FINANCIAL PERFORMANCE REPORT 2007

Annual Review of Indonesian Education Sector Financing

November 2007

Australia Indonesia Partnership

Kemitraan Australia Indonesia

A joint initiative of the Australian and Indonesian Governments

PREFACE

The Australia–Indonesia Partnership is a whole of government aid program encompassing expenditure of around $2 billion over five years. This includes the $1 billion Australia Indonesia Partnership for Reconstruction and Development (AIPRD), the single largest aid package in Australia's history, of which the Basic Education Program (BEP) is a key element.

The objective of BEP is *improved equitable access to higher quality and better governed basic education services, especially in targeted disadvantaged areas.* Support is delivered through a programmatic approach based on the three pillars of the government's RENSTRA: improved access through construction of junior secondary schools, improved quality and internal efficiency and improved governance. For BEP, a fourth pillar is enhanced resource mobilisation, including policy advice, research and sector monitoring.

Recognising the scale of the policy reform agenda being adopted by Government of Indonesia (GoI), the Strategic Advisory Services (SAS) component of BEP has been designed primarily to advise on the overall strategic direction of the BEP and to implement activities under pillar four. The contractor for Strategic Advisory Services (CSAS) is also tasked with providing selected capacity building and mentoring to key counterparts in MoNE and MoRA.

This report was prepared by a CSAS core team member - Finance Performance Specialist, Adam Rorris with close collaboration and support from the Ministry of Finance. The consultant acknowledges the support and advice of the many people that contributed to the study. The document was reviewed by team members Hetty Cislowski and Fredi Munger. The structure of the financial performance analysis benefited from the contributions of Taufik Hannafi and Abbas Ghozali. The thematic study on the cost of teacher academic upgrading and certification was initiated and given focus by Fasli Djalal, the Director-General of PMPTK. Julie Kos from ACER had the task of cleaning a teacher data set of more than 2.7 million unit records and having it ready for analysis.

Also, special thanks are extended to EFA Secretariat under Dr. Ace Suryadi, Director General for Out-of-School Education and particularly to Pak Faisal Madani for the preparation of data made available through the EFA report 2007. Ahmad Evandri undertook the arduous task of collecting the relevant paper records from districts, making sense of them and entering into the database.

Others helped to review the teacher cost study at its various stages of development. These include Gogot Suharwoto from PMPTK, Andy Ragatz World Bank, Brian Spicer and Dudley Blane of the BEP, and fellow CSAS team members Hetty Cislowski and Fredi Munger. Ratna Kreshtiana from the Melbourne Development Institute (MDI) provided all logistical support. The views and opinions expressed in this report are those of the specialist and do not necessarily reflect those of PMPTK, MDI or AusAID.

ABBREVIATIONS AND ACRONYMS

Acronym	Bahasa Indonesia	English
ACER		Australian Council for Educational Research
ADB	Bank Pembangunan Asia	Asian Development Bank
APK	Angka Partisipasi Kasar	Gross Enrolment Rate
APM	Angka Partisipasi Murni	Net Enrolment Rate
AusAID	Badan Australia untuk Pembangunan Internasional	Australian Agency for International Development
AWP	Rencana Kerja Tahunan	Annual Work Plan
Balitbang	Badan Penelitian dan Pengembangan	Centre for Research and Development
Bappenas	Badan Perencanaan Pembangunan Nasional	National Development Planning Agency
BEP	Program Pendidikan Dasar Australia-Indonesia	Australia-Indonesia Basic Education Program
BOS	Biaya Operasional Sekolah	School Operational Fund
BOS Buku	Biaya Operasional Sekolah Buku	School Operation Fund for Book
BSNP	Badan Standar Nasional Pendidikan	National Education Standards Board
CCR	Rasio Kelas-Ruang Kelas	Class-Classroom Ratio
CSAS	Kontraktor untuk Layanan Kepenasehatan Strategis	Contractor for Strategic Advisory Services
DG	Direktorat Jendral	Directorate General
EC	Komisi Eropa	European Commission
EFA	Pendidikan untuk Semua	Education for All
ESP	Rencana Strategis Pendidikan	Education Strategic Plan
ESWG	Kelompok Kerja Sektor Pendidikan	Education Sector Working Group
GDP	Pendapatan Domestik Bruto	Gross Domestic Product
GER	Angka Pendaftaran Kasar	Gross Enrolment Rate
GOI	Pemerintah Indonesia	Government of Indonesia
JSS	Sekolah Menengah Pertama	Junior Secondary School
KPI	Indikator Kunci dari Kunci	Key Performance Indicator
LAKIP	Laporan Akuntabilitas Kinerja Publik	Public Performance Accountability Report
MCPM	Kontraktor Pelaksana untuk Pengelolaan Program	Managing Contractor Program Management
MDA	Kajian Tengah Dekade	Mid-Decade Assessment
MoF	Departemen Keuangan	Ministry of Finance
MONE	Departemen Pendidikan Nasional	Ministry of National Education
MORA	Departemen Agama	Ministry of Religious Affairs
NER	Angka Pendaftaran Murni	Net Enrolment Rate
NFE	Pendidikan Non-formal	Non-Formal Education
PAM	Matriks Aksi Kebijakan	Policy Action Matrix
PCMU	Unit Pengelola dan Koordinasi Program	Program Coordination and Management Unit
PMPTK	Peningkatan Mutu Pendidik dan Tenaga Kependidikan	Quality Improvement of Teachers and Education Personels

Acronym	Bahasa Indonesia	English
PSC	Komite Pengarah Program	Program Steering Committee
PTP Matrix	Matriks Sasaran dan Kinerja Program	Program Targets and Performance Matrix
PUSLIT	Pusat Penelitian	Center for Research
PUSPENDIK	Pusat Statistik Pendidikan	Center for Education Statistics
Renstra	Rencana Strategis	Strategic Plan
Rp.	Rupiah	Rupiah
SCR	Rasio Siswa Ruang Kelas	Student Classroom Ratio
SD	Sekolah Dasar	Primary School
SIKD	Sistem Informasi Keuangan Daerah	Regional Finance Information system
SMP	Sekolah Menengah Pertama	Junior Secondary School
SMA	Sekolah Menengah Atas	Senior Secondary School
SWAP	Pendekatan Sektor secara Luas	Sector Wide Approach
SPI	Indikator Kinerja Tambahan	Supplementary Performance Indicator
STR	Rasio Siswa Guru	Student Teacher Ratio
SUSENAS	Survei Sosial Ekonomi Nasional	National Socio-Economic Survey
TA	Bantuan Teknis	Technical Assistance
ToR	Kerangka Acuan Kerja	Term of Reference
UN	Perserikatan Bangsa-Bangsa	United Nations
USAID	Badan Amerika Serikat untuk Pembangunan Internasional	United States Agency for International Development

EXECUTIVE SUMMARY

Background

The Financial Performance Report monitors and reports on trends in education financing in Indonesia. This is the first Finance Performance Report produced by the CSAS team. The report is intended for the use of high level government officials and education sector technical experts and will be updated annually. It provides succinct analysis and is intended to be an accessible tool for operational planning. The objectives of the report are:

1. To identify trends in the quantum and distribution of education funding in relation to national policy and school needs.

2. To monitor education sector and school resourcing from the standpoint of the key RENSTRA themes of access, quality improvement and improved accountability.

3. To inform GoI and donors of the effectiveness and efficiency of current school funding mechanisms.

4. To support the capacity of GoI institutions to monitor and report on school financing.

Expanded Set of Indicators

The report analysis is framed by a set of Key Performance Indicators (KPI). These KPI focus attention on the main RENSTRA themes and government financial commitment to education. Most of these KPI are reported on at a national level by the GoI as part of its international Education for All (EFA) reporting obligations. An additional two (2) KPI have been nominated to guide analysis of district level expenditures.

A set of Supplementary Performance Indicators (SPI) is introduced in this report. They offer a more nuanced perspective on financial performance of the education sector. Future Finance Performance Reports will update the KPI and SPI with the latest available national and district data.

Each of the indicators proposed is described as being either lead or lag indicators. Lag indicators are summative in nature. They describe the current state of progress toward an expected outcome. Lead indicators are those which capture the rate of movement towards an outcome or have a clear causal relationship to a desired outcome.

District and National Level Analysis

This report breaks new ground by providing a detailed analysis not only of national level expenditures but also of expenditures at the district level. This analysis has been made possible through the collection of disaggregated district expenditure data collected from the original budget papers prepared and submitted by each district to the MoF. These records are the most authoritative district level account available of actual budget allocations for a year and actual expenditures for the previous year. CSAS will continue to cooperate with the MoF and will work towards updating this data every year.

District level analysis is provisional. Only 60% of districts had submitted their 2006 budget papers with the SIKD section of the MoF by mid-2007. The data analysis and interpretation will be updated in the Financial Performance Report 2008. It is therefore recommended that the provisional district level analysis of this report not be used for evaluation purposes.

A summary of the results and findings for each of the KPI and SPI is presented in table format as part of this Executive Summary. This includes a summary assessment of the indicator result being positive, negative or uneven. A `Positive' result indicates it is supportive of RENSTRA objectives and BEP activities; a 'Negative' result suggests it is contradictory to RENSTRA objectives and BEP activities; and an 'Uneven' result indicates large variation between districts.

Key Findings

Strong national commitment towards financing education. There has been a consistent upward trend in public expenditure for education. The funding increases have been in both nominal and real prices (accounting for inflation). National public expenditure for education has increased from Rp. 42.3 trillion in 2001 to Rp. 131 trillion (nominal prices) or Rp. 78 trillion (real prices) by 2007.

Growing share of national public funds being used for education. Education share of public expenditure has grown from 12% in 2001 to nearly 17% by 2007. The removal of the fuel subsidy has created the fiscal space to expand financial commitment to the education sector. The GoI is now better placed to meet the growing funding needs of the education sector.

Education share of Gross Development Product (GDP) has grown but further growth is more difficult. Education as a percentage of GDP has risen from 2.1% in 2001 to 3.9% by 2007. Expressed as a percentage of GDP, future growth in public allocations for education may become harder in the future. Indonesia already has an allocation (standardised as a percentage of GDP) that is about average for countries at a comparable stage of economic development.

Share of education expenditure for Non-Formal Education (NFE) is very low. NFE receives approximately 1% of total education funds which is very low given the potential demand. While a key advantage of NFE is its cost-effectiveness, increased levels of investment are needed to maximise the potential economic and social returns.

Districts' increased commitment towards education between 2006 and 2007. Average district level education expenditures across Indonesia increased from 26% of the total district budget (APBD) in 2006 to 27% share in 2007. During the same period, BEP districts grew their education share of district budgets by 2% from 25% to 27%.

Some districts have high poverty rates and may be persistently allocating a significantly smaller share of resources for education than the national average. These districts are at great disadvantage to the rest of the country. Developing a sector response (MoNE and MoRA) and whole of government approach for these districts may be required.

Annual growth in district education spending is uneven. There was a 21% average annual growth in district education budgets between 2006 and 2007. Districts by poverty quintile showed growth ranging from 9% (second poorest) to 30% for middle ranking provinces.

BEP districts showed strong positive commitment to education with 25% annual growth in education funding between 2006 and 207 budgets.

Strong growth in district education spending relative to aggregate district expenditures. Nationally, the picture is very positive for district education spending relative to aggregate district expenditure but particularly within districts included in the BEP (BEP districts). Education expenditure at the district level is growing 1.3 times faster than aggregate district expenditures across Indonesia. BEP districts grew their education expenditures at 1.5 times the rate of aggregate district expenditures between 2006 and 2007.

BOS grants are a critical input for school resourcing. The BOS grants have injected a dramatic new dimension to school resourcing. BOS funds amount to an additional 18% of average of district level expenditure with great potential to give flexibility at the school level. However, where schools are not well supervised or not held to account for the use of these funds, BOS funds maybe squandered.

Recommendations

1. Identify districts that have high poverty rates and are persistently allocating significantly smaller share of resources for education than the national average. Prepare options for a sector response (MoNE/MoRA) and/or a whole of government response as maybe required.

2. MoNE begin to monitor the education share of districts' budgets to see if they continue to grow the proportion of funds being allocated to education. Maintain special focus on districts with BEP interventions to ensure sustainability of program investments

3. The growth ratio indicator is a powerful lead indicator of emerging trends in financing of education. Monitoring education expenditure growth ratios by district poverty quintile can be adopted by MoNE at a central level to identify any emerging education funding hotspots at the district level.

4. MoNE study the BOS grants for utilisation and effectiveness. Develop options for (i) linking them to district functional responsibility for monitoring and planning, and (ii) increasing their contribution and impact in poorer districts.

5. MoNE proceed with a costing of the NFE Strategic Plan developed in 2007 to maximise the chances of a larger allocation of funds to the sector.

Table 1: Summary Findings – Financial Performance at National/District Levels

Indicator	Description	Gov't Level/ Related Goal	Comment
KPI 1 Share of public expenditure	Public expenditure on education as percentage of total public expenditure	*National* Gov't commitment	Result = Positive Significant growth in allocations as proportion of national expenditure since 2001. One year dip in 2004 was related to fuel subsidy crisis.
KPI 2 Share of GNP	Public expenditure on education as percentage of GDP	*National* Gov't commitment	Result = Positive Education expenditure as a percentage of GDP has risen from 2.1% in 2001 to 3.9% by 2007. Future growth in public allocations for education may become harder in the future.
KPI 3 Share of non-salary resources	% share of education budget spending on non-salary costs.	*National* Quality	Result = Negative Salary related items as part of Routine expenditures consume 84% of resources.
KPI 4 National commitment for non-formal learning	Public expenditure on literacy and NFE as percentage of public expenditure on education	*National* Equity/access	Result= Negative NFE expenditure is approximately 1% of total expenditure for education. Key advantage of NFE is its cost-effectiveness; increased levels of investment are needed to maximise possible economic and social returns.
KPI 5 Commitment to Basic education relative to national wealth	Public recurrent expenditure on basic education per pupil as percentage of GNP per capita	*National* Equity/access	Result = Positive In 2004 basic education accounts for approximately 70% of education expenditure.
KPI 6 District commitment to education	Education as % of total public expenditures	*District* Gov't commitment Equity/access	Result = Positive Average district level education expenditures across Indonesia have increased from 26% of total district budget in 2006 to 27% share in 2007.
KPI 7 Annual growth in spending for the poorest districts	Annual % change in per capita public expenditures for education in lowest quintile districts compared to national % change in public expenditure for education	*District* Equity/access	Result = Uneven Annual growth in education budgets was greater than annual growth of district budgets for all poverty quintiles except middle quintile where it was equal. BEP districts showed strong positive commitment to education with 25% annual growth.
SPI 1 Relative growth ratio of education spending	Annual % growth in public education expenditure as ratio to % annual growth of total public expenditure	*District* Gov't commitment	Result = Positive Education expenditure at the district level is growing 1.3 times faster than aggregate public expenditures across Indonesia. BEP districts grew education expenditures at 1.5 times the rate of aggregate public expenditures between 2006 and 2007.
SPI 2 Discretionary school funds as % of total school expenditure	Estimated BOS expenditure as % of total school expenditure	*District* Quality	Result = Positive The BOS grants have injected a dramatic new dimension to school resourcing. They provide to an additional 18% of average of district level expenditure directly to schools. If schools are poorly supervised and/or not held to account by local communities on the use of these funds, their effect can be squandered.

* KPI – Key Performance Indicator, SPI – Supplementary Performance Indicator.

Table of Contents

I. INTRODUCTION

This is the first Finance Performance Report produced by the CSAS team. It is produced as one of the specified deliverables of the contractor and is for the attention of the PSC, the senior level officials within relevant GoI agencies and for AusAID as the donor agency.

A. Objectives of the Financial Performance Report

The objectives of the report are:

1. To identify trends in the quantum and distribution of education funding in relation to national policy and school needs

2. To monitor education sector and school resourcing addressing the key RENSTRA themes of access, quality improvement and improved accountability

3. To inform GoI and donors of the effectiveness and efficiency of current school funding mechanisms

4. To support the capacity of GoI institutions to monitor and report on school financing

B. Scope of Analysis

Focus on School Sub-Sector

The school sector is the focus of the financial analysis. Data limitations mean that for 2006 it has been difficult to separate school financing from other levels of education for the central and provincial levels of expenditure. In future years as additional data becomes available, notional allocations of central and provincial level administration funds between levels of education will be undertaken.

District Level Disaggregation

The district level of government has an increasing importance in education provision under the GoI decentralisation policy. Financial analysis of education allocations therefore needs to have a district level disaggregation to assess the variability in fiscal capacity and actual allocations for education resourcing.

A district finance database has been assembled from the paper financial records of district level budgets that disaggregate education related expenditure. For 2006, the MoF has collected detailed official budget papers from 263 districts (approximately 60%).

The district financial analysis presented in this report is still provisional and should not be used for monitoring and evaluation purposes because of the incomplete database. However, certain trends can be shown. CSAS is liaising with the MoF regarding the district financial data. The Financial Performance Report 2008 will include the revised 2006 district level data.

Key Performance Indicators

The Key Performance Indicators (KPI) focus on the three main RENSTRA themes and government financial commitment to education.

Two Supplementary Performance Indicators (SPI) sit below the KPI. The SPI offer a more nuanced perspective across the three RENSTRA themes assessing education expenditure at a district level. SPI have been chosen based on available data against the three RENSTRA themes.

Lead and Lag Indicators

Each of the indicators proposed are described as being either lead or lag indicators[1].

Lag indicators are summative in nature. They describe the current state of progress toward an expected outcome. For example, a lag indicator measuring government financial commitment towards education is the percentage of total public expenditure allocated towards education.

Lead indicators are those which capture the rate of movement towards an outcome or have a clear causal relationship to a desired outcome. For example, a lead indicator of government commitment towards financial commitment towards education might be annual percentage real increase in the education share of total public expenditure.

Selection of Indicators

The indicators used have been drawn from a number of sources. One group of Key Performance Indicators is used by GoI as part of its EFA reporting obligations.

Another set of indicators focuses mainly on the district level of analysis. These have been selected to be of use for the BEP in promoting development of the basic education sector across Indonesia. These indicators can be of use at the district level for planning and budgeting purposes.

A larger list of potential indicators of financial performance has been prepared but it has not been possible to use them due to data limitations. In the future it will be possible to report on additional indicators as more data becomes available.

C.   Approach and Methodology

Phased Approach – Over 3 Years

The Financial Performance Monitoring of the education sector by CSAS was begun in 2007. The Financial Performance Monitoring will be built on each successive year as additional data becomes available and as the indicators become better known. Financial Performance Monitoring begins with what is available now and works towards future improvement.

The district level data and findings presented in this report are provisional. Financial data for 2006 is available for only 263 districts – approximately 60%. It is also limited to 82 out of 141 BEP districts.

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[1] Conceptually, "lead and lag indicators" have originated in the development of performance scorecards for use by business analysts. They are adapted here for use within the education sector.

Build On Existing Research

The monitoring of financial performance utilises all possible existing data sources and avoids wherever possible the request for new data collections from schools and districts. GoI and donors already fund extensive research and data collections across the country.

Data Sources and Collections: Financial Data

National level financial data (combining districts, provinces and central levels) has been largely sourced from the EFA Mid-Decade Assessment Report prepared by the GoI and presented in May 2007. This report also uses data appearing in the World Bank report *Spending for Development – Indonesia Public Expenditure Review 2007*.

District level financial data has been collected from the Ministry of Finance (MoF) Regional Financial Information System (SIKD). The SIKD collects in hard copy format the budget and actual expenditures of all districts and provinces. CSAS arranged with the Officers of the SIKD section to be given access to the available SIKD records. A painstaking process of manually sorting through the paper financial records of all districts and provinces was undertaken. Near complete financial records for all districts and provinces were obtained for 2007 and for approximately 60% of all districts in 2006. It is anticipated that more records for 2006 will become available in the future.

The migration to a different and simplified reporting system for 2007 has speeded up returns for this year. As a result, district financial data should be able to be collected in a timely fashion in future years. The cooperation and goodwill of the SIKD section of the MoF will be essential to this process.

The year 2006 reflects financial commitment undertaken by the GoI prior to the commencement of the BEP and is therefore the best option for the baseline financial data. For the district level analysis, this report presents and analyses district data from financial years 2006 and 2007. This section will be revised in 2008 when data has been collected from more districts.

Data Sources and Collections: Non-Financial Data

Education: The non-financial data collected for this report has been retrieved from the BEP Education Sector Database. This database has been built from available government statistical collections and represents authoritative government sanctioned data. The student, teacher and facilities data is derived from the statistical collection of the Education Census conducted by MORA and MONE.

Poverty: Poverty is an important analytical filter for the Financial Performance Statement. Financial data analysis includes an examination of poverty by segregating districts into poverty quintiles. This analysis is consistent with the analysis applied in the CSAS Annual Sector Monitoring Report. The Poverty quintiles are based on the "P0" poverty scale developed by SUSENAS. This scale captures the incidence of poverty (the proportion of people living below the poverty line).

Incorporate Into Existing Reporting Systems

The Financial Performance Report indicators and analysis will be available to be used and incorporated within existing mandatory reports of MONE and MORA such as the LAKIP.

The data underpinning most of the indicators at the district level is sourced from GoI statistical collections. This should mean the indicators will be able to be reported within other regular reports. At the district level, these indicators will be useful and could be incorporated within their reporting systems.

D.   Report Structure

Financial Performance - National Level

The Financial Performance Statement presents an analysis of the nationally available financial performance indicators for education. These are presented according to the key RENSTRA themes of Access, Quality and Governance/Accountability.

Financial Performance – District Level

Two additional Financial Performance KPIs and two SPIs have been identified for the district level to assess district level allocations to basic education...

Special Discussion Themes

Each Financial Performance Report will discuss in more detail some particular themes or issues that have been explored through specific research that has been commissioned by CSAS during the year.

For the 2007 report, the report provides an examination of cost drivers and likely cost range for the implementation of the teacher certification and academic upgrading associated with the implementation of the Teacher Law. The PMPTK requested an analysis of the likely implementation costs utilising the new and comprehensive teacher data collected in 2006. The analysis presented here is an abridged version of the report submitted to the PMPTK in November 2007.

II.   FINANCIAL PERFORMANCE – NATIONAL LEVEL

A.   Overview

Education funding in Indonesia is derived from a variety of public and private sources. Public funding is provided mostly by the central and provincial levels of government with the provincial level providing a smaller share. National level analysis of aggregate public expenditure is complicated because of these different sources of funding and the subsidisation of salaries and services provided by the central level of government.

For the 2007 report, the national level analysis is built from the data collected by the World Bank and presented in its recent publication *Investing in Indonesia's Education,* World Bank, 2007[2].
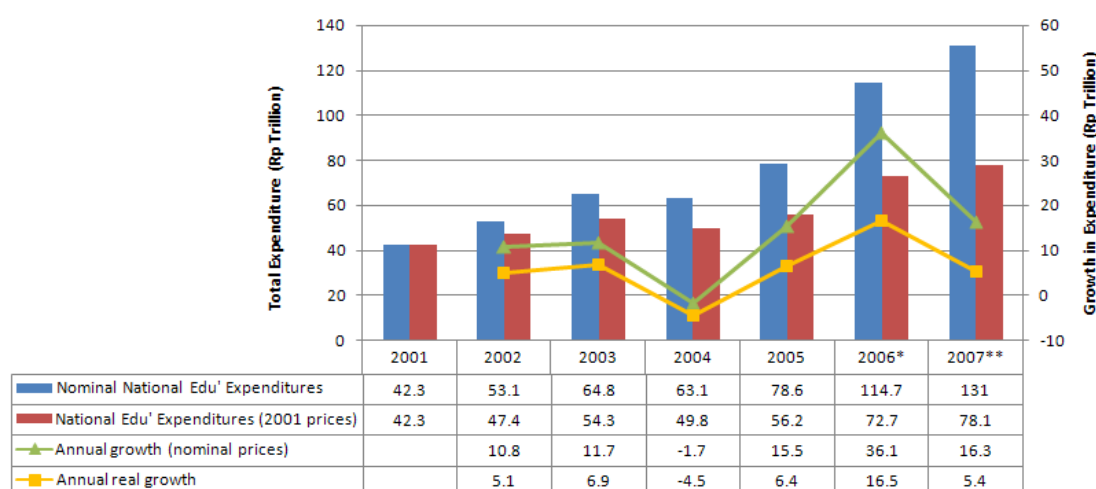
The national trends in the public financing of education are analysed in this section. Key Performance Indicators (KPI) have been identified for the national level financing assessment.
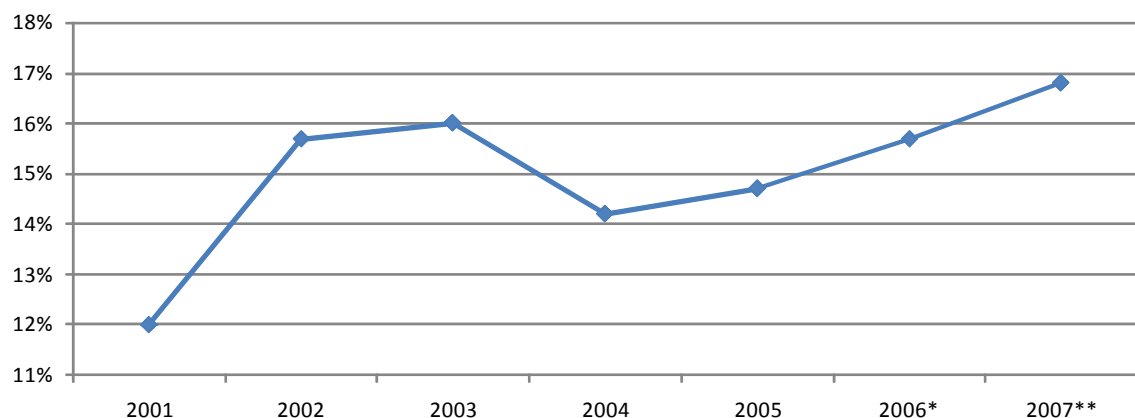
B.   Trends in Education Funding

Upward trend in national public expenditure for education in Indonesia.   There has been a consistent upward trend in public expenditure for education. The funding increases have been in both nominal and real prices (accounting for inflation). Since 2001, national public expenditure for education has increased from Rp. 42.3 trillion to Rp. 131 trillion (nominal prices) or Rp. 78 trillion (real prices).

Annual increases in national education expenditure have been uneven. There has been an uneven increase in year to year public expenditure allocations for education. However, the growth (while still positive) has been uneven in nominal and real prices. Sharp increases in public expenditure for education in the years 2005 and 2006 were followed by a much smaller increase in 2007.

Figure 1: National Public Expenditure on Education, Rp. Trillion 2001-2007

	2001	2002	2003	2004	2005	2006*	2007**
Nominal National Edu' Expenditures	42.3	53.1	64.8	63.1	78.6	114.7	131
National Edu' Expenditures (2001 prices)	42.3	47.4	54.3	49.8	56.2	72.7	78.1
Annual growth (nominal prices)		10.8	11.7	-1.7	15.5	36.1	16.3
Annual real growth		5.1	6.9	-4.5	6.4	16.5	5.4

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[2] The Financial Performance Report 2008 should be able to draw from an updated national level financial database to refresh the data presented here.

KPI 1: Education Expenditure as Proportion of Total Public Expenditure

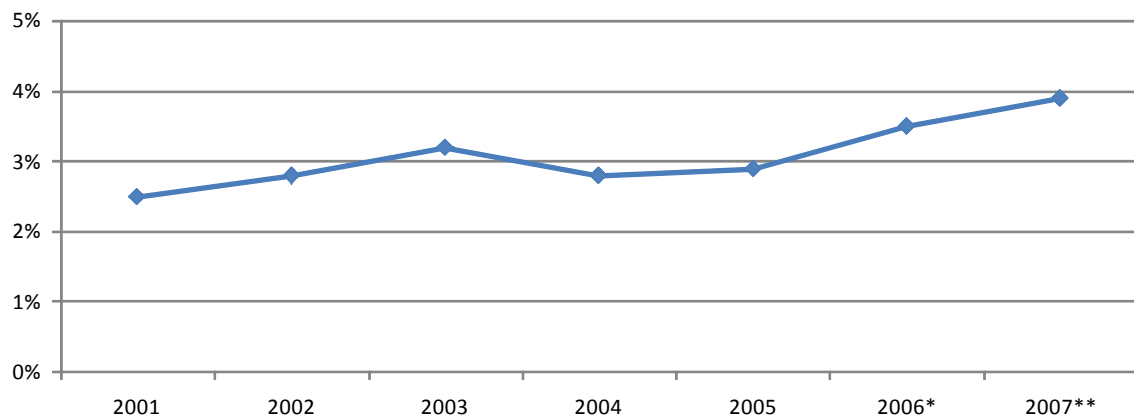*Figure 2: Education Expenditure as Percent of Total National Public Expenditure, 2001-2007*

Source: World Bank, Investing in Indonesia's Education, 2007
*= budget, **=estimated

Result:	Positive
Data Availability:	Full
Comment:	There has been very significant growth in education expenditure allocations as proportion of national expenditure since 2001. Education's share has grown from 12% in 2001 to nearly 17% by 2007.
	A one year decline in the share of education expenditures occurred in 2004. This fall was related to fuel subsidy crisis and the fiscal squeeze encountered by the central government.
	The crowding out effect of the fuel subsidy is graphically shown by the lines in the figure below that plot growth in public expenditure. There was negative growth in public expenditure for education in both nominal and real prices for the year 2004.
	The relative decline in education expenditure during 2004 was affected through a decline in mostly development expenditures.
Future Analysis:	Annual. Will require establishment of national level education finance database

Policy Implications: The removal of the fuel subsidy has created the fiscal space to expand financial commitment to the education sector. The GoI is now better placed to meet the growing funding needs of the education sector.

The lesson from 2004 is that at a time of economic downturn, it is important to preserve the government's commitment towards education measured as a share of public expenditures. While education funding may level off or even decline when government revenues decline, the reduction for the education sector should not be greater than the equivalent national reduction across all public expenditures.

KPI 2: Education Expenditure as Proportion of GDP

Figure 3: Education Expenditure as Percent of GDP, 2001-2007

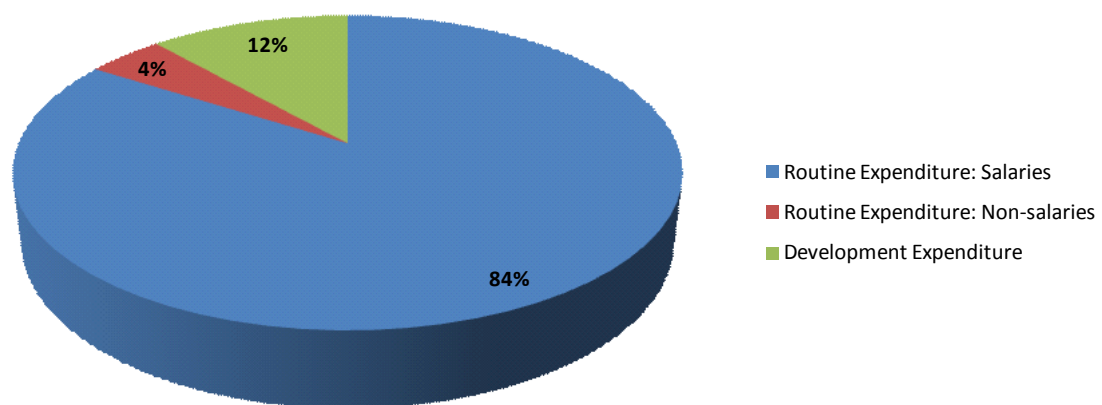Source: World Bank, Investing in Indonesia's Education, 2007
*= budget, **=estimated

Result:	Positive
Data Availability:	Full
Comment:	This indicator expressed the national public commitment towards education in relation to the economic wealth being generated. By mapping education expenditure with GDP it avoids comparison problems with other countries which may have different sized public sectors. The indicator is also useful for comparing expenditure trends in a country which has altered the size of its public sector across time. Generally, this indicator is used in tandem with the education share of public expenditure.
	In Indonesia, there has been significant growth in education expenditure as a proportion of GDP. Education as a percentage of GDP has risen from 2.1% in 2001 to 3.9% by 2007.
	This reflects growth in public revenues and the concomitant growth in public expenditures. This effect is compounded by the increasing share of public expenditures being set aside for education which leads to the very strong growth in education expenditure as a proportion of GDP between 2005 and 2009.
Future Analysis:	Annual. Will require establishment of a national level education finance database

Policy Implications: Expressed as a percentage of GDP, future growth in public allocations for education may become harder in the future. Indonesia already has an allocation (standardised as a percentage of GDP) that is about average for countries at a comparable stage of economic development.

KPI 3: Education Non-salary Expenditure as Share of Total Expenditure

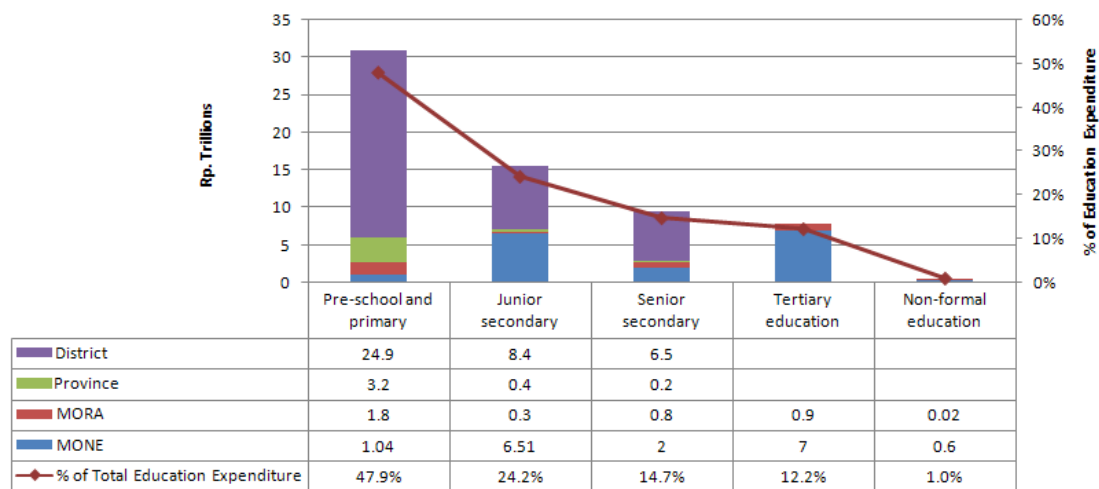*Figure 4: Aggregate District Expenditure, 2004*

Source: World Bank, Investing in Indonesia's Education, 2007

Result:	Negative
Data Availability:	Limited to 2004 and district level only. Breakdown of data is difficult because of its composition from 3 tiers of government. Difficult to separate the salary component of development expenditures and to separate salary items from central level expenditures. For districts, based on WB calculation of the salary composition of routine expenditures, a 96% share of routine funds has been allocated for salary items.
Comment:	Salary related items as part of routine expenditures consume 84% of resources. The balance is distributed between non-salary items from routine expenditures and development expenditures (these include capital and other investments of a largely non-recurrent nature).
	In fact, the salary share will be higher than 84% because a portion of development expenditures includes salaries. While districts spend the bulk of the money for education, most of this is tied to salary payments and therefore not discretionary.
Future Analysis:	To be decided. Current data collected at SIKD does not summarise salary and non-salary dissections of expenditure. Liaison with MONE, MORA, Bappenas and World Bank staff to see if periodic update is possible.

Policy Implications: The flow of BOS funds directly from the central government to schools increases the independence of schools from districts as they become even less reliant on the district for additional discretionary funds. Strengthening the hand of districts is important so that government can retain a strategic capacity and managerial oversight of school performance.

KPI 4: Expenditure on Basic Education as % of All Education Expenditure &
KPI 5: Expenditure on Non Formal Education as % of All Education Expenditure

Figure 5: Education Expenditure by Sub-Sector, 2004

	Pre-school and primary	Junior secondary	Senior secondary	Tertiary education	Non-formal education
District	24.9	8.4	6.5		
Province	3.2	0.4	0.2		
MORA	1.8	0.3	0.8	0.9	0.02
MONE	1.04	6.51	2	7	0.6
% of Total Education Expenditure	47.9%	24.2%	14.7%	12.2%	1.0%

Source: World Bank, Investing in Indonesia's Education, 2007

Result:	Positive for Basic Education, Negative for NFE
Data Availability:	Limited to 2004. Breakdown of data is difficult because of its composition from 3 tiers of government.
Comment:	Basic education accounts for approximately 70% of total funding, with nearly 50% for pre-school and primary. Senior secondary will begin to make a stronger resource claim in future as universalisation policy expands access. Districts are carrying the bulk of expenditure for basic education and therefore remain a key site for interventions. The central share is likely to have increased since 2004 with the introduction of BOS grants that are paid directly to schools.
Future Analysis:	Uncertain. Current data collected at SIKD does not disaggregate between levels of education expenditure at the district level. Liaison with MONE, MORA, Bappenas and World Bank staff to see if periodic update is possible.

Policy Implications: Maintaining the share of basic education will be important even as access to secondary education is expanded. Investment in basic education builds a strong base in literacy and numeracy and economic development suffers when basic education expenditure is neglected in favor of investment at higher levels.

NFE expenditure is approximately 1% of total expenditure for education. While a key advantage of NFE is its cost-effectiveness, increased levels of investment are needed to maximise the possible economic and social returns.

Recommendation: MoNE proceed with a costing of the NFE Strategic Plan developed in 2007 maximise the chances of a larger allocation of funds to the sector.

III.   FINANCIAL PERFORMANCE – DISTRICT LEVEL

A.   Overview

District level expenditure patterns are increasingly important as districts have increased responsibility for education management under decentralisation. Monitoring patterns of expenditure by districts will become an increasingly important role for MONE and MORA to ensure that national funding norms and procedures are being implemented appropriately.

The wide range of districts poverty status and the importance of education in lifting district populations out of poverty also mean that those groups that stand to benefit most from education investment need to have their interests promoted. Monitoring and evaluation of district level education financing provides the tools to do so.

The district level data and findings presented in this report are provisional because there are still 40% of districts to provide their returns to the MoF. The 2008 Financial Performance Statement will reflect any data changes and revise the analysis as required.

The district level financial data presented here has been collected by CSAS direct from the SIKD section of MoF. The SIKD collects in hard copy format the budget and actual expenditures of all districts and provinces. CSAS arranged with the Officers of the SIKD section to be given access to the available SIKD records. A painstaking process of manually sorting through the paper financial records of all districts and provinces was undertaken.[3]

B.   Trends in Education Funding

KPI 6: District Financial Commitment to Education

Figure 6: APBD Education Expenditure as % of Total APBD

	2006	2007
Rural	25.8%	27.5%
Urban	25.7%	27.3%
National	26.0%	27.4%

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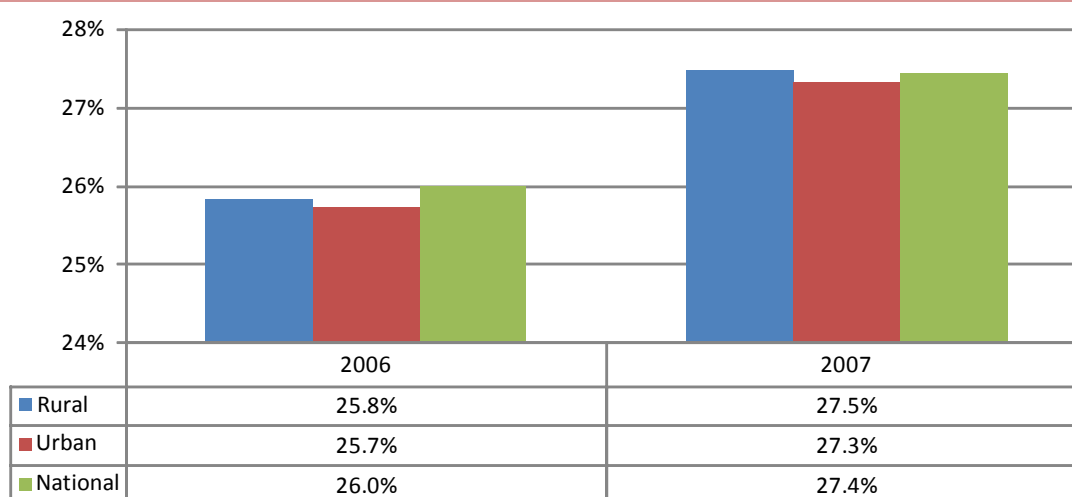
[3] The cooperation and goodwill of the SIKD section of the MoF is greatly appreciated by the CSAS team. The consolidated data and analysis will be shared with our colleagues in the SIKD section of MoF.

Result:	Positive
Data Quality and Availability:	Financial data for 2006 is limited to approximately 60% of all districts.
General Comment:	Average district level education expenditures across Indonesia have increased from 26% of the total district budget (APBD) in 2006 to 27% share in 2007.
	The increased share of education expenditures at the district level demonstrates that districts on average are maintaining (and slightly increasing) their financial commitment to education.
	The slight growth in share of allocations towards education is consistent for urban and rural areas. While these averages show maintenance of financial commitment it does disguise some variation between districts. Comparison of the fluctuations of individual districts may not be useful as their expenditure may be significantly affected by one off large annual investments.
	The recent World Bank study found education share of district expenditure declining from 38% in 2001 down to 34% by 2004. The 2006 data from this study show a further decline down to 26%. But since the 2007 data show an increase in the share of education expenditure on 2006 levels, the slide in education expenditure has reversed.
BEP Districts:	In 2006, BEP districts on average allocated 25% of their APBD for education in 2006 compared to 26% share of other districts. By 2007 BEP districts had increases their expenditure to 27% which was the same level as for other districts nationally.
	BEP districts' education share of district budgets grew by 2% from 2006 to 2007. This is a greater rate of growth than the national 1% average.
Future Analysis:	Update 2006 data once collected and Trend series to continue 2008-09.

Figure 7: APBD Education Expenditure as % of Total APBD in BEP and Non-BEP Supported Districts

	2006	2007
■ BEP District	24.5%	27.5%
■ Non-BEP District	26.4%	27.3%
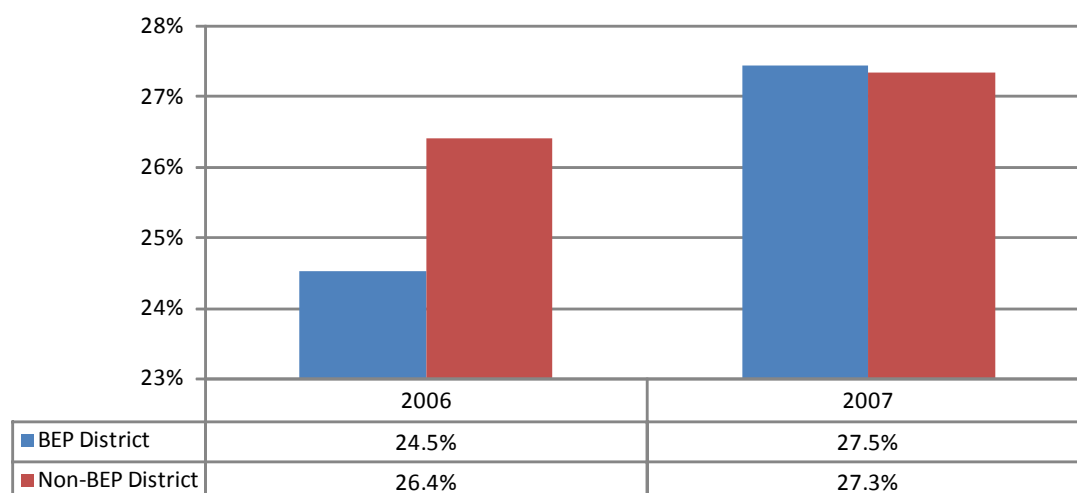
Real variation (see chart below) appears in the shares of expenditure for education when comparing districts by poverty quintile. Current data show schools in the second poorest quintile of districts (Quintile 4) allocating the greatest share of funds to education (31%). The poorest quintile (5) allocates the least (23%).

Figure 8: APBD Education Expenditure as % of Total APBD, by Poverty Quintile

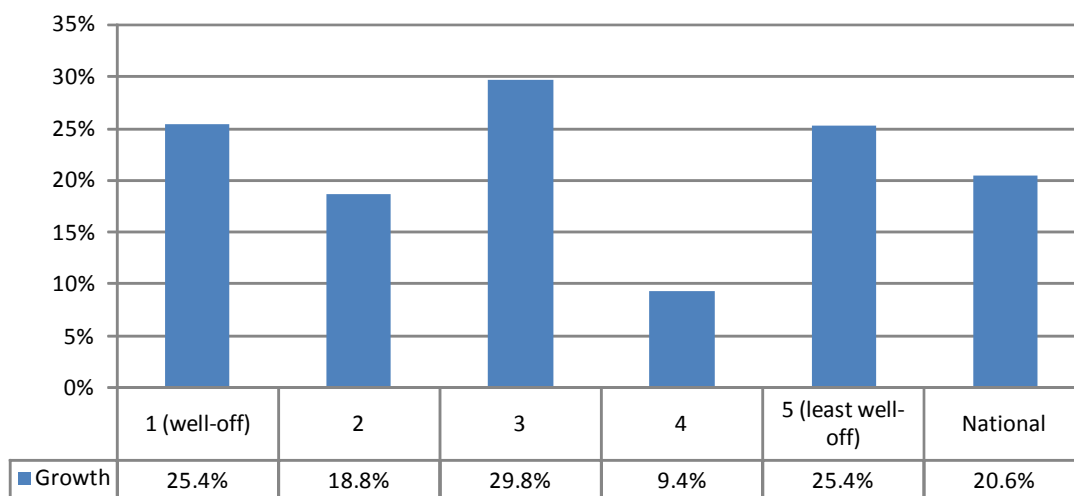|	1 (well-off)	2	3	4	5 (least well-off)	National
2006	26.5%	24.0%	25.7%	29.9%	22.3%	26.0%
2007	27.1%	26.9%	28.8%	30.6%	23.3%	27.4%

These uneven trends may alter once the additional financial data is collected from other districts. If the expanded data set still shows the poorest quintile districts to be allocating less than the national average for education, it might be useful to examine more closely the reasons for lower expenditure on education in the poorest districts.

Policy Implications: Districts that have high poverty rates and are persistently allocating significantly smaller share of resources for education than the national average are at great disadvantage to the rest of the country.

Recommendation: Identify districts that have high poverty rates and are persistently allocating significantly smaller share of resources for education than the national average. Prepare options for a sector response (MoNE and MoRA) and/or a whole of government response as may be required.

KPI 7: Annual Growth in Education Spending for the Poorest Districts

Figure 9: Annual Growth in APBD Education Expenditure, 2006 -2007, by Poverty Quintile

	1 (well-off)	2	3	4	5 (least well-off)	National
■ Growth	25.4%	18.8%	29.8%	9.4%	25.4%	20.6%

Result:	Uneven
Data Quality and Availability:	As per KPI 6
General Comment:	National average annual growth in education budgets between 2006 and 2007 was 21%.
	Annual growth in education budgets was greater than annual growth of district budgets for all poverty quintiles except the middle quintile where it was approximately equal.
	Results show that nationally, financial commitment of district governments for education grew at a faster rate than their financial commitments to all other sectors as a whole.
	Poverty quintile 4 districts (second most poor) were exceptional in recording much lower growth in education budgets (9%) but also had slower growth in district budgets. This is related to the fact that Quintile 4 districts have the highest share of education expenditure (30%) from district budgets (see KPI 6). Other district may also slow down when they reach this threshold.
BEP Districts:	BEP districts showed strong positive commitment to education with 25% annual growth in education funds compared to 16% growth in district budgets during that period.
	Non-BEP districts were less positive and grew education funds by 20% compared with 21% growth nationally.
Future Analysis:	Update 2006 data once collected.
	Trend series to continue 2008-09

Figure 10: Annual Growth in APBD Education Expenditure, 2006 -2007, in BEP and Non-BEP Supported Districts

	BEP District	Non-BEP District	National Average
Growth	24.6%	20.0%	20.6%
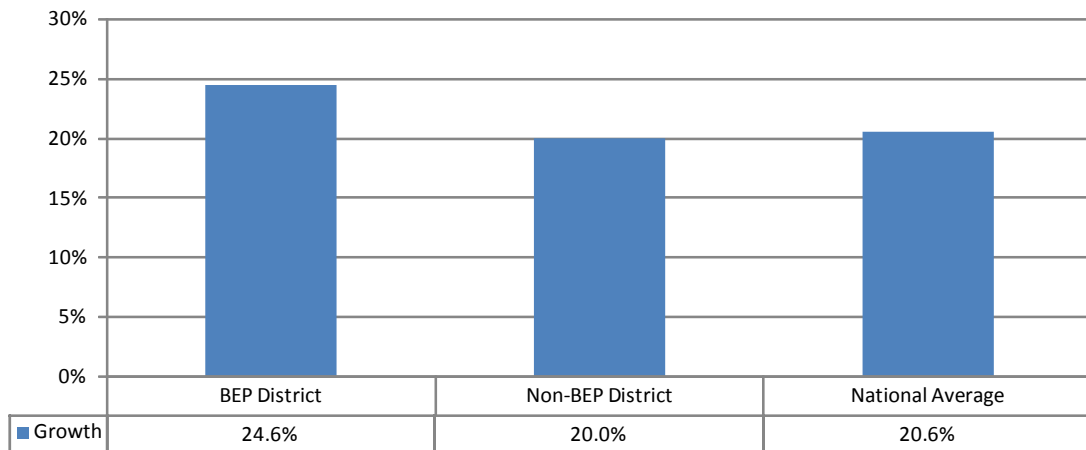
Policy Implications: Aggregations to the province level can miss much of the important detail.

This indicator is not suitable to apply on annual basis down to a school level because of investment program can skew results for year to year. Even at a district level, the analysis will be most useful when it is run over a few years to smooth out the impact of investment programs.

Recommendation: Monitor the education share of district budgets to see if they continue to grow the proportion of funds being allocated to education. Maintain special focus on districts with BEP interventions.

SPI 1: Growth Ratio of Education Spending

Figure 11: Annual Education Expenditure Growth Ratio 2006-2007

	Rural	Urban	National Average
■ Growth Ratio	1.4	1.1	1.3

Education Growth Ratio = Annual Growth in Ed Spending/Growth in APBD

|	
Meaning of the Indicator:	This indicator expresses the annual growth in education expenditure as a ratio to the annual growth of the district budget. The higher the ratio the greater financial commitment shown by the district in distributing funds to education.
	A score greater than 1 means the education budget is growing at a faster rate than the district budget as whole. A score less than one means it is growing at a slower rate than the district budget.
Result:	Positive
Data Quality:	As per KPI 6
General Comment:	Education expenditure at the district level is growing 1.3 times faster than aggregate public expenditures across Indonesia.
	The growth in spending is faster still in rural areas where it is growing at 1.4 times the rate of aggregate expenditure growth.
	Urban areas are also growing their spending at 1.1 times the rate of growth in aggregate expenditures.
	This is a very positive result and demonstrates that districts are prioritising education expenditure.
BEP Districts:	Education expenditure at the district level is growing 1.3 times faster than aggregate public expenditures across Indonesia.
	The growth in spending is faster still in rural areas where it is growing at 1.4 times the rate of aggregate expenditure growth.
	Urban areas are also growing their spending at 1.1 times the rate of growth in aggregate expenditures.
	This is a very positive result and demonstrates that districts are prioritising education expenditure.
Future Analysis:	Update 2006 data once collected and trend series to continue 2008-09

Figure 12: Annual Education Expenditure Growth Ratio 2006-2007, in BEP and Non-BEP Supported Districts

|	BEP District	Non-BEP District
■ Growth Ratio	1.5	1.2
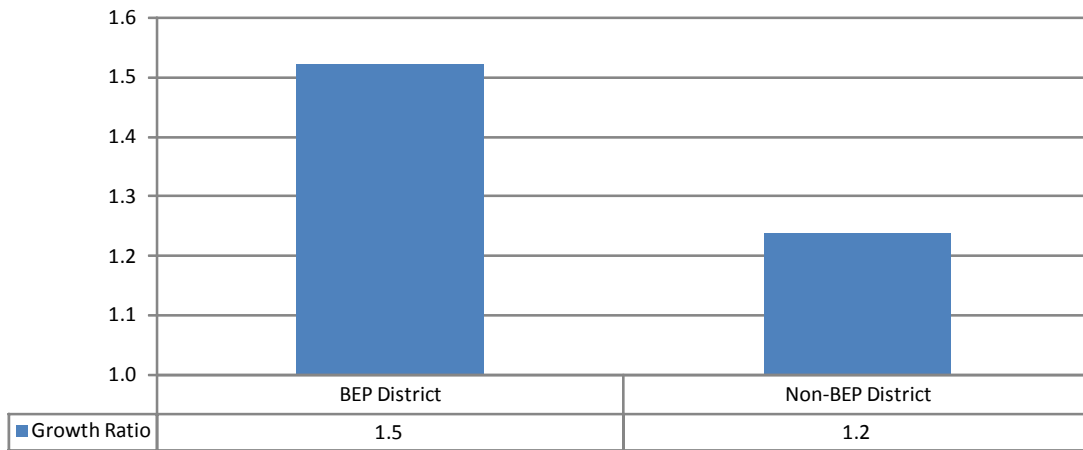
Education Growth Ratio = Annual Growth in Ed Spending/Growth in APBD

Analysis by poverty quintile reveals an uneven picture. The districts with lowest incidence of poverty are seen to be growing their education expenditures a much faster rate than aggregate spending - nearly 1.7 times faster in quintile 1 and 3.4 times faster in quintile 2. The result for quintile 2 reflects the relatively slow growth rate (5%) in aggregate expenditure for those districts.

In the middle ranking poverty quintile 3 the rate of growth in education expenditure is approximately equal to that of general spending. In the poorest quintile, growth in education expenditure is nearly 1.2 times that of growth in general spending, which is positive but slower than the national average growth ratio.

Figure 13: Annual Education Expenditure Growth Ratio 2006-2007, by Poverty Quintile

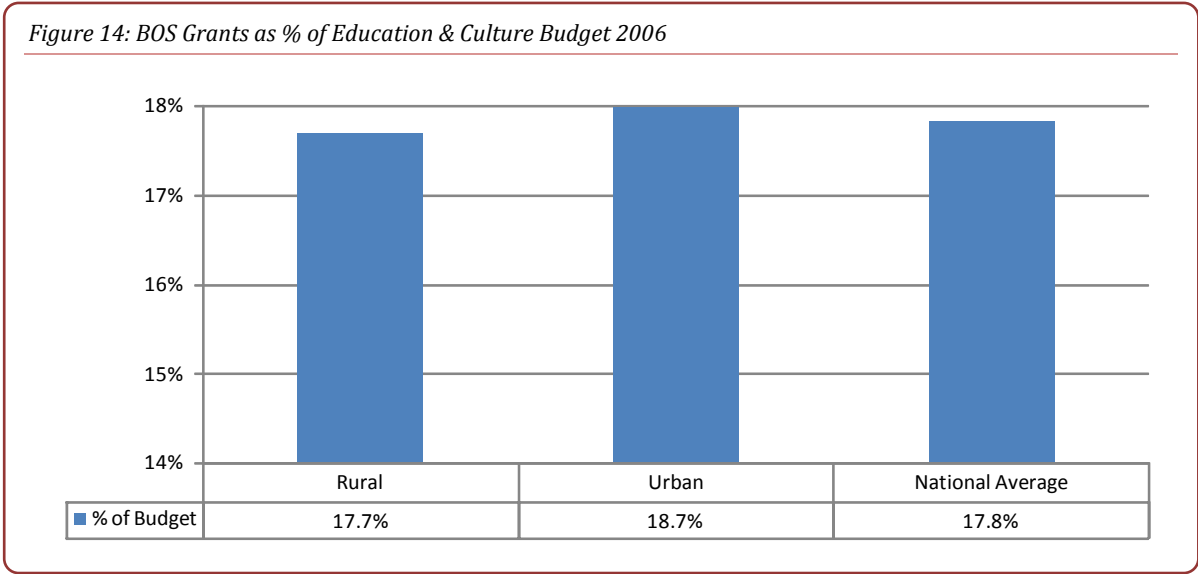|	1 (well-off)	2	3	4	5 (least well-off)
■ Growth Ratio	1.7	3.4	1.0	1.3	1.2
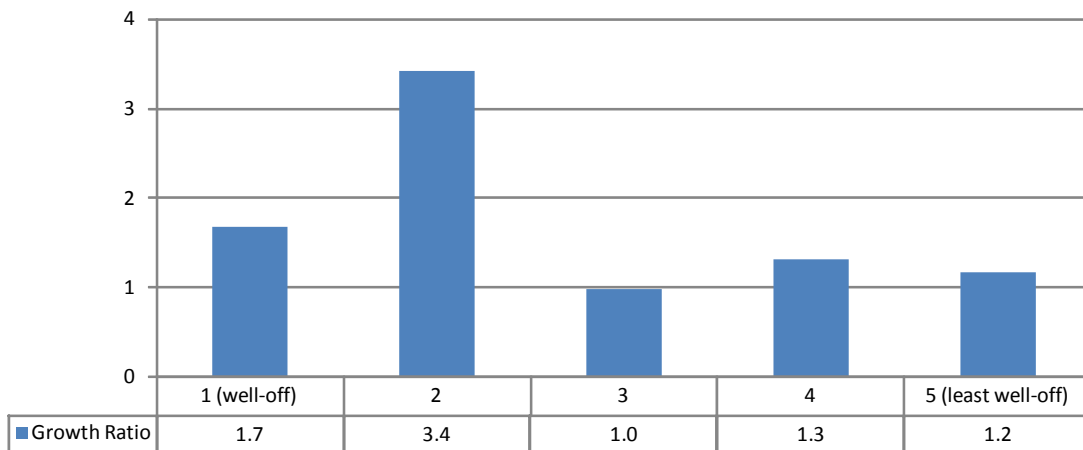
Education Growth Ratio = Annual Growth in Ed Spending/Growth in APBD

Policy Implications: The growth ratio indicator is powerful lead indicator of emerging trends in financing of education.

Recommendation: MoNE adopt the monitoring of education expenditure growth ratios by district poverty quintile to identify any emerging education funding hotspots at the district level.

SPI 2: Discretionary School Expenditure as % of Total Education Expenditure

Figure 14: BOS Grants as % of Education & Culture Budget 2006

	Rural	Urban	National Average
■ % of Budget	17.7%	18.7%	17.8%

|	
Meaning of the Indicator:	Discretionary expenditure is a key variable at the school level to enable schools to provide materials for classrooms and other activities.
Result:	Neutral
Data Quality:	BOS grants are used as a proxy variable for discretionary expenditure. The BOS funds are distributed directly to schools from the central government via MoNE. Schools will also collect other funds from parents and/or the district level of government. These other amounts are not reported on at a national level. The BOS grants indicate the average minimum discretionary funds available to schools.
General Comment:	The BOS grants have injected a dramatic new dimension to school resourcing. They amount to an additional 18% of district level education expenditure – with great potential to give flexibility at the school level. Direct payment to schools minimises the opportunities for leakage before the funds reach the school.
	On the other hand, if schools are poorly supervised or not held to account for the use of these funds means their utilisation can be squandered. This could be because of funds being used to supplement teacher salaries through training allocations or just poor use of funds.
	BOS grants offer great potential for funding innovative and reasonably resourced interventions at schools that have an ongoing recurrent funding base. This allows school principals to plan around these allocations instead of pursuing submission based models of grants.
BEP Districts:	BOS grants stand at 22% of total district level education expenditures in BEP districts compared to 18% in non-BEP districts. This is due to the lower average per capita expenditure in BEP districts.
Future Analysis:	Update 2006 data once collected and trend series to continue 2008-09

Figure 15: BOS Grants as % of Education & Culture Budget 2006, in BEP and Non-BEP Supported Districts

	BEP District	Non-BEP District
■ % of Budget	22.4%	17.8%
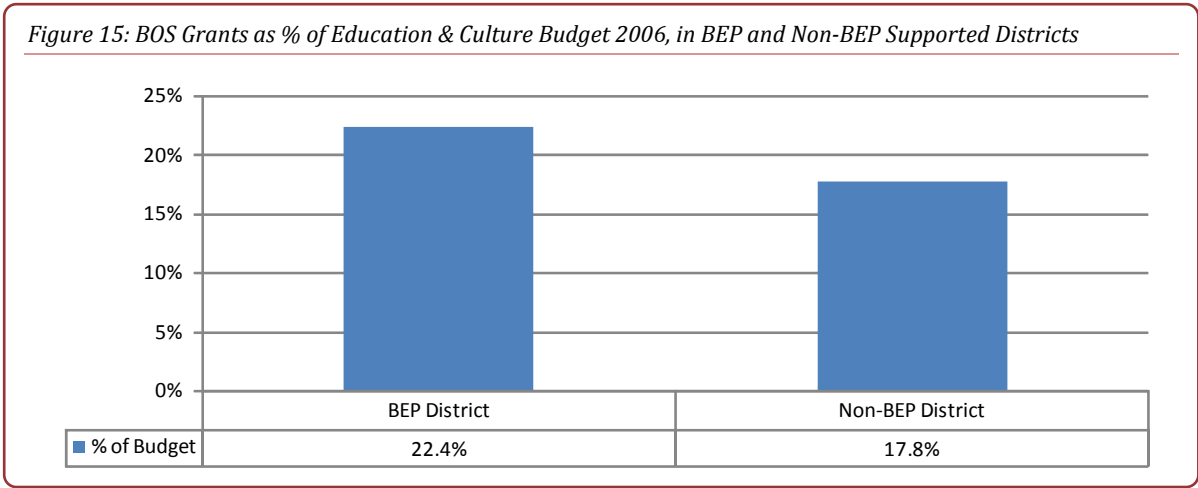
BOS grants as a percentage of total education expenditure are affected by the share of students progressing to secondary education. The per capita BOS grants for junior secondary students are 35% higher in value than grants for primary students. Districts with higher proportionate enrolment at secondary level have an increased proportionate weight in their BOS grants. As a consequence, inter-poverty quintile comparisons are not accurate as they are distorted by secondary level transition rates.

The poverty quintile does show that BOS grants stand at 17% or more of total public expenditures for education across all district poverty quintiles.

Figure 16: BOS Grants as % of Education & Culture Budget 2006, by Poverty Quintile

	1 (well-off)	2	3	4	5 (least well-off)
■ % of Budget	18.7%	16.8%	25.9%	16.6%	17.3%
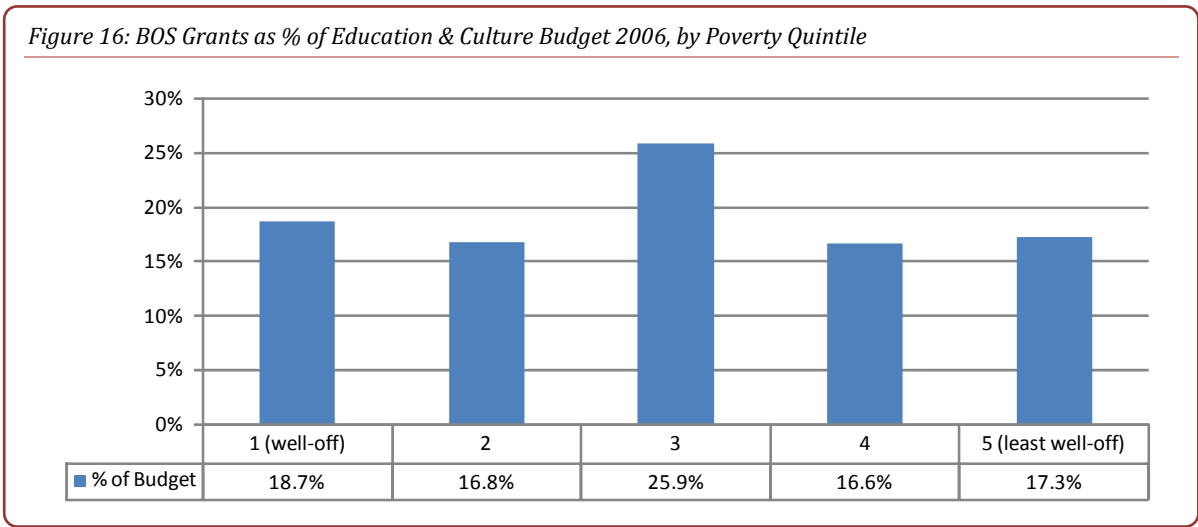
Policy Implications: BOS grants provide a critical injection of funds at the school level. It is important that these funds are utilised as effectively as possible. Their importance is even greater in BEP districts where they stand as a greater than average proportion of total funds available to education. Planning and management of BOS funds should be a key planning priority for schools in BEP districts. Capacity building activities for principals and socialisation amongst parents are two obvious intervention points.

Recommendation: The BOS grants be studied for utilisation and effectiveness and options developed for (i) linking them to district functional responsibility for monitoring and planning and (ii) increasing their impact in poorer districts.

IV.   COST ANALYSIS OF TEACHER UPGRADING & CERTIFICATION, 2007-2016

A.   Background

This section is an abridged version of a report prepared for the Directorate General, Quality Improvement of Teachers and Education Personnel (PMPTK), Ministry of National Education (MoNE) in November 2007. The aim of the report is to provide a macro-level and indicative costing of teacher academic upgrading and certification.
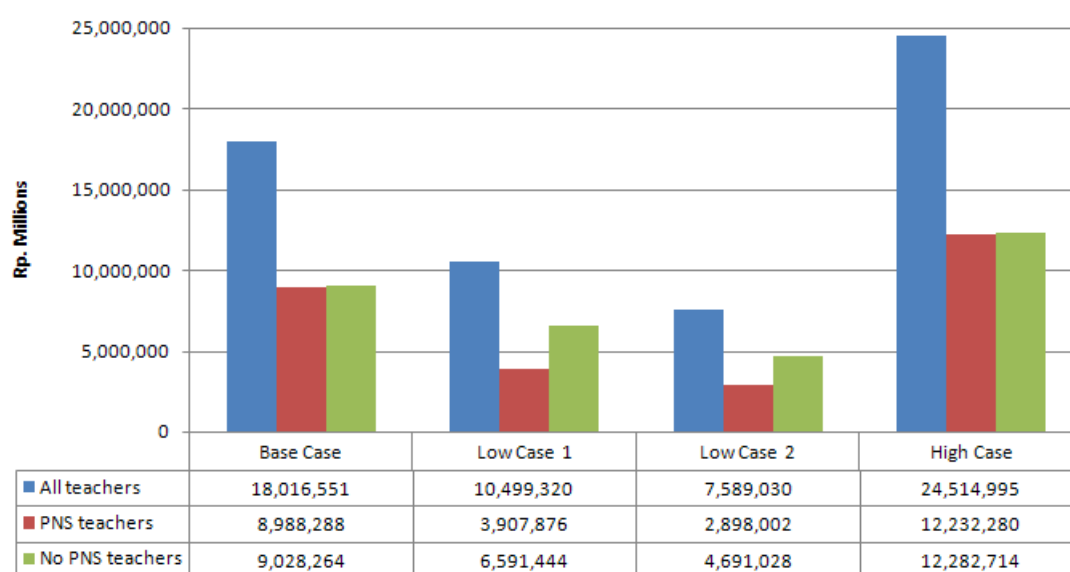
The majority of the costs are associated with the academic upgrading component. The academic upgrading relates to the new requirement for teachers to have a minimum four year diploma (D4) or undergraduate qualifications (S1) level of academic attainment in order to be eligible to be granted certification. The teacher certification costs are an additional and smaller cost associated with the portfolio assessment of teachers. Both of these costs have been brought together so Government of Indonesia (GoI) can consider the cost range for recurrent costs associated with the certification of all in-service teachers by 2016.

B.   Key Findings and Policy Implications

The Overall finding of the study is that significant savings can be made by GoI in the academic upgrading of teachers and their related certification. The study identifies savings in the order of between Rp. 7 -17 trillion (USD 0.8 -1.7 billion) which can be attained over 9 years. These are considerable savings that can be put to use in helping pay for the increases in teacher salaries that will probably flow from the certification of teachers.

The study describes the cost savings and how they can be generated. These savings are largely due to the reduced face to face teaching and age cut-offs applied to teachers (when they can be exempted from academic upgrading). The specific findings of the study are presented below.

Figure 17: Projected National Cost, by Case Scenario, (2007 prices)

	Base Case	Low Case 1	Low Case 2	High Case
All teachers	18,016,551	10,499,320	7,589,030	24,514,995
PNS teachers	8,988,288	3,907,876	2,898,002	12,232,280
No PNS teachers	9,028,264	6,591,444	4,691,028	12,282,714

Total projected costs for teacher academic upgrading and certification range from *Rp. 7.6 trillion* (USD 0.84 billion) *to Rp. 24.5 trillion* (USD 2.7 billion). These costs cover teacher certification for more than 2.5 million teachers between 2007 and 2016. The chart below shows the distribution of costs across years by the different scenarios.

Figure 18: Projected Expenditure by Case Scenario, (2007 prices)
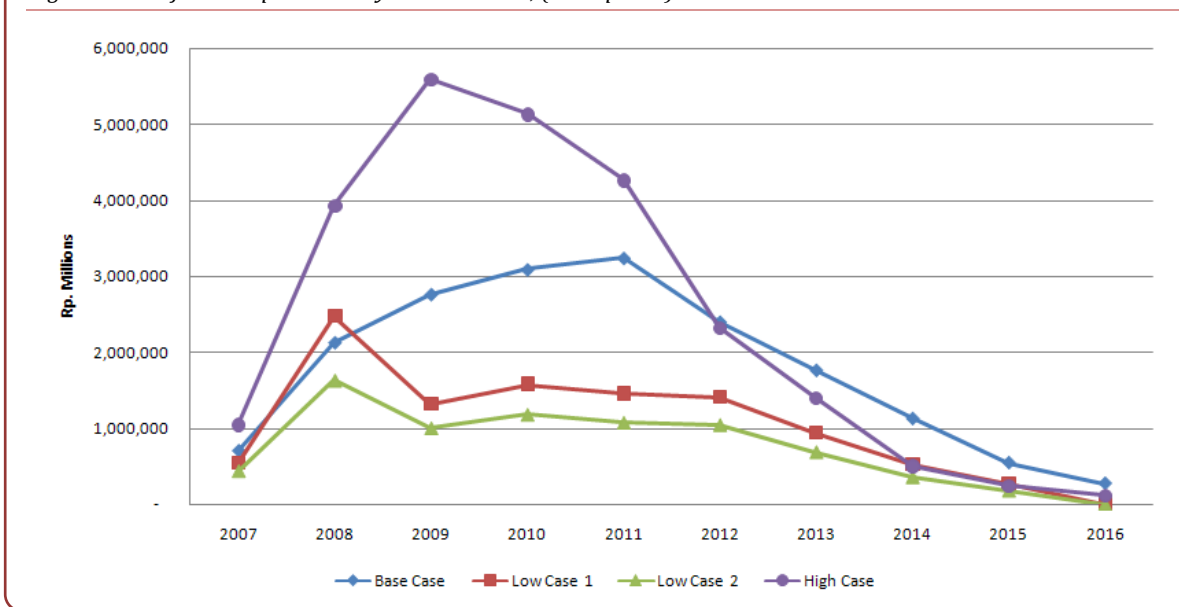
The cost differential between low and high cases that were modeled is extreme - more than three times in value. The cost gap between Base Case and Low Case 1 is Rp. 7.5 trillion. The technical advantages of the Base Case approach need to be carefully assessed against the significant savings that can be made by opting for either of the low case scenarios.

Average unit cost estimates per teacher range from Rp. 7.7 million to Rp. 18.7 million for the complete in-service teacher training and certification. This is the complete cycle cost and not an annual cost. These estimates are useful for macro-budgeting purposes only and can be met in part or wholly by government.

The attendance mode of training for academic upgrading is very expensive to deliver. Anything but a diluted mix of class time becomes expensive. The analysis suggests a distance mode of training for in-service teachers should be used as extensively as possible. Distance modes of training are those which do not involve teachers attending classes within higher education institutions. The analysis does not capture any costs for replacing teachers in the attendance training mode.

Figure 19: Average unit cost for all teachers, by Cost Scenario

	Base Case	Low Case 1	Low Case 2	High Case
Unit Cost	13.7	10.6	7.7	18.7
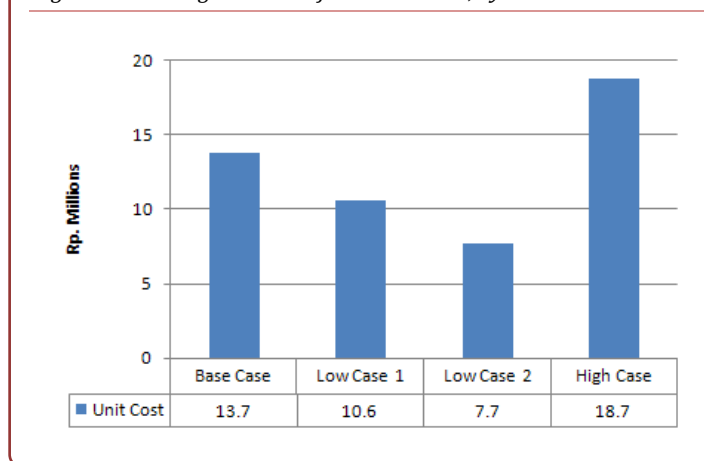
Age limitations on training are very cost effective. The low case models show very clear and significant cost savings can be generated by limiting the participation of teachers above certain ages.

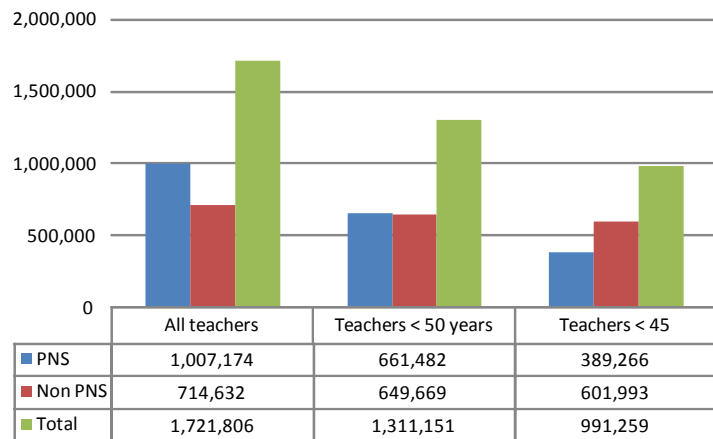The maximum age 50 policy for teacher training reduces the training load from 1.72 million teachers down to 1.31 million teachers. This takes more than 400,000 teachers out of the

Figure 20: Teachers for Academic Upgrading (< S1 qualifications), 2006

	All teachers	Teachers < 50 years	Teachers < 45
PNS	1,007,174	661,482	389,266
Non PNS	714,632	649,669	601,993
Total	1,721,806	1,311,151	991,259

training system. A further reduction of the teacher training age threshold to below age 45 would drop training demand to less than 1 million teachers. This is a reduction of more than 710,000 teachers for the higher education system in face to face and distance modes of training.

Phasing the training of teachers by age can achieve cost savings and improve effectiveness. Younger teachers are likely to be flexible and able to make the transition to new teaching styles as well as absorb new content knowledge. They are also more likely to stay in the teaching workforce for longer, suggesting better use of potentially limited resources.

Overload on training institutions can be minimised through distance mode. The quality disadvantage of the distance mode needs to be balanced against system capacity limits for providing quality training in the attendance mode.

Merging the certification and training functions delivers time and cost savings. During this phase of large scale teacher certification for in-service teachers, one option is to grant training institutions an immediate assessment role in the certification process. This will reduce time and cost with quality assurance provided by surveillance activities organised at central and provincial levels.

Detailed costings and investment plan for the next stage of research. It is estimated there are approximately 340,000 in-service teacher trainees in 2007 subsidised from central level budget (APBN) and the district level budgets (APBD). These approaches can be studied to develop more detailed costings for further analysis. These costs may then be combined with estimates of the remuneration costs associated with teacher law implementation to generate a complete picture of investment and recurrent costs. The World Bank funded BERMUTU project initiatives are specific interventions for certification that may also be examined in terms of actual implementation cost.

C.   Cost Model Summary

The cost analysis modeled four cases including a Base Case. The four models were developed through variations of six important input variables that emerged from the teacher profile exercise. These models are briefly described below.

The training modality variable considers two broad possible options – distance education and "in attendance" option. Distance education refers to those training options that do not provide face to face teaching for students. The "in attendance" option is based on the trainee teachers visiting the institution or possibly a lecturer visiting a group of teachers through the course of the training.

The Base Case, Low Case 1 and Low Case 2 model a mixed mode of training, with varying emphases of distance and "in attendance" modes of training.

The cost models include an option for combining the certification process with the academic upgrading for those teachers receiving training. This would involve an arrangement where the selected training providers would be recognised and able to provide documentation enabling the certification of teachers. A quality assurance process would need to be put in place to safeguard standards and the integrity of the certification process. These providers would be available for spot checks as part of quality assurance processes.

Base Case: This provides training for all teachers aged less than 50 years of age with the phasing being equally distributed across the years from 2007 to 2015. The training modality is mostly distance but with a provision for the equivalent of one semester in attendance training at a teacher training institution for teachers with a qualification level lower than D3. The certification process is undertaken separately from the training and costed for all serving teachers.

Low Case 1: The Low Case differs from the Base Case by (i) age cut off for training is reduced to 45 years of age, (ii) teacher training and certification processes are combined at teacher training institution level, (iii) one semester attendance mode is only applied to teachers with qualification level below D2.

Low Case 2: This is similar to Low Case 1 but extends potential cost savings by (i) introducing an age cut-off of 55 years age for teacher certification, and (ii) only distance mode is available for in-service teacher trainees.

High Case: The high case differs from the Base Case by (i) front loading the training provision, and (ii) increasing the attendance mode of instruction to a full year of attendance for all teacher qualification levels.

Table 2: Cost Model Summary

Input Variables	Base case	Low Case 1	Low Case 2	High Case
Phasing of training provision to 2016	Even	Even	Even	Front loaded
Age cut-off for training	Age <50	Age <45	Age <45	Age <50
Age cut-off for certification	No cut-off	No cut-off	Age < 55	No cut-off
Training & certification process	Separate	Combined	Combined	Separate
Training modality (distance/ attendance) by current qualification **S1=undergraduate degree** **D3=3yr diploma** **D2=2yr diploma** **D1=1yr diploma** **SLTA = less than high school**	*Mixed distance & attendance modes of training* D3 = 1yr dist D2 = 1.5yr dist 0.5yr attend D1 =2.5yr dist, 0.5yr attend SLTA = 3.5 yr dist, 0.5 attend)	*Reduced attendance mode of training* D3 = 1yr dist D 2 = 2yr dist D1= 2.5yr dist, 0.5yr attend SLTA =3.5yr dist 0.5 attend	*Only distance mode of training* D3 = 1yr dist D 2 = 2yr dist D1= 3yr dist SLTA = 4 yr dist	*Increased attendance load* D3 = 1yr attend D 2 = 1yr dist, 1yr attend D1 = 2yr dist, 1yr attend SLTA = 3 yr dist, 1yr attend

D.   Profile of Teachers in Indonesia

The selection of cost scenarios was informed by considering the profile and key attributes of teachers across Indonesia. The focus was on identifying those attributes that would have a potential impact on the timing, nature and extent of training required.

Employment Status of Teachers

There are more than 2.7 million teachers in Indonesia spread across public and private schools. Of these, 1.5 million teachers are PNS (civil servants) and approximately 1.2 million are non PNS (non-civil servant).

The large number of non-civil servant teachers suggests it is important to consider them separately in the cost calculations.

Figure 21: Teachers by School Type

	Public Schools	Private Schools	Alll Schools
PNS teachers	1,373,625	140,952	1,514,578
Non-PNS Teachers	398,658	839,769	1,238,427
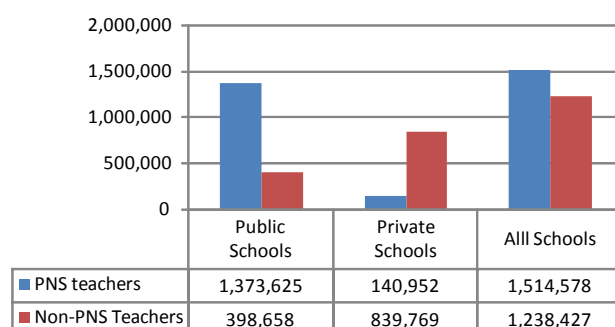
Age Profile of Teachers

A majority (52%) of PNS teachers is aged between 41 and 59 years of age, compared with 25% of Non-PNS teachers. PNS teachers also have more than 29% of teachers aged above 50 years of age, while non PNS teachers have just 7%.

The aging nature of the teacher supply suggests it will be an important dimension to consider when considering options for certification and most particularly training.

It will not be cost effective to expend significant resources on training teachers that are either on the way to retirement or at an age where they are least likely to benefit from a training program.

Figure 22: Teachers by Age Cohort and Employment Status, 2006
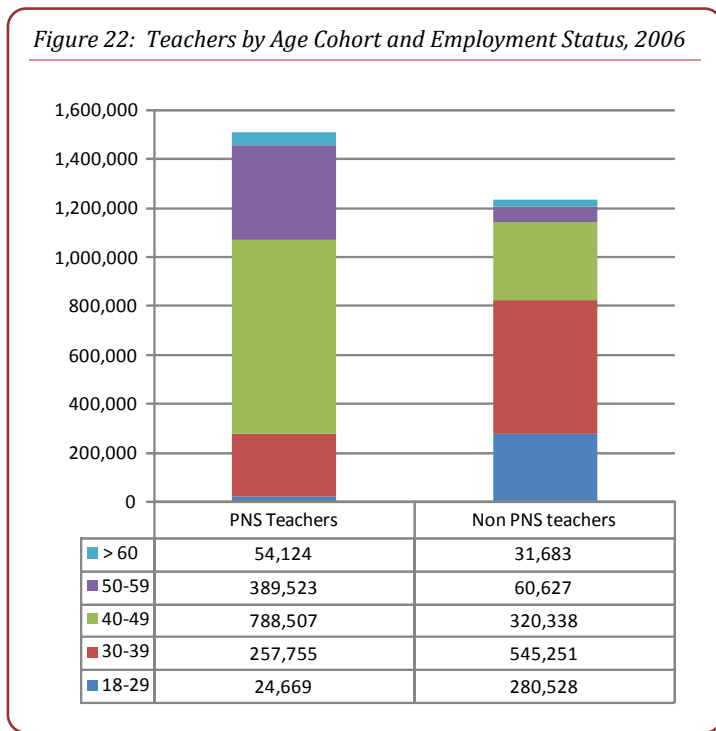
	PNS Teachers	Non PNS teachers
> 60	54,124	31,683
50-59	389,523	60,627
40-49	788,507	320,338
30-39	257,755	545,251
18-29	24,669	280,528

The current expectation for the Teacher Law is that it will not require teachers older than 50 years of age to participate in the training program for academic upgrading. The large weight of teachers aged between 40-49 years of age in the PNS supply, prompts a test of the cost impact of excluding some of these teachers from the training requirement as well.

There are more than 443,000 PNS teachers and another 92,000 non-PNS teachers over 50 years of age. Teachers over 50 years of age represent 25% of PNS and nearly 5% of non-PNS teachers. An age staggered implementation of training, beginning with the younger cohort, will tend to exclude older teachers from the training requirement. That is, they will reach the training cut-off age of 50 before they come to be trained.

Table 3: Teachers by Age and Employment Status, 2006

Age	PNS Teachers			Non PNS teachers		
	Number	Percent	Cumulative Percent	Number	Percent	Cumulative Percent
18-29	24,669	1.5	1.6	280,528	22.8	22.7
30-39	257,755	17.1	18.6	545,251	44	66.7
40-49	788,507	52.1	70.7	320,338	25.7	92.5
50-59	389,523	25.7	96.4	60,627	4.8	97.4
> 60	54,124	3.5	100	31,683	2.3	100
Total	1,514,578	99.9		1,238,427	99.6	

Gender of Teachers

There is a very even distribution of teachers by gender within the PNS teacher supply but a greater proportion of women in the non PNS teacher supply stream. Detailed analysis of teachers by age cohort reveals little imbalance in the gender profile across the age spectrum for the PNS teachers but a stronger representation of female teachers in the younger age cohorts of the non PNS teachers.

Figure 23: Teachers by Gender and Employment Status, 2006

	PNS teachers	Non PNS teachers
■ Male	701,069	559,645
■ Female	813,509	678,782
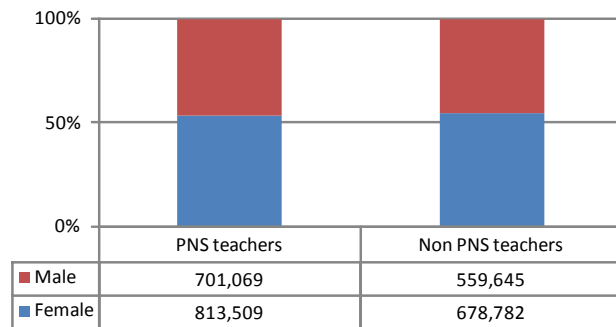
Approximately one-third of civil servant teachers hold either a two-year diploma (37%) or an undergraduate degree (33%), but there are gender differences. For female civil servant teachers, a two year diploma is the most common type of qualification (40%), followed by an undergraduate degree (29%). For male civil servant teachers, an undergraduate degree is the more common qualification (37%), followed closely by a two year diploma (33%). About 20 percent of civil servant teachers are qualified to the level of less than high school only.

Table 4: Number (and Percent) of Civil Servant and Non-Civil Servant Teachers by Gender and Highest Qualification*

Highest qualification		Civil Servant			Non-civil servant		
		Female	Male	Total	Female	Male	Total
Less than high school	<SLTA	174 151	133 900	308 051	238 134	168 244	406 378
		(21)	(19)	(20)	(35)	(30)	(33)
1 year diploma	D1	22 770	20 006	42 776	27 633	25 095	52 728
		(3)	(3)	(3)	(4)	(5)	(4)
2 year diploma	D2	327 716	229 222	556 938	108 780	58 718	167 498
		(40)	(33)	(37)	(16)	(11)	(14)
3 year diploma	D3	49 747	49 662	99 409	37 979	50 049	88 028
		(6)	(7)	(7)	(6)	(9)	(7)
Undergraduate	S1	23 7011	262 052	499 063	265 682	255 081	520 763
		(29)	(37)	(33)	(39)	(46)	(42)
Masters	S2	2 110	6 214	8324	568	2 421	2 989
		(<0.5)	(1)	(1)	(<0.5)	(<0.5)	(<0.5)
Doctorate	S3	4	13	17	6	37	43
		(<0.5)	(<0.5)	(<0.5)	(<0.5)	(<0.5)	(<0.5)
Total		813 509	701 069	1 514 578	678 782	559 645	1 238 427
		(100)	(100)	(100)	(100)	(100)	(100)

* Percentages may not sum due to rounding

An undergraduate degree is the most common qualification for both female and male non-civil servants, with 39 percent of females and 46 percent of males holding a degree. Two-year diplomas are not as common for non-civil servant teachers as they are for civil servant teachers. About one-third of non-civil servant teachers have a qualification status of less than high school, and females tend to be slightly more likely to be qualified at this level compared to males.

Current Teacher Qualifications

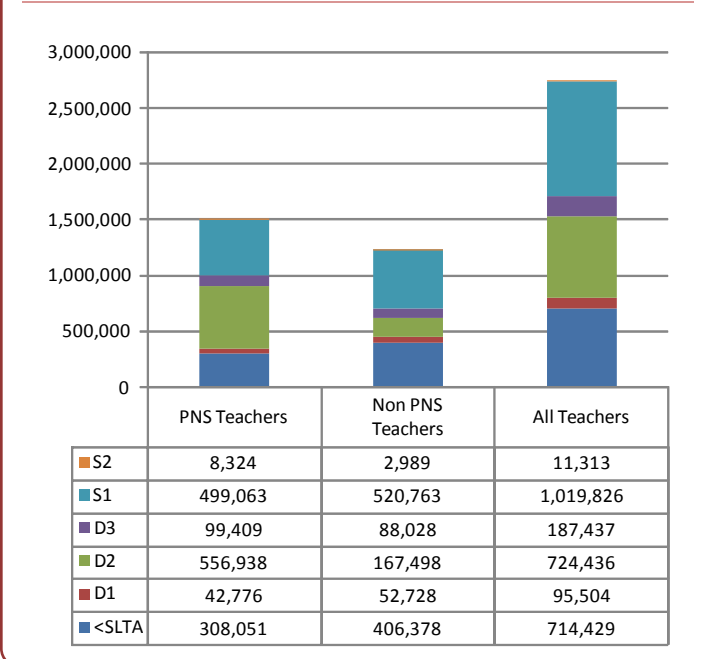*Table 5: Teacher Qualifications by Employment Status, 2006*

	PNS teachers			Non PNS teachers			All teachers		
	Number	**%**	**Cumulative %**	**Number**	**%**	**Cumulative %**	**Number**	**%**	**Cumulative %**
<SLTA	308,051	20.3	20.3	406,378	32.8	32.8	714,429	26.0	26
D1	42,776	2.8	23.2	52,728	4.3	37.1	95,504	3.5	29
D2	556,938	36.8	59.9	167,498	13.5	50.6	724,436	26.3	56
D3	99,409	6.6	66.5	88,028	7.1	57.7	187,437	6.8	63
S1	499,063	33	99.4	520,763	42.1	99.8	1,019,826	37.0	100
S2	8,324	0.5	100	2,989	0.2	100	11,313	0.4	100
S3	17	0	100	43	0	100	60	0.0	100
Total	1,514,578	100		1,238,427	100		2,753,005	100	

More than 25% of all teachers have not completed their secondary school education. Non-PNS teachers tend to be more highly qualified. Only a third of PNS teachers have an S1 degree or higher compared with two in five (42%) of non PNS teachers that have an S1 degree of higher. Approximately 65% of all teachers have academic qualifications at below S1 level, meaning they will require academic upgrading in line with the Teacher Law.

Analysis of academic qualifications by age suggests there are considerable cost savings from an exclusion policy for teacher training. The cost model introduced a scenario that reduced the training age limit from the proposed 50

Figure 24: Teachers by Qualification and Employment Status, 2006

	PNS Teachers	Non PNS Teachers	All Teachers
■ S2	8,324	2,989	11,313
■ S1	499,063	520,763	1,019,826
■ D3	99,409	88,028	187,437
■ D2	556,938	167,498	724,436
■ D1	42,776	52,728	95,504
■ <SLTA	308,051	406,378	714,429

years of age down to 45 years of age. The age 50 policy for teacher training reduces the training load from 1.72 million teachers down to 1.31 million teachers. This takes more than 400,000 teachers out of the training system. A further reduction of the teacher training age threshold to below age 45

would drop training demand to less than 1 million teachers. This is a reduction of more than 710,000 teachers for the higher education system in face to face and distance modes of training.

Another potential saving lies in reducing the age at which teachers need to be certified. The base cost estimates have been prepared on the basis that all teachers are certified. Alternatively, certification may also only be required of teachers that are below 50 years of age (as for academic upgrading) or slightly higher at 55 years of age. A low case model has been set for teacher certification to be

Figure 25: Teachers Requiring Certification, 2006

	All teachers	Teachers < 50 years	Teachers < 50
PNS	1,514,578	1,295,912	1,070,931
Non PNS	1,238,427	1,185,258	1,146,117
Total	2,753,005	2,481,170	2,217,048

limited to teachers that are below 55 years of age. This allows the teacher certification system to preserve a quality assurance program for all teachers that will be in the teaching force beyond the current transition period.

Teachers with Education Majors

Teacher with a majors in education already have academic training in teaching. Most of these (211,000) are found in the PNS stream, with another almost 50,000 in the non PNS stream.

One cost effective option, would be to automatically deem these teachers as being certified without incurring financial cost or distracting them from their teaching for up to a year.

Figure 26: Teachers with Majors in Education, 2006

	PNS Teachers	Non PNS Teachers
Ed' Majors	211,021	49,904
No Ed' Majors	1,047,057	722,767
No Data Available	256,500	465,756

This option has not been modeled because of concerns that it might create division between different segments of teachers at the school level.
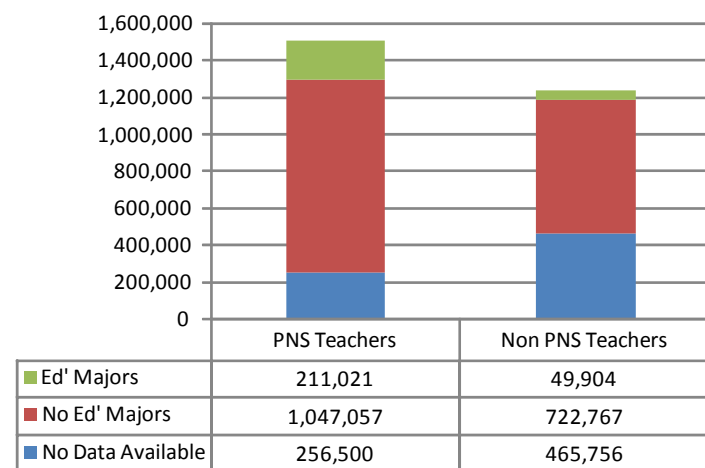
V. APPENDIX

i.   List of BEP Districts

Province	District
Sumatera Selatan	Kab. Ogan Komering Ilir
Sumatera Selatan	Kab. Ogan Komering Ulu Timur
Lampung	Kab. Lampung Selatan
Lampung	Kab. Tulang Bawang
Jawa Barat	Kab. Sukabumi
Jawa Barat	Kab. Tasikmalaya
Jawa Barat	Kab. Bekasi
Jawa Tengah	Kab. Kebumen
Jawa Tengah	Kab. Jepara
Jawa Tengah	Kab. Brebes
Jawa Timur	Kab. Lumajang
Jawa Timur	Kab. Banyuwangi
Jawa Timur	Kab. Sampang
Bali	Kab. Tabanan
Bali	Kab. Gianyar
Bali	Kab. Bangli
Bali	Kab. Karang Asem
Bali	Kab. Buleleng
Nusa Tenggara Barat	Kab. Lombok Barat
Nusa Tenggara Barat	Kab. Lombok Tengah
Nusa Tenggara Barat	Kab. Lombok Timur
Nusa Tenggara Barat	Kab. Sumbawa
Nusa Tenggara Barat	Kab. Dompu
Nusa Tenggara Barat	Kab. Bima
Nusa Tenggara Barat	Kab. Sumbawa Barat
Nusa Tenggara Timur	Kab. Sumba Barat
Nusa Tenggara Timur	Kab. Sumba Timur
Nusa Tenggara Timur	Kab. Kupang
Nusa Tenggara Timur	Kab. Timor Tengah Selatan
Nusa Tenggara Timur	Kab. Timor Tengah Utara
Nusa Tenggara Timur	Kab. Belu
Nusa Tenggara Timur	Kab. Alor
Nusa Tenggara Timur	Kab. Lembata
Nusa Tenggara Timur	Kab. Flores Timur
Nusa Tenggara Timur	Kab. Sikka
Nusa Tenggara Timur	Kab. Ende
Nusa Tenggara Timur	Kab. Ngada
Nusa Tenggara Timur	Kab. Manggarai
Nusa Tenggara Timur	Kab. Rote Ndao
Nusa Tenggara Timur	Kab. Manggarai Barat
Kalimantan Barat	Kab. Sambas
Kalimantan Barat	Kab. Bengkayang
Kalimantan Barat	Kab. Landak
Kalimantan Barat	Kab. Pontianak
Kalimantan Barat	Kab. Sanggau
Kalimantan Barat	Kab. Ketapang
Kalimantan Barat	Kab. Sintang

Province	District
Sulawesi Utara	Kab. Bolaang Mongondow
Sulawesi Utara	Kab. Minahasa
Sulawesi Utara	Kab. Kepulauan Sangihe
Sulawesi Utara	Kab. Kepulauan Talaud
Sulawesi Utara	Kab. Minahasa Selatan
Sulawesi Utara	Kab. Minahasa Utara
Sulawesi Utara	Kota Bitung
Sulawesi Tengah	Kab. Banggai Kepulauan
Sulawesi Tengah	Kab. Banggai
Sulawesi Tengah	Kab. Morowali
Sulawesi Tengah	Kab. Poso
Sulawesi Tengah	Kab. Donggala
Sulawesi Tengah	Kab. Toli-Toli
Sulawesi Tengah	Kab. Buol
Sulawesi Tengah	Kab. Parigi Moutong
Sulawesi Tengah	Kab. Tojo Una-Una
Sulawesi Selatan	Kab. Selayar
Sulawesi Selatan	Kab. Bulukumba
Sulawesi Selatan	Kab. Bantaeng
Sulawesi Selatan	Kab. Jeneponto
Sulawesi Selatan	Kab. Takalar
Sulawesi Selatan	Kab. Gowa
Sulawesi Selatan	Kab. Sinjai
Sulawesi Selatan	Kab. Maros
Sulawesi Selatan	Kab. Pangkajene Kepulauan
Sulawesi Selatan	Kab. Barru
Sulawesi Selatan	Kab. Bone
Sulawesi Selatan	Kab. Soppeng
Sulawesi Selatan	Kab. Wajo
Sulawesi Selatan	Kab. Sidenreng Rappang
Sulawesi Selatan	Kab. Pinrang
Sulawesi Selatan	Kab. Enrekang
Sulawesi Selatan	Kab. Luwu
Sulawesi Selatan	Kab. Tana Toraja
Sulawesi Selatan	Kab. Luwu Utara
Sulawesi Selatan	Kab. Luwu Timur
Sulawesi Selatan	Kota Ujung Pandang
Sulawesi Selatan	Kota Pare-Pare
Sulawesi Tenggara	Kab. Buton
Sulawesi Tenggara	Kab. Muna
Sulawesi Tenggara	Kab. Konawe
Sulawesi Tenggara	Kab. Kolaka
Sulawesi Tenggara	Kab. Konawe Selatan
Sulawesi Tenggara	Kab. Bombana
Sulawesi Tenggara	Kab. Wakatobi
Sulawesi Tenggara	Kab. Kolaka Utara
Sulawesi Tenggara	Kota Kendari

Province	District
Kalimantan Barat	Kab. Kapuas Hulu
Kalimantan Barat	Kab. Sekadau
Kalimantan Barat	Kab. Melawi
Kalimantan Tengah	Kab. Kotawaringin Timur
Kalimantan Tengah	Kab. Barito Selatan
Kalimantan Tengah	Kab. Barito Utara
Kalimantan Tengah	Kab. Sukamara
Kalimantan Tengah	Kab. Lamandau
Kalimantan Tengah	Kab. Seruyan
Kalimantan Tengah	Kab. Katingan
Kalimantan Tengah	Kab. Pulang Pisau
Kalimantan Tengah	Kab. Gunung Mas
Kalimantan Tengah	Kab. Barito Timur
Kalimantan Tengah	Kab. Murung Raya
Kalimantan Tengah	Kota Palangka Raya
Kalimantan Selatan	Kab. Kota Baru
Kalimantan Selatan	Kab. Banjar
Kalimantan Selatan	Kab. Barito Kuala
Kalimantan Selatan	Kab. Hulu Sungai Tengah
Kalimantan Selatan	Kab. Hulu Sungai Utara
Kalimantan Selatan	Kab. Tabalong
Kalimantan Selatan	Kab. Tanah Bumbu
Kalimantan Selatan	Kab. Balangan
Kalimantan Selatan	Kota Banjar Baru

Province	District
Gorontalo	Kab. Boalemo
Gorontalo	Kab. Gorontalo
Gorontalo	Kab. Pohuwato
Gorontalo	Kab. Bone Bolango
Gorontalo	Kab. Gorontalo Utara
Sulawesi Barat	Kab. Majene
Sulawesi Barat	Kab. Polewali Mandar
Sulawesi Barat	Kab. Mamasa
Sulawesi Barat	Kab. Mamuju
Maluku	Kab. Maluku Tenggara Barat
Maluku	Kab. Maluku Tenggara
Maluku	Kab. Maluku Tengah
Maluku	Kab. Buru
Maluku	Kab. Kepulauan Aru
Maluku	Kab. Seram Bagian Barat
Maluku	Kab. Seram Bagian Timur
Maluku Utara	Kab. Halmahera Barat
Maluku Utara	Kab. Halmahera Tengah
Maluku Utara	Kab. Kepulauan Sula
Maluku Utara	Kab. Halmahera Selatan
Maluku Utara	Kab. Halmahera Utara
Maluku Utara	Kab. Halmahera Timur
Maluku Utara	Kota Ternate
Maluku Utara	Kota. Tidore Kepulauan