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*Photo by the World Bank*

## *Minor irrigation is bringing water and new hopes to farmers in rural West Bengal*

**S**ahadeb Das farms a tiny patch of land in Dhurkhali – a remote village in West Bengal’s Howrah district. With virtually no access to irrigation, Sahadeb struggled to make a living off a single crop of paddy he grew during the Kharif (rainy) season, plus an occasional crop of vegetables; but the scale was small and earned him little or no profits. During the rest of the year, Sahadeb, like many other farmers in similar situations, was forced to take up other livelihoods to fend for his family.

Now, with irrigation water streaming into his parched 1.5-acre patch during the dry season, Sahadeb has reason to smile. He has diversified



The Project, funded by the World Bank, seeks to boost agricultural productivity and profitability for 100,000 small and marginal farmers in the drought-prone regions of the state.

### *Increasing farm incomes with knowledge and technology*

Farmers like Sahadeb have benefitted from the creation of minor irrigation structures such as ponds, tube wells and check dams. Those with adjacent parcels of land have been brought together into Water User Associations (WUAs) that operate these schemes and drive the efficient use of irrigation water through community participation. These WUA clusters have also attracted reputed agribusiness companies to demonstrate modern technological advancements such as high-yielding and low-water-consuming hybrid rice varieties,

from just one paddy crop to include a variety of fruits and vegetables, which he grows throughout the year. The higher prices of his horticultural crops have more than doubled the earnings, rising from \$900 to \$1,850 per annum.

Sahadeb is not alone in his success. With irrigation newly-provided by the West Bengal government's Accelerated Development of

Minor Irrigation Project (ADMIP), other small and marginal farmers too have seen their incomes multiply manifold.

- *Development of irrigation is enabling small and marginal farmers in rain-fed regions of West Bengal to double their incomes by introduction of high-value horticultural crops*
- *Supported by the private sector, the Accelerated Development of Minor Irrigation Project (ADMIP) is providing cutting-edge technological solutions to farmers and handholding them to adopt market-based production systems while also connecting them to the markets*

helping these clusters avail benefits of scale. Through such capacity building, farmers are learning to grow a variety of commercially viable crops using new technologies.

With these initial measures, Sahadeb has been able to grow a cornucopia of vegetables and fruits, including bananas,





mangoes and pears – all on his 1.5 acres! As word of his success spread, the other farmers were curious and sought the project’s assistance.

Creation of irrigation facilities has enabled many farmers like Sahadeb to produce a variety of horticultural crops, increasing incomes manifold. He, as many others like him, is implementing modern farming methods like indoor cultivation, drip irrigation and fertigation, cutting down input use and growing high-value crops all year long.

### *Introducing indoor cultivation – the new way to go*

Enthused by the doubling of his income, Sahadeb started exploring new ways to further enhance his earnings from the same plot of land. At that point, the Project

introduced indoor cultivation, where mechanisms for temperature and humidity control make it possible to grow off-season vegetables that fetch much higher prices.

To learn the ropes, the Pproject took Sahadeb and others to see a poly house in Punjab managed by a leading international company. The company imparted intensive training on the cultivation and marketing of new types of vegetables, and provided the farmers with high quality seeds.

The exposure visit proved to be an eye-opener. On their return, farmers started to grow high-value crops such as bell peppers, mini cucumbers and cherry tomatoes inside the poly house. At the same time, they diversified the risks of crop failure by growing other high-value crops such as broccoli, musk melon, onion and cabbage, among others, in the adjacent open fields.

Although pilots began in November-December 2017, farmers have already begun to see the difference. Uday Pal’s poly house of 500 square metres, for instance, is likely to yield 5 tons of high-quality cucumber – over 6 times the average yield in India! With improved quality, he also expects to sell these cucumbers at Rs 40 per kg, almost twice the price of local varieties. Even at conservative estimates, Pal expects the poly house alone to earn him nearly \$2,300 in just five to six months.

As neighbouring farmers visit Sahadeb and Uday Pal’s poly houses, they are beginning to understand that replication is simple and, better yet, it can be done on small parcels of land.





Starting with two districts – Howrah and Darjeeling – the Project has financed 12 poly houses in all, equipping them with state-of-the-art technology such as drip irrigation systems integrated with fertilizer application systems and automated foggers to maintain humidity.

This is not the end, however. Getting consumers to buy better quality produce is just as critical. For this, the international company, with support from project officials, is helping farmers connect with organized retailers in Kolkata, West Bengal’s capital. Big Basket, a well-known Indian retail-chain, has expressed interest in procuring poly house produce from farmers at competitive prices.

Uday Pal also doubled his farm income from \$700 to \$1,400 through diversification into horticultural crops. He is likely to earn an additional \$2,300 over a period of just five months from the cucumbers he produced in the poly house financed by the project. The manifold increase in his income will help support a better life for his family.

### *A long way to go – finding solutions to existing and imminent challenges*

The Project has made an encouraging start, showing the way forward for multiplying small farmers’ incomes towards achieving the country’s goal of doubling farmers’ incomes by 2022.

Nonetheless, the journey toward productive and profitable agriculture is fraught with complexities. To achieve this, a synergistic partnership is needed between the private sector (for technology, knowledge and marketing support), the community (to drive optimal utilisation of irrigation water), and the public sector (to provide policy support). 🌐

*Contributed by Raj Ganguly, World Bank’s Senior Agribusiness Specialist, Anju Gaur, World Bank’s Senior Water Resources Management Specialist, and Smriti Verma, Economist & World Bank Consultant*



An ideal Vermicompost Production Unit  
Panaksha W.D.S., Baranagar Block,  
S-24 Paraganas, Date 15th Jan 2017



Spineless Cucumber  
Sourashinpur Bishinda Check Dam, Baranagar  
Date 8th February 2017



Homegrown Horticulture STW Drip Irrigation  
starting from inside of an all-weather structure  
17th Jan 2017



Minister Cultivation using Vermicompost  
Panaksha W.D.S., Baranagar Block, S-24 Paraganas  
Date 15th January 2017

# *How a silent revolution in rural Bihar is empowering women to be agents of change*



**E**mpowering women in a society is essentially a process of uplifting the economic, social and political status of women and the underprivileged. It involves building a society wherein women can breathe without the fear of oppression, exploitation, apprehension, discrimination, and a general feeling of ill-treatment that symbolized a woman in a traditional male-dominated society.

With the implementation of gender quotas since India's 73rd and 74th Constitutional Amendment Acts, the percentage of women in political activities at the local level has risen from 4-5% to about 35-40%. Reserving one-third of seats for women in the elected bodies of rural local governments in India has unleashed a silent revolution.

For the first time, rural women began to participate in local governance to improve their

status and acquire a decisive say in matters crucial to their livelihoods. This decision to ensure the participation of women in local government is perhaps the best innovation in a grassroots democracy, contributing to improving the well-being of rural women.

Control over local government resources and the collective power of women have helped women discover their own self-respect and confidence. In the recent discourse on women empowerment in the 62nd session of the Commission on Status of Women, the government of India has said gender equality and emancipation of rural women is a key driver of inclusive growth.

The discourse on women's empowerment has progressed from viewing women as recipients of welfare benefits to engaging them as active agents of change. However, women continue to face multiple challenges in

terms of asymmetrical division of labor, rights, and assets which render them vulnerable to discrimination and violence.

Empowering processes can fall short of promises if institutional spaces such as fully functional local government offices with adequate resources and other basics are not provided by the government at the local level. These offices are essential enablers which help build the trust of the local citizenry in the government machinery. In these spaces, women as elected representatives acquire skills, confidence, and capacities to effectively perform their functions and duties. They learn to articulate their demands, voice their concerns and mobilize resources and assistance in a secure and safe environment.

The Bihar Panchayat Strengthening Project in India, which is funding the construction of local government offices at the village level, has now become a symbol of women's emancipation and the inclusion of vulnerable peoples. The project integrated feedback and input from women in the villages in how the offices are designed and where they are located.

The World Bank-financed project ensures that these local offices are equipped with separate toilets for women; that local offices are not in a remote corner of the village and there are suitable facilities in terms of accessibility, safety, and connectivity for women; that offices have electricity connections and are well lit with a boundary wall; that there is a place for young mothers to breastfeed and a meeting room for women's self-help groups.

The whole experience of creating these local offices stands in sharp contrast to the past when the elected representatives (all

men) functioned either from their homes or from limited spaces provided in schools or community centers.

In the district of Bhojpur, for example, the President of the Dawaan local government, Shushumlata, has recently made news for her proactive role in organizing the community. Shushumlata has tirelessly worked in recent years to bring women from all segments of the community to actively participate in the Gram Sabhas and Ward Sabhas (formal meetings of all adults who live in the area) and raise their concerns and motivate them to access the services delivered by the Gram Panchayat.

Today, women of the Dawaan local government participate in these meetings without prejudice or bias. They speak freely on issues of local development and feel empowered to demand services. This is a positive transformative behavioral change that has strengthened the status of women in the local area. The visible social upliftment of the marginalized in Dawaan, including the infrastructure development, has improved the implementation of the government's development programs. This bears testimony to the commitment of the president for collective advancement towards empowerment and social justice for all.

The story of the Dawaan is just one example of the positive impact that women in leadership positions can have. Leadership requires the ability to lift people up.

People like Shushumlata firmly believe in empowering those around them to live their best lives.

The lesson going forward is that there is always a premium on actions that can lead to grassroots social transformation. A forgotten institution, like the Dawaan local government that existed only on paper, is suddenly bursting with activities where women do not fear any marginalization or discrimination.

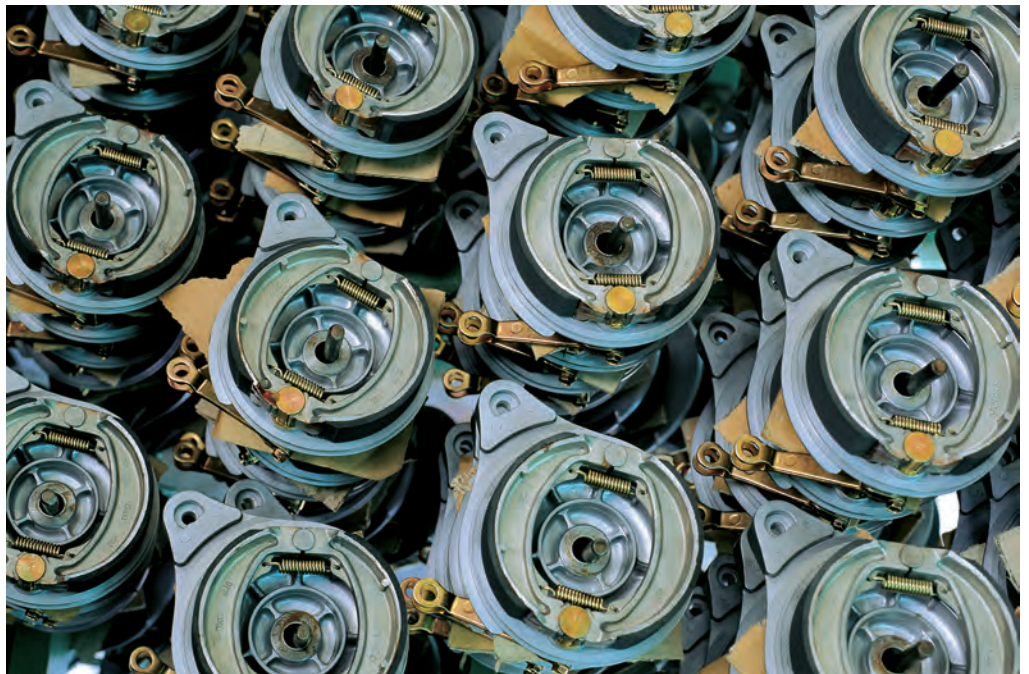
And the physical construction of simple office buildings, equipped with essential facilities, puts a dream together for rural women which is inclusive and participatory while ensuring a safe working environment with opportunities for all. 🌐

*Contributed by Farah Zahir, Senior Economist, World Bank*



# *How can India compete with a global economy undergoing profound change?*

*The heightened global competition because of automation technologies will raise the bar for success in export-led manufacturing. India must therefore prepare now to remain relevant, say Mary Hallward-Driemeier, Senior Economic Adviser, World Bank and Gaurav Nayyar, Senior Economist at the World Bank*



**T**he global economy is undergoing profound change. New technologies are impacting prospects for manufacturing led-development that has brought rapid prosperity to many parts of the world. Today, robotics, artificial intelligence, 3D printing, and the internet of things are reducing the importance of low-wage labor.

There is concern that industry 4.0 – where data and automation in “smart” factories transform traditional manufacturing – may make it feasible for leading firms to re-shore manufacturing back to advanced economies, and closer to final consumers. China too is automating rapidly and is projected to be the world’s largest user of industrial robots

by 2018. The en masse migration of labor-intensive manufacturing activities to poorer economies with lower labor costs such as India may therefore not occur. How, then, can India compete?

The growth of manufacturing in India has been modest – with its share in GDP largely unchanged over the last two decades – especially when compared to the services sector. Globally too, while India’s share in global manufacturing production increased from 1.1 percent in the early 1990s to 2.8 percent in 2015, China’s galloped from less than 5 percent to 25 percent. Even so, India has made greater progress in some manufacturing sectors. For example,

since 1995, it has ranked among the top 10 exporters of labor-intensive goods such as textiles, apparel and leather products, jumping to 4th place in 2011. India has also maintained its comparative advantage in the export of pharmaceuticals and a range of commodity-based manufactures over the last two decades.

Although the criteria for becoming a manufacturing hub are now changing, some manufacturing industries are likely to remain relatively unaffected by Industry 4.0. This includes a range of commodity-based manufactures – basic metals, wood products, paper products, and food processing – which are also less traded and therefore subject to less international competition. They will remain feasible entry points for India. India can also remain competitive, at least for some time, in its traditionally strong areas such as the production of textiles, apparel and leather products, which is the least automated subsector thus far – as long as it combines low wages with other reforms that enable it to compete. India's nascent success in the export of autos and electronics might, however, be harder to scale up. The use of robots in these industries is more widespread and they require closely-clustered suppliers that can provide inputs on just-in-time basis, tilting the balance in favor of established manufacturing centers.

India's large domestic market is an asset. Foreign direct investment to manufacture in India for India might therefore be less influenced by cost considerations associated with establishing export platforms. The large market will also likely continue to provide room for the domestic manufacture of lower-price goods. Take, for example, India's two-wheeler auto sector, which has withstood international competition by producing low cost, durable scooters and motorcycles with ubiquitous distribution and service networks. The scope for productivity gains might be even greater for lower-price goods where India can exploit opportunities beyond the domestic market. The country's exports of pharmaceuticals and three-wheeler scooters to other lower-income economies, especially in Africa, is a case in point.

Notwithstanding these opportunities, the heightened global competition resulting from

automation technologies will raise the bar for success in export-led manufacturing. India must therefore prepare now to remain relevant. If it can integrate its growing labor force with substantial improvements in the business environment, logistics and other backbone services, regulatory requirements, and so on, this might reduce the incentive for firms to relocate to higher-income countries with Industry 4.0 technologies. Yet, if there is a limited window to industrialize using older technologies, reforms that improve the country's competitiveness and connectedness acquire greater urgency. India's recent rise to the top 100 in the Doing Business rankings is a step in this direction. But there is more distance to cover. Similarly, the country's restrictions on trade in services – many of which are increasingly embodied and embedded in manufactured goods – are among the highest in the world and will need to be eased.

To prepare for "smart" manufacturing, the diffusion of new technologies will require higher-order skills, better ICT infrastructure, a stronger intellectual property rights (IPR) regime, and complementary professional services. Since developing the capabilities of workers, firms, and supporting institutions is likely to be a gradual process, India must start planning now. Here too the country can leverage some of its unique strengths.

First, it's world-class institutes of higher learning in engineering and management sciences have created pockets of skilled labor that can respond to changing industry demands. Second, India's vast diaspora in the science and technology space can facilitate the transfer of technology and skills. Third, with the increasing "servicification" of manufacturing – where the use of data will play an increasingly important role in optimizing processes – India's success in software services can lay the ground for the greater integration of such services into production. 🌐

Mary Hallward-Driemeier and Gaurav Nayyar are authors of "*Trouble in the Making? The Future of Manufacturing-Led Development.*"

*This article was originally published in the Economic Times on 20 January 2018*



# *India and Sri Lanka exchange knowledge on women-led local self-governance*



**S**ri Lanka has been particularly keen on learning from India's experiences in increasing the representation of women in local government, a task currently daunting for the country. Recent reforms had mandated that least 25 percent of candidates fielded by political parties in the island country be women. In the past, women constituted less than 1.5 percent of local government bodies in the country.

In December 2017, the Sri Lankan delegates visited India's southern state of Kerala where a government program – Kudumbashree – had empowered local women to take charge of government initiatives on poverty eradication, livelihoods and income generation, social mobilization and community development. In operation since the mid-1990s, the program has seen women emerge as active leaders in their own right.

The delegation included several important officials, including the Minister for Provincial Councils and Local Governments, the Chief Secretaries of North, East and Uva provinces, the provincial directors of local government and other central and local officials. The delegation was interested in learning how local governments were involved in resource mapping, development planning, poverty alleviation, supporting the vulnerable, service delivery and managing systems of accountability. They visited the Kerala Institute of Local Administration, Kaladi Grama Panchayat and Angamali Municipality and interacted with elected local representatives, members of Kudumbashree units and the local bureaucracy.

"We have a lot to learn from Kudumbashree and the panchayat system in Kerala," said Faiszer Mustapha, Sri Lanka's Minister of Provincial Councils and Local Government.



“In [this] system, women have entered the local administration. This has increased transparency and efficiency.”

An MoU between the Sri Lanka Institute of Local Governance and the Kerala Institute of Local Administration to implement a women-driven system of local self-governance in Sri Lanka is being activated and supported under the proposed Sri Lanka Local Development Support Project.

This knowledge exchange is part of the India Urban Knowledge Platform and stems from “The South-South Knowledge Exchange on Decentralization and Local Governance” – a knowledge exchange that the World Bank had organized in May 2017, when it brought together five Asian countries that had followed differing trajectories of

decentralization and had a wide variety of experiences to offer to each other. Sri Lanka’s Minister of Provincial Councils and Local Government, who attended the conference, had requested the World Bank to take the dialogue forward and help them learn from India’s and Indonesia’s experiences with decentralization. 🌐



# 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.

## *Second Madhya Pradesh District Poverty Initiatives Project*



### **Context**

The Phase 1 of the Madhya Pradesh District Poverty Initiatives Project (MPDPIP-I) covered over 2,900 villages in 14 districts. It organized about 300,000 poor rural households into 52,000 common interest groups (CIGs).

The project achieved significant results in terms of enhanced livelihoods, increase in annual household income, and enhanced participation of women in decision making.

Riding on the success of phase I, the government sought World Bank support for Phase II, known as the Second Madhya Pradesh District Poverty Initiatives Project (MPDPIP-II), which focused on livelihoods enhancement, social empowerment, and financial inclusion through the self-help group (SHG) model for the first time in the state.

### **Project Development Objectives**

The objective was to alleviate poverty and empower the rural poor of Madhya Pradesh

### **Second Madhya Pradesh District Poverty Initiatives Project**

<b>Approval Date:</b>	24 June, 2009
<b>Closing Date:</b>	30 June, 2015
<b>Total Project Cost</b>	US\$ 101.50 million
<b>Bank Financing:</b>	US\$ 91.36 million
<b>Implementing Agency:</b>	Panchayati & Rural Development Department, Government of Madhya Pradesh
<b>Outcome:</b>	Satisfactory
<b>Risk to Development Outcome:</b>	Moderate
<b>Overall Bank Performance:</b>	Satisfactory
<b>Overall Borrower Performance:</b>	Satisfactory

by improving their capacity and providing them opportunities to achieve sustainable livelihoods.

The primary target group of the Project were poor women and marginalized communities in over 740,000 households in 5,000 villages of 14 districts in Madhya Pradesh. It sought to organize the identified poor by forming about 30,000 SHGs with substantive women representation. The Project also proposed to facilitate skill building and job placement for 20,000 rural youth from identified poor families.

### **Achievements**

**Large-scale inclusion of rural poor:** The Project achieved a rigorous inclusion of the poor in the project villages. Over 4 lakh poor became SHG members, which was 138 percent of the target of 300,000 households set at the project design stage. All the member households were represented by women, and over 2 lakh member households were from the Scheduled Caste (SC) and Scheduled Tribe (ST) categories. The producer companies had over 33,000 shareholders of which 37 percent were women and 77 percent were from socially excluded groups.

**Increased household income:** The project beneficiaries increased their household income by around 41 percent, against a targeted minimum of 20 percent. The incremental income increases for SC and ST households were found to be higher at 75 percent and 74 percent, respectively. With increased income there were also indications that malnourishment was considerably reduced among expectant mothers.

**Key social services through empowered community institutions:** Community initiatives like the SHG, and Village Development Committees (VDC) provided effective platforms for creating linkages with public and private agencies for livelihood activities for individuals, clusters and producer companies. A total of 24,887 SHGs leveraged Rs 549 million in the form of subsidies for livelihood support activities and community infrastructure. The Project helped 133,000 SHG households reduce risks through life and asset insurance and helped establish two community-based insurance


federations with about 12,800 members and a fund of about Rs 4.2 million.

**Increased capacity for collective economic activities:** With easy availability of credit and leveraged resources from community investment funds, SHG households formed cluster enterprises focusing on farm enterprises which in turn formed cooperatives with linkages to markets and traders. The Project helped establish the Ajeevika brand through which households involved in agricultural activities marketed their produce.

**Skills and capacity development leading to employment opportunities:** Around 160 employment facilitation centers were established which provided skills upgradation training and placement facilities. As a result, more than 1.5 lakh individuals were suitably employed.

**Empowerment of women:** More than 2.2 lakhs SHG women members of 3,316 villages started attending Gram Sabha meetings. Thus, the Project was successful in helping women from different castes to come together and conduct SHG and VDC meetings, and jointly participate in the Gram Sabha meetings. Women respondents to an end line survey felt an increase in their confidence to raise their voice against any problem and to formally register a complaint. More than 60,000 women members were involved in economic activities through the SHGs.

### **Lessons Learnt**

- It was felt that to develop successful community institutions at scale, cadres at all levels from the village up to the state-level require to be mobilized.
- In large scale poverty alleviation projects, participatory wealth ranking combined with systematic tracking can be used to effectively address inclusion of the poorest of the poor and the marginalized groups.
- To help accelerate financial inclusion in project districts, a strategic collaboration with policy makers and bankers would be useful.
- It was also felt that for all monitoring and evaluation systems to be effective, an investment in technical and institutional capacity building was essential. 

# Events

## Book Launch

### World Bank Regional Flagship Report

July 2, 2018 • New Delhi

## *South Asia's Hotspots: The Impact of Temperature and Precipitation Changes on Living Standards*

Indian Council for Research on International Economic Relations (ICRIER) organized the launch of World Bank's Hotspots Report which was attended by policy makers, thinktanks and civil society organizations.

South Asia is highly vulnerable to climate change. Given that many of the poor live in areas prone to climactic shifts and in occupations that are highly climate-sensitive, such as agriculture and fisheries, future climate change could have significant implications for living standards. At the same time, the effect of climate change will vary significantly depending on the level of exposure and the inherent adaptive capacities of individuals, households, and communities.

This report will aid in the development of targeted policies to improve resilience of the people, especially the poor and vulnerable,

to future climatic shifts. Using historic and projected climate and household survey data, this study investigates the historic spatial patterns of climate change across South Asia at the district level, the effect of changes in long-term average climate on living standards at the household level, and where the future hotspots may be.

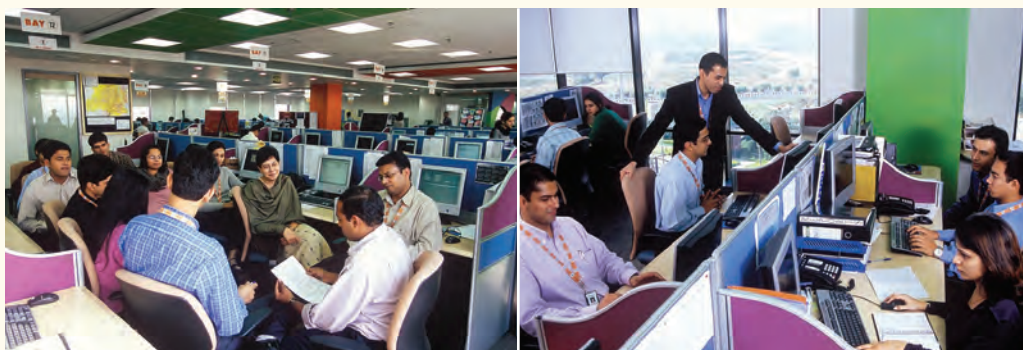
The analysis complements studies that have investigated effects of extreme climate events and finds that projected future temperature and precipitation changes could create a significant challenge for certain geographic areas and populations, which could reduce gains in increases to living standards that have taken place over the past decades.

Dr Arvind Subramanian, Chief Economic Advisor, Government of India delivered the keynote address. 



## Face to Face

# *Gender targeting common in online job advertisement*



*A striking feature of the Indian labor force and job market is the low participation rate of women. With only 27 percent of women in the labor force, India is among the lowest in the world. This World Bank study, “Reflections of Employers’ Gender Preferences in Job Ads in India” by Afra R Chowdhury, Ana C Areias, Saori Imaizumi, Shinsaku Nomura and Futoshi Yamauchi analyzes job recruitment advertisements listed in an online job portal. While this may not represent the overall Indian labor market, it provides a broad and reliable picture of urban Indian employers’ gender preference at hiring.*

*The findings of the research show gender targeting and discrimination are quite common in the Indian job market. For example, one-third of the job ads listed in the portal identifies either men or women as preferred candidate. We spoke to Afra R Chowdhury, one of the authors of the report who shared key highlights from their research.*

### **What was the idea behind your research on online job portal data?**

**T**he idea behind the research paper was to see how we can utilize the rich and unique source of information that is available online to infer about some crucial job market-related issues. Female employment and gender equity is one of the top priorities of the region for the World Bank. Low female labor force participation in India indicates existing imbalance in the labor market, thus it was a natural and easy choice for us to analyze employers’ gender preferences which potentially is contributing to this existing imbalance.

### **Why did you take advertisement samples only from babajob.com?**

Babajob.com (currently QuikrJobs) is one of the largest online job platform in India. There is no reason to believe job advertisements posted in that platform is different from other existing job portals, especially in connection to employers’ gender preference.

It is very much authentic as the research is data-driven and objectively relies only on what is there to see without making any assumptions. The research analyzed more than 800,000 job advertisements in top 20 cities in India. However, since it relies only on job portal data, it may not be representative of all employers in India.

### *What types of gender bias did you observe in these ads?*

Within the whole sample, 63 percent of ads did not specify any gender, meaning the gender option was not utilized in those ads. However, among those 63 percent ads, some (4.4 percent, 23,543 ads in total) though did not specify male or female, mentioned gender specific word in job description. We used a text analysis technique to identify those cases. For example, a seemingly gender-neutral ad is considered gender biased if ‘female wanted’ or ‘want to hire a man’ or ‘woman preferred’ etc. were mentioned in the job description.

### *How can employers select a particular gender in its advertisement?*

Babajob advertisement interface came with a few options where employers could select certain criteria that they were looking for in job applicants. For example, in addition to job description, employers could specify years of experience, language, location, gender, salary etc. One-third of the employers, 36 percent to be specific, in our sample utilized the gender selection option.

### *What was the duration of your research?*

The original research started in 2015. Under the broader research, we conducted a randomized control trial experiment to see whether additional information about applicants’ skills and personality increases their chances of getting employers’ attention. This specific research on employers’ gender preference started later. It took more than a year and a half to complete this particular research.

### *Did you also speak with employers for your research?*

This study is completely data-driven, meaning we relied only on the information that was retrieved from the advertisements posted in the job portal. This makes our research more reliable as it was free from any subjective bias.

### *How will you summarize your research?*

This research is unique as it relies on revealed gender preferences of employers at the first stage of hiring. It highlights the demand-side contribution that employers are imposing in existing gender imbalance in Indian urban job market and how men and women are valued differently for similar jobs. Thus, this research can play a pivotal role in closing the existing knowledge gap.

The findings of this study demonstrate strong and persistent existence of gender bias at hiring for various job positions across sectors. We also found that explicit gender preference is highly job specific; teaching, BPO, and clerical jobs target women more than men and for all other occupations men are more preferred. On average, ads targeting women offer 10 percent lower salary for jobs in similar occupations and with similar qualification requirements. The professional occupations and new types of jobs have lower gender bias in terms of whom to hire. At the same time, demand for female employees is increasing over time. With increasing female education, especially at the tertiary level, and emergence of new types of jobs in the local and global market, one can expect the decline of the gender-gap in hiring in the Indian job market in the near future. However, the decline of the gender-based salary gap might take longer.

### *Are the trends in the research specific to India or does it have any relationship with global trends?*

Yes, the findings show Indian urban trend only, focusing only on 20 major cities in India.

This paper focuses only on Indian data, so it is difficult to say how closely employer’s gender preference is related to global trend or if there is any relation at all. 🌐

# Recent Project Approvals

## India Energy Efficiency Scale-Up Program

The World Bank Board of Executive Directors have approved a \$220 million loan and an \$80 million guarantee for the India Energy Efficiency Scale-Up Program. The Program, to be implemented by the Energy Efficiency Services Limited (EESL), will help scale up the deployment of energy saving measures in residential and public sectors, strengthen EESL's institutional capacity, and enhance its access to commercial financing.

The investments under the Program are expected to avoid lifetime greenhouse gas emissions of 170 million tons of CO<sub>2</sub>, and contribute to avoiding an estimated 10 GW of additional generation capacity. This would be over 50 percent of the National Mission for Enhanced Energy Efficiency target of 19.6 GW indicated in India's Nationally Determined Contributions (NDCs) under the Paris Accord.

The key components of the operation include: creating sustainable markets for LED lights

and energy efficient ceiling fans; facilitating well-structured and scalable investments in public street lighting; developing sustainable business models for emerging market segments such as super-efficient air conditioning and agricultural water pumping systems; and strengthening the institutional capacity of EESL. Moreover, the Program will help to increase private sector participation in energy efficiency, including through private sector energy service companies.

Under the Program, EESL will deploy 219 million LED bulbs and tube lights, 5.8 million ceiling fans, and 7.2 million street lights, which will be supplied by private sector manufacturers and suppliers.

The first-ever IBRD guarantee in India is expected to leverage some \$200 million in additional financing, to help EESL with its growing portfolio and future investment needs. 🌐

## Atal Bhujal Yojana (ABHY) – National Groundwater Management Improvement Program

The World Bank Board of Executive Directors have approved a \$450 million program to arrest the country's depleting groundwater levels and strengthen groundwater institutions.

The Program will be implemented in the states of Gujarat, Maharashtra, Haryana,

Karnataka, Rajasthan, Madhya Pradesh, and Uttar Pradesh and cover 78 districts. These states span both the hard rock aquifers of peninsular India and the alluvial aquifers of the Indo-Gangetic plains. They were selected according to a number of criteria, including degree of groundwater exploitation and degradation, established legal and regulatory instruments, institutional readiness, and experience in implementing initiatives related to groundwater management.

The program will, among others, enhance the recharge of aquifers and introduce water conservation practices; promote activities related to water harvesting, water management, and crop alignment; create an institutional structure for sustainable groundwater management; and equip communities and stakeholders to sustainably manage groundwater. 🌐





## Strengthening Public Financial Management in Rajasthan Project

The World Bank Board of Executive Directors have approved this \$21.7 million loan to help Rajasthan put in place systems for better planning and budget management, enhance transparency, accountability, and efficiency in public spending, and strengthen the capacity of the revenue systems across key departments of Finance, Excise and Commercial Taxes Planning, and the Department of Information Technology, among others.

The key beneficiaries of the Project would include the Finance Department, the Commercial Taxes Department, the Transport Department, the Excise Department, the

Planning Department, Department of IT, Department of Panchayati Raj, internal and external oversight bodies, and procuring agencies and officials.

The Project will help the departments put in place an architecture to strengthen Public Financial Management (PFM) rules, regulations & practices through modernized procurement arrangements; robust audit functions; better commitment management processes; leverage IT infrastructure to enhance use of latest technologies such as big data; and a more efficient tax assessment and audit procedure. 🌐

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## Second Programmatic Electricity Distribution Reform Development Policy Loan for Rajasthan



The World Bank Board of Executive Directors have approved a \$250 million development policy loan (DPL) to support the government of Rajasthan in improving the performance of its electricity distribution sector under the state's 24x7 Power for All program.

The loan is the second in the series of two operations planned for a comprehensive turnaround of Rajasthan's electricity distribution sector. The first loan closed in March 2017.

In its second phase the operation will deepen the institutional and operational reforms that were launched in late 2015 centered around the Government of India's (GoI) Ujwal DISCOM Assurance Yojna (UDAY), which Rajasthan joined in 2016 and the Rajasthan State Electricity Distribution Management Responsibility (RSEDMR) Act, which aims to reform the governance of DISCOMs and bring greater public accountability in their functioning.

It will improve the credit worthiness of DISCOMs, improve service delivery, and enable private investment of renewable energy. 🌐

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## Uttarakhand Workforce Development Project

The World Bank Board of Executive Directors have approved a \$74 million Project to improve the quality of training at select Industrial Training Institutes (ITIs) and help the state produce higher-quality workers with relevant market skills.

Over 24,000 trainees are expected to benefit

at these ITI's during the project period and about 40,000 untrained youth, including unemployed and unskilled workers will participate in industry-relevant short-term training programs which are compliant with the National Skills Qualifications Framework (NSQF). The NSQF is a quality assurance framework in India that lays down nationally

recognized competency standards for all qualifications.

Twenty five ITI's have been selected – 13 located in district centers and 12 ITI's that are well-linked to industries. Two out of four women's ITIs in the state will be included in the list. The priority ITI's are expected to have a larger enrollment size, offer a wider variety

of trades, have higher frequency and quality of interactions with industries, and ensure better equipment and infrastructure.

It will specifically address the issues of low quality and relevance of teaching practices at ITIs through training opportunities for principals, foremen, and teachers in all public ITIs. 🌐

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## Recent Project Signings

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### Additional Financing for PMGSY Rural Roads Project

**T**he Government of India and the World Bank have signed a \$500 million loan agreement to provide additional financing for the Pradhan Mantri Gram Sadak Yojana (PMGSY) Rural Roads Project, which will build 7,000 km of climate resilient roads, out of which 3,500 km will be constructed using green technologies.

The World Bank has supported PMGSY since its inception in 2004. So far it has invested over \$1.8 billion in loans and credits mostly in the economically weaker and hill

states across North India – Bihar, Himachal Pradesh, Jharkhand, Meghalaya, Rajasthan, Uttarakhand, and Uttar Pradesh. It has built and improved about 35,000 km of rural roads and benefited about eight million people with access to all-weather roads.

The agreement for the Project was signed by Sameer Kumar Khare, Joint Secretary, Department of Economic Affairs, Ministry of Finance, on behalf of the Government of India and Junaid Ahmad, Country Director, World Bank India, on behalf of the World Bank. 🌐

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### Integrated Child Development Services (ICDS) Systems Strengthening and Nutrition Improvement Project (ISSNIP)



**T**he Government of India and the World Bank have signed an additional financing of \$200 million to fund the National Nutrition Mission (POSHAN Abhiyaan) and support

the Government of India achieve its goal of reducing stunting in children 0-6 years of age from 38.4 percent to 25 percent by the year 2022.

On December 1, 2017, the Government of India announced the new National Nutrition Mission. A large component of this Mission involves gradual scaling-up of the interventions supported by the ongoing World Bank assisted Integrated Child Development Services (ICDS) Systems Strengthening and Nutrition Improvement Project (ISSNIP) to all districts in the country over a 3-year period. The additional financing will support the first phase scale up to 315 districts across all states and union territories (UTs). 🌐

**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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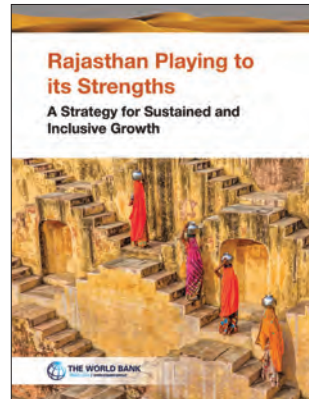
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## India Publications

### Rajasthan playing to its strengths: A strategy for sustained and inclusive growth



By World Bank  
Available On-line  
Published:  
May 2018,  
54 pages  
English Version,  
Paperback  
Report No.: 126137

India's largest state by area, Rajasthan also stands out in economic performance and

achieved a greater reduction in poverty than any other low-income state. This strong performance reflects broad-based efforts towards policy reform across sectors that resulted in a more productive and diversified agriculture sector, higher investments in manufacturing, and substantial improvements in public service delivery.

These achievements notwithstanding, Rajasthan still lags behind many other states in India. The state is also among the lower performers in women's and girls' education and gender gaps have shown little improvement over the years. Rajasthan is now at a crossroads and faces serious challenges for sustaining rapid and inclusive growth.

In recent years, growth has slowed down and the crucial tourism sector has lost market share. A worsening water crisis is making traditional agricultural practices increasingly unsustainable, while growing fiscal pressures, due partly to deficiencies in the electricity sector, are narrowing the fiscal space available to implement comprehensive policy actions.

The purpose of this report is to help develop a possible growth strategy as part of the ongoing dialogue with the state.

## India: Policy Research Working Papers

### WPS 8392

#### Paris climate agreement and the global economy: Winners and losers

By Muthukumara S. Mani, Zekarias Hussein, Badri Narayanan Gopalakrishnan and Deepika Wadhwa

The 2015 Paris Climate Agreement was the first instance of countries adhering to take a collective action against global warming. More than 190 countries came forward and submitted their contributions in the form of Intended Nationally Determined Contributions, reflective of their ability and capacity to reduce greenhouse gas emissions, as each country set its own targets and actions. For some countries, it meant a significant decline in their emissions by 2030, while others, like China, the United States, and India, decided on a more gradual phasing out extending beyond 2030.

This paper estimates the economic impacts of implementation of the Paris Climate Agreement in terms of its implications for welfare, gross domestic product, investments, and trade for major countries and regions.

### WPS 8401

#### Closer, but no cigar: Intergenerational mobility across caste groups in India

By Rishabh Sinha

This paper compares the intergenerational mobility of educational and occupational attainment of men from disadvantaged groups Scheduled Castes (SC) and Scheduled Tribes (ST) in India with the intergenerational mobility of men outside these groups during 1983-2009.

Although there has been a modest convergence in mobility rates of non-SC/ST and SC/ST men in educational attainment, there has been no significant convergence in the mobility rates of occupational attainment. Upward mobility of SC/ST men remains much lower compared to non-SC/ST men. Additionally, the former are more susceptible than the latter to moving down the intergenerational ladder.

The mobility gap varies over a large range across states, but the cross-state variation has declined, with convergence being higher in states with larger gaps initially. The paper finds no evidence of higher convergence in states with higher economic growth.

### WPS 8414

#### Estimating intergenerational mobility with incomplete data: Coresidency and truncation bias in rank-based relative and absolute mobility measures

By M. Shahe Emran and Forhad J. Shilpi

The rank-based measures of intergenerational mobility have become increasingly popular in economics

literature. Recent evidence shows that rank-based measures are less affected by measurement error and life-cycle bias compared with other standard measures such as intergenerational regression coefficient and intergenerational correlation.

However, most of the available household surveys suffer from sample truncation, because coresidency is used to define household membership. There is no evidence on how sample truncation affects the rank-based mobility estimates relative to intergenerational regression coefficient and intergenerational correlation.

This paper provides evidence on this in the context of intergenerational schooling persistence, using two exceptional surveys from India and Bangladesh that include all children irrespective of residency status. The analysis shows that the measures of relative mobility (slopes) are biased downward in coresident samples, but the average bias in rank correlation is less than half of that in intergenerational regression coefficient, and comparable to that in intergenerational correlation in magnitude.

### WPS 8448

#### Using courts to realize education rights: Reflections from India and Indonesia

By Andrew Rosser and Anuradha Joshi

This paper examines the role of courts in promoting fulfillment of the right to education in developing country democracies, focusing on India and Indonesia – two countries that have experienced increased education rights litigation in recent years.

The paper argues that this litigation has been part of broader struggles over education policy, inequality, and the capture of educational institutions by political and bureaucratic forces; and that the extent to which litigation has been used and led to policy changes has depended significantly on the nature of, and access to, the court system; the presence of support structures for legal mobilization; the ideology of the courts and judges; and the roles and willingness of litigants to pursue redress.

Broadly, litigation has served the interests of the poor and marginalized, although gains have largely come through better access to education, while issues of improving quality have been less prominent.

### WPS 8466

#### Rural roads and local economic development

By Samuel Edward Asher and Paul Michael Novosad

Nearly one billion people worldwide live in rural areas without access to the paved road network. This paper measures the impacts of India's \$40 billion national rural road construction program using regression discontinuity and data covering every individual and

firm in rural India. The main effect of new feeder roads is to allow workers to obtain nonfarm work. However, there are no major changes in consumption, assets or agricultural outcomes. Nonfarm employment in the village expands only slightly, suggesting the new work is found outside of the village. Even with better market connections, remote areas may continue to lack economic opportunities.

## Other Publications

### Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution



By Asli Demirguc-Kunt, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess

**Available On-Line**  
Published: April 2018,  
186 pages  
**English Version, Paperback**  
ISBN: 978-1-4648-1259-0

Compiled from survey data collected in collaboration

with Gallup, Inc., the Global Findex database covers more than 140 economies around the world. The initial survey round was followed by a second one in 2014 and by a third in 2017. In 2011 the World Bank – with funding from the Bill and Melinda Gates Foundation – launched the Global Findex database, the world’s most comprehensive data set on how adults save, borrow, make payments, and manage risks.

### Fair Progress? Economic Mobility Across Generations Around the World



By Ambar Narayan, Roy Van der Weide, Alexandru Cojocaru, Christoph Lakner, Silvia Redaelli, Daniel Gerszon Mahler, Rakesh Gupta N. Ramasubbaiah and Stefan Thewissen

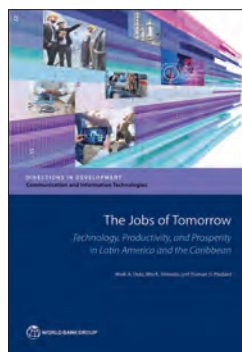
**Available On-Line**  
Published: April 2018,  
311 pages  
**English Version, Paperback**

ISBN (print): 978-1-4648-1210-1  
ISBN (electronic): 978-1-4648-1279-8

The analysis examines whether those born in poverty or in prosperity are destined to remain in the same economic circumstances into which they were born, and looks back over half a century at whether children’s lives are better or worse than their parents’ in different parts of the world. It suggests local, national, and global

actions and policies that can help break the cycle of poverty, paving the way for the next generation to realize their potential and improve their lives.

### The Jobs of Tomorrow



By Mark A. Dutz, Rita K. Almeida, and Truman G. Packard

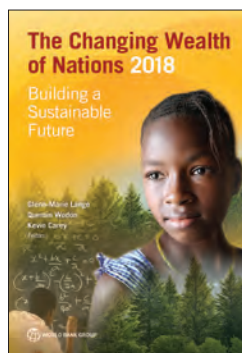
**Available On-Line**  
Published: April 2018,  
94 pages  
**English Version, Paperback**  
ISBN (paper): 978-1-4648-1222-4  
ISBN (electronic): 978-1-4648-1223-1

While adoption of new technologies is understood to enhance long-term growth and average per-capita incomes, its impact on lower-skilled workers is more complex and merits clarification.

Concerns abound that advanced technologies developed in high-income countries would inexorably lead to job losses of lower-skilled, less well-off workers and exacerbate inequality. Conversely, there are countervailing concerns that policies intended to protect jobs from technology advancement would themselves stultify progress and depress productivity.

This book looks at both sets of concerns with research showing that adoption of digital technologies offers a pathway to more inclusive growth by increasing adopting firms’ outputs, with the jobs-enhancing impact of technology adoption assisted by growth-enhancing policies that foster sizable output expansion.

### The Changing Wealth of Nations 2018: Building a Sustainable Future



By Glenn-Marie Lange, Quentin Wodon, and Kevin Carey

**Available On-Line**  
Published: March 2018,  
255 pages  
**English Version, Paperback**  
ISBN (print): 978-1-4648-1046-6  
ISBN (electronic): 978-1-4648-1047-3

Countries regularly track gross domestic product (GDP) as an indicator of their economic progress, but not wealth—the assets such as infrastructure, forests, minerals, and human capital that produce GDP. In contrast, corporations routinely report on both their

income and assets to assess their economic health and prospects for the future. Wealth accounts allow countries to take stock of their assets to monitor the sustainability of development, an urgent concern today for all countries.

This report covers the national wealth for 141 countries over 20 years (1995–2014) as the sum of produced capital, 19 types of natural capital, net foreign assets, and human capital overall as well as by gender and type of employment.

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### Atlas of Sustainable Development Goals 2018 from World Development Indicators



By the World Bank Group

Available On-Line

Published: June 2018,  
91 pages

English Version, Paperback  
ISBN (paper): 978-1-4648-  
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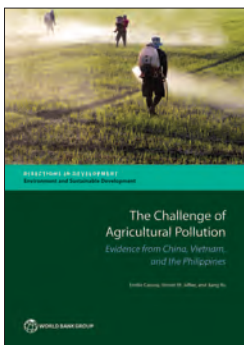
ISBN (electronic): 978-1-  
4648-1251-4

With over 180 maps and  
charts, the new publication

shows the progress societies are making towards the 17 SDGs. It's filled with annotated data visualizations, which can be reproducibly built from source code and data. It is made in collaboration with the professionals across the World Bank's data and research groups and sectoral global practices.

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### The Challenge of Agricultural Pollution: Evidence from China, Vietnam, and the Philippines



By Emilie Cassou, Steven  
M. Jaffee, and Jiang Ru

Available On-Line

Published: April 2018,  
152 pages

English Version, Paperback  
ISBN (paper): 978-1-4648-  
1201-9

ISBN (electronic): 978-1-  
4648-1202-6

In East Asia, agricultural growth has contributed significantly to the massive poverty reduction that has taken place in that region in recent decades. Success in this sector has been demonstrated by more abundant yields, higher agricultural exports, and improvements in food security, all of which have translated into gains in economic and human development. However, these achievements have come at a high price, as evidenced by the experiences of China, Vietnam, and the Philippines.

The publication draws attention to the significant environmental footprint of agriculture in these countries, thereby shedding light on areas where action can be taken to protect the health of people and the planet that sustains them. Measures that keep pollutants out of the air, water, soil, and food have the potential to benefit both farmers and consumers at a time when citizens and governments around the world are seeking to ensure that development is sustainable.

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### Tracking Universal Health Coverage: 2017 Global Monitoring Report



By WHO and the World  
Bank

Available On-line

Published: January 2018,  
88 pages

English Version, Paperback  
ISBN 978-92-4-151355-5

Ensuring that all people can  
access the health services  
they need – without facing  
financial hardship – is key

to improving the well-being of a country's population. But universal health coverage (UHC) is more than that: it is a way to support people so they can reach their full potential and fulfil their aspirations.

However, this joint report from the World Bank and the World Health Organization finds that despite some progress on UHC, at least half of the world's population still cannot obtain essential health services. And each year, close to 100 million people are being pushed into extreme poverty because they must pay for health expenses out of their own pockets. The report is a sobering wake-up call if we are serious about reaching the global goal of UHC by 2030.

## India Project Documents

### Amaravati Sustainable Capital City Development Project

Date 01 April 2018  
 Project ID P159808  
 Report No. SFG4292 (Environmental Assessment)

### Atal Bhujal Yojana – National Groundwater Management Improvement Project

Date 14 May 2018  
 Project ID P158119  
 Report No. 126071 (Project Appraisal Document)

### Chhattisgarh Public Financial management and Accountability Project

Date 16 May 2018  
 Project ID P166578  
 Report No. PIDISDSC24635 (Project Information Document)

### Energy Efficiency Scale-up Program Project

Date 23 April 2018  
 Project ID P162849  
 Report No. 125034 (Project Appraisal Document)

### Technical Engineering Quality Improvement Project -II

Date 05 June 2018  
 Project ID P102549  
 Report No. ICRR0020955 (Implementation Completion Report Review)

### National AIDS Control Support Project

Date 03 May 2018  
 Project ID P130299  
 Report No. RES31648 (Project Paper)

### PMGSY Second Rural Roads Project

Date 01 April 2018  
 Project ID P124639  
 Report No. SFG4287 (Environmental Assessment, 7 Vol.)  
 SFG4312 (Indigenous Peoples Plan)  
 SFG4313 (Resettlement Plan)

### PMGSY Rural Road Project – Additional Funding

Date 04 May 2018  
 Project ID P165402  
 Report No. PAD2683 (Project Paper)

### Punjab State Road Sector Project

Date 08 May 2018  
 Project ID P090585  
 Report No. ICRR0021189(Implementation Completion Report Review)

### Strengthening Public Finance Management in Rajasthan Project

Date 06 April 2018  
 Project ID P156869  
 Report No. PAD1869 (Project Appraisal Document)

### Tamil Nadu Health System Reform Project

Date 27 April 2018  
 Project ID P166373 PID ISDSC24569 (Project Information Document)

### Technical Engineering Quality Improvement Project - III

Date 11 June 2018  
 Project ID P154523  
 Report No. RES32304 (Project Paper)

### Uttarakhand Public Financial Management Strengthening Program

Date 16 May 2018  
 Project ID P166923  
 Report No. PIDISDSC24500 (Project Information Document)

## From the Blogworld

### In South Asia, poor rural women have begun to set up lucrative new businesses

By Adarsh Kumar



**A**cross South Asia, our agriculture and rural development projects are helping transform the lives of poor rural women. From daily wage laborers they are now becoming entrepreneurs who generate jobs for others. Over the last decade, these projects have supported an estimated 5 million micro and small entrepreneurs, most of whom are women.

Asha, from Udaipur District in Rajasthan, used to sell vegetables in a nearby town. Over time, this traditional village woman observed that flowers were in demand near the town's main temple for use as ritual offerings. With encouragement from Manjula, a micro enterprise consultant under the Bank's Rajasthan Rural Livelihoods Project (RRLP), Asha began cultivating marigolds on part of her family farm where millets had always been grown. Manjula helped Asha draw up a basic business plan for a floriculture enterprise, taught her how to estimate potential expenses and earnings, and the way to maintain accounts.

Asha now sells flowers at more than three times the price of her traditional millet crop, and her annual income has increased by 35%. She has devoted a larger area of her farm to floriculture, and started a nursery to grow flower saplings to sell to other aspiring marigold farmers. Asha is now looking to expand her sapling nursery by renting more land, for which she is seeking a bank loan. 🌍

Read more: <https://tinyurl.com/yc4f6pky>

## World Bank Policy Research Working Papers

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Motivating bureaucrats through social recognition: Evidence from simultaneous field experiments  
By Varun Gauri, Julian C Jamison, Nina Mazar, Owen Ozier, Shomikho Raha and Karima Saleh

### WPS 8472

Small area estimation of poverty under structural change  
By Simon Lange, Utz Johann Pape and Peter Putz

### WPS 8471

Crony capitalism in Ukraine: Relationship between political connectedness and firms' performance  
By Oleksii Balabushko, Oleksandra Betliy, Veronika Movchan, Ruslan Piontkivsky and Mykola Ryzhenkov

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By Luis Corrado and Isolina Rossi

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By Pamela Jakiela and Owen Ozier

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Rodarte and Jos Verbeek

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By Xuepeng Liu, Aaditya Mattoo, Zhi Wang and Shang-Jin Wei

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Social accountability and service delivery: Experimental evidence from Uganda

By Nathan V. Fiala and Patrick Premand

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Using courts to realize education rights: Reflections from India and Indonesia

By Andrew Rosser and Anuradha Joshi

**WPS 8447**

Agriculture, aid and economic growth in Africa

By John W. McArthur and Jeffrey D. Sachs

**WPS 8446**

How preferential trade?

By Alvaro Raul Espitia Rueda, Aaditya Mattoo, Mondher Mimouni, Xavier Pichot and Nadia Rocha

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The labor productivity gap between female and male-managed firms in the formal private sector

By Asif Mohammed Islam, Isis Gaddis, Amparo Palacios-Lopez and Mohammad Amin

**WPS 8444**

Overview and meta-analysis of global water, sanitation, and hygiene (WASH) impact evaluations

By Luis Alberto Andres, Christian Borja-Vega, Crystal Fenwick and et.al.

**WPS 8443**

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By Subika Farazi, Ahmed Mohamed Tawfick Rostom and Rishabh Sinha

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