; (3) collaboratation with schools to help new teachers adapt well to their new jobs.

Selection of teacher trainees should occur at an early stage, using adequate screening tools and processes. The most rigorous selection should occur before candidate teachers enter post-graduate teacher training. Scholarships can be used to attract high-quality entrants, with a commitment on their part to be deployed to remote and disadvantaged schools.

Pre-service training needs must respond to the staffing needs of schools. A regular tracer study of the career paths of a graduates of teacher training institutes (LPTKs) should be carried out to better link coursework and teaching skills with success in real classrooms. Emphasis should also to be placed on the role of LPTKs as training centers (or "clinics") that provide continuous professional development for in-service teachers, thus ensuring that the quality of the teaching workforce is maintained and improved through up-to-date teaching methodologies and skills building. As "after-sales" service centers, the LPTKs would have closer professional links to the schools through district government offices and local teacher networks.

Strengthening the curriculum design and delivery of primary school teacher training (the S1 or PGSD—the equivalent of a Bachelor's degree) and post-degree teacher professional training (PPG) is the key to qualified teachers in the future. Efforts should focus on restructuring current diploma training programs for primary schools teachers by strengthening subject and pedagogical knowledge, thus laying a solid foundation for post-degree professional training that focuses on practical teaching skills. Reforms should concentrate in particular on introducing knowledge and skills that would significantly benefit the quality of teaching and learning over the long term, such as multigrade teaching. This is a critical opportunity for selecting high-caliber candidates and providing them essential teaching skills through coaching and classroom practice. New practices, such as the requirement that secondary teachers be able to instruct in a minimum of two subjects, group and student-centered teaching, and other proven new teaching techniques, can be introduced during this period.

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