

Policy, politics and pendidikan: teacher deployment in Indonesia

A study of the distribution of primary and junior-secondary teachers in 23 Indonesian districts

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Abstract

The problem of uneven teacher deployment has long been recognized in Indonesia. With an overall ratio of approximately one teacher to 16 primary school students (1:13 in junior-secondary), there is a substantial oversupply of teachers. However, these are poorly distributed. Urban schools are commonly overstaffed while schools in rural and isolated areas are understaffed. This situation creates inefficiencies within the system and penalizes poor and marginalized communities. The end result is a disparity in education quality between schools, and an overall constraint to quality improvement.

A joint Five Minister Edict was issued in 2011, requiring all districts to redistribute teachers evenly and according to need. The edict was issued by the Ministers of Education, Religious Affairs, Finance, Home Affairs and State Bureaucracy. Although this regulation required the redistribution to be implemented by end of 2013, few districts have complied. The major challenges to implementation are vested political interests and local resistance. Teachers and their spouses (many of whom are civil servants) commonly provide a political support base for local politicians and are rewarded with attractive placements. In addition, districts lack the capacity to accurately map teacher distribution or conduct analysis to identify policy solutions. As teachers are under the authority of districts, the central and provincial governments have played no significant role.

The USAID-funded PRIORITAS project developed and implemented a teacher deployment program known as *Penataan dan Pemerataan Guru (PPG)* in 23 districts. Using the national education database (DAPODIK) and working with local partners from the districts, universities and province-level education quality assurance agencies (LPMP), the project has successfully mapped teacher distribution, developed policy solutions, conducted public consultations (multi-stakeholder forums) and is supporting implementation in these districts. The program is being expanded to more districts and a national policy dialogue is underway. The analysis of teacher needs is based on minimum service standards and requirements of the curriculum (2006 and 2013).

Results from the initial sample of 23 districts were collated at national level and are summarized in this paper. The policy solutions vary depending on local contexts. These include teacher transfers, incentives for remote placements, school mergers, multi-grade teaching, mobile teachers, and retraining teachers to enable them to teach different subjects or levels. Such policies have the potential to greatly improve the quality of education throughout the country by ensuring that schools are properly staffed, improving equity, and improving system efficiency, releasing funds for quality improvement.

I INTRODUCTION

I.1 Background

The problem of uneven distribution of teachers has long been acknowledged in Indonesia. Regulations to address the issue have been on the books since 2007. Government Regulation (*Peraturan Pemerintah* or PP) No. 38 of 2007 on the division between Central and Local Authorities, stated that civil service teachers can be transferred between schools within districts, inter-district, and between provinces. As a follow-up to this regulation, the Minister issued Decree No. 12, 2010, on the Standards, Norms, Procedures, and Criteria (*Standar, Norma, Prosedur, dan Kriteria*, or SNPK). This Ministerial Decree (*Peraturan Kementerian Pendidikan Nasional*, or *Permendiknas*) regulates how teachers can be transferred between schools within districts, between districts within provinces, and between provinces.

Notwithstanding this, until 2011 only a few districts had made arrangements to redistribute teachers, and these were mainly facilitated by donors, such as USAID through the DBE and KINERJA projects, and UNICEF through the MGPBE project. Other districts began to show interest following the issuing of a Joint Five Minister Edict by the Ministers of Finance, Home Affairs, Education, Civil Service and Bureaucratic Reform, and Religion in mid-2011. One reason is that, in addition to regulating the obligations of districts, provinces and the ministries, the regulation also specifies sanctions for districts and provinces which fail to address the issue of teacher distribution. Penalties come in the form of: (1) freezing the quota for employing new civil servants (Minister for the Civil Service and Bureaucratic Reform), (2) reducing the education budget allocation (MOEC), (3) awarding a lower performance appraisal (Home Affairs), and (4) reducing grants (Minister of Finance).

Teacher distribution is important for districts because typically over 70 per cent of civil servants are teachers. This has a major impact on district budgets, as personnel costs generally account for more than half of the total district budget.

Better teacher deployment is not just a matter of transferring teachers from overstaffed to understaffed schools, but can be an entry point for restructuring the whole school system, with benefits:

1. For students, who receive a better education, as a result of sufficient teacher supply and an appropriate number of students in the classroom (neither too many or too few) to support the learning process.
2. For teachers, teacher distribution can provide adequate assurance of teaching hours (required to receive government allowances), greater access to programs to increase academic qualifications, and a better fit between the teachers' backgrounds (as specified in their teaching certificates) and the subject matter they are required to teach.
3. For schools, which are able to provide a better standard of education, by ensuring an appropriate number of students per class, ensuring the availability of enough appropriately qualified teachers, and improving school planning.

This paper describes a study of teacher deployment in Indonesia. The approach to mapping teacher distribution in 23 districts is described. The results of analysis conducted at national level on the outcomes of this mapping is then presented. Strategic issues arising from the analysis are discussed along with policy recommendations for addressing the issues at district and school

levels. Some constraints in implementation are identified. The paper concludes with a discussion of implications and recommendations for the provincial and national levels of government.

The research was undertaken in 2013-2014, funded and undertaken under the the United States Agency of International Development, Prioritizing Reform, Innovation, and Opportunities for Reaching Indonesia's Teachers, Administrators, and Students (USAID PRIORITAS), a five-year project and cooperation between the governments of the USA and Indonesia.

The sample of 23 districts is based on the initial cohort of districts selected by the project with government partners in seven partner provinces nominated by USAID: Aceh, North Sumatra, Banten, West Java, Central Java, East Java and South Sulawesi. The sample is not random, though it does include rural and urban districts across a range of provinces as described.

1.2 The aims of Teacher Deployment Program

The teacher deployment program, known as *Penataan dan Pemerataan Guru* (or PPG) aimed to:

1. Develop the capacity of teacher training institute service providers as agencies or as individuals who can facilitate the teacher distribution program, known as *Penataan dan Pemerataan Guru* (or PPG) in districts and provinces.
2. Develop institutional capacity in local government, particularly focussing on those sections responsible for restructuring and distribution of teachers in the districts, including staff of the Department of Education, the Regional Employment Board, and MORA.
3. Map the distribution of teachers in schools, between schools in sub-districts, and between schools and sub-districts within the district.
4. Make policy recommendations to achieve a comprehensive and equitable distribution of teachers.

1.3 The approach

The equitable distribution of teachers is a positive policy, because it can improve the quality and equity of educational service delivery. But the policy needs to be sensitively developed and implemented, because it has social, economic, and even political impacts. A strong legal framework is required to reduce the resistance of those impacted, thus the implementation of teacher distribution policies must be based on current regulations. Public consultation and approaches to building ownership of the policy at local community levels also assist.

Another approach is to take advantage of international experience, learning from the good practices developed in other settings, this helps to improve efficiency of the process and effectiveness of the results of the program. In addition, sharing information on good practice can help convince district education stakeholders that other districts have implemented PPG with good outcomes.

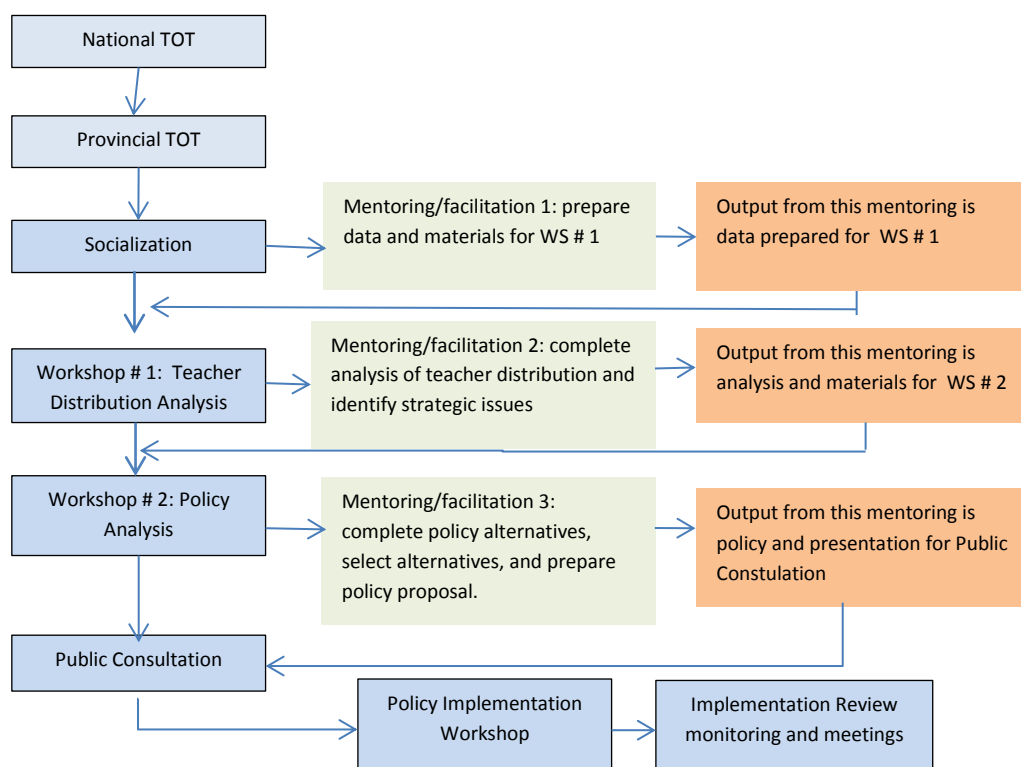
Figure 1: The Basis of the PPG Program



The approach to facilitating PPG with the District Education Office consisted of four activities or stages, namely : (1) Orientation, (2) Data Analysis Workshop, (3) Policy Analysis Workshop, (4) Public Consultation, and (5) Policy Implementation Workshop.

1. *Orientation*: this initial activity aimed to build a shared commitment between USAID PRIORITAS and the partner district to the equitable distribution of teachers, as well as raising awareness of the importance of good data as a basis for policy making.
2. *Workshop 1: Data Analysis and Identification of Strategic Issues*. This activity focussed on mapping the distribution of teachers in detail and formulating strategic issues for teacher deployment, based on the results of data analysis.
3. *Workshop 2: Policy Analysis*. This activity focused on policy analysis steps (identifying policy alternatives, establishing criteria for the selection of policy alternatives, formulating policy recommendations), and designing policy implementation, as well as determining the likely impact of policy determination.
4. *Public Consultation: Multi-stakeholder Forum*. In this activity policy recommendations were shared with stakeholders and decision-makers to obtain feedback and help finalize district policy.
5. *Implementation Workshop*. At this stage the main activity was to develop regulations and a technical implementation plan to enable implementation and concrete action at school, sub-district and district levels.

Figure 2: Schema for PPG Program



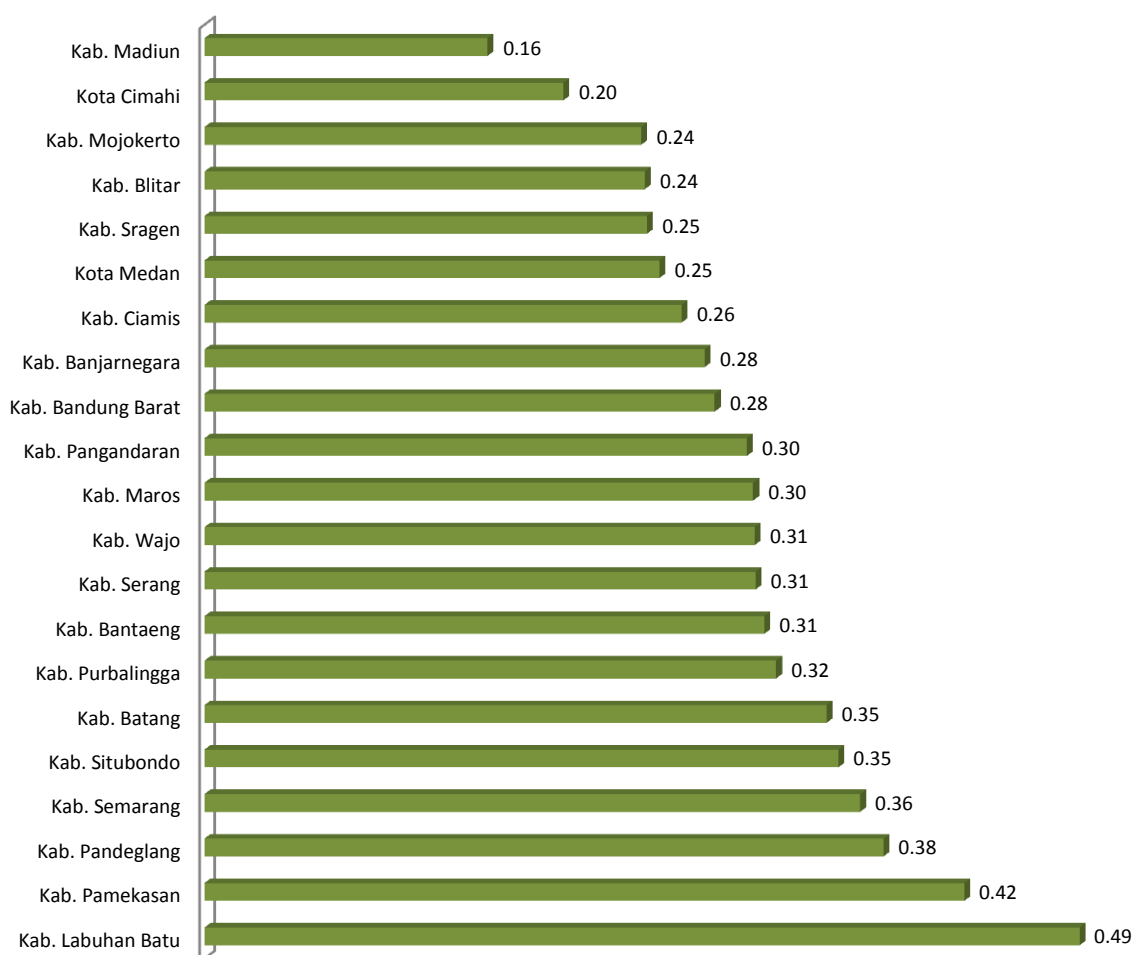
2 MAPPING TEACHER DISTRIBUTION

2.1 Primary school teacher distribution

2.1.1 Primary school teacher education

Law No. 14 of 2005 on Teachers and Lecturers requires that teachers at all levels of education should, at a minimum, hold a basic degree or four-year diploma (S1/D4) qualification. The time limit for obtaining this qualification was set at ten years from when the law was promulgated, meaning that all teachers at all levels must be qualified with S1/D4 by 2015. The achievement to date for primary school teachers in sample districts is 70 per cent. However, the percentage of teachers who have not yet achieved the standard of four-years training varies from between 16 to 49 per cent between districts.

Figure 3: Percentage of Primary Teachers not yet Four-Year Qualified (Civil Servant Teachers only) by District, 2013-14



Will all currently employed primary school teachers undertake further study to achieve this minimum educational qualification of S1/D4? The age of the teachers concerned should also be considered when planning for upgrading of primary school teacher qualifications. Of the total

number of primary school teachers who have not yet achieved the S1/D4 qualification, 12 per cent are aged over 50 years (meaning they will nearly all retire within ten years), while 2 per cent are over the age of 60 (these are non-government teachers), as shown in the following table.

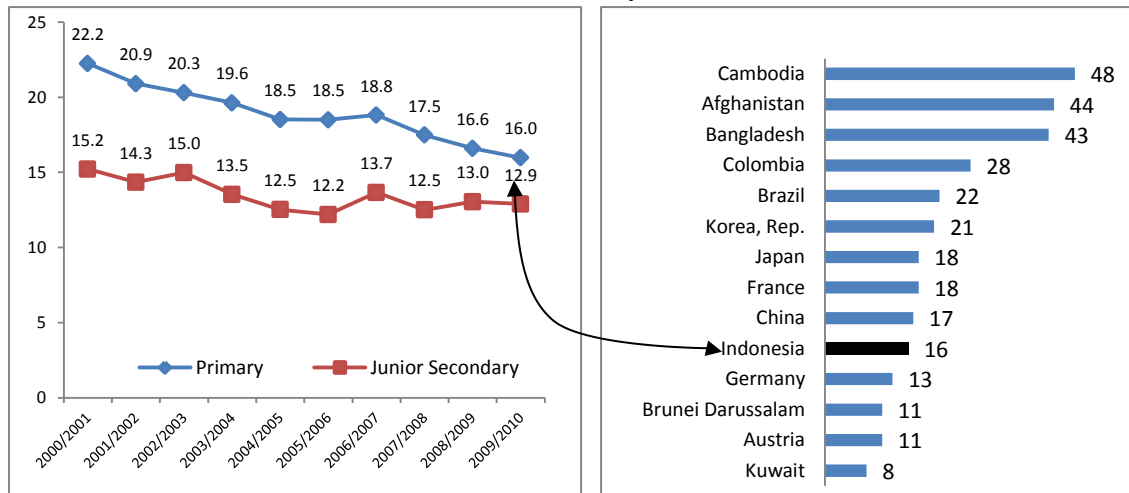
Table I: Primary school teacher distribution SD by qualifications and age, 23 Sample Districts, 2013-2014

Pendidikan Guru	Usia Guru						Grand Total
	<20	20-29	30-39	40-49	50-60	>60	
SMA/Sederajat	51	4987	2136	2440	3144	561	13319
Diploma I	2	62	104	40	96	17	321
Diploma II	24	2715	4723	2497	7676	1070	18705
Diploma III	2	128	205	126	237	44	742
Diploma IV/Strata I	76	10283	16565	19748	23701	762	71135
Strata 2	4	26	143	414	411	10	1008
Strata 3				1	2		3
(blank)	1	70	98	85	88	54	396
Grand Total	160	18271	23974	25351	35355	2518	105629

2.1.2 Adequacy of teacher supply

There are two main ways of assessing teacher supply at primary school level: (1) the number of teachers in relation to the number of classes (the standard is one teacher per classroom), (2) the number of students per teacher (teacher-student ratio). Based on the number of classrooms, it appears that there is a shortage of primary classroom teachers in Indonesia, but if the teacher-student ratio is considered from year to year, based on government standards for class size, it becomes clear that this is not the case, as shown in the following diagram:

Figure 4: The Development of Teacher-Student Ratios in Indonesia and Comparisons with Other Countries, 2010 (Including Civil Servants and Non-Civil Servants)

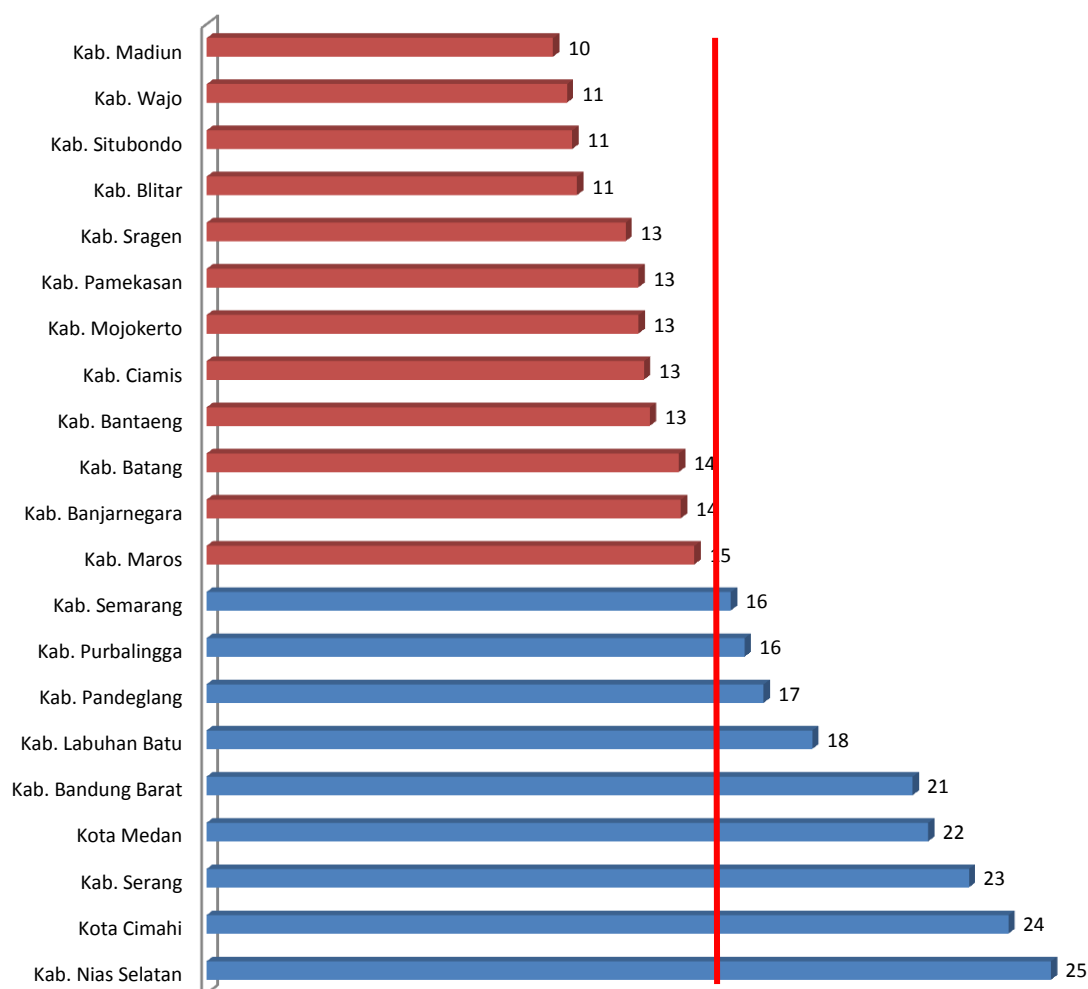


Source: MOEC, 2011, UNESCO, 2011

The teacher-student ratio for Indonesian primary schools is among the highest of the countries surveyed (including both tenured civil servants and non-civil servants). As illustrated above, the teacher-student ratio in 2010 was 1:16 compared to South Korea where the figure was 1:21 and Cambodia at 1:48.

The teacher supply, as reflected in the ratio of students to teachers in primary schools in the sample districts is similar to the national average: the average teacher-student ratio is 16, meanwhile the disparity between districts is high. The teacher-student ratio is less than 16 in over half of the sample districts. The distribution of districts according to teacher-student ratios is illustrated in the following diagram:

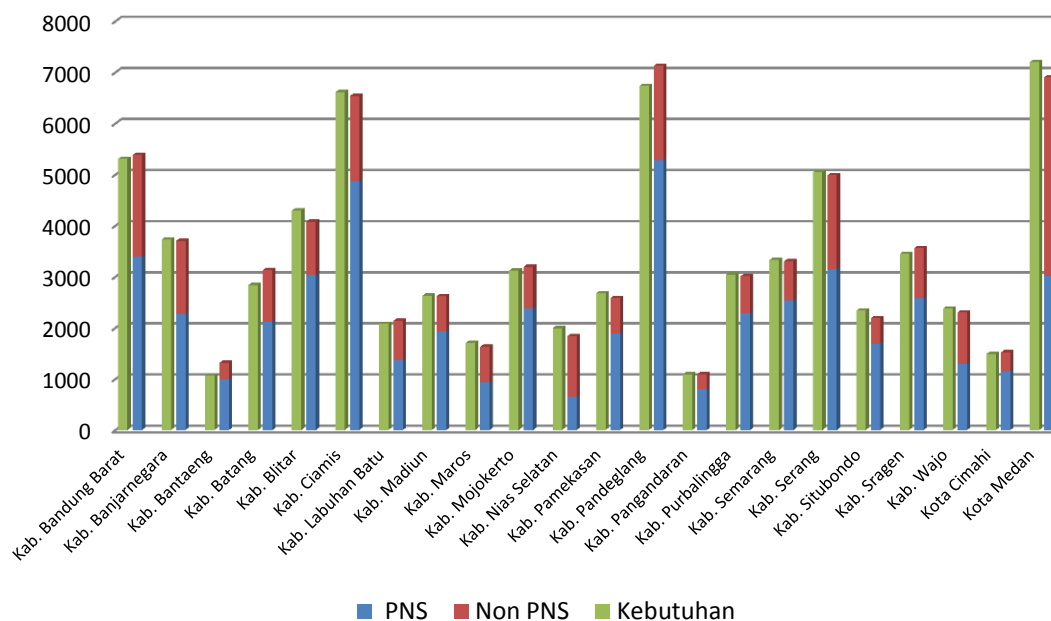
**Figure 5: Teacher-Student Ratio in Primary Schools, 23 Districts, 2013-2014
(Including Civil Servants and Non-Civil Servants)**



Despite the relative oversupply of teachers at primary school level in Indonesia, when looked at from the perspective of minimum service standards (MSS) the story is rather different. The minimum standard for primary education under Indonesian regulations is one classroom teacher for each class. Based on this standard, there is a major shortage of primary school teachers, especially if only tenured civil servant teachers are counted. If you take into account the non-civil servant teachers, the shortage is still evident, but not as large.

The variation in adequacy of classroom teachers supply for the number of primary classrooms is quite significant between districts, although the gap is more obvious when only civil-servant teachers are counted. All sample districts are undersupplied with classroom teachers, when calculated in this way. But, if non-government teachers are included, some districts are oversupplied. On the other hand, if non-government teachers are included there is still a shortage of classroom teachers in over half of the sample districts, as shown in the following diagram:

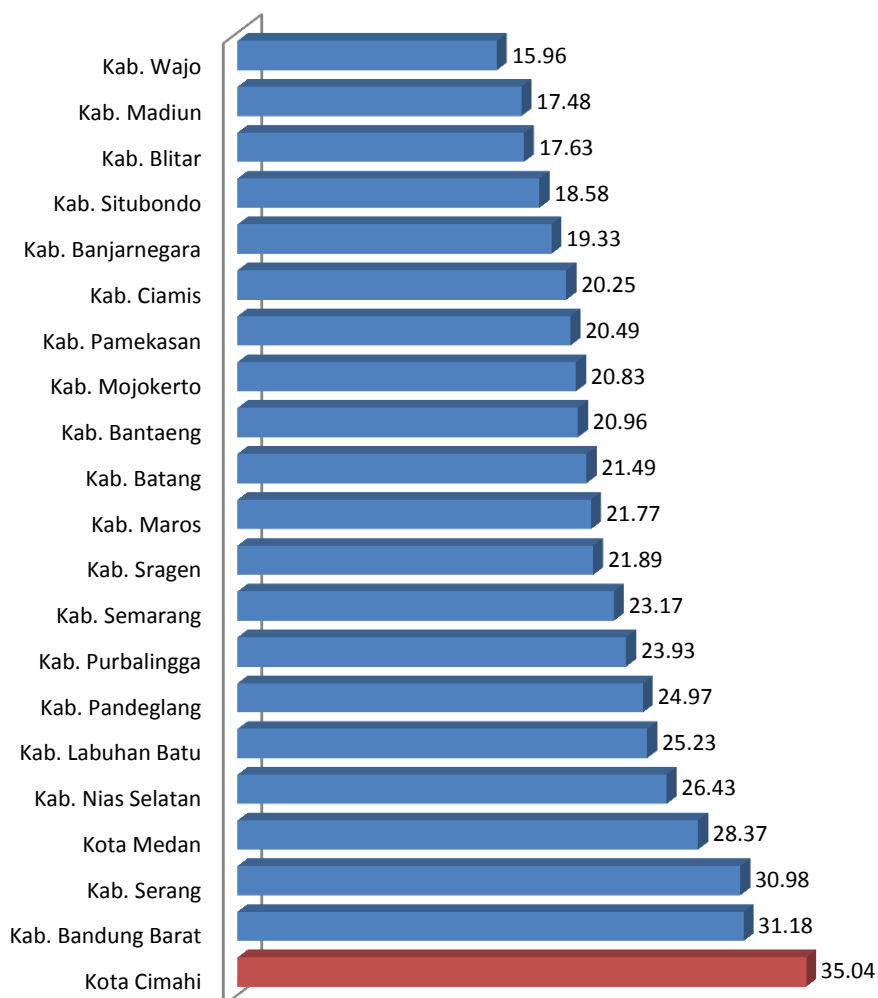
Figure 6: Needs & Supply of Primary School Class Teachers (Government and Non-Government), 23 Districts, 2013-2014



Why is the ratio of students to teachers relatively low in Indonesia compared with other developing countries? Does Indonesia have an excess of teachers in primary schools? Clearly not, because the bulk of the districts were found to have a shortage of classroom teachers in primary schools, based on the standard of one teacher per class. The low teacher-student ratio can be explained by the use of other indicators, namely class size, or the ratio of students to classes. Indonesia's minimum service standard is set at a maximum of 32 students per primary class. The national education standards are slightly lower, setting the standard at between 20 and 28. Our analysis shows that the majority (2/3 of the 23 sample districts) have an average class size of less than 24. In only one district was the average class size greater than the government's maximum of 32, namely Cimahi, a small urban district adjoining Bandung City in West Java.

The ratio of students to classes in sample districts can be seen in the following diagram:

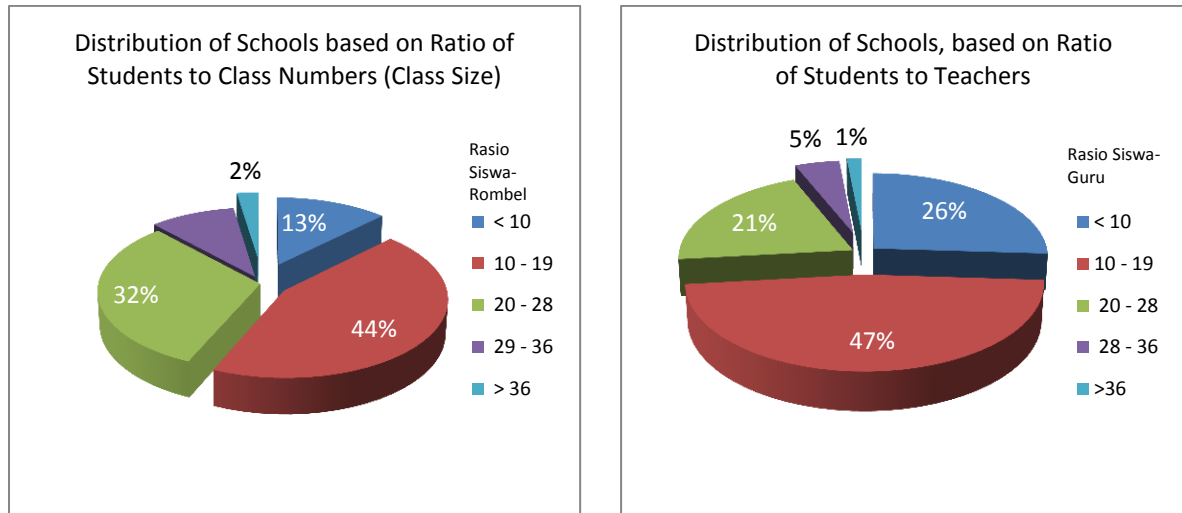
Figure 7: Average Class Size in Primary Schools, 23 Districts, 2013-2014



The low teacher-student ratio is not caused by an excess of teachers, but is a result of the fact that many schools in Indonesia have very small classes – well below the minimum standard of 32. This is particularly true of the many small schools in both rural and urban areas. Figure 9, below, shows that more than a half of schools in the sample districts (57 per cent) have less than 20 students per class teacher. Meanwhile the national education standards (as distinct from minimum service standards set the ideal ratio for primary schools at 20-28 students per class. Some 13 per cent of schools have an average class size of less than 10.

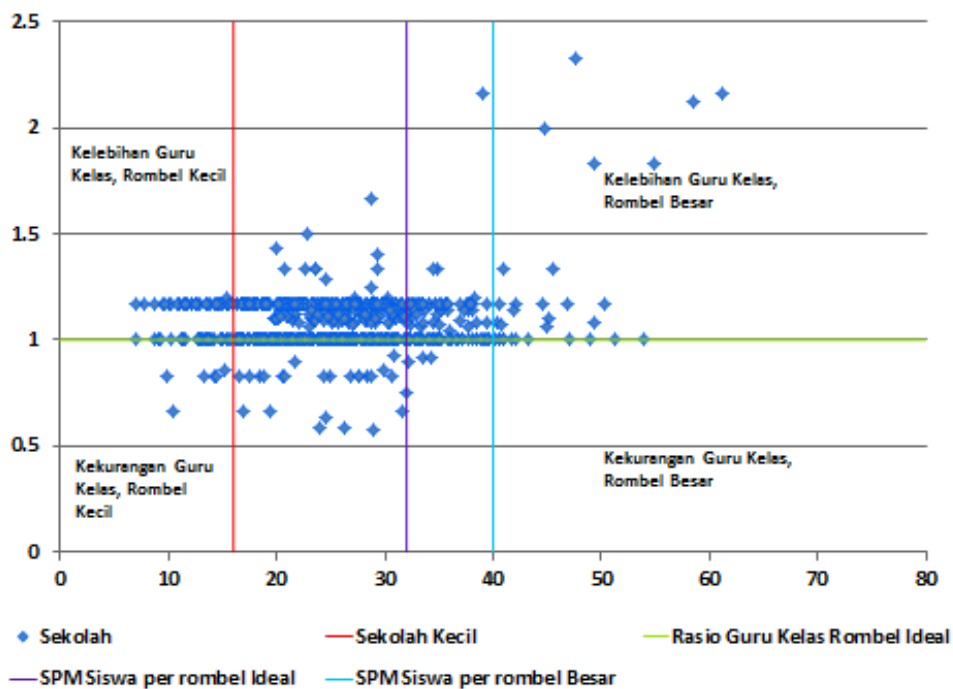
When teacher-student ratios are considered, specifically the number of students per teacher, including class teachers and subject teachers (teachers of Islam Religion and PE) at the primary school level, the number is smaller again. Nearly three-quarters (73 per cent) of schools in the the sample districts have a student to teacher ratio of less than 20. Some 26 per cent of schools in the sample have a ratio of less than 10.

Figure 8: Class Size & Teacher-Student Ratio, Primary Schools in 23 Districts, 2013-2014



Based on teacher-student ratios, the number of teachers in primary schools seems more than adequate in Indonesia, but when seen at the level of adequacy in schools, a problem becomes apparent, because the distribution of teachers across schools is uneven. This condition is evident in all the sample districts. The analysis of classroom teachers at primary school level indicates a disparity in the distribution of teachers between schools in districts, as shown in the following diagram which shows analysis for Batang District, selected as it is typical of the districts studied. Each dot in the diagram represents a single school in the district:

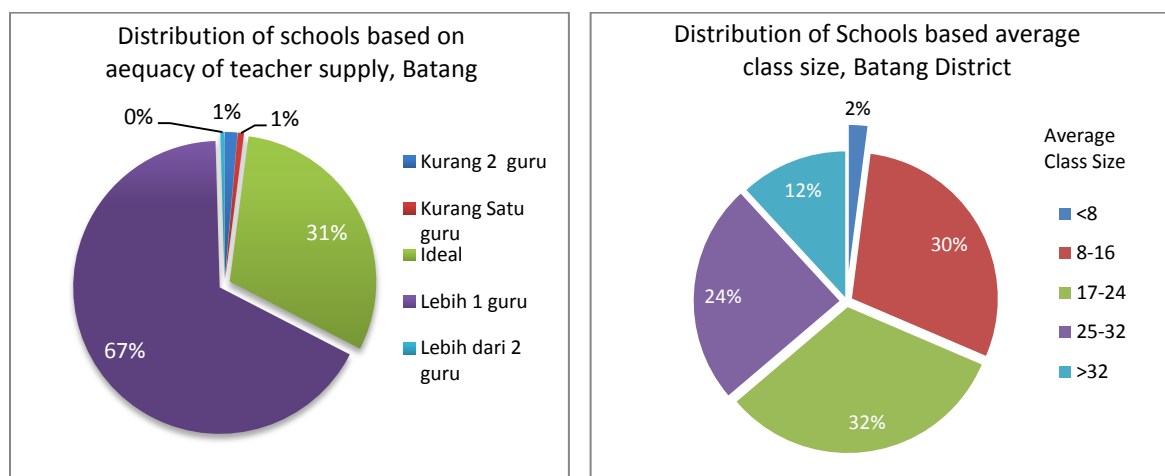
Figure 9: Scatter Graph Showing the Ratio of Teachers to Classes and the Ratio of Students to Classes, Batang District, 2013-2014



The above data show that educational resource management, in particular teacher deployment, must be addressed in order for the standard of educational services set by the Ministry of Education and Culture to be realized, especially in small schools that lack teachers. In the scatter graph each blue dot represents a single school in this particular district. The vertical axis shows the average number of teachers per class, while the horizontal axis shows the number of students per class. The graph can be understood by considering the four quadrants. In the top left quadrant, schools with small classes and too many teachers are found (i.e. more than one teacher per class and less than 32 students per class). In the bottom left quadrant schools with too few teachers and too few students per class are found. The top right quadrant shows schools with too many teachers and large classes. The lower right quadrant shows schools with too few teachers and too many students per class. In this particular district, the largest group of schools is clustered in the top left quadrant, meaning that there are a large number of small schools with small classes, which are overstaffed (based on the requirement of one teacher per class).

As illustrated in the pie graphs below, some 67 per cent of schools are overstaffed by one teacher. Meanwhile, some 88 per cent of schools have an average class size of under 32 students, while 66 per cent are under 24.

Figure 10: Distribution of Schools Based on Adequacy of Class Teacher Supply and Average Class Size, Batang District, 2013-2014



2.1.3 Student–teacher ratios

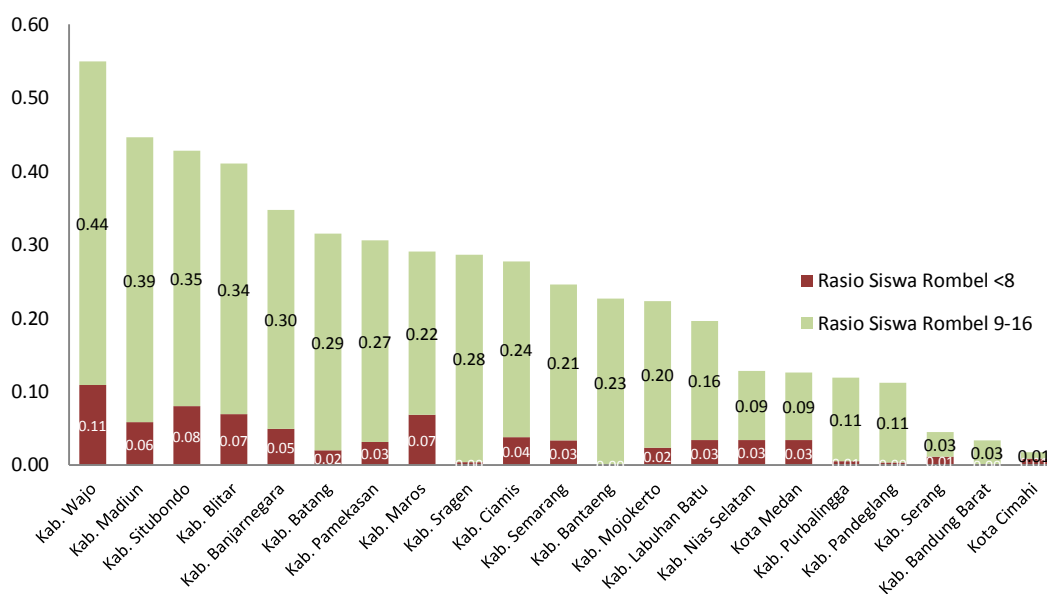
The question of small primary schools emerged as a strategic issue for teacher deployment in a number of the sample districts. For the purposes of this analysis, a small school is defined as one where the average class size is under 16, meaning that the school has under 96 students. While the problem is substantial enough in many districts, in some it is extreme: in one district (Wajo) over 50 per cent of the primary schools are categorized as small schools under this definition. In these cases, an appropriate distribution of classroom teachers can be achieved in two ways, either (1) increasing supply, or (2) reducing needs. It is very difficult to add to the current supply, however, since the majority of districts have had their quota of civil servants frozen by the national government. This is because personnel spending is over 50 per cent of the total district

budget, while more than two thirds of civil servants are teachers. The more effective and efficient strategy in this context is to reduce the need for classroom teachers in small schools. There are a number of ways of doing this: merging small schools which are co-located or closely located, introducing multi-grade classes in isolated schools, and introducing mobile teachers who teach subjects (PE and religion) in two or more small schools. These approaches are described in greater detail below.

Meanwhile, MOEC is also concerned with the problem of small schools at the national level. For the purposes of calculating national per capita BOS grants, MOEC defines a small school as one with fewer than 80 students. Under the current regulation, these schools receive a minimum grant based on a school population of 80, regardless of the fact that the actual number may be less than this. According to MOEC data, some 19,800 schools are currently categorized as small nationwide (DAPODIK 2013).

Another way of categorizing small schools is according to the number of students per class. There are many schools in Indonesia with an average class size of eight or below (this is a quarter of the minimum service standard) or between nine and 16 (less than half the standard). Surprisingly, these small schools are found not only in rural and isolated areas, but also on the heavily populated island of Java. The results of the PPG analysis in the 23 sample districts highlights the large number of districts with an average of 20 per cent of small schools overall, and several districts with over 20 per cent, as shown in Figure 8. Four school districts were identified as having over 40 per cent of primary schools categorized as small (with an average class size of 16 or under): Wajo (55 per cent), Madiun (45 per cent), Situbondo (43 per cent), and Blitar (41 per cent).

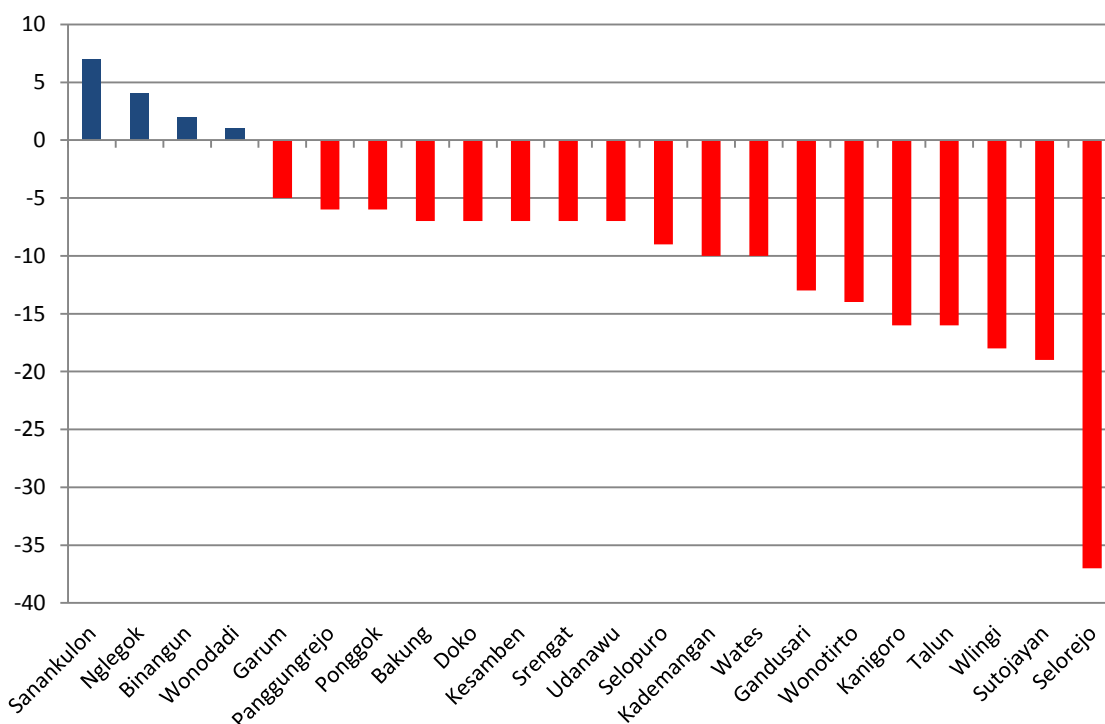
Figure 11: Percentage of Small Schools in 23 Districts (Based on Average Class Size) 2103-2014



Although, based on the percentage of small schools, Blitar district ranks fourth with 41 per cent of schools designated as small, it has the largest number of such schools (222). Meanwhile, Blitar also has a shortage of classroom teachers for the number of classes (including both civil servants

and non-civil servants). Based on the number of classes, there is a shortage of 183 teachers. This means that there are 183 classes with no designated class teacher. In practice, these classes are taught in de-facto multi-grade groups or by unregistered honorary teachers – though likely without an effective multi-grade methodology. The adequacy of class teacher provision in Blitar districts, based on number of teachers and number of class groups, is shown below by sub-district.

Figure 12: Adequacy of Class Teacher Supply Based on Number of Classes in Blitar District, 2013-2014



The reason for this serious shortage of classroom teachers in Blitar is the very large number of small schools. As described above, some 222 schools are categorized as small. On the surface, there appears to be a contradiction, since, while on one hand the teacher-student ratio is relatively small (indicating sufficient teachers), on the other hand there is a shortage of classroom teachers. This problem will not be solved using conventional approaches, but requires a new approach to the management of small schools, one that is able to reduce the need for classroom teachers while improving the quality of learning.

As described above, such approaches include regrouping/merging of schools in close proximity (in some districts schools actually share the same campus), introducing multi-grade teaching in isolated small schools where regrouping is not possible, appointing mobile teachers who can cover more than one school for subject teaching (religion and PE), and turning some isolated small schools into satellite branches of a group school. In the latter case, children can attend early grades in the branch school and, when they are a little older and able to walk to the group school, attend higher grades in the larger school. Group schools, such as this have been successfully developed in rural Papua. Mobile teachers are also becoming more common across

Indonesia as teachers require a minimum of 24 teaching periods per week in order to receive their monthly certification allowance (PP 74, 2008).

Merging of schools has been promoted by donor-assisted development projects over a number of years. The resistance of local communities, school principals and teachers with a vested interest, however is often high. Without strong political support from the district (such as a District Head Decree), the involvement of local communities and stakeholders in the policy-making and change process, and financial support to manage the transition, success is unlikely.

The experience with multi-grade class teaching has been less successful in Indonesia. While the practice is standard in most countries, including the developed world, and the World Bank estimates that over 50 per cent of children globally are taught in multi-grade classes, attempts to introduce the practice in Indonesia have encountered resistance and have generally not been sustained.¹

2.2 Mapping of primary school subject specialist teachers

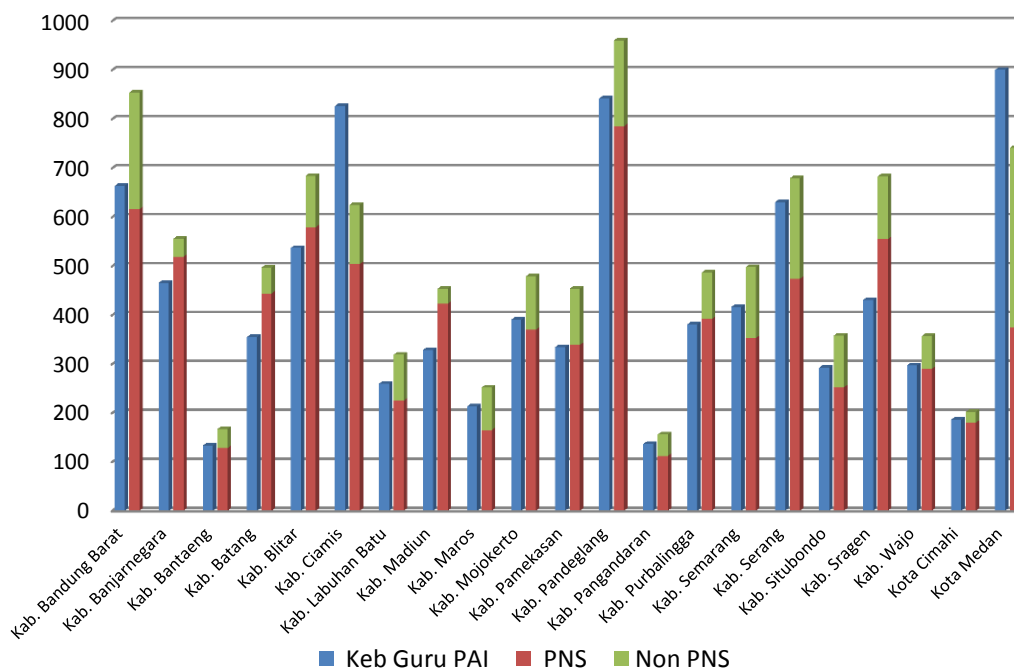
2.2.1 Islamic Religion Teachers (Guru Pendidikan Agama Islam or PAI)

The profile of primary school subject teachers is different to that for classroom teachers. Almost all districts have an oversupply of Islamic education (PAI) teachers, especially when including non-civil servant PAI teachers in the count. In fact there are several districts where the number of government teachers is already sufficient, and the problem is compounded by the addition of non-civil servant teachers.

Why is this the case? While the calculation of need for classroom teachers is based on the standard of one teacher per class, for subject teachers, the calculation is based on the teaching load. Under the regulation, PP 74, 2008, certified teachers are required to teach a minimum of 24 lessons per week. It turns out that in some districts the teaching load for Islamic religion teachers is not based on the minimum requirement of 24 lessons per week of face-to-face teaching, and the teacher is only assigned to teach at one school.

¹ World Bank Indonesia. (2010) *Investing in Multi-grade Teaching in Indonesia, Policy Brief*, Jakarta, BEC-TF

Figure 13: Supply & Demand for Islamic Religion Teachers (PAI) (Civil Servant and Non-Civil Servants), 23 Districts, 2013-2014



Further analysis reveals that the oversupply of Islamic Education teachers is based on requirements for the 2006 Curriculum (KTSP): most partner districts have an excess, especially if both civil servant and non-civil servant teachers are counted. As suggested, some districts are already oversupplied when only civil service teachers are counted, the problem is compounded by the inclusion of non-civil servants. This is true in Banjar Negara, Batang, Madiun, and Sragen districts. Meanwhile, when the calculation is based on the teaching load required for the 2013 curriculum, almost all partner districts are found to have a shortage of PAI teachers. The exceptions are Sragen, Batang, and Madiun.

The number of elementary subject teachers required, specifically teachers of Religious Education and PE, is thus significantly impacted by changes in the teaching hours required for Curriculum 2013, as illustrated below:

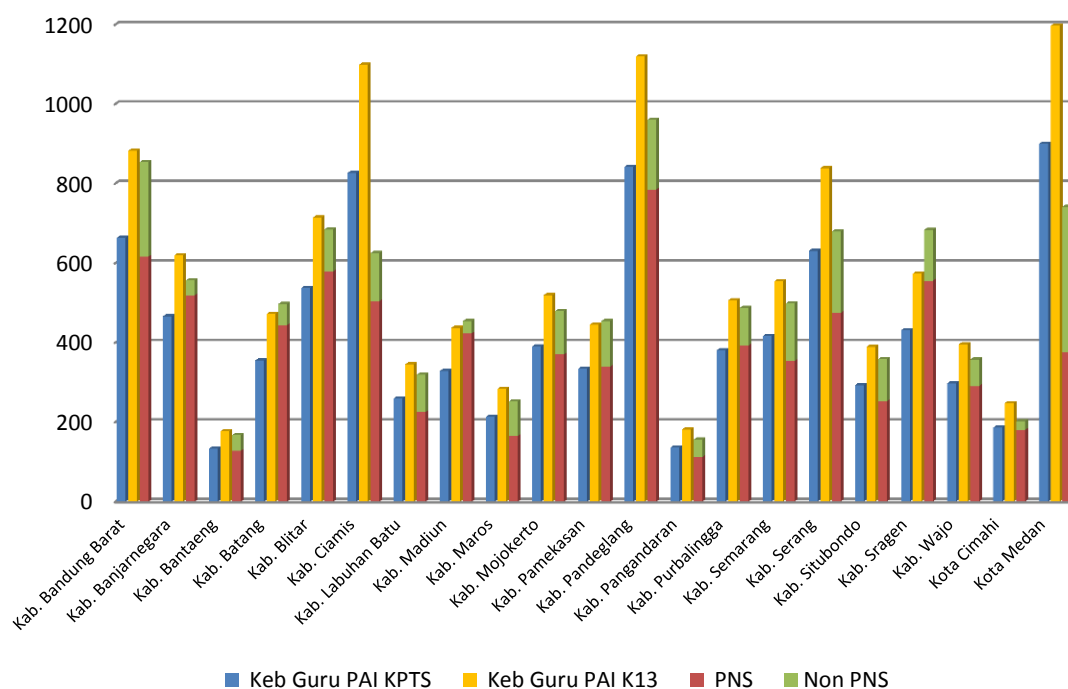
Table 2: Number of 35 Minute Lessons per Week: 2006 & 2013 Primary School Curriculum

Subject	Number of 35 minute lessons per week											
	2006 Curriculum						2013 Curriculum					
	I	II	III	IV	V	VI	I	II	III	IV	V	VI
Religion	Thematic	Thematic	Thematic	3	3	3	4	4	4	4	4	4
Civics				2	2	2	5	5	6	5	5	5
Mathematics				5	5	5	5	6	6	6	6	6
Bahasa Indonesia				5	5	5	8	9	10	7	7	7
Science				4	4	4				3	3	3
Social studies				3	3	3	3	3	3			
Arts & Crafts				4	4	4	4	4	4	4	4	4
PE, Sport and Health				4	4	4	4	4	4	4	4	4
Local Content				2	2	2						
Personal Development				2*	2*	2*						
Total				26	27	28	32	32	32	30	32	34

*Not formally timetabled.

The impact of curriculum changes on requirements for teachers at primary school level is particularly relevant to Religious Education subject teachers, an increase of three to four lessons per week. This translates into a 30 per cent increase in the requirement for Religious Education teachers. Despite the additional number of lessons per week at all levels (class one to six), there is no need to increase the number of classroom teachers, as the allocation of class teachers is not based on the teaching load, but on the number of classes. The following diagram illustrates the changing needs.

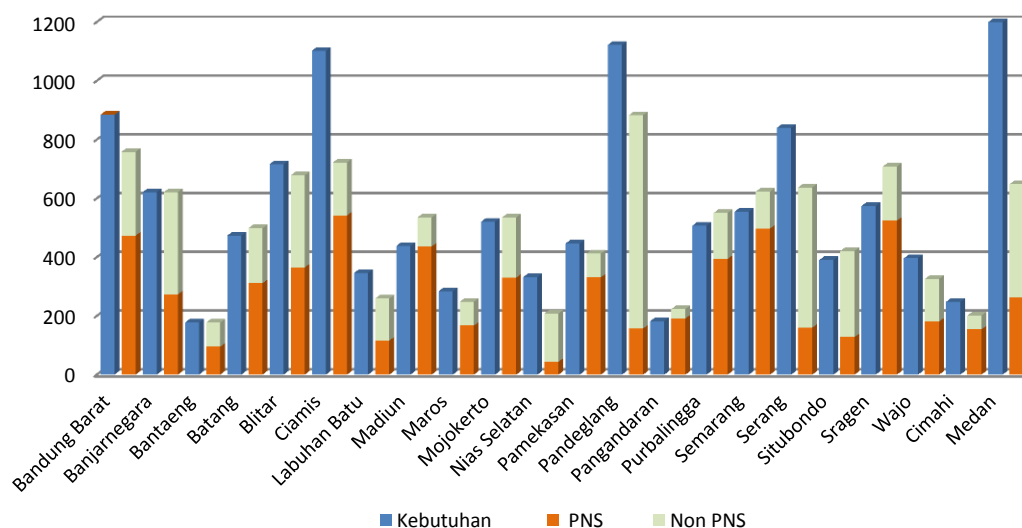
Figure 14: Current Primary School PAI Teacher Supply (Civil Servant and Non-Civil Servant) and Requirements, Based on 2006 and 2013 Curriculum, 23 Districts 2013-2014



2.2.2 Physical Education (PE) teachers

As illustrated in Table 4, above, the number of lessons per week is unchanged from the 2006 to the 2013 curriculum. Figure 16, below, shows the breakdown of teacher supply (both civil-servant and non-civil servant) for primary school PE teachers compared to the demand / requirements, based on the number of lessons per week (minimum standard of 24 per teacher).

Figure 15: Adequacy of Primary School PE Teachers by District, (Curriculum 2006), 23 Districts, 2013-2014



As can be seen from the figure above, the picture is varied. Based on the the number of teacher hours there is currently an undersupply of civil-service primary school PE teachers in all districts. When non-civil servant are included in the calculation, most districts are still undersupplied, with an oversupply evident in a few (Batang, Madiun, Pengandaran, Purbalingga, Semarang, Situbondo).

2.3 Mapping distribution of junior-secondary school subject teachers

Based on the analysis of teacher and school data in the 23 sample districts, the problem of small schools does not exist in junior-secondary schools. Where one-roof schools (sekolah satu atap) have been established to serve isolated communities, the case may be different. In these cases, a small junior-secondary school is established on the same campus as a primary school. The challenge of adequately staffing a very small junior-secondary school such as this may be met by enabling teachers to teach across the two levels (junior-secondary and primary).

2.3.1 Education and age of civil-servant teachers

The majority of junior-secondary school teachers with civil servant status in the sample are aged between 31 and 50 years, regarded as a productive age for teachers. Meanwile, some 27 per cent will retire within ten years. Most of the civil servant teachers (94 per cent) are four-year qualified (S1/D4) in accordance with statutory requirements. Only six per cent have not yet obtained a four-year qualification, and the majority of these (70 per cent) are aged 51-60 years. Increasing the qualifications for this age group should be considered in terms of the return on investment, especially if the cost of higher education is to be borne by the government. On the other hand, this situation is problematic because, if by 2015 they have not acheived the minimum of a four-year qualification, allowances associated with certification that have been paid by the national government are likely to be discontinued.

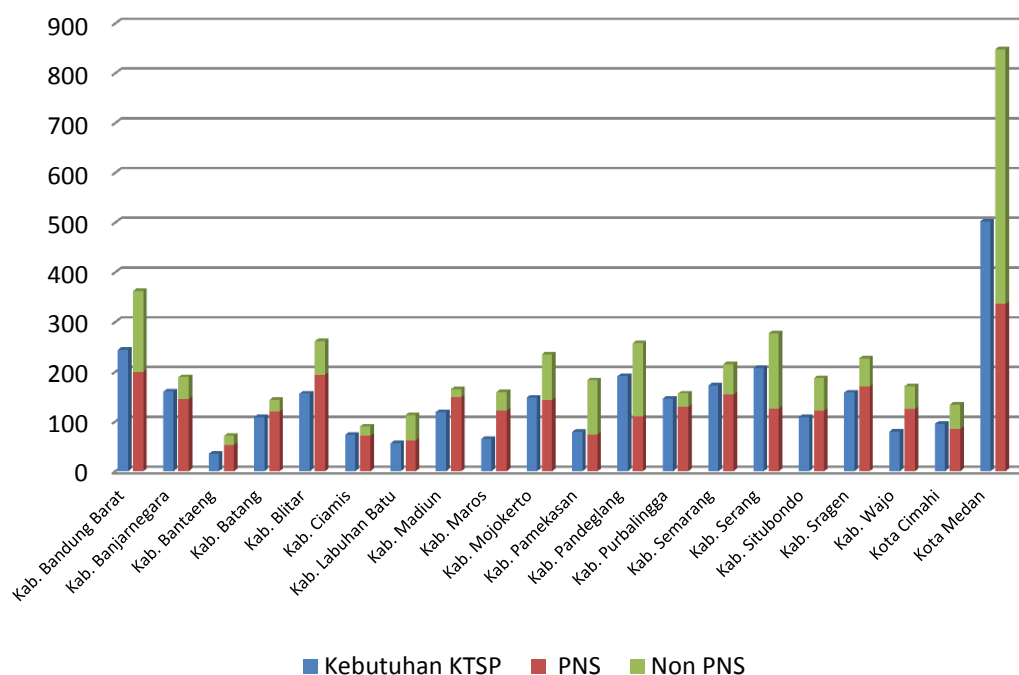
Table 3: Qualifications and Age of Junior-Secondary Civil Servant Teachers, 23 Districts, 2013-2014

Education qualifications	Teacher Age				
	21-30	31-40	41-50	51-60	Total
Senior Secondary		3	7	22	32
Diploma I			38	306	344
Diploma II	1	3	106	144	254
Diploma III	1	26	221	473	721
Diploma IV/Basic Degree	783	3790	9689	4553	18815
Masters Degree	18	202	932	492	1644
Doctoral Degree			3	1	4
Grand Total	803	4024	10996	5991	21814

2.3.2 Adequacy of subject teacher provision

The picture of teacher supply for junior-secondary subject teachers is different to that for classroom teachers in primary schools. While requirements for primary classroom teachers are based on a staffing formula or one class, one teacher, at the secondary level the formula is based on the requirement for a minimum teaching load of 24 lessons per week. At the primary level, classroom teacher shortages are evident in all partner districts (based on the number of classes). In contrast, almost all districts have excess classroom teachers for junior-secondary level, especially when including the non-civil servant teachers along with civil servants in the calculation. Some districts have enough teachers when only counting the civil service teachers. When non-civil servant teachers are added into the equation the over-supply is substantial. One example is the supply of teachers for science in junior secondary schools, based on teaching load and the number of classrooms per district, some districts have an excess without even counting non-civil servants. This includes Bantaeng, Madiun, Maros, Sragen, and Situbondo districts.

Figure 16: Supply & Demand for Junior-Secondary Science Teachers (Civil Servant and Non-Civil Servant), 23 Districts, 2013-2014



Excess of subject teachers for junior-secondary schools, occurs across almost all subjects in a number of project partner districts, as in the following illustrations.

Figure 17: Supply & Demand for Junior-Secondary Bahasa Indonesia Teachers (Civil Servant and Non-Civil Servant), 23 Districts, 2013-2014

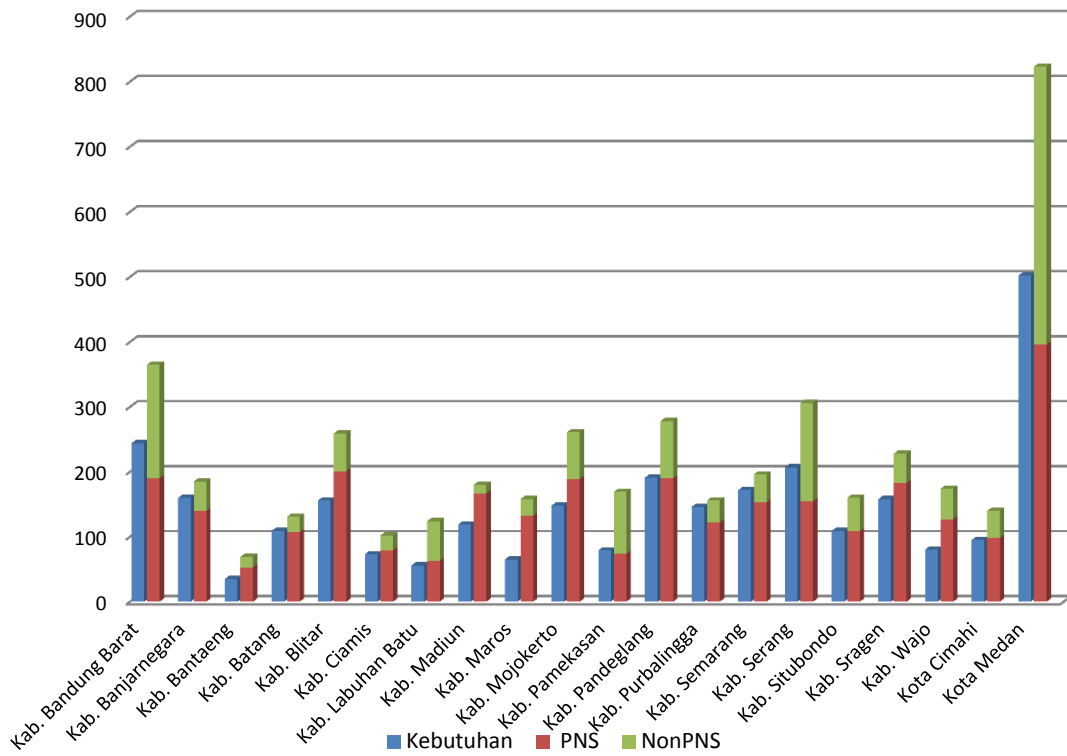
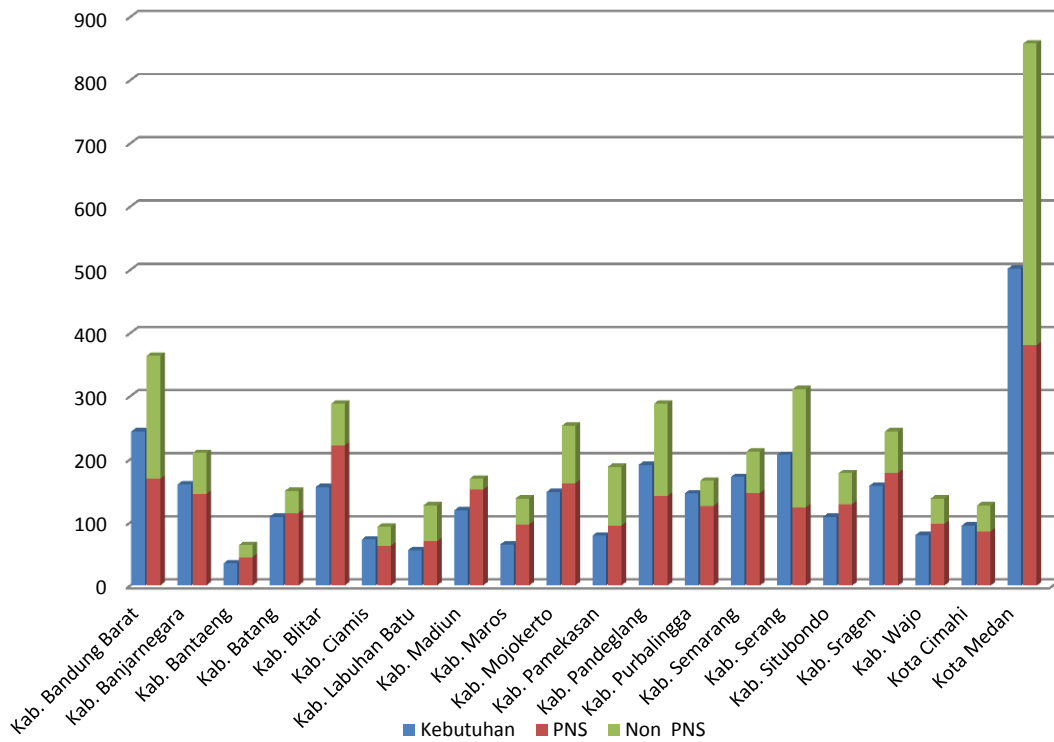


Figure 18: Supply & Demand for Junior-Secondary Mathematics Teachers (Civil Servant and Non-Civil Servant), 23 Districts, 2013-2014



The oversupply of teachers can be seen from the large number of teachers unable to fulfill the minimum requirement of 24 hours of teaching hours per week. The increasing number of teachers who do not meet the requirements suggests an excess of teachers. The following figures (Figure 20 and 21) show the number of certified teachers who teach less than 24 lessons, seen both by subject, and by district.

Figure 19: Number of Certified Teachers with less than 24 Lessons Teaching Load per Week, by Subject, 23 Districts, 2013-2014

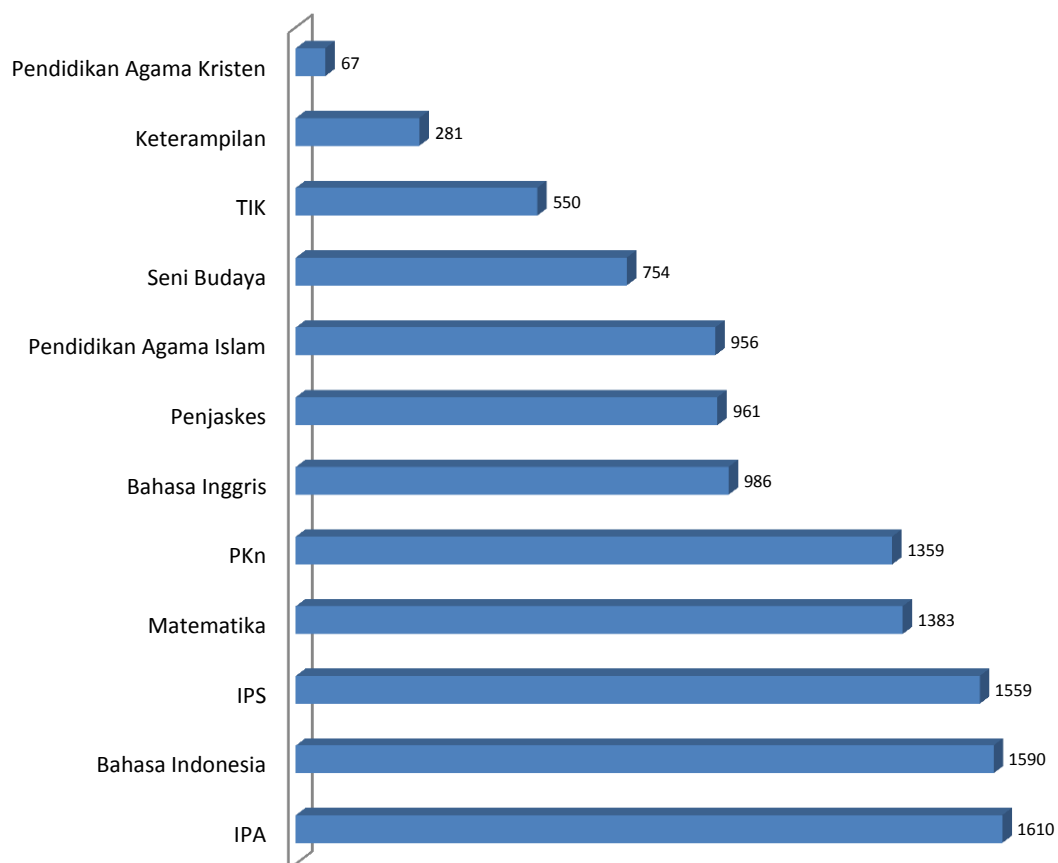
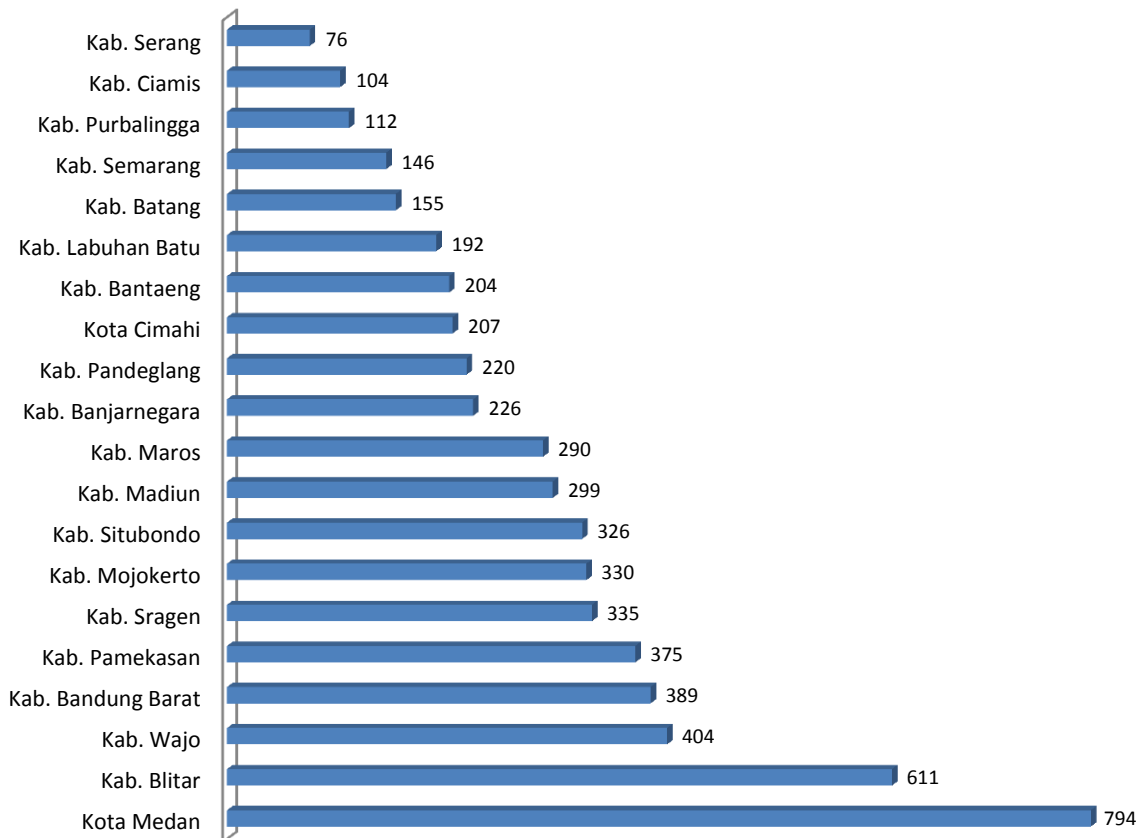


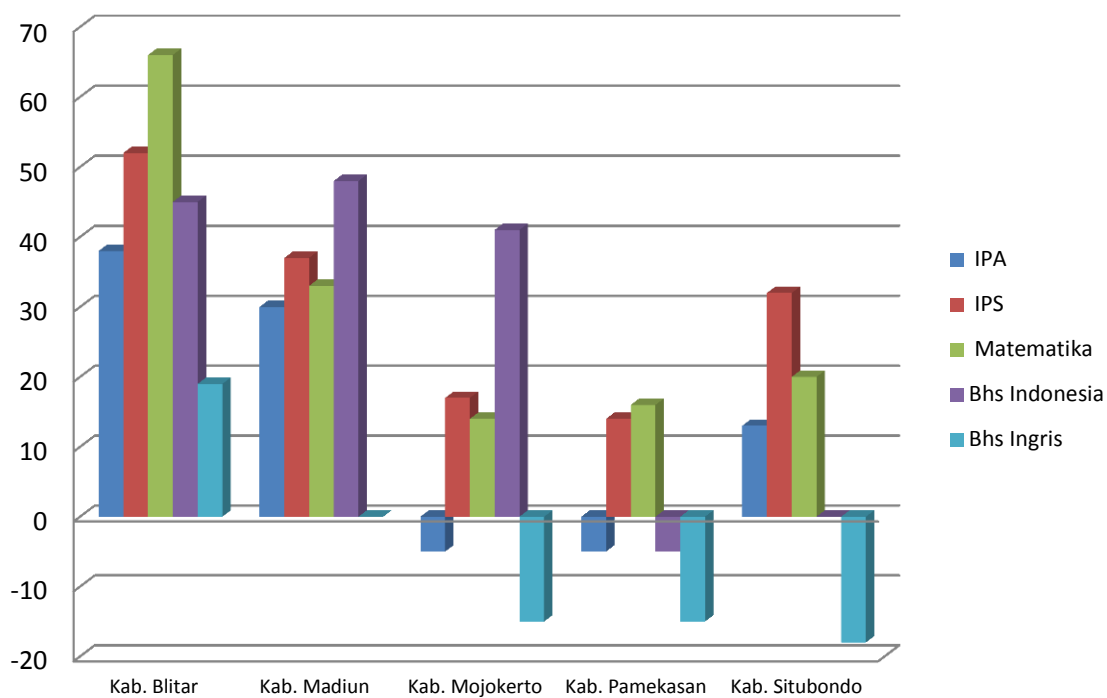
Figure 20: Number of Certified Teachers with less than 24 Lessons Teaching Load per Week, by District, 23 Districts, 2013-2014



Seen from the perspective of subject areas, there are certified teachers currently teaching less than the required 24 lessons per week in all subjects, the largest group being teachers of Science, Indonesian Language, Social Studies, Mathematics, and Civics. As illustrated above, all of the 23 sample districts have teachers who do not teach the required minimum of 24 lessons per week, the top five are the City of Medan, and districts of Blitar, Wajo, West Bandung, and Pamekasan.

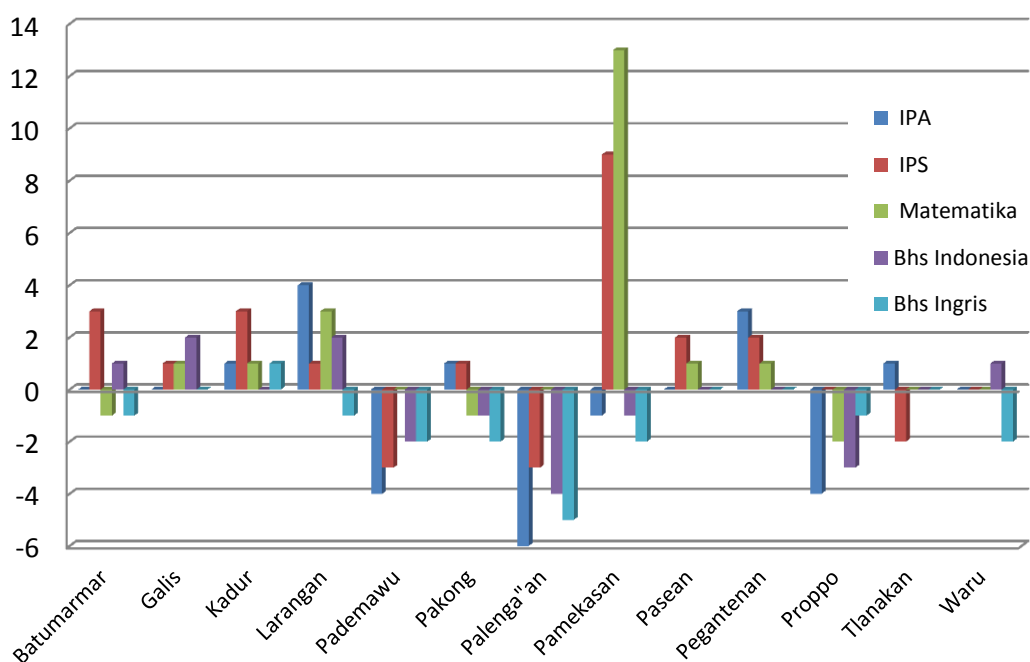
When the calculation includes only civil servants, some districts already have an oversupply of subject teachers (based on the 24 lesson rule), while other districts are undersupplied. The following illustration shows the analysis for five subject areas (teachers of Science, Social Studies, Mathematics, Bahasa Indonesia, and English). The diagram highlights disparities between districts within the province of East Java as an example.

Figure 21: Teacher Supply for Five Core Subjects, 5 Districts, East Java, 2013-2014



The disparity in the allocation of civil servant teachers at the sub-district level within districts, can be seen, in the following example of Pamekasan District.

Figure 22: Civil Servant Teacher Allocation for Five Core Subjects, by Sub-District in Pamekasan District, 2013-2014



2.3.3 The impact of curriculum change on junior-secondary teacher requirements

The 2013 Curriculum is being implemented in all schools, commencing in 2014 in grade 7 and 8, expanding to all levels of the junior-secondary in 2015. The impact of these curriculum changes on the requirements for teachers at junior-secondary school level will create a significant burden: the overall teaching load will increase by 18.75 per cent. But seen from the perspective of subjects, the greatest increase (up 50 per cent) will occur in the following subjects: Religious Education, Citizenship Education, Indonesian, Arts, and PE. The new curriculum will also result in a 25 per cent increase in the teaching load for Mathematics and Science, as shown in the following table.

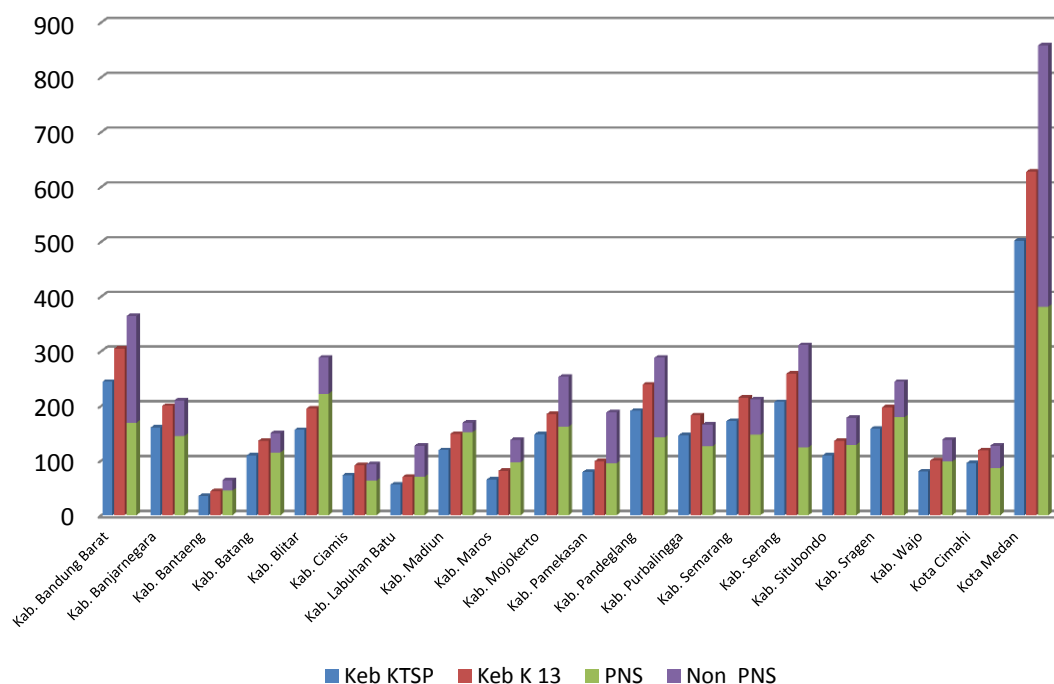
Table 4: Number of 40 minute lessons per week in Junior Secondary Curriculum (SMP/MTs)

No	Subject	1996	2004 (KBK)	2006 (KTSP)	2013
1	Religion	2	2	2	3
2	Civics	2	2	2	3
3	Bahasa Indonesia	6	5	4	6
4	Math	6	5	4	5
5	Science	6	5	4	5
6	Social Studies	6	5	4	4
7	English	4	4	4	4
8	Arts & Crafts	2	2	2	3
9	Physical Education & Health	2	3	2	
10	Local content	6	2	2	
11	ICT / Handicraft	-	2	2	2
Total		42	35	35	38

Notes: 2006 includes 'Self Development' 2 lessons per week but not timetabled. In 2013 Local Content is integrated into Phys.Ed, Health, Arts & Craft. Scouting becomes a required extra-curricular activity. The ICT component of ICT / Handicraft is dropped in 2013. Handicraft continues.

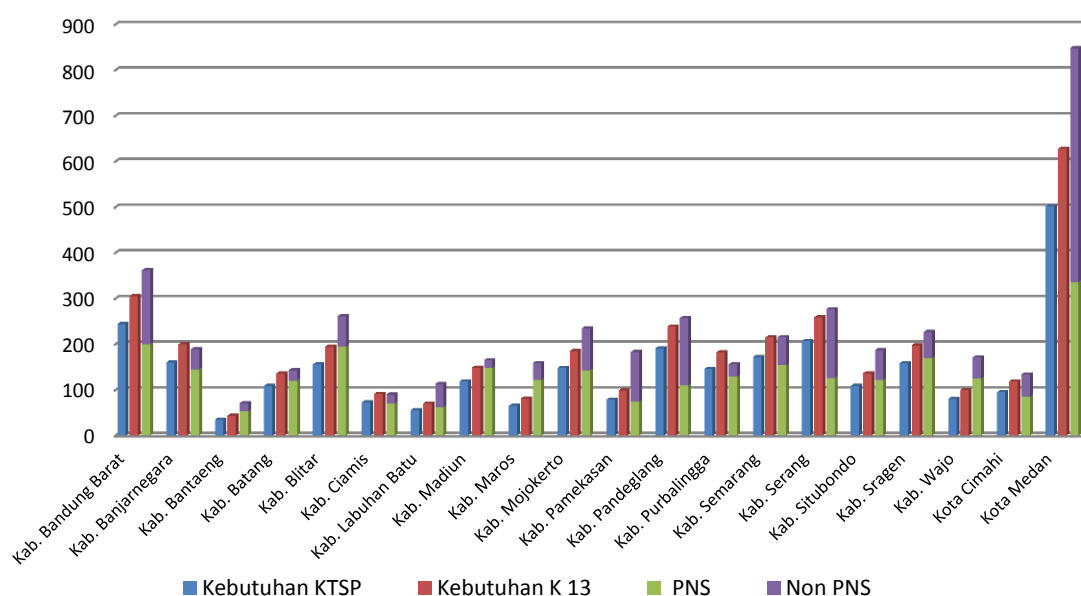
When the supply and demand for teachers is calculated on the basis of a minimum teaching load of 24 lessons per week for each teacher, according for the 2006 Curriculum (KTSP), almost all districts are found to have an excess (including civil servants and non-civil servants). Using the same formula, most are undersupplied for the requirements of the 2013 Curriculum. This is illustrated in the following figure, which shows the needs for teachers for the 2006 and 2013 Mathematics curriculum lesson and current supply in the sample districts.

Figure 23: Supply and Demand for Mathematics teachers (including Civil Servants and Non-Civil Servants), Comparing the 2006 and 2013 Curriculum (23 Districts, 2013-2014)



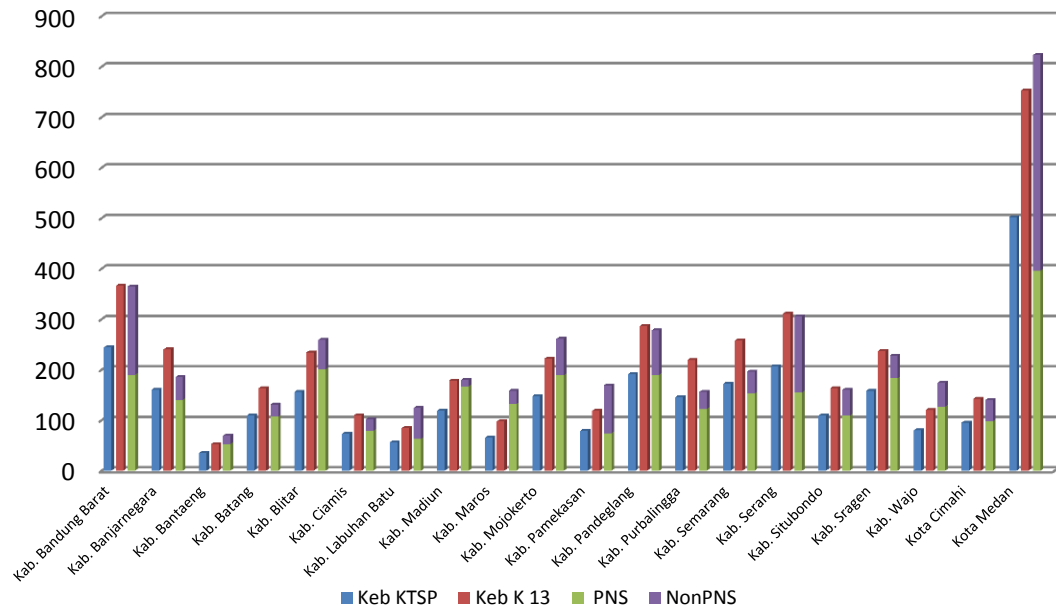
For Mathematics, with the 25 per cent increased teaching load, it turns out that all the districts have an excess of teachers (including civil servants and non-civil servants). The same is true for Science teachers, the majority still have an excess of teachers, even with the increase of approximately 25 per cent. The exception is Purbalingga. This is illustrated below.

Figure 24: Supply and Demand for Science teachers (including Civil Servants and Non-Civil Servants), Comparing the 2006 and 2013 Curriculum (23 Districts, 2013-2014)



The biggest increase in teaching load in the 2013 Curriculum is for Bahasa Indonesia, which is from four to six lessons per week, or a 50 per cent increase. Notwithstanding this, the supply of Indonesian teachers is still adequate (in fact there is an oversupply), in all districts except Purbalingga and Semarang.

Figure 25: Supply and Demand for Indonesian teachers (including Civil Servants and Non-Civil Servants), Comparing the 2006 and 2013 Curriculum (23 Districts, 2013-2014)



Based on the above analysis, there are sufficient teachers (if we include non-civil servants) to handle the additional teaching load that comes with the implementation of Curriculum 2013. However there is a shortage in all subjects if only civil servant teachers are included in the count.

One significant issue arising from the curriculum change is how to deal with the current teachers of Information and Communications Technology and Local Content, as these subjects are no longer treated as separate subjects in the 2013 Curriculum.

3 STRATEGIC ISSUES IN TEACHER DISTRIBUTION

This section highlights a number of strategic issues in teacher distribution. These are identified from two levels of analysis, the first is analysis of the aggregated data from partner districts, and the second the Teacher Distribution reports prepared for each district.

3.1 Strategic issues in primary school teacher distribution

3.1.1 Class teacher distribution

Based on the requirement of one teacher per class, the mapping results reveal a significant shortage of civil servant classroom teachers in all districts. When we include non-civil servants in the count, several districts were still found to be short of primary class teachers. This is true of Medan City, and the districts of Ciamis, Serang, and Wajo. On the other hand, when including both civil-servants and non-civil servants in the count, many districts were found to have an excess of class teachers. This is true, for example, of West Bandung, Bantang, Pandeglang and Sragen districts.

The situation is different when we consider the distribution of classroom teachers between district and sub-districts. Although all districts were found to have a shortage of civil-servant classroom teachers, some sub-districts within those districts have an excess. The excess becomes even more pronounced when non-civil servant teachers are included in the count. Only a few sub-districts were found to have an excess of civil-servant class teachers. These were located in Aceh Jaya.

An even greater inequality is evident when the situation is viewed at a more micro level, focussing on shortages of classroom teachers between schools within the districts. Schools are now able to recruit non-civil servant teachers to address shortages in their district teacher allocation. However, as a result, many schools in partner districts have recruited more class teachers than required. The impact is an excess of non-civil service class teachers in a number of schools in the districts.

Issues of concern related to the distribution of elementary classroom teachers include the following:

1. Based on the current number of classes and the standard of one teacher per class, there is a substantial lack of civil servant teachers in all districts.
2. The distribution of classroom teachers between schools and sub-districts within the districts is uneven.
3. A number of schools have an excess of non-civil servant teachers. This is true in most districts.

Beyond this, the greatest issue in primary school teacher deployment is that of small classes and small schools as discussed below.

3.1.2 Small schools

School and class size are major factors impacting on the substantial shortage of class teachers in districts, when based on the requirement for one teacher per class. Over twenty per cent of schools in the sample districts are classified as 'small schools', while in a number of districts, such as Bantaeng in South Sulawesi, over fifty per cent of schools are classified as small.

Small schools are a strategic issue for teacher deployment, due to the relationship between schools size and requirements for primary school class teachers. This explains why the supply of teachers is sufficient overall (based on the average ratio of teachers to students), but there is still an undersupply in a large number of schools. If small schools were better-managed at district and school level, the need for teachers would be reduced and the shortage of teachers would be much less than is presently the case.

3.1.3 Islamic Religion teachers and Physical Education teachers in primary schools

Islamic Education teachers: When the need for teachers was calculated on the basis of the 2006 Curriculum (the so-called KTSP or 'school-based curriculum'), and on a minimum teaching load of twenty-four lessons per week (the minimum service standard), almost all districts were found to have an excess of Islamic Religion teachers. Even when the calculation only included civil-servant teachers, several districts were found to have an excess. This includes Banjarnegara, Blitar, Madiun and Sragen. Those found to have a shortage of Islamic Religion teachers, even when both civil-servants and non-civil-servants were included in the count, are Ciamis District, and Medan City.

Meanwhile, the implementation of the new 2013 Curriculum requires a thirty per cent increase in the number of Islamic Religion teachers. The increased class time allocated to religion classes, and the resulting increased teaching load for Islamic Religion teachers will not be a problem in some districts, as the number of these specialist teachers (including non-civil servants in the count) is sufficient. Meanwhile, some others will face a shortage.

The issues for distribution of Islamic Religion teachers are as follows:

1. The shortage of Islamic Religion teachers in Ciamis District and Medan City will increase as a result of the increased teaching load in primary schools based on the 2013 curriculum.
2. The change from the 2006 to the 2013 curriculum requires more class time for Religion, this will result in a shortage of Islamic Religion teachers in ninety per cent of districts.
3. The percentage of Islamic Religion teachers expected to retire within the coming five years is greater than is the case for regular class teachers, resulting in an even greater shortage of these teachers in coming years.

Physical Education (PE) teachers: The shortage of PE teachers is similar in all districts, even when non civil servants are included in the count. When only civil servant teachers are included, the shortage is substantial, reaching over fifty per cent of the requirement for PE teachers. This shortage will increase with the introduction of the 2013 Curriculum. In a number of districts the shortage is extremely large. These include South Nias, Situgondo, Serang and Medan City.

The strategic issues related to PE teachers are the very substantial shortage of teachers which is evident in all districts. Meanwhile, if the impact of teachers retiring over the coming five years is also considered, this shortage will increase further.

3.1.4 Teacher qualifications

A change in requirements for primary school teacher qualifications was regulated in the 2005 law on teachers and lecturers (UU No.14, 2005), which requires teachers to have a minimum of four-years teacher training (either a four-year diploma, or D4, or a graduate degree, or S1). Prior to this the minimum required was a two-year diploma (D2 PGSD). The gap for achieving this requirement is substantial: in a number of districts fifty per cent of teachers have yet to

achieve the minimum qualification level required. The time limit set in the regulation for teachers to achieve the minimum qualifications is 2015.

The issue related to teacher qualifications is that over half of the districts surveyed have yet to achieve the minimum qualifications for over thirty per cent of their primary teachers. In South Nias, for example, the figure is as high as seventy per cent of teachers who have yet to achieve the minimum qualifications required under the law. Without a change in the regulations, these teachers will no longer be eligible to receive the monthly allowance payable from the national budget to certified teachers. For many this will mean a substantial drop in income.

3.2 Strategic issues in junior-secondary school teacher distribution

In general terms, the issues related to teacher distribution in junior-secondary schools are the reverse of those in primary schools. While at the primary school level nearly all districts experience a shortage of teachers, at the junior-secondary school level there is an oversupply of subject teachers, based on requirements of the current 2006 curriculum. This is particularly the case if non-civil servant subject teachers are included in the count. The exception is for teachers of Art and Culture and Information and Communication Technology (ICT) where there is a shortage. However, this changes when the requirements for the new 2013 Curriculum are considered.

3.2.1 Subject teacher distribution

The distribution of subject teachers at junior-secondary school level within districts is extremely uneven, with an oversupply of teachers for some subjects, and a shortage for others. While there is not a pattern of oversupply and undersupply between districts, in general, the oversupply can be seen from the large numbers of teachers who do not teach the minimum number of twenty-four lessons per week. Meanwhile, when the distribution of subject teachers in sub-districts is considered as a variable, further disparities are revealed with some sub-districts oversupplied and some under-supplied.

3.2.2 Teaching loads

Of the twelve subjects at junior secondary level, based on the 2006 curriculum (KTSP), an excess of teachers is consistently found in six: Science, Bahasa Indonesia, Social Science, Mathematics, Civics and English.

This excess is inversely proportional to an insufficient teaching load for teachers. While the basis for determining the number of teachers required in primary schools is the minimum service standard of one teacher per class, at junior-secondary level, the basis is a minimum of 24 lessons per week per teacher. With the increasing number of teachers in the system, it has become difficult for teachers to meet the requirement of 24 lessons per week. Prior to the 2008 regulation on teachers (PP 74, 2008), the excess of teachers in schools and districts was not seen as a problem. However it has become an issue since this regulation introduced a requirement for teachers to teach the minimum load in order to receive the professional allowance to which certified teachers are entitled.

3.2.3 The impact of curriculum changes in 2013

In general terms, the implementation of Curriculum 2013 is resulting in an increase of teaching and learning hours. At the secondary school level the number of lessons per week has increased from 32 to 38 (an additional 18.75 per cent of lesson time). The overall required number of teaching hours has thus increased somewhat. This is also true for individual subjects with the exception of English and Social Studies, for which the number of lessons per week is unchanged, and Information and Computer Technology (ICT), which was dropped as a separate subject in the 2013 Curriculum.

The PPG analysis, based on the 2006 curriculum, found a shortage of ICT teachers, particularly civil servant teachers. However, these ICT teachers now need to retrain in order to be certified to teach other subjects in line with the regulation (Permendikbud No. 62, 2013).

3.3 Cross-sectoral strategic issues

3.3.1 Shortage of primary classroom teachers and excess of junior secondary subject teachers

The imbalance in distribution of teachers between levels in the basic education system is striking: the shortage of civil servant classroom teachers at primary level is very large, while at the secondary school level the excess of subject teachers is substantial, especially for Science, Social Studies, Mathematics, Indonesian, and Civics. This imbalance has continued for a long time, because of systemic inflexibility: the certificates for teachers differ at each level. With the exception of specialist Physical Education and Religion teachers, all teachers in primary level are generalist classroom teachers and all teachers at secondary level are subject specialists. The two types are distinguished by their teaching certificates. Teachers who teach across levels are likely to lose their monthly allowance. The exception to this is for Physical Education and Religion teachers.

3.3.2 Subject teachers teaching across primary and junior secondary levels

While there is a shortage of Physical Education teachers at primary school level in almost all districts surveyed, there is an excess of Physical Education teachers at junior-secondary level in some districts. Despite having the required academic qualification and the same type of teaching certificate, it is rare to find teachers teaching across levels. The administration of teachers in the two levels is not yet well coordinated.

4 POLICY RECOMMENDATIONS

The policy recommendations for teacher deployment vary between districts according to the local context, but there are some common patterns between districts, both within and between provinces.

4.1 Policy recommendations for primary level

Policy recommendations for teacher deployment in primary schools can be grouped into five approaches, namely: (1) reducing the need for teachers, (2) increasing the supply of teachers, (3) strengthening the role and status of non-civil servant teachers, (4) retraining and redeploying teachers, and (5) teacher transfers.

4.1.1 Reducing the need for teachers

Depending on local conditions, this is often the most efficient and effective policy solution for managing teacher deployment. There are two options for reducing the need for teachers, namely school mergers (regrouping) and multi-grade teaching.

School mergers: A great many small schools exist throughout Indonesia, including on the crowded island of Java. The number of schools which are co-located on a single campus is surprising. In many cases one can find two or more schools co-located, one of which is regarded as a favourite school and is overpopulated with students, while the others are underpopulated and under-resourced. This is a result of the centralist and standardized approach of the past in which every primary school was designed in the same way as a one-stream school with six classes – regardless of local context.

Two types of school mergers are relevant here, namely (1) the closure of a small school and integration of students into another nearby small school where there are no access barriers, and (2) merging schools that already co-exist on a shared campus. This not only reduces the need for teachers, but also improves equity and creates efficiencies in educational resource management.

In cases where schools share a single space, a new merged school can make use of the infrastructure from the previous schools, utilizing extra rooms for a library, multi-purpose room, early childhood or kindergarten classes, teachers' common room and so forth. In the case of separated schools merging, the facilities of a closed school may be utilized for early childhood programs (PAUD), health services or similar.

This recommendation is proposed in the majority of partner districts, the exceptions being Aceh Jaya and Bener Meriah. Semarang and Sragen districts in Central Java have both prepared regulations (Peraturan Bupati) on school mergers and declared this a priority program for 2014. The Ministry of Education and Culture, through the Director General of Basic Education, has committed to provide assistance for the revitalization of merged schools.

Multi-grade classes: The population in Indonesia is unevenly distributed: while many people are concentrated in urban areas, there are also many who live in remote areas with limited access to transportation and public facilities. Schools exist on remote islands, and mountainous and forested areas where they serve small local communities. In such isolated areas, schools have few students. The availability of teachers is also a problem. The recommended solution for these schools is multi-grade teaching. Multi-grade teaching takes place when small classes are

combined and taught together by a single teacher, creating a multi-grade class, such as a Grade 1-2, 3-4 or 5-6. This means that children of different ages and grades learn together. Typically a thematic approach is used so that children can learn at their own level within a multi-grade classroom. Their lessons and learning activities focus on a shared learning theme. This approach is common across the world, including in developed nations, and has been successfully applied in Indonesia. However, it does require a high level of professionalism from the teacher and substantial in-service training to enable teachers to understand, implement and sustain the approach. The investment required to achieve this is substantial.

Blitar District in East Java has conducted an orientation program to introduce the approach to principals and teachers from areas with the potential to implement multi-grade teaching. The district has identified schools for a pilot program and has hired a consultant to train the teachers in active learning (PAKEM) and multi-grade approaches. A budget was allocated to implement multi-grade teaching in 2014. Meanwhile, the district is currently preparing a regulation (Peraturan Bupati) to support the implementation of multi-grade teaching.

Experience from previous projects, such as Managing Basic Education (MBE), Creating Learning Communities for Children (CLCC) and Mainstreaming Good Practices in Basic Education (MGPBE) suggest that keys to successful implementation of multi-grade teaching include careful school selection, building and assuring commitment within the school community, effective teacher training in active learning, multi-grade methodology and small school management, and on-site mentoring of teachers and principals by a well-trained facilitator. Payment of an extra allowance to teachers of multi-grade classes as an incentive may also assist.

4.1.2 Increasing teacher supply

Increasing teacher supply is difficult at the current time due to restrictions imposed by the national government on districts recruiting new civil servants. In particular, since 2013 government policy does not permit the recruitment of new civil servants in districts where over 50 per cent of the budget is spent on personnel. These districts are forbidden from recruiting new civil servants directly. However, they may request the national government to recruit on their behalf. Meanwhile, the number of elementary school teachers who will retire in the next five years is substantial.

Recruitment from the ranks of honorary teachers: Recruitment of new civil servant teachers from the ranks of Category 2 honorary teachers (Honorary K2) is a possibility in some districts up until the end of 2014. A total of 630,000 honorary staff were employed nationally in 2013, some 80 per cent of whom were teachers. Appointing 35 per cent of these as tenured civil servants is permissible under current rules and would add an additional 176,400 teachers into the system. This quota of new civil servants which may be recruited from the K2 category is spread evenly across all districts. However the number of teachers which may be recruited varies according to the availability of K2 honorary teachers and the need for new teachers in each district.

Incidentally, there have been a number of cases where districts have manipulated the K2 data and illegally recruited new civil servants. This is, perhaps, not surprising given the common practices of (1) officials rewarding friends, family and political supporters with tenured civil service appointments, and (2) individuals paying for such appointments.

Proposals for recruitment to replace retiring teachers and fill teacher shortages: The availability or lack of Islamic Religion and PE teachers at primary school level varies between districts. Based on 2006 curriculum teaching loads, nearly all of the 23 sample districts are

oversupplied with Islamic Religion teachers. The exception is the city of Medan. However, due to the increased allocation of lessons for Religion in the 2013 curriculum, all districts are now short of Islamic Religion teachers. As described, the addition of new employees through the normal path is not possible for districts with over 50 per cent of their budget allocated to personnel. However, districts that have completed the PPG analysis should be able to propose the recruitment of civil servants to the national government, in accordance with the Five Minister Joint Regulation of 2011.

4.1.3 Strengthening the role of non-civil servant teachers

The role of non-civil teachers (or Guru Tidak Tetap – GTT) in meeting the need for primary teachers, especially classroom teachers, is very substantial. In some districts, the number of non-civil servant and civil servant teachers is almost even: in South Nias there are more non-civil servants than civil servants employed as classroom teachers.

Increasing the status of temporary teachers to ‘contract’ teachers: A new law passed in 2014 (UU No 5, 2014, regarding Civil Servants) will enable districts to contract civil servants (Pegawai Pemerintah dengan Perjanjian Kerja or PPPK). The implementing regulation (PP) has yet to be promulgated, however, it is expected that non-tenured contract civil servants will have the same salary and rights as tenured civil servants, with some exceptions (such as pensions).

Districts which have completed the PPG process have a map of the availability of non-civil servant teachers and need for teachers. It is thus very feasible for these districts to prepare for changes in the status of non-civil servant teachers to become non-tenured civil service (or ‘contract’) teachers.

Improving the welfare of non-civil servant teachers: The regional minimum wage (UMR) does not typically apply to honorary teachers. The salaries of these non-civil servant teachers vary greatly between districts, between schools and even within schools. Salaries are generally dependant on school budgets and the allocation of national BOS and funds from district or provincial budgets for school operations. In most cases the amount paid to honorary teachers is woefully inadequate.

4.1.4 Redeployment of subject teachers as class teachers or vice versa

The imbalance in distribution between primary class teachers and subject specialist teachers is quite significant, particularly within districts. The over and undersupply of teachers also occurs between levels. Redeployment of teachers will help balance the supply for some subjects. Specifically, the redeployment of Islamic Religion and Physical Education teachers as class teachers, or vice versa, could be implemented in line with local needs.

The redeployment of a teacher must be followed by a change in the subject or level for which the individual is authorized to teach, as shown on the teaching certificate. This additional certification can be arranged under the regulation, Permendikbud No. 62 of 2013 on Teacher Certification, and based on the results of PPG mapping. The most feasible approach to redeployment is through one of the following programs: Teacher Professional Development (PPG) or Bachelor of Education with Supplementary Authority (SKKT) - PPG (pendidikan profesi guru) or Sarjana Kependidikan dengan Kewenangan Tambahan (SKKT). So far this policy has not been much in demand by teachers. As it has been unclear who pays for PPG and SKKT, the opportunity to participate in such programs has not generally been promoted to teachers. Notwithstanding this, teachers in oversupplied subjects or class levels, have a strong incentive to

retrain and be redeployed as they may lose their professional allowance if they are unable to teach the subject/class for which they are certified.

4.1.5 Transfer of teachers between schools

The transfer of classroom teachers and subject teachers can be arranged between schools within a district. If an inter-district transfer is required, then the transfer can be arranged with the agreement of the two districts and coordination from the province. The process may be staged. A teacher from an oversupplied school is transferred to a school which is closer to the target undersupplied school, and a teacher from this intermediate school is moved to the target school. This approach is effective in redistributing teachers, but the teacher is not too far removed from the school of origin. Some districts have followed this recommendation, including Bener Meriah in Aceh, which has passed a decree (Peraturan Bupati on Penataan dan Pemerataan Guru), which regulates the transfer of teachers between schools. Similarly, the district of Cimahi in West Java is preparing a Mayoral Decree on Teacher Transfers.

4.2 Policy recommendations for junior-secondary level

4.2.1 Limiting school appointments of honorary teachers

An excess non-civil servant teachers was found in some subjects in some districts, even though there are sufficient civil service teachers for the subject. The appointment of honorary employees, including teachers, should have been discontinued since 2005 under Regulation No. 48, 2005. Article 8 of this regulation states that ‘...all officials responsible for personnel, and other officials of the agency, are prohibited from appointing honorary employees or similar, unless stipulated by government regulation.’ Notwithstanding this, evidence from the field indicates that the appointment of honorary teachers is ongoing and, furthermore, is often unnecessary based on the needs of the school. Schools in remote and poor communities sometimes regard the employment of honorary teachers as a way of sharing the scarce resource of government funding (in the form of school BOS funds) around their community - rather than to meet the teaching requirements of the school.

In such cases, unqualified ‘teachers’ may receive very small stipends as honorary teachers, sometimes without a clearly defined role within the school. The downside of this practice is that such schools are poorly staffed and spend a substantial percentage of the operational funds on personnel, while well-staffed city schools are able to allocate BOS funds for quality improvement in addition to routine operational expenses.

Even though schools are permitted to allocate up to 20 per cent of BOS funds to pay ‘honorary’ teachers, the appointment of such teachers is out of control. To address this, it is recommended that district education offices limit the appointment of honorary teachers and impose sanctions on schools that appoint honorary teachers which are surplus to requirements.

4.2.2 Fulfillment of required teaching hours for certified teachers

Due to oversupply, many teachers are currently unable to meet the requirement for at least 24 face-to-face lessons per week. This is typically a problem for subject specialists (in both junior secondary and primary level) rather than for class teachers, who automatically meet the requirement. This problem was found in all subjects and in all districts surveyed. Teachers generally address this problem individually, based on their personal teaching capacities and professional networks. Teachers find ways to meet the requirement by teaching, for example, in

neighboring schools or madrasah, or by teaching outside their regular subject area. Consequently, the problem has not been addressed systemically.

The PPG program is one step towards addressing it through a systematic approach. The PPG approach takes the learning needs of students, rather than teacher needs, as a starting point, and adopts a mechanism whereby the system can be accountable for impact. The PPG program is thus related to both the overarching regulations and a consideration of the impact of teacher deployment on schools and students as well as on teachers and the system.

4.2.3 Transfer of subject teachers between schools

The overall supply of junior secondary teachers is sufficient. For some subjects it is excessive. However, there are still many schools with teacher shortages for particular subjects. The disparity in allocation of teachers between junior-secondary schools within districts is substantial. Transfer is the most common way of redistributing teachers at junior-secondary level. However, teacher transfer is not always easy. While it may appear simple on paper, teachers are individuals and members of society: the aspects of culture, community, family, economy, politics, and status need to be considered.

A further complication is the stigma associated with transfer: transfer of teachers to remote areas is typically considered to be a penalty, for example for poor performance. Conversely, transfer to a preferred posting is considered to be a reward. This attitude must change. The role of the teacher is to implement the government's education mission, to ensure that all children receive a quality education. When determining which teachers should be transferred, it is important not to use negative criteria, such as teacher performance, educational qualifications, commitment or the like, but rather set positive requirements, such as selecting teachers with potential to help develop and improve the quality of education in isolated schools.

4.2.4 Reassignment of teachers to teach different subjects

While some schools have a shortage and some have an excess of teachers, many teachers in oversupplied schools are unable to meet the minimum requirement of 24 lessons per week. In addition to transfers between schools, one of the recommendations proposed by several districts is to reassign teachers from oversupplied to undersupplied subjects. This requires retraining and recertification of these teachers to authorise them to teach a different subject. The regulation (Permendikbud No. 63 of 2013) sets out three mechanisms for teachers to retrain and gain an appropriate certificate, namely: Teacher Professional Development (Pendidikan Profesi Guru or PPG), Teacher Education and Professional Training (Pendidikan dan Latihan Profesi Guru or PLPG), and Bachelor of Education with Additional Authority (Sarjana Kependidikan dengan Kewenangan Tambahan or SKKT). Accurate and detailed mapping of subject teacher distribution (over- and undersupply) is needed to identify individual teachers for these programs. The regulation allows for a grace period in which teachers can teach a different subject and continue to receive their professional allowance while retraining in order to gain a new certificate.

4.2.5 Optimization of teaching hours

Changes in the teaching load required for the new curriculum (Curriculum 2013) are resulting in significant teacher shortages in some subjects in a number of districts. The calculation of teacher needs is based on the minimum load of 24 x 40 minute lessons per week. One alternative proposed by districts is the optimization of teaching hours. Teachers are not only responsible

for face-to-face teaching, but also for preparation, assessment and following-up on the results of assessment. Teachers only have a required minimum of 16 hours of face-to-face contact time (24 x 40 minutes). This compares with the workload of 37.5 hours required of other civil servants. For teachers who teach subject for which there is an undersupply of teachers, the alternative is to optimize the teaching hours. In this case teachers are required to teach more than 24 lessons, but not more than 40 lessons, as stated in Regulation No. 74, 2008.

4.3 Policy recommendations for elementary and junior secondary levels

4.3.1 Mobile or 'itinerant' teachers

In cases where the teaching load is insufficient to support a full-time teacher in one school, teachers may teach in more than one school. In one example, a local regulation provides for teachers to be assigned to teach in more than one school, with the requirement of at least six hours of face-to-face teaching per week in the school to which the teacher is assigned as a permanent teacher (Medan Mayor Regulation No.54, 2012, on Teacher Deployment). This is particularly relevant for subject specialists in small primary schools, but may also apply to junior-secondary teachers.

4.3.2 Inter-district transfers

Transfer of teachers across districts or provinces has been difficult in the past, due to poor coordination between the different jurisdictions. Nonetheless it is often an obvious solution, particularly where districts are closely located, such as in urban areas. Good analysis and coordination is required. The province may play an important role in facilitating such policies. An example of teacher transfer between districts is occurring in West Bandung and Cimahi Districts in West Java. The two districts have reached agreement that if an excess of teachers is identified in one district and is matched by a need in the other, then teachers should be transferred between districts. Similarly, the city of Medan and Benar Mariah District, have formulated Mayor/Regent Regulations on the transfer of teachers among districts. Transfers between districts should involve the Provincial Education Office Department and Personnel Board (BKD). The West Java Provincial Education Office has indicated a readiness to facilitate transfer between districts.

4.3.3 Class size management

While there are many small schools in Indonesia, with correspondingly small classes, there are also overpopulated schools, where class sizes exceed the mandated limits of 32 children per class for primary and 36 for junior-secondary. These schools do not meet the minimum service standards (Ministerial Regulation No. 15 of 2010) or the Government Regulation, Permendikbud No. 23 of 2013. While better management of small schools can reduce the need for teachers, so overpopulated schools require additional teachers. One recommendation is to reduce the number of students in such schools, by limiting the admission of new students, both within and outside the local catchment area. Another option is to split classes or split the school and open a new second school.

5 IMPLEMENTATION CHALLENGES

Although the Joint Five Minister Edict required the redistribution to be implemented by end of 2013, few districts have complied. The major challenges to implementation are political in nature. These create powerful resistance to implementation of equitable teacher distribution. In addition, technical constraints include problems with the data and local capacity. Districts typically lack the capacity to accurately map teacher distribution or conduct analysis to identify policy solutions. As teachers are under the authority of districts, the central and provincial governments have played no significant role and in all but a very few cases fail to see the positive role they can play to support implementation.

5.1 Political constraints

The major challenges to implementation are vested political interests and local resistance. Teachers and their spouses (many of whom are civil servants) commonly provide a political support base for local politicians and are rewarded with attractive placements. Without effective lobbying and advocacy – and support to identify policy solutions which are politically acceptable - it is unlikely that teacher deployment will improve.

The most celebrated case of teacher redeployment in Indonesia is the district of Gorontalo in North Sulawesi where, with intensive support from the World Bank, the district mapped and redistributed teachers to improve equity and efficiency. The political cost, however, was high. The District Head was taken to court by teachers who claimed that the redistribution was illegal. While the Government won the case, few district heads are willing to take the risk of losing the political support of teachers and public servants, an influential group at district level.

5.2 Data sources

One of the strengths of the approach to teacher deployment developed by USAID PRIORITAS is the detailed analysis of the data, not just district level aggregated data, but the analysis of data for individual schools and individual teachers. For this sharp analysis, we do not collect new data, but use existing data in the field, specifically data sourced from MOEC's national database known as DAPODIK.

One of the principles underlying the PPG program is that making use of existing datasets such as DAPODIK has a number of important benefits. Among others, using the datasets increases the value placed on the data by those responsible for collecting and managing data at all levels – particularly at the school and district levels. As local personnel, officials, and stakeholders begin to see the value of the data for planning and policy development, so they begin to insist on better quality data, verifying data collected from schools. In the past, the data were simply passed onto the center and so little value was placed on accuracy. Another benefit of using existing data is that it makes the program easy and affordable to replicate or disseminate to other districts.

Nonetheless, this approach presents challenges, and there have been problems with the DAPODIK data, as follows:

- I. MOEC's DAPODIK team does not verify the accuracy of the data, only its completeness. As a result there are many errors and inaccuracies in the data, which need detecting and cleaning.

2. The DAPODIK system is continually being upgraded, each year there are changes to accommodate developments in the system and externally. While this is a good practice, it means that the project-developed software for PPG and other programs must also be upgraded. There are often glitches in the system after such upgrades and delays in addressing these.
3. The capacity of district DAPODIK operators for data analysis is weak, the analysis conducted so far is typically only a recapitulation of the sub-district and district data. The operators need intensive class-based and on-the-job training.
4. The use of DAPODIK at school and district levels is still limited, the data are not yet used for information-based policy and planning.
5. DAPODIK only covers regular schools under MOEC and not madrasah under MORA, which are covered by a different system. As described below, MORA's system is inconsistent and thus unsuitable for the PPG approach as it stands.

It should be noted that this report addresses the issue of teacher deployment only in regular schools. The joint Five Minister Edict applies equally to civil servant teachers in Islamic madrasah under the auspices of MORA. However, with a few exceptions, the project has been unable to implement the Teacher Deployment program with madrasah. This is due to the very poor and inconsistent state of MORA's EMIS database. Where the program has been applied to the Islamic education system it is only possible by directly collecting the data from the madrasah, which is generally too resource heavy and lengthy a process for the project to undertake. It has thus been undertaken in only a small number of districts where few madrasah exist.

5.3 Education resource management at district level

5.3.1 Financial resources

The national constitution mandates the following: 'The state budget prioritizes education, at least 20 per cent of the state budget and the budget of revenues and expenditures must be allocated to meet the needs of national education'.² In most districts the education budget exceeds 20 per cent of the overall district budget by a large margin. However, the bulk of this is spent on salaries, and the amount available for teacher quality improvement programs is very small, usually in the order of 4 or 5 per cent.

If districts gain efficiencies through better teacher distribution, unfortunately they will not immediately see the financial benefits of this, as teacher salaries are covered in budget transfers from the central government, based on the number of teachers. Any savings will thus benefit the central government and not the districts.

The exception to this is where school BOS funds are used to pay for honorary teachers. If these teachers are no longer required or are paid for by the district budget then school funds are freed up for other purposes including quality improvement.

5.3.2 Human resources

The general capacity of human resources in the district education offices is adequate to implement the PPG program. However human resource management is a problem. Officials and staff are frequently transferred and, as a result, program implementation can suffer from lack of

² Founding Act, 1945, Amendment IV, Section 3, Paragraph (4)

continuity. Staff are sometimes trained to implement the program but then moved to another government office.

5.4 Constraints in policy implementation

5.4.1 Constraints associated with implementing a multi-grade approach

Some policy recommendation arising from PPG are not in line with the existing national policy framework. For example, a number of districts have proposed multi-grade teaching as a solution, but the rules are unclear for teachers who teach in multi-grade settings.

Multi-grade teaching is recommended for small schools that cannot be regrouped or merged due to distance from neighbouring schools. There is really no other practical alternative. However there are a number of constraints, including the following:

- The current system of education in Indonesia does not recognize multi-grade classrooms.
- Article 17 of Regulation No.74, 2008, on Teachers specifies the minimum number of students per class as 20, meanwhile in many small and isolated schools single-grade classes are much smaller.
- Few teachers have the skills or understanding required to teach a multi-grade class, thorough training and mentoring from a well-qualified facilitator are required.
- The experience in Indonesia has been mixed, previous efforts to implement multi-grade have had limited success and have generally not been sustained (with the exception of some private national-plus schools).
- The support of stakeholders for a multi-grade approach is lacking, most do not yet understand the benefits of the approach.

6 IMPLICATIONS FOR PROVINCIAL AND NATIONAL GOVERNMENT

Implications for policy and planning at national and provincial level are substantial. Although the implementation of teacher deployment is a district responsibility, provinces can assist through facilitating inter-district transfers and providing support to districts. Coordination between the provincial government and teacher education providers is also important as universities plan for the production of new teachers based on human resource need projections and current deficiencies in the system.

6.1 Synchronization of Teacher Deployment planning & policy at province level

The most frequently referenced source on the management of education at the provincial level is Regulation No.38, 2007, Regarding Distribution Between Central and Local Authorities. In this regulation the provincial jurisdiction in education is limited to management of international education (SBI). However, since the 'international standard school' program was abandoned due to a successful challenge in the Constitutional Court, the role of the province is unclear.³

However, Regulation No. 19, 2010,⁴ gives greater authority to the governor, as representative of the national government, to coordinate the development of districts within the province than does the earlier Regulation No. 38, 2007. The 2010 regulation authorizes the governor to coordinate district activities, including in the field of education, in relation to planning, implementation, and control.

The Joint Five Minister Edict of 2011 states that the governor should coordinate and facilitate the transfer of civil servant teachers between schools, between levels, and between types of schools, in accordance with the requirements and authority for teacher deployment between districts in the province.⁵ Very few provinces have implemented the regulation as yet. One exception to this pattern is the Government of Aceh, which, in cooperation with USAID PRIORITAS and the DFAT-funded Education Policy Research in Aceh (EPRA) program, and coordinated by the Aceh Education Development Coordination Team (TKPPA), is preparing to disseminate the Teacher Deployment (PPG) program to all districts and facilitate the redistribution of teachers across districts in Aceh as required.

6.2 Incentives and sanctions for implementing teacher redistribution

The Joint Five Ministerial Regulation of 2011 specifies sanctions for districts that do not comply. Rewards for districts which implement teacher distribution are not included.

³ The Constitutional Court decided to cancel Article 50, paragraph (3) on by Law No. 20 of 2003, on the management of international standard schools, as the result of a claim that the international standard school program was unconstitutional.

⁴ Regulation No. 19, 2010, on Procedures for Implementation of Duties and Powers of the Governor and the Financial Position of the Provincial Government Representative, especially Article 3, points d and e.

⁵ Joint Five Minister Edict of 2011 on Deployment of Civil Servant Teachers, Article 4, paragraph (1)

Providing financial incentives to districts which gain efficiencies in human resource management could assist. The tendency of Indonesian government to attempt to ensure compliance through top-down controls and sanctions could be balanced by national and provincial governments providing support and incentives for program implementation.

Incentives could take the form of grants from the national budget for teacher quality improvement programs. The Director General of Basic Education attended a province-level PPG forum in Central Java and pledged financial support for school mergers, to ensure that the resulting merged schools are seen as better quality than the previous unmerged schools.

6.3 Recommendations for a National Action Plan on Teacher Deployment

The Joint Five Minister Edict and accompanying Technical Guidelines for Teacher Deployment were promulgated three years ago, meanwhile teacher unrest associated with transfer as a result of the policy has grown. A more concrete action plan on the implementation of the regulation and the technical guidelines is required. In particular, concrete steps and actions that should be taken by each of the regulation's signatories should be clarified.

Such a plan could spell out the responsibilities assigned to each Ministry and at each level, as stipulated in the regulation, and clarify how these can be followed up with concrete action and coordination between all players in the form of a National Action Plan on Teacher Deployment (Rencana Aksi Nasional Penataan dan Pemerataan Guru or RAN PPG).

6.4 Conclusion

The central government is very supportive of this program, which builds on the work of earlier projects, including the USAID-funded DBEI and World-Bank-funded BERMUTU, and aligns with national policy.

The USAID PRIORITAS program is packaged as a set of training modules, materials including film, and a software application. Service provider personnel from partner universities and province level quality assurance centers (LPMP) are trained to implement the program, and a number of districts have expressed interest in adopting it. As pressure mounts from the central government, which issued the 2011 Joint Five Minister Edict, from teachers who are unable to teach the minimum of 24 lessons per week and are no longer eligible to receive professional allowances in 2015 (the grace period for such teachers expires at the end of 2014), and from schools and their communities which are underserved by teacher deployment, more districts are likely to want to adopt the program. The role of provinces, such as is in Aceh, can be significant in promoting and facilitating this.

Ultimately the Teacher Deployment program has the potential to greatly improve the quality of education throughout the country by ensuring that schools are properly staffed and by releasing funds for quality improvement.