



Development
Progress

TOWARDS BETTER EDUCATION QUALITY Indonesia's promising path

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Schoolgirls in Bali, Indonesia. Photo: © Mariska Richters

Case Study Summary

Education

- Indonesia was one of only eight countries whose Programme for International Student Assessment (PISA) reading results improved significantly over 2000-2009 (8.4%), while also narrowing the gap between the highest and lowest performing students.
- Completion rates for lower secondary education rose from 63% to 76% over 2002-2012, with strong gender equity and gains across urban/rural, regional and socio-economic groups.
- A series of reforms have led to upgrading the teacher workforce. Between 2006 and 2010, the share of teachers with a bachelor's degree increased from 17% to 27% at the primary level and from 62% to 76% at the junior secondary level.
- Commitment to devote 20% of the national budget to education has seen funding almost triple in real terms since 2001, with spending of IDR 310.8 trillion (US \$35.3bn) in 2012.

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Why look at education quality in Indonesia?

Improving education outcomes is a massive challenge in Indonesia, a vast, diverse country that is the fourth most populous in the world, with roughly 55 million students, 3 million teachers and 236,000 schools (MoEC 2013). Despite this, over the past decade, Indonesia has improved education quality, alongside gains in access to primary and junior secondary education.

As in many countries, moving beyond achievements in access and towards meaningful gains in education quality and equity is proving to be a challenge for Indonesia. However, several positive trends have emerged. Accordingly, this report focuses on education quality improvements while recognising that this is still a work in progress. Given the interdependence of education quality with issues of access and equity, all these elements are examined as part of the overall quality picture.

Due to the diversity of reforms that have emerged and the use of research and evaluation to inform policy-making, Indonesia's experience is a particularly interesting case study with useful lessons to offer, particularly for decentralised middle income states looking to strengthen education quality.

Indonesia's teacher reforms – a major element of the overall strategy for improving education – are also particularly instructive in terms of how reforms have been approached and the challenges faced. The important role of teachers in improving student learning was a major focus of UNESCO's 2014 Global Monitoring Report and Indonesia's experience highlights some of the challenges inherent in raising teaching standards. The other key drivers examined include:

- reforms to the curriculum and pedagogy
- progress in decentralisation and school-based management
- increased expenditure alongside targeted support intended to address inequities.

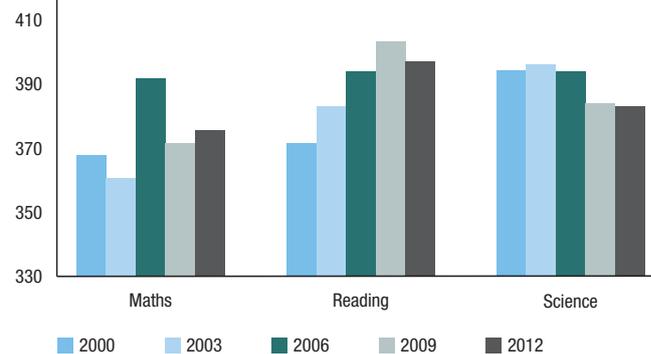
What progress has been achieved?

Over the past few decades, Indonesia has committed to improving its education system, with a particular emphasis on basic education.

1. Improvements in education quality

Indonesia has demonstrated a long-term trend of rising adult literacy – with rates increasing from 67% in 1980 to 82% in 1990 and then to 90.4% in 2004. Improvements in recent years have been slower, with the adult literacy rate standing at 93% in 2011, however, improvements are higher among young people, showing 98.8% for 15-24 year olds. Pupil-Teacher ratios (PTR), which are sometimes regarded as a proxy for education quality, have also improved

Figure 1. PISA Test Scores in Math, Reading and Science, 2000-2012



Source: World Bank EdStats and PISA (2013).

significantly, with the PTRs for pre-primary through upper secondary levels all having been below 20:1 since 2003.

Improvements in the quality of Indonesian education have been clearest in international tests of reading levels, with both PISA and Progress in International Reading Literacy Study (PIRLS) assessments showing statistically significant improvements across 2000-2012 and 2006-2011, respectively, despite variations in intervening years (OECD 2013, IEA 2012). OECD (2012) highlights that Indonesia was one of the few countries to simultaneously achieve improvements in PISA reading performance over 2000-2009, while also narrowing gaps between the best and worst-performing students.

Patterns of achievement in mathematics and science have been more ambiguous. Science performance, as measured by PISA, appears to have slightly declined over 2006-2012 (see Figure 1). However, the annualised declines over 2000-2012 are not statistically significant and can therefore be more accurately characterised as stable (OECD 2013). Student performance in mathematics, based on PISA scores, has improved overall across 2003-2012, but the annualised change over the period is statistically insignificant.

Despite improvements, Indonesia still scores below Vietnam and comparable, though slightly wealthier, countries in the region such as Malaysia and Thailand. Its overall outcomes also fall below international benchmark achievement levels. Only one in four Indonesian students achieve the international benchmark in PISA mathematics assessments; half achieve this in reading, with fewer than four in ten students doing so for science (OECD 2013: 68, 196, 235).

The impact of improving quality on the equity of learning outcomes across 2000-2012 have been varied. Analysis of PISA results demonstrates that Indonesia's results in mathematics and reading improved across all income groups during this period (World Bank 2013a). However, there is little evidence of narrowing gaps between high and low income groups or across the urban-rural divide. The gender-gap is also stable and has been narrow throughout this period.

‘If the quality of education is assessed by international tests such as PISA, then it is not good in comparison with other countries. However, we are optimistic that we will catch up since the trend shows an increasing pattern’ – Ministry of Education Official

2. Improvements in access and equity

Longer term improvements in access and equity sit alongside this progress in education quality. These began in the early 1980s but were disrupted in the aftermath of the East Asian Crisis. The 2000s saw Indonesia recapturing lost ground and, within this context, improvements in education quality have been particularly impressive. Indonesia has seen primary net enrolment rise from 90% in 2000 to near universal levels by 2005. Along with this, gross enrolment rates increased from 106%-118% over 2000-2011, as significant numbers of students with missing years of school – particularly those from poorer backgrounds – were reintegrated into the education system. The expansion of access has also been accompanied by improvements in repetition, retention and completion rates. Transition rates to secondary education and school life expectancy have also risen and are well ahead of those of other lower middle income countries.

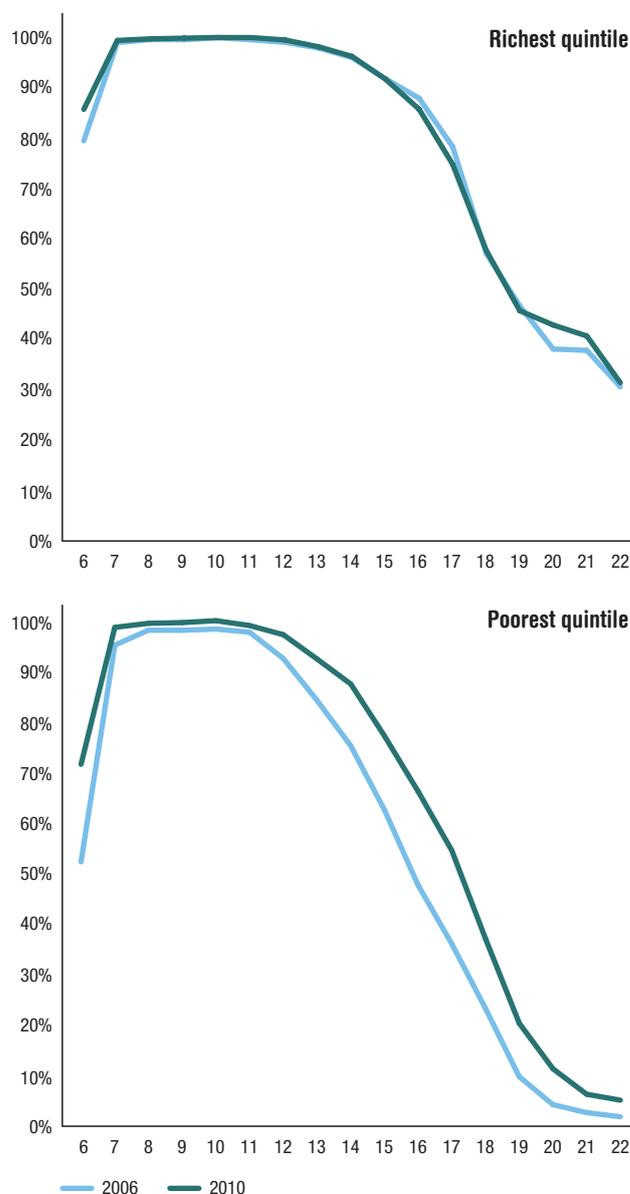
Indonesia is a highly diverse archipelago, therefore strong improvements in national education indicators mask important sub-national trends. Disaggregation of primary enrolment rates show that while most Indonesian districts are now at near universal levels, many districts are lagging behind, particularly in areas such as Papua Barat, Aceh and Sulawesi Barat. Similar differences in inter-district and inter-ethnic performance exist for secondary enrolment, school life expectancy, pupil-teacher ratios and literacy rates.

There has been a notable improvement in equity across all age-groups (see Figure 2). Particular gains have been made in lower secondary completion rates. Overall, these rose from 63% to 78% during 2002-2012, with a narrowing of gaps between income groups and across regional and rural-urban divisions. However, the remaining gaps are still considerable in size.

3. Broader socio-economic progress

The backdrop to this progress has been a relatively strong economic performance by Indonesia after being

Figure 2. Share of children enrolled in school by age and socio-economic quintile, 2006-2010



Source: World Bank (2013a).

badly hit by East Asian Financial Crisis in 1997, which saw Indonesian GDP per capita more than halve. During 2000-2012, GDP annual growth rates averaged 5.4% – a rate comparable with the 5.3% average of neighbouring countries (Malaysia, Thailand and Vietnam) over the same period. This is remarkable given that Indonesia suffered a far greater blow from the East Asian crisis. This growth has been a major enabling factor for Indonesia’s substantial investments in education. Significant increases in per capita income have also contributed to the establishment of a strengthened middle class and the potential for increased private investment in education.

What are the factors driving change?

This report identifies four main drivers of progress:

- strengthening the teaching force
- curriculum and pedagogy reforms
- increased decentralisation and school-based management
- a substantial increase in education expenditure and targeted support to address inequities (this increase in financing played a key enabling role, particularly for teacher reforms).

1. Strengthening the teaching force

Over recent years there has been a strong emphasis placed on upgrading Indonesia's teacher workforce, including initiatives to increase teachers' salaries and skill levels, with these representing nearly half of the total education budget (MoEC 2013). The first wave of teacher reforms occurred in the 1990s and required teachers to have a two-year post-secondary diploma. The second wave of reforms was ushered in with the 2005 Teacher Law, which established a new teacher certification system and minimum standards for teacher competencies while addressing related issues of low pay and poor motivation among teachers.

Historically, teachers in Indonesia have experienced relatively low social status and pay compared to other civil servants. Previously, this fed into poor performance as teaching candidates were few and relatively low skilled, leading to a teaching workforce with low motivation and a significant proportion of poorly qualified teachers.

Now, under the 2005 Teacher Law, teachers who meet certification requirements receive a professional allowance that doubles their salaries. While these reforms have had some success, evidence from a recent randomised evaluation of the programme conducted by the World Bank and Ministry of Education and Culture (MoEC) suggests there is not yet clear evidence that education outcomes – such as teacher and student knowledge – have been improved by the reforms (see Box 1).

'The teacher certification program has significantly upgraded the quality of teachers. The programme allows for compensating certified teachers by giving them additional allowance. Thus, teachers are more eager in upgrading their knowledge and teaching skills' - Academic

Box 1: Evaluating Indonesia's Teacher Certification Reforms

To measure the impacts resulting from Indonesia's massive teacher certification programme, the World Bank and MoEC recently partnered to implement a large-scale randomised evaluation of the reforms. Emerging evidence shows that Indonesia's certification helps reduce pressures on teachers to take additional jobs that could distract from their main teaching responsibilities: teachers who are certified are 27 percentage points less likely to have a second job and 38 percentage points less likely to have financial problems (World Bank 2012). However, the reforms have not yet been able to demonstrate clear improvements on teacher's subject knowledge, hours spent teaching, teacher absenteeism or student learning outcomes. The final results of the evaluation are still in progress, therefore other findings may emerge.

Teacher qualification levels have risen over the last decade, but their link with education outcomes is unclear. Ensuring that teacher certification contributes to upgrading teacher skills, rather than only increasing salaries, remains a major challenge.

The Government of Indonesia (GoI) has also made efforts to more efficiently allocate teachers by establishing standards related to school staffing levels. Although smaller class sizes tend to be associated with improved educational outcomes, this is not universal and low pupil-teacher ratios in Indonesia are often the result of teachers working part-time and sharing workloads. Some interesting strategies have emerged to manage teacher distribution issues – such as incentives for working in remote areas and using multi-grade teaching and multiple-subject teachers in small schools. However, major distribution issues still remain, with recent World Bank estimates suggesting 340,000 teachers (17% of the total teaching force) would have to be transferred within or across districts and between regions to meet GoI guidelines on pupil-teacher ratios (World Bank 2013a).

2. Curriculum and pedagogy reforms

During the 2000s, Indonesia made a series of alterations to the national curriculum, attempting to move from:

- a content-based curriculum to a competency-based one
- teacher-centred rote learning to student-centred active methods
- a centralised system for determining content to a decentralised one.

The emphasis was on moving the focus of education away from the memorisation of facts and theoretical knowledge towards students being able to achieve competencies

combining “integrated skills, knowledge, attitudes and values” demonstrated by task performance (MoEC 2013).

Analysis of teaching methods and student outcomes conducted by Trends in International Mathematics and Science Study (TIMSS) and reported in World Bank (2013b) suggest Indonesian students taught using methodologies in line with these reforms perform significantly better in assessments. However, there have been serious issues with implementation of the new curriculum and teaching methods (MoEC 2013, World Bank 2013b).

In addition, the School-Based Curriculum (Kurikulum Tingkat Satuan Pendidikan) was introduced in the early 2000s to introduce a degree of decentralisation into the curriculum. This gave schools considerable discretion over their education plans and was intended to shift responsibility for curriculum development closer to school level. Its overall impact has been greatest in urban and International Standard Schools that were best placed, in terms of resources and capacity, to take advantage of these opportunities (MoEC 2013).

3. Supporting decentralization and school-based management

After the fall of the Suharto government, Indonesia emerged as the world’s third largest democracy. There has, since then, been a large devolution of responsibility over education

planning and decision-making to local governments and schools. Decentralisation has supported a number of important changes in the education sector, including a shift towards greater community participation and accountability in the system. Local education offices are now playing a much more significant role in planning, implementing and monitoring the delivery of education services.

Decentralisation has empowered schools and community members to be more involved in local education decision-making. School-based management (SBM) has been mandated by Ministerial Regulation 44/2002. This delegates responsibilities – such as school planning and budgeting, staff management and curriculum development – to principals and school committees. The SBM model, which encourages student-centred learning, community participation and effective school management, has now been adopted widely in Indonesia. A recent evaluation found that democratic elections of school committee members, along with efforts to facilitate collaboration between school committees and village councils, can lead to greater engagement from education stakeholders and improved student learning (World Bank 2011a).

The process of decentralising Indonesia’s education system has been supported by the Bantuan Operasional Sekolah (BOS) school grant programme. The programme consists of block grants from central government to individual schools based on a per-student formula. From



Jannatin Aliah gives a mathematics lesson in West Kalimantan, Indonesia. Photo © Ramadian Bachtiar courtesy of CIFOR

2012, the BOS programme covers 44 million students in 228,000 public and private schools. It is credited with lowering school fees, increasing enrolment and completion rates and, in the case of BOS Daerah (BOSDA), raising student learning outcomes – with schools receiving BOSDA funds scoring 6% and 9% higher in language and math tests, respectively (World Bank 2013a). However, BOS has been criticised for prioritising spending on teacher salaries rather than on other priorities that may yield greater benefits to students (World Bank 2013a).

‘Decentralization is good because we don’t need to wait for a decision from the central government or Ministry... Furthermore, those who know best are those who are closer’ - District Education Official

4. Increased budget and targeted support to address inequities

In 2002, a constitutional commitment to spend a fifth of the national budget on education was made. This was fulfilled in 2009, with funds for education more than tripling in real terms over 2001-2012, reaching IDR 310.8 trillion (US \$35.3 billion) in 2012. This pattern largely reflects a dramatic growth of the overall government budget, as the share of education spending in the total government budget has remained at around 20% (between 3-4% of GDP) since 2009. Rising revenues are partly related to stable economic growth, but the major boost to education financing stems from the decision to cut fuel subsidies, to specifically remove fees and improve education through programmes such as BOS.

Analysis of the changes in expenditure associated with funding increases to meet a 20% target show that, within basic education,¹ roughly two-thirds of additional expenditure has been on general increases in teacher salaries and teacher certification (World Bank 2013a:12). By comparison, investment in school infrastructure and teaching resources appear to have had a relatively limited role in Indonesia’s recent progress in education quality.

Efforts to reduce gaps in education access and quality have been an important component of the government’s strategy for improving basic education. Several initiatives have specifically targeted resources towards regions, schools and families with the highest poverty levels and/or poorest education, including the Scholarships for the Poor (BSM) programme and two cash transfer programmes that address education, health and poverty reduction goals

(Hopeful Family Programme (PKH) and the National Community Empowerment Programme (PNPM Generasi)).

The above are major initiatives. For example, the BSM programme has nationwide coverage and delivers scholarships to roughly 6 million students, with plans for further expansion.

What are the challenges?

While Indonesia has made notable progress in improving education access, increasing education quality is still a work in progress and significant challenges remain.

1. Variable learning levels and persistent equity concerns

Despite reform efforts and notable improvements in PISA and PIRLS reading results, there are still significant improvements needed in terms of education quality and equity of resource distribution, access and outcomes.

Only one in four Indonesian students achieve the international benchmark in PISA mathematics assessments, with half gaining this in reading and fewer than four in ten students doing so in science (OECD 2013: 68, 196, 235). Recent reforms hold promise for improving education quality, but successfully implementing these policies nationwide remains a challenge.

Regional variations in enrolment and resource distribution are also a significant issue. Education outcomes are particularly lagging in parts of eastern Indonesia and over 2012-2013 there were 72 districts that still had net primary enrolment rates below 90%. There remain strong inequities in the distribution of teachers and resources across regions.

2. Financial sustainability and cost-effectiveness of reforms

There is a risk that continued expansion of the teacher certification plan will put unsustainable pressure on the Indonesian education budget. If the overall share of government spending on education remains constant at around 20%, as it has since 2009 (and especially if revenue growth slows down or stalls), the massive costs associated with certifying and increasing the salaries of all primary and junior secondary school teachers could absorb a huge proportion of the budget, meaning cutbacks in spending on other education levels may be unavoidable.

There are also concerns that the BSM (scholarship) programme may not be cost-effective in terms of its ability to target the poor. Data from recent years suggests that half of all BSM funds go to students in the poorest 40% of the population, while the other half benefits those in the richest 60% (World Bank 2012). Research has also found that the cost of education to Indonesian households is far higher than the amount provided by BSM, meaning its impact on enrolment may be limited. The GoI is responding to these

¹ Defined as primary and lower secondary school.

challenges, utilising a national Unified Database of poor households (BDT) to improve targeting and increasing the size of scholarships.

3. Coverage, equity and quality of early childhood care and education

The ability of parents to access high-quality early education greatly influences children's later academic performance and life chances, with initial disadvantages persistently impacting on educational, social and economic indicators (World Bank 2011b).

Since 2000, Indonesia took steps to improve the coverage and quality of pre-primary education. The National Education System Law of 2003 defined early childhood care and education (ECCE) and established a regulatory framework of minimum service standards. The government also committed to achieve a pre-primary gross enrolment rate of 75% by 2015, representing a significant increase in coverage.

Progress on enrolment has been made, but has not yet achieved the 2015 75% target. Gross enrolment rates for pre-primary rose from 24.8% in 2000 to 41.5% in 2011, alongside rising net enrolment rates from 22.1% in 2005 to 28.8% in 2010. However, it seems unlikely that the 75% target for 2015 will be met. There is also a widening gap in coverage between socio-economic groups.

Enrolment among 4-6 year olds from the poorest quintile rose from 19% to 36% across 2004-2010, while enrolment amongst the richest quintile increased from 46% to 68%. MoNE (2007) also notes considerable disparities in coverage between urban and rural areas.

4. Education to employment transition

While the Indonesian economy has performed relatively well in terms of labour productivity, it is projected that if current GDP growth rates continue, the demand for semi-skilled and skilled workers will double from 55 million to 113 million by 2030 (McKinsey 2012). However, evidence from the International Labour Organisation (ILO 2013) indicates school-to-work transitions remain difficult, with youth unemployment rates fluctuating between 20-32% over 2000-2011 and evidence of youth underemployment.

To meet these rising demands and keep its competitive edge, it is important for Indonesia to more broadly address demand deficiencies, skill mismatches and long-term challenges related to education-to-employment transitions. Evidence drawn from surveys of labour demand and employer/employee skills surveys suggests there is a need to improve the quality of primary education and accompany this with an expansion of secondary enrolment so students can benefit from this additional training (Di Gropello et al. 2011).

Lessons learned

Despite significant challenges to be overcome, Indonesia has improved education outcomes over the last decade in terms of reading and literacy, while considerably expanding access to education. Its political commitment to improving education quality has been backed by a considerable investment in resources. Meanwhile, its mix of decentralisation of decision-making power, central programmes targeting resources to the poorest and strong emphasis on improving teacher skills provides an interesting model for improving education. Key lessons to be drawn from Indonesia's experience are:

- **Upgrading teacher skills and curriculum reforms are key strategies for improving teaching quality and student learning.** Indonesia's experience suggests combining minimum teaching standards with salary incentives could improve education outcomes and this may be a feasible starting point for reforms. However, salary increases alone are unlikely to automatically lead to improvements in teacher performance – there is a need

for incentives to be closely linked to demonstrated competency.

- **Decentralising power to local governments, school administrators and parents through school-based management reforms has the potential to build local involvement and support for improving education outcomes.** Indonesia's experience shows decentralised management of schooling can be an important part of improving education quality, particularly where local institutions have adequate capacity and when combined with resource increases through block grants.
- **Strong high-level commitments to prioritise education, supported by large spending increases, can open space for reforms, but increased funds alone are unlikely to automatically translate into gains in education quality.** In Indonesia, democratisation has helped generate wider support for education spending, but considerable challenges still lie with ensuring effective spending and the rigorous implementation of mechanisms to improve quality.

This summary is an abridged version of a research report and one of a series of Development Progress case studies being released at developmentprogress.org

Development Progress is a four-year research project which aims to better understand, measure and communicate progress in development. Building on an initial phase of research across 24 case studies, this second phase continues to examine progress across countries and within sectors, to provide evidence for what's worked and why over the past two decades.

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