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## *How World Bank is using technology for social good in India*

**F**rom using drones to plan water supply schemes in hard-to-reach locations, to deploying satellite imagery for enhancing land usage, or using mobile phones to track children's health, technology is changing the way we live. The World Bank is supporting several interventions where new-age technology is being used for social good, giving a new tool to policymakers to improve governance and the quality of our lives.

### *Making farmers resilient*

Digital applications are helping farmers in Bihar and Madhya Pradesh make faster and better decisions on crop planning based on weather conditions, soil and other indicators.

“When the [app] shows temperatures of 35–40 degree Centigrade, farmers will wait for cooler temperatures before transplanting paddy mat nurseries into the field. Otherwise, there is a fear of losing crops in high temperatures,” says Ramchandra Prasad Verma, a climate smart village resource professional in the Barachatti block of Gaya district in Bihar, India.

This \$12.67 million Sustainable Livelihoods and Adaptation to Climate Change World Bank project that started in 2015 has so far empowered more than 8,000 farmers to adopt climate resilient practices.

### *Prioritizing interventions*

Satellite images taken from a height of 900 km in Karnataka capture crucial data like land use and land cover, groundwater prospects, soil characteristics etc. When this data is fused with rainfall patterns and literacy rates etc., it helps experts and communities to prioritize action plans such as those for soil and water conservation.

Geographic information system (GIS) technology can also map nutrient deficiencies in the soil, which helps with crop planning.

The Karnataka Watershed Development Project, known locally as Sujala, covered over half a million hectares of land in seven predominantly rain-fed districts in Karnataka between 2001 and 2009 and was the first to deploy the use of satellite remote sensing and GIS mapping effectively over a large area.

### *Supplying water in challenging terrain*

Shimla city in Himachal Pradesh gets water once every two days for a few hours, while bulk water is pumped over 1,400 meters, creating a high cost of service.



To tackle this, drones have been used to click high resolution images in high altitudes and challenging topography in World Bank's Shimla Water Supply and Sewerage Service Delivery Reform Project. This, along with GIS technologies, has helped the state government prepare a 24x7 water supply model for the city that addresses issues such as pressure management, transmission and distribution networks, and identifying illegal connections.

### *Tracking health*

All across India approximately 150,000 Anganwadi workers are using smartphones to track growth and nutrition in children. Photos of the hot lunch served to the children at health and nutrition centers, for example, can now easily be shared with block, district and state-level officials.

“It's easier to work with mobiles than registers,” confessed an Anganwadi worker in Madhya Pradesh.

The World Bank has so far invested about \$306 million in nutrition through the ICDS Systems Strengthening and Nutrition Improvement Project.

In Chhattisgarh, a mobile based application called Nutri-Click provides real time, need-based, one-on-one counseling on appropriate nutrition and care practices to pregnant women and caregivers and mothers of young children and their family members. The program has so far helped over 4000 pregnant and lactating women.

### *Digitizing medical records*

Doctors in 36 public hospitals in Tamil Nadu can now access, collect and analyze critical health data for quick and timely interventions with the click of a button. The system also





helps with retrieval of manual records as well as maintenance and management of medical equipment, making the entire process transparent and convenient.

The Rs. 597-crore Tamil Nadu Health Systems Project was active in five Tamil Nadu districts. A second phase will now aim to cover another 222 hospitals across the remaining 25 state districts.

### *e-Governance*

In 164 municipalities in Karnataka, property owners are now able to calculate their property taxes online; 10 million birth and death records are now online and searchable; and over 390,000 citizen complaints were lodged over 10 months—98 percent of which were redressed.

Through the Karnataka Municipal Reforms Project, municipal revenues have increased while interface between citizens and local administrations has vastly improved.

### *Doorstep banking*

Banks in Sikkim’s western and southern districts have been engaging local women as “business correspondents”, enabling people in these distant parts to bank at their

doorsteps, as part of World Bank’s North East Rural Livelihoods Project.

These “business correspondents” fan out across mountain villages, equipped with palm-sized micro-ATMs, biometric readers, and internet-connected thermal printers. Villagers can now deposit their money easily, earn interest, and withdraw whenever needed.

In the six months since the correspondents were first introduced, business has soared. “In November 2018, when we first began, I did about 160 transactions worth Rs.1.2 million. As awareness has grown, this has risen steadily, and in March 2019 I did over 260 transactions worth Rs. 2.4 million,” explained Lila Shilal, business correspondent for the IDBI Bank in West Sikkim’s Jorethang block.

### *Assessing school performance*

The Bihar School Score Card mobile application assesses school performance by collecting and analyzing data. Using traffic light symbols – green for very good, amber for satisfactory, red for needs improvement – the school scorecard provides an easy





way for the community members to track student and teacher attendance, student performance, and provision of basic infrastructure such as drinking water, toilets, and mid-day meals.

The effort is part of the larger World Bank supported Enhancing Teacher Effectiveness in Bihar Operation.

### *Vocational training*

World Bank's Vocational Training Improvement Project has helped digitize activities such as admissions, examination management, and certifications in Industrial Training Institutes (ITI) under the National Council of Vocational Training.

The portal provides detailed records from more than 13,000 public and private ITIs across the country, including data related to courses offered, admissions, examinations, placements, etc.

So far more than 150,000 e-certificates to past trainees have been issued, and over 2 million certified trainees have received online certificates, saving time and effort. 🌐



# *The Learning State: How information becomes insight*

*Knowledge is not gathering mounds of information. It is processing that information and translating it into useable propositions that makes people and organizations learners. Two top development economists show the path to a genuine learning state.*

*Written by Abhijit Banerjee and Shrayana Bhattacharya*



**T**ough decisions lie ahead for India's social protection system. How can unorganized workers be empowered to access pensions or other income support programs? How do we make sure that benefits from the new PM-KISAN are reaching the intended farmers? The ability of the state to process and consume information to answer such questions for program planning, monitoring and reform has always been critical and never more so than now. Program administrators need to be able to track program performance, learn quickly and incorporate lessons into new designs.

In the past fifteen years, India has developed an enthusiasm to monitor schemes through hundreds of Management Information

System (MIS) portals. In fact, in the past two years, the national Direct Benefit Transfer (DBT) Mission at the Cabinet Secretariat reports the development of 400 MISs for schemes to report payment progress on its national DBT portal. This is more than most middle-income countries.

The vision is that these systems will enable citizens, government officials and politicians to gain access to all the information that they need to play their individual roles in a democratic society and enable the necessary exchange of knowledge for effective program implementation. Those managing food subsidies can monitor the movement of grains via geo-tagged trucks while the MGNREGS MIS informs administrators

of payment delays and citizens use online grievance portals to register complaints.

Such information has the potential to be extremely valuable. One reason why these investments are happening now is that the cost of collecting and sharing information has gone down enormously over the last decades, thanks to the IT revolution. It is possible now for a mother at work to watch her toddler play in a playschool by connecting her cell-phone wirelessly to a CCTV at the school through one of multiple available apps. And she might, for the first couple of days, but the novelty wears off fast. And then? The app will sit unused, unless there is a specific concern (say, the child is sick).

The problem is that information by itself is not insight; it has the potential for insight. Knowledge is not gathering mounds of information. It is processing that information and translating it into useable propositions—for example, “my child really looks tired, perhaps I should plan to leave early”—that makes people and organizations learners. The mother stops watching the CCTV feed because she needs to focus her mind on other tasks—she already has a tough time fending off the thousand other distractions that life throws at all of us.

**With the growing complexity and sophistication of India’s social protection systems and schemes, building the capability of the local state to learn and reflect on information is critical.**

Processing the volume of information that a CCTV can generate every minute can clog the mind so fast that she needs to take defensive action.

Thus, so it is for organizations. It is not enough to generate information—someone has to process and translate data into something useable, and the more information you generate the harder that necessarily becomes—the more to sort through and discard. And if you have no guidance on how to do that sorting, then more information may actually hurt. Consistent with this, process evaluations suggest that in the wake of the MIS expansion, the local bureaucracy at the district and state level is drowning in MIS data, with neither the capacity nor the inclination to process it.

With the growing complexity and sophistication of India’s

social protection systems and schemes, building the capability of the local state to learn and reflect on information is critical. To build a genuine learning state – a state where everyone, citizens, bureaucrats and politicians use the information they need to generate insight and hold each other accountable, we need three building blocks.

First, we need to curate the information that gets highlighted. That does not mean censorship—citizens should be able to access any information that they could reasonably need—but some filters have to go into choosing what to give prominence and why, based on a clear theory of how the information would be used, by whom and why that would matter enough to deserve the priority. This might seem obvious, but both of us have been witness to the many extremely far-fetched theories of change that get used to justify MIS interventions; in particular, the vision of a citizen who gets up in the morning and quickly files a MGNREGS problem report, then tweets about the policeman she observed taking a bribe on her way to work, spends her afternoon responding to a call from a government call-center about





PDS delivery and grain quality, followed by an evening reviewing the accounts of the municipality before turning in (to dream of accountability we're certain), is far-fetched. Even the most committed citizens have many other life problems to deal with, and activism is at best a part-time activity.

Second, we need to have clear designation of how the information will be used to provide incentives to actors within the system—if the news is bad, responsibility for it has to be clear. The MLA report cards developed by Satark Nagarik Sangathan and published in various newspapers before state elections, are a good example of prioritization (a small set of numbers, prominently displayed) and clear designation—it says, more or less explicitly, “you are about to vote for your MLA, here is what he did.” Research shows that this intervention changes how the voters vote, rewarding the best performers according to the report card and hurting the worst. This example also makes clear that whenever we prioritize information there are hard choices to be made. The report cards, to be effective, left many things out and an MLA could potentially complain that this was unfair to her achievements. There is no perfect resolution here, but there is a clear trade-off between effectiveness and being comprehensive.

Third, it is important to test whether the information is doing its job, whether it is being

used to provide the required intelligence and insight. Even if the information collected is salient, it may lead to no change in behavior or local action. For example, the government of Karnataka built an ambitious MIS to biometrically track real-time attendance of nurses at health centers. The pilot hoped to hold front line staff accountable by making their attendance transparent. However, the reform made limited long-run impact as state officials, local level bureaucrats, and locally elected bodies were reluctant to use the better-quality attendance data for enforcement due to a fear of generating discord among the staff.

To summarize, learning is not a logistical task. We have all too many examples now showing us that an MIS is not magic. The mere existence of call-centers and information infrastructure does not mean much without effective use and design. Even with the best technology and information monitoring, local administrators may choose not to convert the data they produce and own into knowledge and a body of actionable evidence, unless they have the people, time and training to do so. Without such resources in the design and use of MIS for social programs, information will become relentless noise, nuisance rather than an opportunity. 🌐

*This article was first published in the Indian Express on 18th March 2019*

# ICR Update

**T**his is a short summary of the Implementation Completion Report (ICR) of a recently-closed World Bank project. The full text of the ICR is available on the Bank's website. To access this document, go to [www.worldbank.org/reference/](http://www.worldbank.org/reference/) and then opt for the Documents & Reports section.

## Odisha Community Tanks Management Project



### Context

In the late 2000's about 85 percent of Odisha's population was dependent on agriculture as a primary source of livelihood. It however contributed only about 30 percent to the state's GDP. Average productivity levels were low compared to more advanced agricultural states such as Punjab. An important reason for the low productivity was that over 70 percent of the cultivated area was exposed to weather fluctuations and lacked access to sustained irrigation facilities. Odisha had more than 28000 tanks, but the percentage of area irrigated through tanks was a mere 18 percent. Also, more than one-third of minor irrigation schemes in the state were not functioning.

The Government of Odisha (GoO) attached high priority to expanding irrigation facilities and optimum utilization of available water

### Odisha Community Tanks Management Project

<b>Approval Date:</b>	30 September, 2008
<b>Closing Date:</b>	30 June, 2016
<b>Total Project Cost</b>	\$61.9 million
<b>Bank Financing:</b>	\$56.4 million
<b>Implementing Agency:</b>	Odisha Community Tank Development & Management Society
<b>Outcome:</b>	Moderately Satisfactory
<b>Risk to Development Outcome:</b>	Moderate
<b>Overall Bank Performance:</b>	Moderately Satisfactory
<b>Overall Borrower Performance:</b>	Moderately Satisfactory

resources. As the tank system has been an age-old part of the agrarian community in the state, a project was designed to improve tank systems, increase productivity of water through adoption of improved agricultural technologies, and develop fisheries. The World Bank had a long history of supporting irrigation development in the states of Karnataka, Tamil Nadu, and Andhra Pradesh. This experience resulted in the World Bank's support to participatory irrigation infrastructure development in Odisha.

### **Project Development Objectives**

The main objective of the Odisha Community Tanks Management Project was for selected tank-based producers to improve agricultural productivity and water user associations to manage tank systems effectively. The tank system rehabilitation was designed in a decentralized manner so that the intended beneficiaries not only played an active role in planning, implementing, and sustaining project interventions but also contributed to improving agricultural productivity and incomes through better access to agricultural technologies and facilitation of market linkages.

The key performance indicators proposed for measuring and monitoring progress were:

- Increase in agricultural (including livestock and fisheries) productivity and production from tank systems
- Improved water availability for tail end farmers
- Resource raised and operation and maintenance expenditures incurred by user groups.

The beneficiaries of the project were the Water User Associations (WUAs), farmer's interest groups (FIG), women self-help groups, fishermen cooperatives, and marketing groups. The project extended diversity of benefits, directly and indirectly, to farmers, women, youth, and children across the command area of the selected tanks. The project also extended economic and social benefits to the weaker sections of the community.

### **Achievements**

The project was to rehabilitate 900 tanks which would provide irrigation for about 120,000 ha. However, after a restructuring, only 320 tanks were selected with a land

coverage of 60,000 ha. By the end of the project period, 328 tanks were rehabilitated against the target of 332 tanks.

The project increased availability of water for irrigation through rehabilitation of tank systems and promotion of less water-intensive crops during both Kharif and Rabi seasons. The tanks delivered water to 92.1 percent of command areas in Kharif (monsoon) season and an additional 20,000 ha (31 percent) in Rabi (winter) season. Improved water availability in rehabilitated tanks was reported by 95.6 percent of head reach farmers. Even the middle-reach and tail-end farmers reported improved water availability at 95.4 percent and 91.7 percent respectively.

There was a substantial increase in production of paddy, pulses and oilseeds. The use of new technology resulted in an 83 percent increase in paddy cultivation, 95 percent increase in green gram cultivation and 200 percent increase in mustard cultivation.

Besides improving water use efficiency, crop diversification and seasonal rotations also enhanced the resilience of cropping systems to diseases and pests. To complement resilience building in cropping systems, the project had also focused on diversification of income sources, through livestock rearing, fisheries, and mushroom culture, safeguarding against potential reduction in yield or crop failure due to climate hazards such as droughts, floods, and cyclones that are known to affect the project area.

The project substantially contributed to enhanced capacity of the WUAs to manage tank systems effectively. By the end of the project cycle, 364 WUAs were created or strengthened from a baseline of 0, and against a target of 374. To develop capacity, training modules were developed in areas of financial management, participatory planning, and Operations and Maintenance (O&M).

This significantly enhanced the capacity of the WUAs and built a foundation for them to take over O&M post-completion. This enhanced capacity also had a broader positive effect on social and institutional development in project tank areas. At project closing 71.5 percent of water users in rehabilitated tank systems were satisfied with the O&M performed by the WUAs.



### Lessons Learnt

- **The potential of community-based institutions in agricultural water management.** The project demonstrated how WUAs can play a positive and expanded role in irrigation. This requires substantial investments in capacity building of both WUAs and government institutions
- **Interdisciplinary expertise for maximum impact.** The key operation concepts of the project were new to the Water Resources Department, as the project needed synergy between the core team of water resources with the irrigation department, agriculture department, fisheries department, and so on. The project unit had difficulty in the early years taking these concepts even though at the end, the project has demonstrated effective convergence and collaboration with other departments. Going forward, future water resources management projects in India should specifically consider interdisciplinary expertise to maximize development impact.
- **Evaluate tank system performance using automated devices.** An achievement in the project was the installation of state-of-the-art cutthroat flume in the canal and distribution system for accurate measurement of water flows. However, the design did not include any monitoring of flows either through manual or simple automated devices in a continuous manner to evaluate performance efficiency of the tank system about net additional water realized after modernization of tank systems and to quantify water budgets/intake for crops. Going forward, such systems might help assess performance of crop water systems in the tank ayacut during low rainfall years as part of a strategy toward climate resilience.
- **Use of remote-sensing for effective M&E.** The M&E in the project relied heavily on field surveys in a selected sample as per the design of the project. Even though advanced and robust remote-sensing tools are available for retrieving and tracking the crop and water variables with a good spatial resolution, such approaches were not relied upon to fill the information gap from field surveys to complement the output indicators. Such complementary data are very useful for monitoring the performance of modernized tanks systems beyond the project period.
- **Time requirements for institutional capacity building.** The project relied heavily on local capacity to support an enhanced WUA role in tank system management. The long time needed to build such capacity, and the inevitable variation in results, will need to be taken into account when setting institutional targets for a time bound project. In hindsight, the targets WUA functioning for this project should have been less ambitious. 🌐

# *Leveraging cooperative federalism: Pathway to public finance management reforms in India*



**H**alf of India's public spending on basic services still does not reach the poor because of inefficiencies in execution. And many states in India continue to run large budget deficits, particularly in recent years.

These challenges suggest that India's public financial management (PFM) system leaves something to be desired. Some noteworthy PFM reforms have taken place over the past few years. For instance, invoking the spirit of cooperative federalism, the 14th Finance Commission significantly enhanced financial devolution to states for improved service delivery. It did this by helping direct more funds with no strings attached or "untied funds" from the center to the states.

Treasury systems across most Indian states have been strengthened and information technology has been a crucial enabler. There is a much greater integration of processes and better financial information is being

made available quicker, more easily and for improved decision-making.

"Also, direct transfer from the national government into a beneficiary account is now possible in seconds for several centrally-sponsored schemes. Earlier, it could take months," said Manoj Jain, Lead Financial Specialist, World Bank.

To make the impact of these reforms more holistic and sustainable, some bold and important steps have to be taken at the national level.

### *Policy environment is ripe for deepening PFM reforms*

The piling deficits have forced a re-look of the "how, where and why" of government spending.

Furthermore, the recently-constituted 15th

Finance Commission has a primary mandate for promoting equity through redistribution of revenue between the center and state. In order to fulfill this mandate, it is laying strong emphasis on public financial management and accountability.

Most importantly, the states are looking for guidance on strategic and forward planning. There is a strong demand for knowledge sharing and transfer of good practices on PFM reforms, to help lagging states leapfrog and avoid “reinventing the wheel.”

“The changes are happening too fast for us, whether it is the coming in of GST, the expectations of people, the demands from our citizens in terms of service delivery, the coming of the Right to Information Act, technology – all this has made it imperative for the center and states to really rethink the way they are delivering services. Gone are the days when the government was seen as a patron of its citizens. It’s more now about accountability,” said Anirudh Tiwari, Principal Secretary Finance, Government of Punjab.

### *Peer-to-peer learning on PFM: The way forward*

Recognizing the strong demand for knowledge, the World Bank has facilitated a series of Knowledge Exchanges (KE) on PFM between Indian states since 2014, under the aegis of a PFM Community of Practice called **Public Finance Management Knowledge and Innovation Network (PFM-KIN)**.

Its most recent PFM-KIN workshop was held from May 9-10, 2019, the first in a series of “technical deep-dives” into three key PFM issues – electronic submission of accounts, e-procurement and the perennial issue of budget transparency and accountability.

Fifty senior officials, including principal finance secretaries, participated from eight Indian states (Andhra Pradesh, Assam, Chhattisgarh, Himachal Pradesh, Kerala, Punjab, West Bengal and Uttarakhand). Central accounting agencies were also well represented – Department of Economic Affairs (DEA), National Informatics Centre (NIC), Comptroller General of Accounts (CGA) and Comptroller and Auditor General of India (CAG).

### *From national PFM legislation to standard accounting procedures: Key lessons*

The most important message to emerge was that the states are looking to the national government to create a vehicle, much like the GST council, that can enable a seamless exchange on the public finance constraints and planning vacuum they are facing. PFM-KIN could serve as a beginning in this direction, with its aim to facilitate an exchange of ideas and learnings across states.

Also, the national government and most states in India have already passed fiscal responsibility laws, but are still waiting for an overarching national level legislation on PFM. This will help provide impetus to the design and implementation of PFM reforms. “Almost all big decentralized countries have actually implemented an overarching legislation, that gives the principles of PFM and then the sub-nationals are able to innovate around those principles,” said Junaid Ahmad, Country Director, World Bank, India. “This overarching legislation then acts almost as a catalyst for reform in the states themselves. It’s how one can marry harmonization with innovation.”

Finally, there is a crying need for instituting acceptable accounting standards in India. This will help prevent opaqueness and standardize financial reporting across the center and states. The International Public Sector Accounting Standards serves as a tried and tested global standard, which can be adopted for India.

In the end, these changes only signal the inevitable forward march of PFM reforms in India.

“PFM reforms will happen – it’s an eventuality, not an option,” said Pawan Kadyan, Joint Secretary, West Bengal, a state now implementing more advanced PFM reforms. “In the end, improving PFM improves governance. It is an essential requirement going forward in a stage where India has reached – that of becoming a middle-income country.” 

*“Lighthouse India” is a World Bank initiative supporting systematic knowledge exchanges on good practices and innovations in development programmes across Indian states and with the world.*

# *Consultative group on women's economic empowerment brings the issue front and center*



**W**omen's Economic Empowerment (WEE) is no longer only seen as a matter of social justice. National governments and hard-wired economists are now recognizing that it is good economics, too, and critical to the growth aspirations of developing countries. Nowhere is this growing realization more relevant and timely than in India.

The gradual decline of women's participation in the formal economy in India over the past 15 years from 42 percent to 23 percent has brought renewed focus and attention to women's economic empowerment as an important development priority. Under the Government of India's MUDRA scheme to support micro and small enterprises, 70 percent of the borrowers are women, underscoring that Indian women are more than willing to work, if the opportunities are provided.

WEE is a priority area for the World Bank as part of "Lighthouse India" – a strategic initiative aimed at systematic knowledge exchange of evidence-based development

learning within India and globally. Lighthouse recently undertook a stock-taking exercise with 45 relevant stakeholders to identify key issues for women's economic empowerment across states in India. Four key areas for policy focus were identified: women's employment and protection in the workplace from sexual harassment and gender-based violence; their access to assets and land rights; entrepreneurship and skill enhancement; and access to financial services. It also helped highlight the limited knowledge sharing, scattered interventions and thus, limited scale of policy impact.

A major outcome was the constitution of a Consultative Group on Women Economic Empowerment, comprising 20 organizations, including TISS, ICRW, Care, Industree Foundation and Kudumbashree and development partners such as UN Women, UNDP, DFID, ILO and GIZ. "We care about this issue deeply because it matters for the mission of this organization, because it matters for the journey of this country, and what happens in India also impacts other countries," said Hisham Abdo Kahin, Operations Manager, World Bank, kicking off the group's first meeting on January 31, 2019. He added, "Unless we change the way we think about it to 'it's everybody's business' and not just those who work in the sector, we will not get there. A group like you will help us lead towards that."

Lighthouse next hopes to deepen understanding around specific themes and delve into the theme of "Women and Land Rights" for knowledge sharing and to identify replicable models. It also plans to identify knowledge partners to bring in expertise from across the country. 🌐

# *Disaster preparedness and mitigation in Odisha*

*On May 3, Cyclone Fani wreaked havoc on the coastal areas of Odisha and West Bengal, before moving on to Bangladesh with relatively low intensity. In the eastern state of Odisha, where the cyclone's effects were felt the most, 64 people died while 1.2 million people were evacuated.*

*Deepak Singh, Lead Disaster Risk Management Specialist at the World Bank, gives us an on-ground picture of the destruction caused by Cyclone Fani, and talks about the disaster mitigation efforts by the World Bank in Odisha through its various projects.*

***Tell us about the current developments post Cyclone Fani in Odisha.***

**C**yclone Fani was unexpected for this time of year as cyclones usually occur during the monsoons in July-August in this region. In this case, the cyclone first started to move parallel to the coast, causing damage to the coastal districts of Odisha, West Bengal, and Andhra Pradesh. But after crossing Puri in Odisha, it seemed to lose a bit of steam and fell rather weakly by the time it reached Bangladesh.

The cyclone track was being monitored closely by the Indian Meteorological Department (IMD) and it was known precisely where the cyclone will cross and when it will fall. The Odisha government showed a high degree of preparedness and effectively managed to evacuate about 1.2 million people based on these predictions.

The government of Odisha successfully managed to minimize the loss of life; this itself was not a small exercise and required tremendous effort. However, the state still suffered major losses in terms of infrastructure, particularly electrical infrastructure, housing, public buildings, transport infrastructure, including airports and railway stations, and port and harbor areas.

The next step is for the state to build capacity to minimize loss of assets and livelihood.

***What has been the role of the World Bank in disaster mitigation and reconstruction in India? How can the Bank help?***

The World Bank has been at the forefront of supporting efforts to reduce vulnerability to cyclone and other hydro-meteorological hazards of coastal communities in the coastal states of West Bengal, Kerala, Karnataka, Goa, Maharashtra, Gujarat, Andhra Pradesh, Tamil Nadu and Puducherry, as well as in the Jhelum Tawi area, in Uttarakhand and in the Bihar Kosi Basin. Its total investment so far stands at \$1.7 billion.

The Bank's nature of involvement in this area has also evolved over time. During the earthquakes in Latur, Maharashtra and Bhuj, Gujarat, the World Bank helped state governments with recovery and reconstruction. But since the 2004 Tsunami, the Bank has taken up several projects in disaster mitigation. For example, the National Cyclone Risk Mitigation project that started in 2010 was a major intervention in all the 10 coastal states of India.

Specifically, in Odisha, the World Bank has been supporting the state government in restoring and improving housing and public services in targeted communities of the state, as well as in

increasing capacity to respond promptly and effectively to crisis or emergency since after the super-cyclone of 1999 that killed more than 10,000 people.

Through projects like the Odisha Disaster Recovery Project and the National Cyclone Risk Mitigation Program, with investment of more than \$350 million, the World Bank has made a very concentrated effort in reducing the impact of cyclones.

Loss of lives since the super-cyclone of 1999 in Odisha has been minimized considerably, although minimizing losses in terms of infrastructure and livelihood is still something the state needs support with.

#### *What specific disaster mitigation efforts have been carried out by the World Bank?*

The early warning systems generated by IMD typically only reach the state and district levels. There has been no formal mechanism so far to communicate these warnings to the villages and people at large. The World Bank has helped create the intelligence to carry these warnings to the last mile. Particularly in Odisha, this system was introduced during the Cyclone Mitigation Project and has been used for the past 12 years. The World Bank has also been assisting states in creating cyclone shelters and access to these shelters. It has provided early warning systems and helped governments create dissemination systems for them.

Similar efforts have been made in other states like Andhra Pradesh, Tamil Nadu and West Bengal.

#### *What lessons can the rest of the country learn from Odisha's disaster mitigation preparedness?*

Odisha has a great community outreach system. It now has a network of 450 cyclone shelters and there is a robust mechanism for the maintenance of the cyclone shelters—each cyclone shelter has a maintenance committee where youth have been involved and trained for search and rescue, first aid medical attention, and for providing cyclone warnings.

Through a network of these shelters and committees and training, the state has involved the entire community. The state's disaster management systems are monitored twice each year, given the propensity of natural disasters in the state.

This is not the first time that an economically weaker state like Odisha has managed to successfully evacuate millions of people during a natural disaster; it also did so during Cyclone Phailin in 2013. Odisha has managed to create a sense of community during such disasters that other states can also emulate.

#### *Are there any areas where Odisha can still improve?*

There are two parts to disaster mitigation: minimizing the loss of lives, which Odisha has done remarkably; but the other is minimizing the loss of infrastructure and livelihood.

Statistically, there has been a cyclone every two years or a major cyclone every four years on the coast of Odisha. Given this, coastal housing in Odisha is still quite vulnerable. Similarly, the power infrastructure is completely over-ground, leaving it extremely exposed during natural disasters. Disruption of the electrical system also has a cascading effect on health systems, water supply, communication and transport, etc. which become even more vital during natural disasters for help to reach the most vulnerable.

The Government of Odisha certainly needs to think about investing in creating safer housing especially in the coastal regions, and in creating electrical systems that are underground. This will not only help minimize the need for evacuation, but also save on the systematic investments that are made when household assets are lost during a disaster. 🌐

# Recent Project Signings

## The First Resilient Kerala Program

The Government of India, Government of Kerala and the World Bank have signed a loan agreement of \$250 million for the Resilient Kerala Program to enhance the state's resilience against the impacts of natural disasters and climate change.



The 2018 floods and landslides in Kerala led to severe impact on property, infrastructure, and lives and livelihoods of people. One sixth of the state's population – about 5.4 million people – were affected while 1.4 million were displaced from their homes, especially the poor and vulnerable segments of the population.

The Resilient Kerala Program will focus on strengthening the state's institutional and financial capacity to protect the assets and livelihoods of poor and vulnerable groups through an inclusive and participatory approach.

The program also represents the first 'state partnership' of the World Bank in India, where the Bank will support select states striving to improve institutional capability in priority areas such as transport, livelihood, and urban planning. 🌐

## Jharkhand Municipal Development Project

The Government of India, the Government of Jharkhand and the World Bank have signed a \$147 million loan agreement to provide basic urban services to the people of Jharkhand and help improve the management capacity of the urban local bodies (ULBs) in the state.

The Jharkhand Municipal Development Project will focus on improving the municipal sector's capacity to provide basic urban services. It will invest in urban services such as water supply, sewerage, drainage, and urban roads; and strengthen the capacity of the Jharkhand Urban Infrastructure Development Company (JUIDCO) as well as that of the ULBs to carry out reforms in the areas of urban finance and governance.

Most of the project components will be open to all 43 ULBs in the state who may wish to participate within an agreed framework under the project. Over 350,000 urban residents

of the participating ULBs are expected to benefit, of which at least 45 percent will be women.

Interventions such as piped water supply, storm water drains, climate friendly road construction and energy efficient street lighting will not only help improve urban services but also make it environmentally sustainable.

Work on two subprojects – Khunti water supply subproject and the Dhanbad roads subproject is expected to commence shortly. Through its other key components, the project will improve urban governance by assisting ULBs to improve their organizational capacity, manage finances in a sustainable manner, and focus on the development of its nodal implementing agency, JUIDCO. 🌐

## Andhra Pradesh Health Systems Strengthening Project

The \$328 million Andhra Pradesh Health Systems Strengthening Project will work towards improving the quality and quality of care in community health centers and primary health centers. It will encourage screening and early detection of noncommunicable diseases and improve the state's pharmaceutical stock management system.

The project aims to make public health services more user-friendly and responsive to peoples' feedback. This includes

rolling out an integrated online patient management system; improving access to the government's free drugs scheme; and, establishing a patient feedback system.

The integrated online patient management system will give citizens online access to their health records which can be accessed at any public health facility. It will also enable doctors and nurses to provide better diagnosis, treatment and referral, etc. thereby improving their responsiveness and decision making. 🌐

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## Uttarakhand Public Financial Management Strengthening Project

The Government of India, the Government of Uttarakhand and the World Bank have signed a loan agreement of \$31.58 million for the Uttarakhand Public Financial Management Strengthening Project that will help improve the state's ability to manage its financial systems and lead to better utilization of development resources.

The project will benefit the citizens of Uttarakhand by creating a more transparent and efficient system of management of public finances, including administration of tax and non-tax revenues.

The project will support the state government's initiative to build and modernize the technical and financial management capabilities of its local bodies and state-owned enterprises. It will help improve capacity in the areas of cash and debt management, planning and budgeting, appraisal and monitoring of high value projects and public audit. It will support measures to improve transparency of budget and procurement information. Using GIS mapping technologies, the project will also strengthen the state's revenue management systems, including that of urban local bodies. 🌐

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## Rajasthan State Highways Development Program II Project

The Government of India, Government of Rajasthan and the World Bank have signed a \$250 million loan agreement to

build Rajasthan's capacity to better manage its highways and improve traffic flows on selected highways in the state.



The project will support the construction, upgradation, improvement and maintenance of 766 kms of state highways and major district roads. It will also focus on enhancing the institutional capacity to manage strategic network of the state through operationalization of Rajasthan State Highways Authority. In addition, it will strengthen the capacity of the Public Works Department which is responsible for about 70 percent of the state's road network. Special attention will be accorded towards management of the road safety in the state. 🌐

## Tamil Nadu Health System Reform Program

The Government of India, Government of Tamil Nadu and the World Bank have signed a \$287 million loan agreement for the Tamil Nadu Health System Reform Program. The program aims to improve the quality of health care, reduce the burden of non-communicable diseases (NCDs), and fill equity gaps in reproductive and child health services in Tamil Nadu.

The Tamil Nadu Health System Reform Program will support the state government to:

- develop clinical protocols and guidelines;

- achieve national accreditation for primary, secondary, and tertiary-level health facilities in the public sector;
- strengthen physicians, nurses and paramedics through continuous medical education;
- strengthen the feedback loop between citizens and the state by making quality and other data accessible to the public.

The program will promote population-based screening, treatment and follow-up for NCDs, and improve monitoring and evaluation.

Patients will be equipped with knowledge and skills to self-manage their conditions. Lab services and health provider capacity will also be strengthened to address mental health. To tackle road injuries, the program will improve in-hospital care, strengthen protocols, strengthen the 24x7 trauma care services and establish a trauma registry.

Another key aim of this program is to reduce the equity gaps in reproductive and child health. Special focus will be given to nine priority districts, which constitute the bottom quintile of the RCH indicators in the state and have a relatively large proportion of tribal populations. 🌐



## Program Towards Elimination of Tuberculosis

The World Bank and the Government of India has signed a loan agreement of \$400 million to improve the coverage and quality of TB control interventions in nine states across India. TB remains a public

health crisis that kills an estimated half a million people in India every year.

The program builds on a partnership between the Government of India and the World Bank that has spanned more than 20 years. World Bank supported programs have helped treat more than 20 million people since 1998 and averted 3.5 million deaths.

Results areas under the new initiative include rolling out TB patient management and support interventions; strengthening diagnostics and management of drug-resistant TB; and strengthening institutional capacity and information systems. These results areas represent the newest and most innovative aspects of India's National Strategic Plan and are of national and global significance. 🌐



**T**his is a select listing of recent World Bank publications, working papers, operational documents and other information resources that are now available at the New Delhi Office Public Information Center. Policy Research Working Papers, Project Appraisal Documents, Project Information Documents and other reports can be downloaded in pdf format from 'Documents and Reports' at [www.worldbank.org](http://www.worldbank.org)

Publications may be consulted and copies of unpriced items obtained from:

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## India Publications

### Estimating Poverty in India without Expenditure Data: A Survey-to-Survey Imputation Approach



By David Locke Newhouse  
and Pallavi Vyas  
Available On-Line  
Published: June 2019,  
40 pages  
English version, Paperback  
Working Paper  
Report No.: 137681

This paper applies an innovative method to estimate poverty in India in the absence of recent expenditure data. The method utilizes expenditure data from 2004-05, 2009-10, and 2011-12 to impute household expenditure into a survey of durable goods expenditure conducted in 2014-15. At the 1.90 US dollar per day international poverty line, the preferred model predicts a 2014-15 head-count poverty rate of 10 percent in urban areas and 16.4 percent in rural areas, implying a poverty rate of 14.6 percent nationally. The implied poverty elasticity with respect to growth in per capita Gross Domestic Product (GDP) is within the range of past experience, and states with higher gross domestic product growth saw greater predicted poverty reductions.

## South Asia Publications

### South Asia Economic Focus Spring 2019: "Exports Wanted"



By The World Bank  
Available On-Line  
Published: April 2019,  
98 pages  
English version, Paperback  
Report No.: 135953

South Asia remained the fastest growing region in the world last year, but growth remained driven by

domestic demand – and not exports – which resulted in another year of double-digit volume growth of imports. The value of imports was further pushed up by rising oil prices. The widening current account deficits became more difficult to finance and these tensions triggered capital outflows, depreciation pressures, increases in credit default swap spreads, and falling stock prices. In recent months, however, the data shows a more positive picture.

The growth outlook for South Asia assumes that the recent acceleration of export growth continues and that import growth slows. Under these conditions, GDP growth is expected to accelerate. Under current circumstances fiscal tightening is appropriate, not only to make government debt more sustainable, but also to bring the economy back into balance, and thus become less vulnerable to deteriorating conditions in international financial markets.

Using a gravity model, we show that South Asian countries export only a third of their potential. If countries export closer to potential, not only would short-term adjustments be easier, but also the long-term growth potential would be higher. Closing the export gap is an essential step in addressing both short-term and long-term macroeconomic challenges in South Asia.

## India: Policy Research Working Papers

### WPS8885

#### Infrastructure and Finance: Evidence from India's GQ Highway Network

By Abhiman Das, Ejaz Ghani, Arti Goswami Grover, William Robert Kerr and Ramana Nanda

This paper uses the construction of India's Golden Quadrangle central highway network, together with comprehensive loan data from the Reserve Bank of India, to investigate the interaction between infrastructure development and financial sector depth.

The paper identifies a disproportionate increase in loan count and average loan size in districts along the Golden Quadrangle highway network, using stringent specifications with industry and district fixed effects.

The results hold in straight-line instrumental variable frameworks and are not present in placebo tests with another highway that was planned to be upgraded at the same time as Golden Quadrangle but subsequently delayed.

Importantly, however, the results are concentrated in districts with stronger initial financial development, suggesting that although financing responds to large infrastructure investments and helps spur real economic outcomes, initial financial sector development might play an important role in determining where real activity will grow.

### WPS8883

#### Labor and Welfare Impacts of a Large-Scale Livelihoods Program: Quasi-Experimental Evidence from India

By Vivek Pandey, Abhishek Gupta and Shivani Gupta

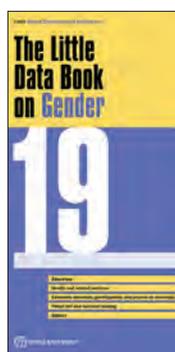
Improving the livelihoods of poor households and transitioning more women back to the labor force is a major challenge in South Asia. Self-employment promoted through women's groups has often been cited as a promising intervention towards this end. However, the evidence on the impact of such programs on household income and labor outcomes is limited, especially for government programs like the National Rural Livelihoods Mission in India.

This study aims to provide empirical evidence on the welfare impacts of an "intensive approach" adopted under this program. The data for the study come from 4,316 household surveys in 727 villages. The study uses matching methods with the population and socioeconomic census, as well as an instrumental variable approach to construct a retrospective control group. The analysis finds that the program has been able to achieve its primary objective of improving livelihoods by transitioning more women into work. The program has also expanded access to credit, increased the proportion of savings, and reduced interest rates on credit for rural households.

This is the first study to estimate the annual income effects of a government-run rural livelihoods program in India, and it shows significant increases in median income across the sample. The results for 30th, 40th, and 75th percentiles are also large and significant. However, the study did not find significant average treatment effects for income. Contrary to previous studies, this study finds weaker impacts on assets, except for livestock.

## Other Publications

### The Little Data Book on Gender 2019

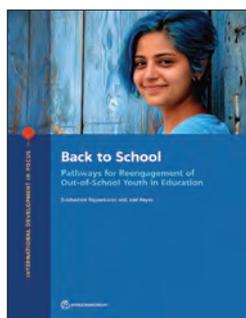


By World Bank  
Available On-Line  
Published: April 2019, 248 pages  
English version, Paperback

*The Little Data Book on Gender 2019* illustrates the progress towards gender equality for 217 economies around the world. It provides comparable statistics for women and men for the years 2000 and 2017 across a range

of indicators covering education, health and related services, economic structure, participation and access to resources, public life and decision making, and agency, enabling readers to readily compare economies.

## Back to School: Pathways for Reengagement of Out-of-School Youth in Education



By Subhashini Rajasekaran and Joel Reyes  
Available On-Line  
Published: April 2019,  
147 pages  
English version, Paperback  
ISBN: 978-1-4648-1404-4

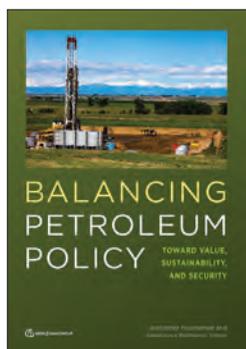
*Back to School: Pathways for Reengagement of Out-of-School Youth in*

*Education* focuses on a social and global problem: 200 million adolescents and youth are out of school, live in adverse life circumstances, and face multiple disadvantages. It analyzes the available evidence for what works, how, and why for reengaging and retaining these young people in education.

The study further explores for whom and in what contexts the identified interventions can be effective, considering variations in both individual and contextual characteristics of the targeted youth. This literature review and synthesized findings can be useful to build a broad theory of change with the aim of guiding local policy and programming for designing contextualized interventions for education reengagement.

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## Balancing Petroleum Policy: Toward Value, Sustainability, and Security



By Alexander Hurrdeeman and Anastasiya Rozhkova  
Available On-Line  
Published: May 2019,  
296 pages  
English version, Paperback  
ISBN: 978-1-4648-1384-9

Petroleum discovery challenges policy makers to translate resources into equitable, sustainable,

and long-term national growth. *Balancing Petroleum Policy* provides policy makers and other stakeholders with needed basic sector-related knowledge. It introduces the petroleum value chain, how to envision key petroleum development objectives, legislative and contractual framework design, administration and management of petroleum fiscal regimes, transparency and governance, environmental and social safeguards, and economic diversification through industrial linkages. The book focuses on developing countries and those in civil conflict. The book examines three policy-central questions: ownership, management, and revenue sharing of petroleum resources. Context-specific in its approach, the book offers valuable perspectives on how to prevent violent conflicts related to such resources.

## Boosting Financial Resilience to Disaster Shocks: Good Practices and New Frontiers



By The World Bank  
Available On-Line  
Published: May 2019,  
56 pages  
English Version, Paperback  
Report No.:137550

Governments face growing contingent liabilities from disasters as they tend to shoulder a significant

share of disaster response and recovery costs. Disaster shocks increase government expenditure and hamper economic activities. An increasing number of countries are developing financial protection strategies – a suite of policies and financial instruments – as part of their macro-fiscal policy to secure access to pre-arranged financing and protect the fiscal balance and budget when disasters strike. Investments in physical and social resilience complement and reinforce financial resilience.

Pre-arranged risk financing can help governments reduce the fiscal cost of disasters. Sovereign catastrophe risk pools, established to help especially low-capacity countries better access financial markets, are evolving toward multifunctional platforms to strengthen financial resilience in their region. Governments are moving toward adopting more sophisticated risk financing strategies that better match financial instruments to their liabilities, especially for public assets (including infrastructure), national-subnational cost sharing, and social safety nets.

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## State and Trends of Carbon Pricing 2019



By World Bank  
Available On-Line  
Published: June 2019,  
97 pages  
English version, Electronic  
ISBN: 978-1-4648-1435-8

Carbon pricing is widely seen as a critical component of an effective climate strategy. However,

the coverage and strength of existing carbon pricing policies are too low to reduce emissions in line with the Paris Agreement on climate. *State and Trends of Carbon Pricing 2019* provides an up-to-date overview of existing and emerging carbon pricing initiatives at the international, national, and subnational level.

It investigates trends surrounding the development and implementation of carbon pricing instruments and how they could accelerate to deliver long-term mitigation goals. Unique to this edition, the report also takes a more comprehensive review to examine the role of

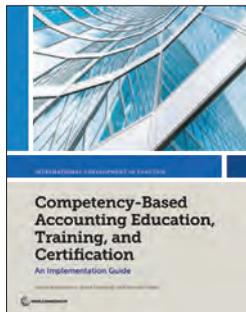
implicit carbon pricing in fiscal and energy policies.

This work is a product of the World Bank, with support from Navigant, as well as from the Carbon Pricing Leadership Coalition, the International Climate Action Partnership and the Partnership for Market Readiness.

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### Competency-Based Accounting Education, Training, and Certification: An Implementation Guide



By Alfred Boronovo, Brian Friedrich, and Michael Wells  
**Available On-Line**

Published: April 2019,  
137 pages

English version, Paperback  
ISBN: 978-1-4648-1403-7

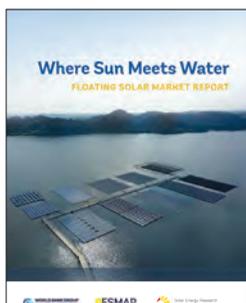
The guide supports  
transitioning accounting  
education, training, and

certification from a knowledge-based approach to a competency-based approach. Underlying...-Based Accounting Education, Training and Certification (CBAETC); provide a common reference.

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### Where Sun Meets Water: Floating Solar Market Report



By World Bank Group;  
Energy Sector Management  
Assistance Program; Solar  
Energy Research Institution  
of Singapore (2019)

**Available On-Line**  
Published: May 2019,  
56 pages

English Version, Paperback  
Report No.:137550

Floating solar photovoltaic installations open new opportunities for scaling up solar generating capacity, especially in countries with high population density and competing uses for available land. Advantages of floating solar over land-based systems include higher energy yield, reduced evaporation, and improved water quality, among others. Combining floating solar with hydropower plants is of particular interest. Flexible hydropower output can be used to smooth the variability of the solar generation, while making better use of existing transmission assets, particularly beneficial in countries with weak grids. With a global estimated potential of 400 gigawatts, under conservative assumptions, floating solar could double the current global installed capacity of solar PV. *Floating Solar Market Report – Executive Summary* presents an overview of floating solar technologies, current deployment market and future opportunities, challenges related to floating solar deployment, policies and regulatory considerations, and current costs and project structuring.

## India Project Documents

### Bihar Kosi Flood Recovery Project

Date 03 June 2019  
Project ID P122096  
Report No. ICRR0021515 (Implementation Completion Report Review)

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### Capacity Building for Urban Development Project

Date 16 April 2019  
Project ID P099979  
Report No. ICRR0021525 (Implementation Completion Report Review)

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Date 29 April 2019  
Project ID P100101  
Report No. ICR4323 (Implementation Completion and Results Report)

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### Karnataka Multisectoral Nutrition Pilot Project

Date 29 April 2019  
Project ID P149811  
Report No. ICR4781 (Implementation Completion and Results Report)

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### National Programme for Improving the Quality of Statistics in India

Date 28 May 2019  
Project ID P169497  
Report No. PIDC26687 (Project Information Document)  
ESRSC00416 (Environmental and Social Review Summary)

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### NHAI Technical Assistance Project

Date 26 April 2019  
Project ID P121515  
Report No. ICRR0021527 (Implementation Completion Report Review)

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### Odisha Integrated Irrigated Project on Climate Resilient Agriculture

Date 01 May 2019  
Project ID P163533  
Report No. SFG5311 (Environmental Assessment - 15 Vol.)

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## Resilient Kerala Program

Date 10 May 2019  
Project ID P169907  
Report No. PIDA26205 (Program Information Document)

## Water Sector Improvement Project

Date 22 April 2019  
Project ID P100954  
Report No. ICRR0021583 (Implementation Completion Report Review)

## From the Blogworld

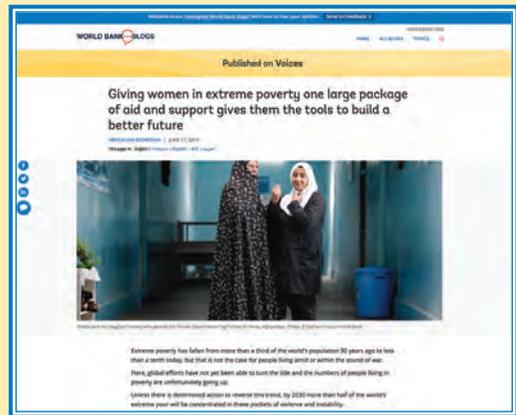
### Giving women in extreme poverty one large package of aid and support the tools to build a better future Kristalina Georgieva, June 17, 2019

**E**xtrême poverty has fallen from more than a third of the world's population 30 years ago to less than a tenth today, but that is not the case for people living amid or within the sound of war.

Here, global efforts have not yet been able to turn the tide and the numbers of people living in poverty are unfortunately going up.

Unless there is determined action to reverse this trend, by 2030 more than half of the world's extreme poor will be concentrated in these pockets of violence and instability. 🌐

Read more: <https://tinyurl.com/yxms29p3>



### IDA helps build a brighter future for South Asians Hartwig Schafer, June 17, 2019



**C**lean, safe water is never taken for granted in rural Bangladesh, which is home to 75 percent of the country's population, or 109.3 million people. E.coli bacteria, dangerously high arsenic levels, excessive salt, iron, and other pathogens are among the contaminants commonly found in rural water sources.

Fortunately, the International Development Association (IDA) stands ready to support the most vulnerable developing countries and to make key investments to grow and transform their economies and improve the lives of their citizens. IDA is contributing to remarkable achievements across South Asia. 🌐

Read more: <https://tinyurl.com/y55fys2y>

### Inland waterways revive South Asia arteries of trade Bob Saum, Junaid Kamal Ahmad, May 21, 2019

*A fully functioning network will allow a ship to pick up freight in Assam and sail south on the Brahmaputra River into Bangladesh.*

**W**ater is essential to life and good health. It's also vital to create jobs, propel economies forward, and boost social development.

It's encouraging to see India and Bangladesh are reviving centuries-old inland waterways that once moved goods and people throughout both countries

## From the Blogworld

as well as into Bhutan and Nepal. The improvements will promote trade, attract investment, and stimulate development.

More than 600 million people in Bangladesh and India live along the Ganges, Brahmaputra, and Meghna rivers. Millions more live near navigable tributaries.

But much of the cross-border river traffic linking India, Bangladesh, and landlocked Nepal and Bhutan ended after the partition of India and conflicts that followed. 🌐

Read more: <https://tinyurl.com/y5oz4y4y>



### Can uneducated mothers monitor schools? Improving service delivery in education through community participation

Kumar Vivek, Shabnam Sinha, Kamal Nath Jha, June 05, 2019

**M**r. Mithilesh Paswan is beaming with confidence as he pulls out his low-budget smartphone and excitedly shows the mobile application he and his friends have been using since a few months – the “Bihar School Score Card Application (SSCA)”.



Mr. Paswan is the chairperson of Vidyalaya Shiksha Samiti (VSS), or the school management committee of Middle School Araria Sangram in the district of Madhubani, located about 200 km from Bihar state’s capital Patna. As the chairperson, he oversees the work of this 17-member VSS, a committee constituted by parents (with mothers occupying more than half the slots), teachers, students, self-help group representatives, and a representative from institution of local governance (Panchayati Raj Institution).

The committee at Middle School Araria Sangram represents a larger effort by the government to empower community groups in Bihar to monitor, report on, and claim their rights of access to quality basic education. 🌐

Read more: <https://tinyurl.com/y5mtojxm>

### Giving Indian girls a chance to shine

Shubha Chakravarty, Jayati Sethi, Pravesh Kumar, May 02, 2019

**“T**ime is running out for us. Even if we want to do something we can’t do it. We do the hard work but still do not get the success,” says young Rani with a sense of urgency underpinned by an acute awareness of what adulthood holds for her.

The disappointment of unmet aspirations is all too evident in her words.

Rani lives in Jharkhand, a state in eastern India with a large youth population – one-third of its 33 million people are between 10 and 24 years old. 🌐

Read more: <https://tinyurl.com/y62gotue>



## From the Blogworld

### Greater regional trade in South Asia can empower women

Girija Shivakumar and Talajeh Livani, July 08, 2019

**W**omen in South Asia have some of the lowest economic activity rates in the world – only 30 percent of women participate in the labor force, compared to 82 percent of men, and a mere 8-9 percent of formal small and medium enterprises (SMEs) are owned by women.

A study by the International Monetary Fund estimates that South Asia could increase its income by up to 25 percent if women had equal chances as men at getting a job or becoming entrepreneurs. 🌐

Read more: <https://tinyurl.com/y6lwrrau>



### Disruptive technologies that are more valuable than what money can buy

Joseph S. Barone, June 17, 2019



**N**o matter what your ideas about reducing poverty are, like starting a technical school, teaching English online or proving the concept of a classroom in a box, knowledge and experience are worth more than money. And using disruptive technologies can change the way education is delivered by anyone in the developing world. 🌐

Read more: <https://tinyurl.com/y4tgsup>

## World Bank Policy Research Working Papers

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By Kate Bridges and Michael Woolcock

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By Sovannroeun Samreth, Miguel Eduardo Sanchez Martin and Sodeth Ly

### WPS8892

Full Esteem Ahead? Mindset-Oriented Business Training in Ethiopia

By Salman Alibhai, Niklas Buehren, Markus P. Goldstein and Sreelakshmi Papineni

### WPS8891

A Framework to Assess Debt Sustainability and Fiscal Risks under the Belt and Road Initiative

By Luca Bandiera and Vasileios Tsiropoulos

### WPS8890

Search for Yield in Large International Corporate Bonds: Investor Behavior and Firm Responses

By Charles W. Calomiris, Mauricio Larrain, Sergio L. Schmukler and Tomas Williams

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By Kurt Annen and Stephen Knack

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By Richard Damania, Sebastien Gael Desbureaux and Esha Dilip Zaveri

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By Thierry Hounsa, Mohamed Coulibaly and Aly Sanoh

**WPS8886**

Measuring the Full Extent of Fiscal Losses and Gains

By Mohamed Coulibaly and Aly Sanoh

**WPS8885**

Infrastructure and Finance: Evidence from India's GQ Highway Network

By Abhiman Das, Ejaz Ghani, Arti Goswami Grover, William Robert Kerr and Ramana Nanda

**WPS8884**

Diagonal Cumulation and Sourcing Decisions

By Pamela Bombarda and Elisa Gamberoni

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Labor and Welfare Impacts of a Large-Scale Livelihoods Program: Quasi-Experimental Evidence from India

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By Sam Desiere and Valentina Costa

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By The World Bank

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By Adam Wagstaff, Patrick Hoang-Vu Eozenou, Sven Neelsen and Marc-Francois Smitz

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Estimating Poverty in India without Expenditure Data: A Survey-to-Survey Imputation Approach

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By Rabah Arezki, Yuting Fan and Ha Minh Nguyen

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