Country Research Team
Indonesia
Indonesia offers an ideal laboratory to explore education issues because local districts have significant autonomy in terms of teacher management, distribution, and training. The research project will also analyse nationwide reforms that aim to raise teacher quality in hopes of enhancing students’ learning.

In-depth, multi-year projects by RISE in a diverse group of countries – Ethiopia, India, Pakistan, Tanzania, Vietnam, and Indonesia - aim to shed light on ways to address a global learning crisis. Nations around the world have been remarkably successful in making progress toward universal primary schooling, but in many places, learning levels are poor, or have declined. As a result, even when children finish many years of schooling, they still lack essential skills. The RISE agenda emphasises the need to make changes that can provide children with the education they require to be successful adults in their local, national, and global communities.

“The fact that nearly every child is in school represents an enormous victory for humankind,” said Lant Pritchett, RISE Research Director, senior fellow at the Center for Global Development, and a professor of the practice of international development at Harvard’s Kennedy School of Government. “Now that they are there, let’s continue that momentum to make sure that every child in school is learning.”

Indonesia, the world’s fourth largest nation, provides an opportunity for researchers to explore how an aspirational, middle-income country can find and wield policy levers that can help students to acquire needed, higher-level skills.

“It is not that kids in Indonesia can’t read, but it is the case that kids can’t think as well as they could. Every kid acquires some modicum of simple decoding skills, but they lack all the sophisticated skills – the higher-level, critical-thinking skills that they will need as Indonesia aspires to improve productivity and overall economic and social development,” Pritchett said.

The Indonesian Country Research Team is a multidisciplinary group of thirteen academic researchers with expertise in economics, education, political science and programme evaluation. The project is led by the SMERU Research Institute, an Indonesian, independent institution that conducts research and public policy studies on socioeconomic and poverty-specific issues. International partner institutions include the Amsterdam Institute for Global Health and Development, a multidisciplinary research institute that analyses the causes and consequences of health and education outcomes in developing countries; and Mathematica Policy Research, a US research
organisation that has conducted assessments of the effectiveness of policies and programmes in the public and private sectors for nearly fifty years.

The RISE project will examine teacher reform issues at district and national levels.

- **At the district level** - What educational reforms do innovative districts create? Do these innovations enhance student learning? If so, how? If not, what are the key barriers? Do innovations spread across districts and to national policy? What facilitates – or impedes – the diffusion of innovation?

- **At the national level** - Do national policies offering teachers improved salaries, training and incentives enhance student learning? Do reforms bring more teachers to areas where they have been lacking? Do changes in the format and content of national exams reduce cheating, and lead to higher levels of student learning?

"Indonesia has increased spending on education, and there is a meaningful drive for more results in education. I hope that this research will help in ensuring that this additional spending will translate into improvements in learning outcomes," said Menno Pradhan, the RISE country team’s lead researcher. He is a professor in project and programme evaluation for international development, at Vrije Universiteit Amsterdam and the University of Amsterdam.

"The setting in Indonesia is particularly important because the central government does not have the power to direct education," he said. "In Indonesia, many, many small districts have their own political systems and agendas. It will be fascinating, and important, to see how this plays out in terms of affecting innovation and change."

Indonesia has achieved a gender-balanced, near-universal enrolment at the primary-school level, and an estimated 80 percent of its students enrol in secondary school. Yet its education system faces a learning crisis deemed a ‘state of emergency’ by the former Minister of Education and Culture and current governor of Jakarta, Anies Baswedan. Despite the country’s significant investments in education, students’ scores on international, standardised assessments are low, according to rankings on the Programme for International Student Assessment (PISA), a triennial, international survey by the Organisation for Economic Co-operation and Development (OECD) that tests skills and knowledge of 15-year-old students in reading, maths, and science. More than 75 percent of Indonesian students failed to achieve even basic proficiency in maths.

Teacher quality is a major concern; most of the nation’s three million teachers did not pass a recent test in basic subjects. Thus, a major issue to be addressed involves finding ways to effectively use resources in order to improve teaching quality and, in turn, student learning in both urban and rural settings.

“RISE will generate knowledge to help Indonesia’s quest to transition its education focus from access to learning,” said Sudarno Sumarto, the Team Leader of Indonesia’s Country Research Team.

The research agenda will closely examine five innovative districts that implement to understand the dynamics of change, and how and whether change spreads elsewhere. The research will also analyse the policies in place in the twenty best- and twenty worst-performing districts in order to understand what policies work – or fail – to improve learning levels.

The research agenda will undertake work across representative areas of the country, including urban and rural settings. Key issues and components for analysis at the national level include:

- **Teacher recruitment** - Research will examine the effects of laws that doubled certified teachers’ base pay; established new standards for teachers’ skills and knowledge; and created a one-year, post-graduate teacher-training programme.

- **Teacher professional development** - Research will examine the effects of a new, nationwide remedial programme created to train the many teachers who did not pass a basic skills test.

- **The need to attract teachers to remote areas** - Research will examine whether new incentives and rewards lead more teachers to work in remote areas that have experienced teacher shortages, and...
RISE will study whether efforts to encourage community participation in monitoring teacher performance lead to better-quality teaching.

- **High-stakes, national exams** - Research will analyse whether changes in the tests’ format, from paper exams to computer-based formats, reduce widespread cheating on high-stakes national exams students take for graduation, and whether this in turn will lead to a greater effort on learning to prepare for the test.

“As an Indonesian, I would like to see this research project contribute to the improvement of the Indonesian school system so that children will really learn,” said Heni Kurniasih, a political scientist working on the project, and a senior researcher at SMERU. “I think there is a lot of potential for cross learning. I hope that an understanding of what elements in the system actually contribute to better learning can also lead other countries to improve.”

“A quality education is transformational. Knowing what works is essential to drive effective system reform—and this is at the core of the RISE programme. Australia is proud to support RISE, and the addition of the Indonesia Country Research Team will allow key lessons from our region to be better understood and shared across the globe,” said Alison Chartres, Assistant Secretary, Development Policy and Education Branch, Australian Government Department of Foreign Affairs and Trade.

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The RISE Country Research Team in Indonesia will undertake analysis of reforms that initiated at both local and national levels in Indonesia.

The five-year, £3.9 million project aims to expand global knowledge on the challenges and opportunities that arise when local, autonomous districts have the flexibility to devise ways to improve student learning. Researchers will strive to understand what happens when local districts are free to follow their own political agendas. They will closely analyse whether locally initiated changes prove effective, the key ingredients that lead to change, and whether and how effective innovations catch on elsewhere.

Indonesia provides an ideal laboratory to explore these issues because its more than 500 local districts are largely autonomous from national-level mandates as a result of rapid political decentralisation, begun in the years following the departure of Suharto in 1998.

The country also provides a platform for researchers to gain insights about how and whether an aspirational, middle-income country can find and wield policy levers that lead students to acquire higher-level, critical-thinking skills. Indonesia is seeking ways to give its young people more sophisticated and advanced skills in order for the nation to improve its overall economic and social development.

Researchers will also analyse national-level reforms to see whether they prove effective in enhancing student learning. The project will explore the coherence – or lack of coherence – between federal initiatives, and their execution ‘on the ground’ in local districts. In Indonesia, districts have autonomous political power while most education budget is borne by the central government.

Broad research questions include the following:

**At the local level**

- **Assessing how innovation occurs** - Does self-determination at the district level work to improve learning? If so, what are the ingredients of local political agendas and initiatives that lead to policies to improve schools? How do changes take place in such a system? What motivates districts to undertake reform? How are schools in reform-minded districts affected? What are the features of district policies that facilitate or impede student learning?

- **Assessing how and whether innovation spreads** - Do district-level innovations spread to other districts? Do they percolate up to national levels? What forces facilitate the diffusion of policies elsewhere? What forces impede the spread of innovation?

**At the national level**

- **Assessing reforms intended to improve teacher quality** - Do reforms improve teacher quality? Do higher teacher salaries attract more highly-skilled people who might have pursued other careers? If so, does the presence of better-skilled teacher lead to improved student learning? Does remedial training improve teaching quality? Do performance-based rewards lead teachers to change behaviours in ways that improve learning?
• **Assessing reforms intended to reduce student cheating on national exams** - Does a switch from paper- to computer-based exams reduce cheating? Do more analytical questions make cheating more difficult, and lead to improved student learning? Does reducing the stakes by offering students other measures of performance also reduce the pressure that has led to cheating?

**Context**

Indonesia, the world’s fourth-most populous nation, has achieved tremendous economic growth. It has also achieved a gender-balanced, near-universal enrolment at the primary-school level. Roughly eighty percent of its students enrol in secondary school. Public spending on education has increased sharply, from eleven percent of total government spending in 2001, to nineteen percent in 2014. Student-teacher ratios are low: eighteen to one.

Yet its education system faces a learning crisis deemed a 'state of emergency' by the former Minister of Education and Culture and current governor of Jakarta, Anies Baswedan. Despite the country’s significant investments in education, the students’ scores on international, standardised assessments are low, according to rankings on the Programme for International Student Assessment (PISA), a triennial international survey by the Organisation for Economic Co-operation and Development (OECD) that aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students in reading, mathematics, and science. More than 75 percent of students failed to achieve even basic proficiency in math. The levels are below what would be expected, given Indonesia’s income levels.

Teacher quality is a major concern. Most of the nation’s 3 million teachers did not pass a recent test in basic subjects; results show that 57 percent of maths teachers scored below 50 percent on the exam, for example. Thus, a major issue to be addressed focuses on finding ways to more effectively use resources to improve teaching quality and, in turn, to improve student learning in both urban and rural settings. The hope is that central reforms – which include improved teacher salaries, incentives and training – will lead more high-skilled people into teaching, and will improve the skills of existing teachers.

The Indonesia Country Research Team will explore a wide range of proposed, ongoing and past reforms. The analysis will examine which types of policies are associated with improvements in student learning, for girls and boys, and for students living in both urban areas and remote villages.

At the local level, the research project will closely follow and collect data from five, key innovative districts in hopes of better understanding the dynamics that underlie change. Districts - which have the power to set their education budgets, and to decide how to manage their schools - have introduced a variety of innovations in hopes of enhancing learning. Examples of innovations that have emerged from local policy changes thus far include the following provisions:

• Paying teachers additional wages to encourage them to lead extracurricular activities.

• Paying half of the costs for teachers’ continuing education.

• Establishing new arrangements to bring subject-specific secondary school teachers to remote areas that confront teacher shortages; teachers who have been unable to secure a sufficient number of work hours in schools with multiple teachers in a given subject may complete their needed work hours by teaching in underserved areas.

Researchers will examine learning outcomes in districts nationwide to identify the twenty best- and worst-performing districts. The researchers will then analyse the educational policies that were employed in those districts to see what lessons may be learned from their results and experiences. At the national level, researchers will scrutinise the effects of a wide range of reforms to understand whether they are effective in improving learning, and, if so, why. The issues and related policies include:
• **Teacher recruitment.** A 2005 law doubled the base pay for certified teachers. Reforms established a certification process, and set new and higher standards for skills and knowledge of teachers. The government created a one-year, post-graduate teacher training programme.

• **Teacher professional development.** Indonesia created a nationwide remedial programme to train teachers who did not pass a basic skills test.

• **Teacher distribution.** The government established mechanisms to provide rewards and incentives for teacher performance in remote and underserved areas, and to encourage community participation in monitoring teacher performance.

• **High-stakes, national exams.** Indonesia’s students must take national exams to graduate from elementary school (sixth grade), and from junior high school (ninth grade), and from high school (twelfth grade). In an effort to stop widespread cheating, the national government introduced measures to change the format, content and stakes associated with the exams. The government has introduced computer-based tests in some schools. Previously, all exams were taken on paper. The hope is that the computer-based format will prove less vulnerable to cheating than traditional tests written on paper. In addition, authorities have sought to make the tests’ questions less rote and more analytical in nature. The government has also sought to lower the stakes associated with the exams by introducing other criteria that may also be considered in determining whether a student graduates.

Overall, the work in Indonesia is intended to provide insights about the underlying reasons why policy levers intended to improve student achievement work or fail – and to use these insights to inform policy both within Indonesia and globally.

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Indonesia has achieved a gender-balanced, near-universal, net enrolment in primary school. In junior secondary schools, the nation has achieved a net enrolment of more than 80 percent (PDSPK, 2015). Yet, even though public spending on education has increased sharply, from 11 percent of total government spending in 2001, to 19 percent in 2014, students’ scores on the Programme for International Student Assessment (PISA) remain low, falling at the bottom of the Organisation for Economic Co-operation and Development (OECD) rankings. More than 75 percent of students failed to achieve even basic proficiency in mathematics, according to results of the PISA, which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. (OECD, 2014). At its current rate of progress, Indonesia would need around 60 years to reach OECD mean. Moreover, great disparities in student learning outcomes persist across Indonesia’s 34 provinces.

Teachers are key to children’s learning in schools. With an already low student-teacher ratio of 18 to one, and already relatively high public teacher salaries, Indonesia faces a challenge in ensuring that the high spending on teachers translates into student learning. Teacher quality is a major concern; most of the nation’s 3 million teachers did not pass a recent national teacher competence test. Only seven provinces achieved the minimum targeted competency standard (Standar Kompetensi Minimum/SKM) of 55 (Kemdikbud, 2016). This challenge is complicated by the fact that teacher management is a joint responsibility of the central government, and more than 500 autonomous districts. Indonesia decentralised basic education to the district level in 2001, yet a large share of the education budget and regulations is set at the central level.

The research programme is designed to generate evidence on the teacher reforms begun by Indonesia’s Ministry of Education and Culture (MoEC). The reforms target five key areas: (1) teacher distribution, (2) teacher recruitment, (3) teacher training and career development, (4) methods to identify and reward the best teachers (in-service), and (5) extra resources for underserved schools and districts. The reforms have the potential to generate significant, system-level changes in how teachers are hired, recruited, managed, and incentivised – and, as a result, the reforms hold potential to impact student learning. At the same time, district policies will also affect teachers’ performance. The research team will analyse those policies, investigate their origins, assess how they are associated with student learning, and explore the coherence – or lack of coherence – between federal initiatives, and their execution ‘on the ground’ in local districts.

SMERU, an Indonesian, independent institution that conducts research and public policy studies on socio-economic and poverty-specific issues leads the five-year, £3.9 million RISE project, in collaboration with Mathematica, and the Amsterdam Institute for Global Health and Development. RISE is supported through grants from the UK Department for International Development (DFID) and the Australian Government’s Department of Foreign Affairs and Trade (DFAT).

The broad research questions are:
- How do the central ministries polices improve student learning? What are the factors that contribute to the success of the policies in decentralised Indonesia?
- What reforms do innovative districts focus on to improve learning? How do these reforms work? Does student learning in these districts improve over the life of the RISE project? Do innovations spread across districts and to national policy?
Figure 1 gives a schematic overview of the studies we envision. We will look at both at national and district initiated policies, how they interact with one another, and how they impact learning. For centrally initiated policies, we have selected reforms in each of the key areas of the teacher roadmap.

In particular, we envision the following studies:

**Teacher Professional Development**

The low scores on the national teacher competency test (Ujian Kompetensi Guru/ UKG) administered in November 2015 led the Government to implement a nationwide remedial programme (Guru Pembelajar, Learning Teachers) that provides training to teachers who performed poorly on the UKG. The training consists of a combination of online modules and class-based training covering academic and pedagogical content. As part of this training, each teacher will be provided with a customised programme that indicates the modules that should be accomplished to reach competency in the areas where he or she failed. Because the programme was targeted to those who failed the test, i.e., teachers who did not reach the minimum score required, the research intends to compare the group of teachers who narrowly passed the test (those with the lowest passing scores) with teachers who narrowly failed (those with the highest failing scores). The team will undertake this research in the five learning laboratory districts (see section 5) where detailed data will be collected on teachers and learning over the course of the RISE programme. The administrative data will include results from national exams, follow-up teacher competency tests, and training statistics.

**Computer-Based Testing**

Research on the use of ‘computer-based testing’ (CBT) aims to understand how and whether computerisation of national exams affects scores; how this, in turn, affects the behaviour of bureaucrats, teachers, parents, and students; and whether student learning changes as the result of using a computer-based format, rather than the hand-written, paper exams that long have been the standard. The rationale for introducing computerised tests was to curb a culture of cheating on this high-stakes exam. With the computer-based exam, students take the exam online, and each student receives a different set of questions, which greatly reduces the scope of cheating. The introduction of computer-based testing could improve learning outcomes As a consequence of lower scores and fewer passing grades, bureaucrats, headmasters and students are likely to face increased pressure to improve national exam results. With less scope to do so though cheating, the hope is that all will work to ensure that students will be better prepared for the exam.

Understanding the system-level ramifications of this change is particularly important considering the potential for this reform to expand, and the potential for increased costs inherent with expanded use of
computers for testing a growing number of students. The research team will undertake qualitative analysis of policy adoption using process-tracing and most-similar design to understand how students, teachers and principals have responded to different type of testing. The research team will also examine whether by making cheating more difficult, computerised testing increases effective teaching and student learning. To examine this issue, the team will undertake a Randomised Controlled Trial (RCT) that exploits the phased rollout of computerised testing in 150 schools in 10 districts.

**Teacher Recruitment**

The 2005 Teacher Law gave teachers an opportunity to receive significantly higher salaries. This made the teaching profession more attractive and could, in theory, have led to higher-qualified candidates entering the teaching profession. Because teacher competence is associated with student learning (Ree Joppe De, 2016), this change could, in turn, have led to improved student learning. The research team will test whether these outcomes indeed occurred. They will investigate whether the prospect of higher salaries led to more and better-qualified students entering teacher training colleges, and to candidates with higher qualifications being hired as teachers.

To understand whether higher-quality teachers are entering the profession as a result of the Teacher Law, the research will analyse the senior secondary national exam and university entrance exam score data over a five-year period, comparing results of entrants to teacher training colleges with those of individuals with similar characteristics from the same cohorts who attended other universities. If the Teacher Law was effective, we would expect to find that exam scores of the teacher training college entrants increased relative to the control group. Researchers will conduct a similar analysis comparing the trends in characteristics of teachers who are hired with a control group. This diverging trend (difference-in-difference) analysis will be complemented with qualitative work to understand how decisions regarding entrance into teacher training colleges and teacher hiring are made. The reason the team wants to better understand hiring decisions is to explore questions over whether civil servant appointments, especially for teaching positions, can be based on nepotism or patronage rather than merit. If this is the case, there is no reason to expect that higher standards or salaries would attract better teacher candidates.

**Rewards and Incentives**

The research team will focus on better understanding the implementation and impact of a novel pilot project, Kinerja dan Akuntabilitas Guru (KIAT Guru), or ‘Improving Teacher Performance and Accountability’. In partnership with the World Bank and the National Team for the Acceleration of Poverty Reduction (TNP2K), the research team will participate in a multi-arm RCT in 200 villages to quantitatively assess the impact of the programme on teacher presence, classroom practice and student learning. KIAT Guru works in remote areas. Communities and schools adopt service agreements, which are subsequently used to discuss education issues in the village and to score teacher performance. In addition, the pilot tests the effects of making the remote area salary allowances dependent on teacher attendance (as recorded by a camera) or the community score cards. The team will analyse the causal mechanism of incentives and teacher quality using principal-agent models and analysis of extrinsic versus intrinsic motivation. Researchers will also undertake a qualitative implementation study in three districts.

**District Innovations**

Complex dynamics underlie the relationship between national policy and district roll-outs of reforms. Some districts are more innovative than others in the implementation of national reforms. Understanding what makes some districts better at rollouts, and gaining insights into how innovation spreads represent crucial aspects of the research agenda. To explore and understand these dynamics, the research team will select approximately five key, innovative districts as ‘learning laboratories’ that feature different resource and geographical conditions. In these key districts, researchers will undertake more-extensive data collection. They will undertake a political economy analysis to investigate how district and national policies interact, and how they eventually affect teachers in schools. At the school level, the team will gather detailed longitudinal student- and teacher-level data, conducting student and teacher assessments, and linking student, teacher and district policy data to assess the impact of these policies on student learning.

**Understanding District-Level Policies that Lead to Success or Failure Across Districts**

The team seeks to identify features of district policies that are successful in improving learning – and/or features that create barriers to learning. In particular, researchers will aim to understand the roles played by teacher and school management, public spending, teacher incentives, and teacher training – and how these roles may explain the successes and failures of district policies. To explore these issues, they will conduct an analysis of district education policies in 20 most-improved and 20 least-improved
districts using media sources, and data from district policy documents and national exam scores since 2005.

Learning Whether and How Innovations Spread

The research team will explore whether and how innovative ideas spread. More specifically, researchers will consider to what extent the district-level innovations in education policy spread to other districts or provinces, and/or were adopted as national policy. This will consist of a qualitative, descriptive study (policy diffusion analysis) that uses qualitative interviews with district leaders and policymakers in learning laboratory districts.

Summary

Teacher reforms are an interplay between central and district government policies. The RISE researchers will examine the effect of both centrally and locally initiated policies, investigate how they interact, and, ultimately, analyse how these forces affect student learning. The objective is to understand ‘what works’ in education reform in the decentralised context of Indonesia – and researchers hope to gain insights that may lead to greater understanding to improve education in other settings.

References


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