Country Research Team
India
An international team of experts in various fields will conduct rigorous tests of large, ambitious reforms in Madhya Pradesh and Delhi, where governments have made significant policy commitments to improve their education systems.

The GBP 4.2 million research programme aims to lead to greater understanding about the reasons why changes intended to enhance student achievement work or fail - and to use these insights to inform policy globally. The reforms’ sheer scale - in locations that are as large as entire countries in terms of population and, in the case of Madhya Pradesh, geography – offers researchers potential insight into how policy tools can be wielded in enormous and complex public education systems. The size issue presents a key challenge because many reforms that prove to be successful on a small scale are difficult to replicate on a larger one - even when replicated with great fidelity.

“Our research aims to provide scientifically rigorous evaluations of reforms at a scale relevant for policymakers,” said Karthik Muralidharan, a principal investigator of the project, associate professor of economics at the University of California San Diego, and the co-chair of the education program for the Abdul Latif Jameel Poverty Action Lab at the Massachusetts Institute of Technology. “This research should give us a granular understanding of day-to-day political and institutional constraints. It should give us knowledge about what feasible levers may be used to devise an education system that can deliver better learning.”

The eight-member, international team of experts are led by researchers at the University of California San Diego, the Abdul Latif Jameel Poverty Action Lab (J-PAL) South Asia in India, and University College London. The multidisciplinary team will employ experimental methods that are widely viewed as the most rigorous ways of evaluating policy effects.

Two key reforms to be analysed are:

- Adopting a tailored, “continuous improvement” approach to school governance. Research will analyse reforms taking place in Madhya Pradesh, a state in the geographic heart of India and with the largest population of Scheduled Tribes, groups of historically disadvantaged indigenous people. The reforms are intended to improve school governance, a key concern in India and many parts of the world. The reforms rely on comprehensive school assessments that provide customised feedback to schools in order to help them improve in achieving high-quality learning for all students. Steps include use of school report cards; technological tools to provide real-time records of student assessments and school progress; and improvement plans focused on problem-solving approaches rather than inspections with punitive
consequences. The intent is to lead schools to strive to improve, and to give teachers and principals (headteachers) leeway to identify and address the issues they consider most important. The reforms were designed by the state government of Madhya Pradesh and Ark, a UK-based international education charity with financial support from the UK Department of International Development. Ark is also working on the implementation of similar programmes in sub-Saharan Africa.

- Using Closed Circuit Television (CCTV) technology to provide teachers with feedback. In 2015, the Government of the National Capital Territory of Delhi committed to installing CCTV cameras in all of its 22,000 classrooms in public schools. The research team has been consulting with the government to utilise the technology not just for monitoring but, for also giving timely feedback on how to improve classroom instruction. The information generated by this reform, and the feedback provided to teachers, is intended to improve student achievement and may eventually inform teacher selection, probation, and promotion policies.

"To date, there have been limited system-wide attempts, within India or in other developing countries, to use technology to improve teacher effort and time-on-task at scale," said Atishi Marlena, Advisor to the Minister of Education of Delhi. “The findings from our CCTV intervention have the potential to transform accountability and governance of schools, and to serve as an entry point into studying best teaching practices, and addressing teacher quality.”

Research on Improving Systems of Education (RISE) was launched in 2015 to conduct high-quality research to build a body of world-class evidence to inform education policy, and to raise learning outcomes for children throughout the world. Research in India, and in at least five other countries, seeks to shift emphasis away from long-standing, input-oriented goals, children’s attendance in schools, and toward output-oriented achievements - increased literacy and numeracy skills.

“The research in India will embed the use of the latest evaluation techniques to see how feedback from evaluations of ongoing programs can create an environment to improve the programs and, in turn, create greater learning,” said Lant Pritchett, RISE research director, a senior fellow at the Center for Global Development, and professor of the practice of international development at Harvard’s Kennedy School of Government. "One of the most promising aspects of this research is working closely with state governments to help them implement the programs in ways that lead to better outcomes.”

India is one of many nations facing a learning crisis. Enrolment in primary school is almost universal, but learning outcomes are low. For example, in 2014, 48 percent of fifth graders could read a Grade 2 text, and only 26 percent could do simple division.

“We hope our work will shed light on why the default approach to improving education quality by providing more inputs and improving teacher credentials and training has not been successful in improving learning outcomes,” said Abhijeet Singh, a principal investigator and a post-doctoral research associate at the Department of Economics at University College London, and a former quantitative research officer with the Young Lives study based at the University of Oxford.

The projects’ emphasise educational “ecosystems,” with an eye toward finding the political, institutional and economic constraints that must be addressed to make change.

“The promise of our research agenda is to provide evidence not only on whether a reform works, but how it works or is impeded by the institutional context,” said Alejandro J. Ganimian, a principal investigator and an education post-doctoral fellow at the Abdul Latif Jameel Poverty Action Lab (J-PAL) South Asia in India.

* In the RISE lexicon, a public school refers to one operated by a government at little or no cost to students. This is distinct from the definition of public schools used in England and Wales, where the term refers to selective, and expensive, independent secondary schools.

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RISE is supported by:
The Country Research Team in India will conduct a six-year project intended to aid understanding of whether and why reforms undertaken on a large scale improve students’ skills. In addition to rigorously evaluating the impact of ambitious reforms, the team plans to undertake research to shed light on the processes that allow – or impede - reform efforts to improve learning.

The focus is on finding feasible and effective levers for changes that are needed to improve learning outcomes in India, and to use these insights to inform policy in ways that can improve education in countries that face similar problems globally.

The sheer scale of the reforms give researchers a way to explore questions that are critical for understanding how policy tools can be wielded in enormous and complex public education systems. The Country Research Team will analyse reforms in Delhi and Madhya Pradesh, locations that are as large as entire countries in terms of population and, in the case of Madhya Pradesh, in terms of geography. The size issue is particularly important because many reforms that prove to be successful on a small scale are difficult to replicate on a larger one - even when undertaken with great fidelity.

India is one of many countries throughout the world facing a learning crisis. Enrolment in primary school in India is almost universal, but learning outcomes are low: in 2014, only 48 percent of students in Grade 5 could read a Grade 2 text, and only 26 percent could do simple division.

The research will examine three ambitious reform efforts in three locations. Each reform seeks to improve teaching and/or governance, which have been identified as key impediments to better student learning in India and elsewhere.

The research will take place in public schools attended primarily by students from disadvantaged backgrounds. In testing the effectiveness of the reforms, the team will employ experimental and quasi-experimental methods, which are generally considered to be the most rigorous approaches to evaluate policies.

Key questions are:

- What underlying mechanisms lead to improved learning?
- Do reforms affect student achievement at scale?
- Does scale-up dilute implementation quality?

A multidisciplinary team will analyse the reforms, which address issues that are of common concern across the globe. The analysis will look closely at whether providing incentives and information that lead individual teachers and schools to improve educational quality lead to better student achievement.

The reforms include:

**Adopting a tailored, “continuous improvement” approach to school governance.**

Research will analyse reforms taking place in Madhya Pradesh, a state in the geographic heart of India and with the largest population of Scheduled Tribes, groups of historically disadvantaged indigenous people. The reforms are intended to improve school governance, a key concern in India and many parts of the world. The reforms rely on comprehensive school assessments that provide customised...
feedback to schools in order to help them improve in achieving high-quality learning for all students. Steps include use of school report cards; technological tools to provide real-time records of student assessments and school progress; and improvement plans focused on problem-solving approaches rather than inspections with punitive consequences. The intent is to lead schools to strive to improve, and to give teachers and principals (headteachers) leeway to identify and address the issues they consider most important. The reforms were designed by the state government of Madhya Pradesh and Ark, a UK-based international education charity with financial support from the UK Department of International Development. Ark is also working on the implementation of similar programmes in sub-Saharan Africa. The programme will be extended to 20,000 Madhya Pradesh schools in 2016, and will eventually be expanded to all 120,000 government schools in the state.

Using Closed Caption Television (CCTV) technology to provide teachers with feedback in Delhi.

In 2015, the Government of the National Capital Territory of Delhi committed to installing CCTV cameras in all 22,000 classrooms in its public schools. The initial motivation behind the reform was to increase monitoring to prevent corporal punishment and student vandalism, and reduce teacher absenteeism and tardiness. However, consultation with the research team led the government to expand the mission to incorporate CCTV footage as a tool to provide feedback to teachers on how to improve instruction. The information generated by this reform may eventually be used to improve teacher selection, probation, and promotion policies.

The research will seek to examine whether monitoring alone addresses some problems, and whether the CCTV footage feedback proves an effective tool to improve teaching quality, and whether teaching skills improve over time.

The research will evaluate whether learning improves as a result of:

- CCTV monitoring alone;
- CCTV monitoring combined with assessments about the time teachers spend on task; administrators will give teachers information about benchmark goals and ways to employ classroom time more productively; or
- CCTV monitoring combined with bonuses given to teachers for meeting certain benchmarks for attendance, punctuality and time on task.

A third state-level reform to be named.

The RISE Country Research Team is currently assessing the feasibility of undertaking rigorous evaluation of multiple other reforms that state governments are embarking upon to improve teaching and governance in public schools. Reforms being considered include the consolidation of small schools into large ones that can offer better oversight, better resources and teachers for each subject and grade. The research would examine the trade-off faced in many countries between having more schools that offer more accessibility, or having fewer schools that offer more resources. Another reform being contemplated in India involves the potential introduction of Public Private Partnership schools which are modelled along the lines of academies in the United Kingdom and charter schools in the United States. A later announcement will offer details of the third reform to be analysed.

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Enrolment in primary school in India is almost universal, but learning outcomes are abysmally low: in 2014, only 48% of students in Grade 5 could read a Grade 2 text and only 26% could do simple division. Although there are myriad studies looking at the effect of individual inputs on schooling outputs, the inability of translating these findings into clear policy agenda results stems from a lack of comprehensive understanding of the ecosystem where scaled up interventions would be implemented. There is a need to understand what the feasible levers are that would enable education systems to deliver better learning.

The project proposes to examine three main reforms in the Indian education system across three states, including both quantitative and qualitative methods. RCTs will be used to generate random variation in the implementation of the reforms such that a rigorous assessment of the impact on learning processes within schools and classrooms can be done. The team will also conduct qualitative fieldwork into each of the reforms to document the institutional framework surrounding the reforms in each state to understand how the reforms affected the system as a whole. This will allow for insights into how the interventions are implemented in the existing system, organisational and political economy constraints and dependence of the reform on political or organisational circumstances.

The team also plans on collecting several new datasets, including student achievement tests, surveys of student background and perceptions, surveys of principals, classroom observations, teacher attendance and punctuality and teacher knowledge assessments.

The unifying theme behind the proposed studies is of improving education governance in India, which has been identified as one of the key binding constraints to better system performance.

This proposal takes a systems-level approach by looking at two types of relationships between the key set of actors within the Indian school system:

(a) accountability (monitoring) relationships and
(b) information (collaboration) relationships.

They are depicted as the solid and dashed lines respectively in the diagram. To understand these relationships within the system, and how the system affects these relationships, the team proposes to look at three to four interventions.

Across all interventions, the focus is solely on public schools. As these are attended primarily by students from disadvantaged backgrounds, equity concerns underlie the whole proposal.
1. **Madhya Pradesh School Quality Assessment: high/mid-level bureaucracy, principals, parents**

MPSQA intervention aims to change the interactions between multiple actors in the state education system: mid-level bureaucracy and principals, high-level bureaucracy and mid-level bureaucracy, principals and parents. It is a system of continuous improvement based on monitoring, diagnostic feedback and changes in school management and instruction.

The intervention is along the lines of orienting the entire system towards continuous improvement. Following a successful pilot, the MPSQA was extended to 2,000 schools in 2014-15, with plans to expand to 20,000 in 2016 and eventually to all 120,000 government schools in the state. Add-ons to the programme will be randomised, including (a) public release of school quality data, akin to Ofsted reports in the UK; (b) increased frequency of follow-ups and/or hiring additional staff to build the administrative capacity of the state. A key question here is to understand whether such reforms can affect student achievement at scale and whether the scale-up dilutes implementation quality. Finally, it is also important to understand the mechanism that allows for improved effectiveness.

2. **CCTV in classrooms in Delhi: mid-level bureaucracy and teachers**

Teacher absenteeism and time on task are serious issues with education systems in India (and elsewhere). Thinking about the system and theory of change, this reform intends to change the interaction between mid-level bureaucracy and teachers. The different treatments will shed light on different possible mechanisms: is it monitoring that is the binding constraint? Is it information on what is being done/benchmarking? Or is it information with incentive to act (bonus)?

The Government of Delhi plans to install CCTV cameras in 1,100 schools (22,000 classrooms) by the start of the 2016-17 school year. There is government commitment to improving service delivery.

The team proposes to randomly assign 600 schools in the 2016-2017 school year to one of four experimental groups to shed light on each possible mechanism behind the interaction between mid-level bureaucracy and teachers:
(i) no-CCTV control group;
(ii) CCTV only: is the binding constraint insufficient monitoring?
(iii) CCTV + time on task report: is it insufficient information about performance benchmarks?
(iv) CCTV + time on task report + linked performance pay: is it lack of teacher motivation to act on information? Can financial incentives provide this motivation?

This reform is particularly helpful in understanding system-level effects because it targets understanding of the mechanisms of weak governance as well as the aspects of poor pedagogy. Furthermore, as this intervention is mandated by the government rather than an NGO, there is substantial power behind the mandate and accountability relationship.

3. **Consolidating schools into larger units in Rajasthan: principals and teachers**

There is a fundamental trade-off in designing school systems in developing countries between access and scale. Broader access in India has resulted in near universal enrolment but often the enrolment is in sub-standard small schools. The Government of Rajasthan has a programme to consolidate small primary schools (typically without a principal) with neighbouring secondary schools to bring them under the leadership of secondary schools: the “Adarsh” school consolidation programme. This reorganises the structure of schools, and the reform also provides teachers with pedagogical tools and upgrades school infrastructure.

Thinking about the system, the reform changes the interaction between principals and teachers. It requires monthly staff meetings focused on academic issues, regular inspection of classes and homework, and introduction of remedial classes. It will also change organisation and pedagogy by ending multi-grade teaching. The RISE India team proposes at this stage to undertake a feasibility assessment of a high quality evaluation of the program which may utilize randomized allocation, regression discontinuity design methods exploiting program rules of assignment and panel based methods such as value-added models.

4. **Public-private partnerships in Rajasthan: schools, parents, mid-level bureaucracy**

The reform seeks to contract out the management of new and existing government schools to private education providers. The reform targets weak governance.
and pedagogy and allows schools to have substantial operational autonomy within minimum government standards.

Thinking about the system, the reform aims to change the interaction between multiple actors in the state education system: (a) schools and parents, by increasing school choice and competition; (b) mid-level bureaucracy and principals, by relaxing political and bureaucratic limitations relative to public school principals. Effects would be identified by student- and market-level randomisations. First, the admissions process would be conducted via a lottery for the PPP schools. Second, the locations where PPP schools would be allowed to operate would be randomised, allowing for an assessment of the effects of these schools on neighbouring schools.

In short, the study of these three to four reforms (the feasibility of the proposed Rajasthan reforms is still being assessed and is subject to confirmation in late 2016) will shed light on different parts of the complex system of relationships in the Indian education system. The different treatment arms in the RCTs will allow for clean identification of the existence and magnitude of any effects, while the qualitative work will allow for a deeper understanding of the mechanisms and context of change.

The team is committed to communicating the results of the reforms and interventions individually, but most importantly also how they come together to form an understanding of system level reforms and what this means for policy. The precise output will depend on progress of the reforms and might be a monograph or an edited book on schooling reforms in India.

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