



Bold Philanthropy in India

Insights from Eight Social Change Initiatives

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Front cover photo: Digital Green

Introduction

Philanthropy in India has reached an inflection point, with two powerful forces converging. Domestic philanthropic funding streams are expanding rapidly, largely driven by the growth in individual and corporate philanthropy. At the same time, more and more donors are focusing their philanthropy on the nation’s most vexing social challenges, deploying strategies that are focused on demonstrably improving people’s lives. The result: India’s philanthropists have the opportunity—and the wherewithal—to think and act boldly.

India’s philanthropic funding is accelerating across a range of sectors, such as education, healthcare, and rural livelihoods. From 2011 to 2016, total social-sector funding in India grew at an annual rate of 9 percent, from INR 145,960 crores (USD 22.5 billion) to INR 218,968 crores (USD 33.7 billion).¹ Domestic individual philanthropy expanded at a swift 44 percent annual rate and as of 2016 was the second largest source of social-sector funding in India (17 percent of the total) after government spending. Also abetting the upward trend: the CSR requirement in the Companies Act, 2013,² which mandates that corporations in India with revenues of more than INR 1,000 crores (USD 146 million) give at least 2 percent of their profits to specified social causes.

Accompanying this surge is a transformation in philanthropists’ approach to giving. Many philanthropists in India are pivoting from “checkbook giving”—investing mostly in infrastructure projects (such as building schools or hospitals)—to thinking strategically about how to achieve better outcomes in society. They are defining clear goals, selecting the right grantees, and measuring progress. And they are dedicating larger amounts of their resources, over longer periods of time, on fewer areas of focus. Some have ventured even further, taking on entrenched social challenges in high-need areas and deploying their resources as risk capital aimed at catalyzing population-level change. They are, in short, pursuing what we call “bold philanthropy.”

“Philanthropy has gathered a lot of momentum over the past 10 years in India,” says Amit Chandra, a leading philanthropist and managing director at Bain Capital Private Equity. “Many philanthropists are spending their time making their giving more outcome-oriented, and their efforts will start feeding off each other. That will, over time, get some to make bigger, bolder bets.”³

¹ Arpan Sheth, Deval Sanghavi, Anant Bhagwati, Srikrishnan Srinivasan, and Pakzan Dastoor, *India Philanthropy Report 2017*, Bain & Company, March 2017.

² CSR law specifies not just a revenue threshold for the 2 percent but other factors, such as net worth and net profit. For more on this see the [Ministry of Corporate Affairs](#) website for the government of India.

³ The book [Give Smart](#), co-authored by The Bridgespan Group Chairman and Co-founder Thomas J. Tierney and Duke University Professor Joel L. Fleishman, foreshadows this important shift towards bold giving.

How fast and far will this trend advance in India? In part, the answer depends on the extent to which donors are able, in Mr. Chandra's words, to feed off each other. Unfortunately, there is a dearth of information on the learning journeys of Indian philanthropists who have stepped up to the challenge of boldly investing in pressing social problems. Because there is so little documented detail on their strategic approaches to bold giving, the barriers they encountered, and the lessons they absorbed along the way, other philanthropists with similar aims lack reference material to build on.

Furthermore, there is insufficient data on potential partner organizations that have the gumption and capacity to tackle social change initiatives at scale. A 2016 MacArthur Foundation [report](#) came to an analogous conclusion: "There is a high level of interest among donors, investors, and civil society organizations to connect with appropriate partners. However, systemic constraints limit their capacity and reach, including a need for more readily available, relevant, and robust information, [and a] lack of knowledge about existing, reliable mechanisms to channel funds...".⁴

To help fill these knowledge gaps, The Bridgespan Group (with support from the Bill & Melinda Gates Foundation (Gates Foundation) and Omidyar Network) researched a diverse array of bold philanthropic initiatives. We sought to provide color on what comprises bold giving in India, cast light on how the supply of bold philanthropic capital can better link to the demand, and detail problem-solving approaches to different social issues. Our aim is to share insights from bold philanthropists; highlight opportunities, challenges, and lessons learned; and ultimately inform and inspire Indian philanthropists who want to give boldly for social impact.

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⁴ "Strengthening philanthropic giving & impact investing for development in India," produced by Intellecap with support from the John D. and Catherine T. MacArthur Foundation, March 2016.

What Are Bold Initiatives?

For the purpose of this study, we defined a philanthropic initiative as a social change effort that is organized around clear developmental needs and goals, seeks to affect a specific population or field, and operates within a defined time horizon. Additionally, while government or market funding might ultimately take the effort to scale, philanthropic capital largely drives it at the outset. Our broad scan of India's social-sector landscape and informational interviews with selected philanthropists and experts produced about 100 such initiatives.

To identify which of that set were truly bold, we screened for a variety of factors. The initiative needed to have a philanthropic commitment of at least INR 27 crores (USD 4 million) over a defined period of at least five years. Additionally, it had to address a seemingly intractable social problem, target a large proportion of that problem, and follow clear pathways toward achieving such impact—or at a minimum, exhibit a strong potential for doing so. We also prioritized initiatives that challenged norms or the status quo, particularly in the social sector's white spaces—areas where there historically has been little or no philanthropic activity.

With our universe of potentially bold initiatives identified, we further culled the list to arrive at a set of eight that would best address the aforementioned knowledge gaps. We excluded initiatives that were less than three years old, given that they would likely still be too early in their learning and impact journeys. We also set aside indisputably bold but extensively profiled initiatives and organizations, such as [eradicating polio](#), [Aravind Eye Care](#), and [Akshaya Patra](#). And we omitted efforts that provided incremental support to programs.

To be clear, the bold initiatives that we profiled by no means constitute all of India's audacious philanthropic efforts. Rather, we sought to gather a varied, representative sample, in hopes of inspiring a wide swath of other Indian philanthropists to think big. We aimed to capture efforts across different geographies and sectors within India and also to depict a varied group of philanthropists—individuals as well as foundations, international as well as domestic. By studying these eight initiatives (which we detail on pages 7 and 8), we strived to spotlight the unique roles that bold philanthropy can play in confronting daunting development challenges. (Please see “[Methodology for Identifying Eight Bold Philanthropic Initiatives](#)” in the Appendix, p. 26.)

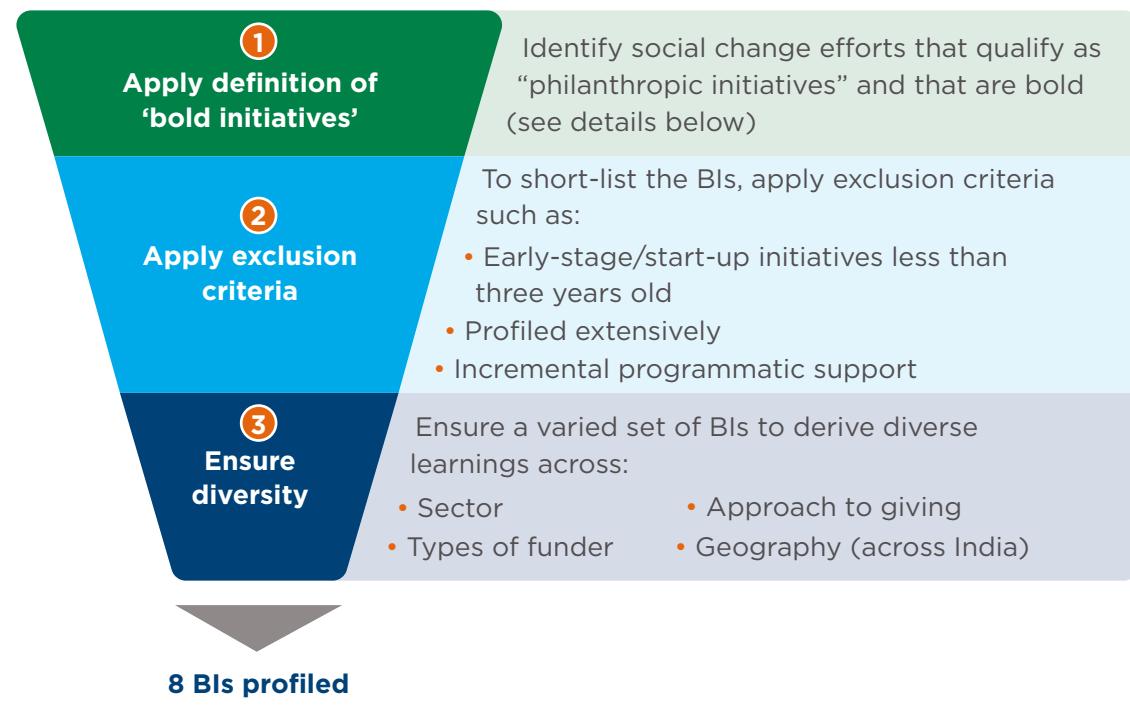
As we looked across India's philanthropic landscape and applied our criteria, we also surfaced a range of promising initiatives that showed a lot of potential and could qualify as bold in the coming years. (Please see “[Notable Initiatives with Bold Ambitions](#)” in the Appendix, p. 27.)

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Bold Initiatives Definition and Short-listing

Objective: Select 8 Bold Initiatives (BIs) that can **inform and inspire philanthropists and social sector actors** on pathways to achieve ambitious social change goals.

'Long list of ~100 potential BIs' Description



Bold Initiatives Defining Criteria (Input for BI Short-listing and Definition)

① DEFINITION	
Criteria for 'Philanthropic initiative'	<ul style="list-style-type: none">• Clearly defined goals for social change• Focus on specific sector or population• Driven by philanthropy*• Planned over a defined time period of at least five years
FUNDING, REACH, AND APPROACH	
Criteria for 'Bold'	<ul style="list-style-type: none">• Committed funding of at least INR 27 crores (USD 4 million)• Designed to address a large portion of need• Fills a white space• Challenges norms/status quo

Note: *Philanthropy-driven initiatives that work within government priorities or partner with government for scaling impact are included.

A Unique Role for Bold Philanthropy: Catalyze Social Change

Each of the eight bold initiatives that we profile below translate donor values and ambitions into strategies designed and tested to achieve dramatic results over time. Critically, they illustrate several unique roles bold philanthropy can play in surmounting India's social challenges. Although we had identified these six roles in the Indian context, they are so foundational to the global philanthropic ecosystem that they can be thought of as [archetypes of bold giving](#).

List of Bold Initiatives



Internet Saathi (2015)

Primary Focus: Rural livelihoods—women and girls

Archetype: Build innovative solutions

Donors: Tata Trusts

(in partnership with Google)
[INR 68 crores (>USD 10M)]



Mainstreaming Private Healthcare Systems for Tuberculosis Control (2013)

Primary Focus: Health

Archetype: Build innovative solutions

Donor: Bill & Melinda Gates Foundation
[INR 63 crores (USD 9M)]



Digital Green's Video-based Knowledge Sharing (2008)

Primary Focus: Rural livelihoods—agriculture

Archetype: Scale proven solutions

Donors: Bill & Melinda Gates Foundation

[INR 169 crores (USD 25M)],
USAID [INR 136 crores (USD 20M)]



Lakhpatti Kisan (2015)

Primary Focus: Rural livelihoods—tribal communities

Archetype: Support community-driven development

Donor: Tata Trusts

[INR 120 crores (USD 18.5M)]



Rajasthan Adarsh Yojana (2014)

Primary Focus: Education

Archetype: Strengthen/reform systems

Donors: Michael & Susan

Dell Foundation
[INR 27 crores (USD 4.1M)],
Central Square Foundation
[INR 152 lakhs (USD 225,000)]



Centre for Brain Research (CBR) (2014)

Primary Focus: Health—clinical research

Archetype: Build a field

Donor: Kris Gopalakrishnan

[INR 255 crores (USD 38.5M)]

(continued)

List of Bold Initiatives (cont.)



eGovernments Foundation (eGov) (2003)

Primary Focus: Urban governance
Archetype: Build a field

Donors: Nandan Nilekani [INR 23 crores (USD 3.4M)], Omidyar Network [INR 13 crores (USD 1.9M)], Tata Trusts [INR 9 crores (USD 1.3M)] Google [INR 7 crores (USD 1.07M)]



Annual Status of Education Report (ASER) (2005)

Primary Focus: Education
Archetype: Inform public policy

Donor: The William and Flora Hewlett Foundation [INR 53 crores (USD 8M)]

Archetypes of giving

Archetype	Definition	Bold Initiatives
1. Build innovative solutions	Break with status quo approaches to develop a novel initiative and demonstrate potential for impact at scale. Such efforts could include innovative, market-based models or technology-based solutions that spur beneficial changes in behavior.	<ul style="list-style-type: none"> Internet Saathi Mainstreaming Private Healthcare Systems for TB Control
2. Scale proven solutions	Identify an intervention that is working (based on strong evidence) and extend its impact into new geographic frontiers or target groups. This includes scaling impact as well as scaling the intervention, independent of a specific organizational context. Often, it means retaining some of the intervention's essential elements while customizing others to accommodate new geographies. Avenues for scaling include collaborating with nonprofits, government, private sector, and multi-stakeholder partnerships.	<ul style="list-style-type: none"> Digital Green's Video-based Knowledge Sharing
3. Support community-driven development	Thoroughly understand the community's needs and collectively work to solve a social problem from the bottom up. This approach necessitates diving deeply into the community's demographics, political environment, economic conditions, social dynamics, behaviors, norms, and preferences. It also requires the ability to design an array of interventions to suit the community's specific needs.	<ul style="list-style-type: none"> Lakhpatri Kisan

(continued)

Archetypes of giving (cont.)

Archetype	Definition	Bold Initiatives
4. Strengthen/reform systems	Seek to bring about lasting change by influencing the underlying structures, relationships, or beliefs that characterize a social ecosystem. This usually involves developing a deep insight into how the system operates and its various actors interact, as well as coordinating the efforts of diverse stakeholders, such as governments, nonprofits, and donors, as they work to build a better future for the larger population.	<ul style="list-style-type: none"> Rajasthan Adarsh Yojana
5. Build a field	Invest in efforts to fill a gap or galvanize disparate stakeholders pursuing the same problem across an entire field, such as the effort to wipe out malaria. Potential activities include building the capacity of leaders or institutions within a field, developing a knowledge base to share with organizations working across the field, or launching a field catalyst intermediary, which supports other actors (such as government entities and nonprofits) in a field as they push toward a shared social impact goal.	<ul style="list-style-type: none"> Centre for Brain Research (CBR) eGovernments Foundation (eGov)
6. Inform public policy	Provide evidence and input to inform the government's efforts to reform laws, policies, and regulations by helping shape legislative, administrative, or judicial reforms. These efforts can include developing an evidence base through research, producing policy briefs and proposals, or mobilizing stakeholders to support a cause.	<ul style="list-style-type: none"> Annual Status of Education Report (ASER)

How do these archetypes propel bold change? And how might they help philanthropists and nonprofits break through the roadblocks that impede progress? Our research, outlined below, is a first step toward providing some answers.

Building innovative solutions

INTERNET SAATHI AND MAINSTREAMING PRIVATE HEALTHCARE SYSTEMS FOR TUBERCULOSIS CONTROL

Because the vast majority of rural women in India lack the capacity to access the internet,⁵ they miss out on digitally delivered social services, as well as opportunities to exchange ideas for improving their economic lives. In 2015, recognizing that few other actors—mostly private technology companies engaged in CSR efforts—were working to improve digital literacy for India’s rural women, Google and Tata Trusts⁶ launched [Internet Saathi](#), whose animating innovation is more sociological than technological. Local nonprofits train rural women to use smartphones to access the internet. These women then become “Saathis” (Hindi for “friend”). They travel from village to village where they teach groups of women the digital basics. “It is through the community that we are developing interventions on the ground,” says Ganesh Neelam, a zonal manager for Tata Trusts.

By empowering rural women to help other rural women, Internet Saathi has unleashed a powerful multiplier effect: in the three years since the initiative’s launch, more than 15 million women have benefitted. A 2017 study by IPSOS, a global marketing firm, revealed that over 80 percent of the women who attended the trainings had a better understanding of the internet. Additionally, one-third of survey respondents indicated that their economic well-being had improved on account of learning new skills on the internet. Instead of viewing the target population as passive beneficiaries, Internet Saathi’s truly novel approach is to ally with women from that population, and thereby increase the initiative’s scale and deepen its impact.

While Internet Saathi has innovated around social behavior to fuel a technology-based solution for improving livelihoods, the Gates Foundation has partnered with the government of India to wage an inventive attack on a nation-spanning health crisis: tuberculosis (TB). India lost more than 420,000 people to the disease in 2016 and has the world’s largest concentration of multidrug resistant TB (MDR-TB). The prime minister of India has prioritized making dramatic inroads on the disease, setting a goal of securing a TB-free country by 2025.

Underreporting of TB cases forms the crux of the TB crisis in India. It is estimated that 1.1 million TB cases go unreported annually in India, largely because private healthcare providers, who are the first point of contact for 80 percent of India’s TB cases, do not always engage with government healthcare systems or follow international best practices for treating TB. “Addressing the missing patients issue is critical for solving the TB [epidemic],” says Sameer Kumta, senior program officer at the Gates Foundation. That means

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Sameer Kumta,
Senior Program Officer,
Bill & Melinda Gates Foundation

⁵ Just 12 percent of India’s rural internet users are women. Shruthi Mohan, “[12 million women across 110,000 Indian villages are becoming tech savvy, thanks to Internet Saathi](#),” Your Story, January 22, 2018.

⁶ Google and Tata Trusts committed to a funding of INR 68 crores (USD 10 million).

that India's vast and diverse private sector (including not only the trained physicians but also the traditional, informal providers) will need to be engaged in efforts to track and treat every TB patient.

In 2013, the Gates Foundation⁷ partnered with the government at the central and state levels to run an innovative pilot initiative called Mainstreaming Private Healthcare Systems for Tuberculosis Control in three Indian cities—Mehsana, Mumbai, and Patna. The initiative brings private healthcare providers into the orbit of the TB care continuum by understanding their motivations and incentivizing them to notify the government when new TB cases arise. It aims to ensure that the entire spectrum of private healthcare workers—from local, informal providers to specialized physicians—offers free, standardized diagnosis and treatment to TB patients. And it invests in follow-up visits with patients to ensure they complete their drug regimen and do not develop drug resistant TB. In Mumbai and Patna, the initiative deploys nonprofit partners, who assume the role of a Private-Provider Interface Agency (PPIA). In Mehsana, it works directly with the government TB control program to ensure that physicians handhold patients through the long and tedious treatment process.

Since 2014, the initiative has seen a significant increase in TB notification rates from the private sector. In Patna, there has been an almost five-fold increase; in Mehsana, three-fold; and in Mumbai, private-sector notifications have increased from 2 percent of total TB notifications in 2013 to more than 55 percent of all case notifications in 2016. A majority of patients who began their TB treatment through the initiative successfully completed their regimen. Mumbai saw a 73 percent treatment completion rate, Patna achieved 75 percent, and Mehsana reported 72 percent. TB treatment completion rates in the private sector have not been tracked previously in India, so this data will set a valuable baseline.

Having used its investment as risk capital to demonstrate proof-of-concept, the Gates Foundation is preparing to hand over the effort to government healthcare agencies, which have the resources and reach to scale the model nationally. In that way, the effort is taking evolutionary steps to achieve a revolutionary goal: testing, learning, and refining a model for enlisting the private sector in the battle to turn back TB.

Scaling a proven solution

DIGITAL GREEN'S VIDEO-BASED KNOWLEDGE SHARING

More than half of India's 191 million undernourished citizens live in rural, subsistence-farming households, which are highly susceptible to food supply shocks and natural disasters. To help these smallholder farmers improve their crop yields, government agriculture extension systems—networks of agriculture experts and frontline workers who conduct research and disseminate knowledge to farmers—traditionally rely on in-person meetings, where frontline workers introduce farmers to different crops and new production techniques. This in-person system of information dissemination is resource intensive, time consuming, and difficult to scale.

⁷ The Gates Foundation committed to an initial funding of INR 63 crores (USD 9 million).

Recognizing that farmers' income, health, and welfare depend on getting accurate, timely information on best agricultural practices, the nonprofit, Digital Green, with support from Microsoft Research⁸ and the Gates Foundation,⁹ piloted a model in 2008 to produce and disseminate instructional videos featuring local farmers describing high-yielding agriculture best practices. Instead of trying to invent a parallel system for disseminating the videos to farmers, Digital Green delivers its video-based knowledge-sharing model through existing government agriculture-extension systems. Government-employed video production teams create locally relevant videos, while frontline workers screen the videos to village self-help groups comprised of female farmers. "We partner with existing government programs, like the government of India's National Rural Livelihoods Mission (NRLM), who have scaled our approach as well as sustained it, as they have seen it improve the efficiency of their day-to-day, grassroots-level work," says Rikin Gandhi, co-founder of Digital Green.

A comprehensive, controlled trial study conducted in 2007 has shown that Digital Green's video-based model appears to result in an uptake rate of farming best practices that is seven times higher than the rate achieved by conventional agriculture extension systems and to be 10 times more cost-effective.¹⁰ By embedding the model within the far-reaching agriculture extension systems of state governments and leveraging dedicated funding from the Gates Foundation, Digital Green has scaled the initiative's reach to more than 1.5 million smallholder farmers across five states in India and 364,000 smallholder farmers across four regions in Ethiopia. Across India, Ethiopia, and 13 other focus countries, 1.9 million farmers and 20,000 frontline extension workers have benefitted from Digital Green's initiative.¹¹ Over the next few years, field workers will test to see which videos have helped produce the biggest increases in crop yields and household incomes.

Importantly, Digital Green relies on government systems to scale its model. In addition to its work in agriculture, Digital Green, since 2012, has partnered with bilateral funders such as the United States Agency for International Development (USAID) and the United Kingdom's Department for International Development (UK-DFID), as well as a range of nonprofit partners,¹² to extend its video-based model into the fields of health and nutrition.

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8 Digital Green began as a research project within the Technology for Emerging Markets Group of Microsoft Research, a subsidiary of Microsoft.

9 Since 2009, the Gates Foundation has provided Digital Green with approximately INR 169 crores (USD 25 million) to scale its operations in India and expand to Ethiopia. USAID contributed INR 136 crores (USD 20 million) to the initiative.

10 Rikin Gandhi, Rajesh Veeraraghavan, Kentaro Toyama, and Vanaja Ramprasad, "Digital Green: Participatory Video and Mediated Instruction for Agricultural Extension," *Information Technologies and International Development* 5, no. 1 (Spring 2009): 1.

11 Afghanistan, Bangladesh, Burkina Faso, Ghana, Honduras, Kenya, Malawi, Myanmar, Nepal, Niger, Nigeria, Senegal, and Uganda

12 Nonprofit partners include Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING); Program for Appropriate Technology in Health (PATH); and Voluntary Association for Rural Reconstruction & Appropriate Technology (VARRAT).

Supporting community-driven development

LAKHPATI KISAN

Many tribal or indigenous groups living in India's central belt are categorized by the government as scheduled tribes. Nearly half of the scheduled tribes in rural India live below the poverty line and about 65 percent, per the 2011 Census, are landless. Those dispiriting facts led Tata Trusts¹³ and its associate organization, Collectives for Integrated Livelihood Initiatives (CINI), to launch Lakhpatti Kisan, which aims to help make more than 101,000 tribal households "lakhpatti." That means by 2020, each of those households would earn more than INR 120,000 per year (or USD 1,500), an amount that is necessary, according to formal research by Tata Trusts and CINI, to keep rural families in India from slipping back into poverty.

What really distinguishes the Lakhpatti initiative from others is that it is community-led, and more so, women-led. "Lead Didis" (female leaders) appoint women who have a deep understanding of Lakhpatti Kisan's interventions to work as influencers, where they help households adopt proven farming strategies and technologies. The underlying theory: developing new habits or taking new action spreads more quickly when people see a neighbor, someone like them, adopting the new behavior or sharing it.¹⁴ Furthermore, Lakhpatti Kisan focuses on enabling households to diversify their revenue sources by adopting a layering approach, where they pursue multiple income generation activities such as farming, livestock rearing, and lac cultivation.

Since its inception in 2015, Lakhpatti Kisan has reached more than 94,000 households, 20,000 of which have thus far raised their incomes to the target INR 120,000 threshold. Over the next few years, the initiative will continue to rely on village self-help groups (which are women-centric) to carry the work forward and reach more than 101,000 tribal households—the true test of the initiative's durability.

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¹³ Tata Trusts committed INR 120 crores (USD 18.5 million) over five years to the initiative.

¹⁴ *The Alternative: Most of What You Believe about Poverty Is Wrong*, by Mauricio L. Miller, does a good job of unpacking the peers-helping-peers approach to attacking poverty.

Strengthening/reforming systems

RAJASTHAN ADARSH YOJANA

Until a few years ago, the state of Rajasthan had one of India's poorest performing public education systems. In the 2012–2013 school year, across all subjects and grades, Rajasthan's schools ranked 24th out of the 29 states and five union territories that were surveyed. More than half of the state's teacher positions and 60 percent of its openings for school principals were unfilled.

In 2014, the state government announced an ambitious initiative, Rajasthan Adarsh Yojana, which would establish one adarsh (Hindi for “ideal”) school in each of nearly 10,000 village clusters across the state. These schools would be formed by aggregating primary and secondary schools in a given panchayat (Hindi for “villages under one rural administrative block”). Adarsh schools would provide a high-quality education and ultimately serve as models for all of the state's public schools.

The Michael & Susan Dell Foundation (Dell Foundation), with technical support from the Central Square Foundation (CSF),¹⁵ stepped up to support the initiative. They have adopted a holistic approach to helping the Rajasthan government build the public education system's core components, such as governance and accountability processes, school infrastructure, and teacher and administrator training. The Dell Foundation and CSF believe that systems change is the key to achieving impact at scale in education. That approach is making noteworthy progress. Since its launch in 2014, Rajasthan Adarsh Yojana has converted nearly 10,000 schools to the adarsh model. Teacher vacancies in those schools have dropped from about 50 percent in 2014 to 20 percent in 2017.

“Moving the needle for the millions of children in this country is the landscape we want to address,” says Debasish Mitter, director of the Michael & Susan Dell Foundation, India. “This is not about small changes on the fringes.”

Building a field

CENTRE FOR BRAIN RESEARCH AND EGOVERNMENTS FOUNDATION

India is wrestling with a sprawling but under-recognized health burden: it is estimated that more than 30 million people live with some type of cognitive disability (such as epilepsy,

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¹⁵ The Michael & Susan Dell Foundation committed INR 27 crores (USD 4.1 million) and CSF committed INR 152 lakhs (USD 225,000).

stroke, or tremors), a number that has risen steadily in recent years.¹⁶ Additionally, roughly 5 percent of Indians aged 60 and over (4.1 million individuals) suffer from dementia. Even as the incidence of neurological disorders continues to grow, India lacks the kind of foundational research infrastructure that could support large-scale investigations into brain function and genomics.

In 2014, recognizing the yawning gap in the field of India-focused neuroscience research, Kris Gopalakrishnan, the co-founder and former executive vice chairman of Infosys, stepped into the breach with his philanthropic capital. Working with faculty at the Indian Institute of Science (IISc), Mr. Gopalakrishnan launched¹⁷ the Centre for Brain Research (CBR) in Bengaluru, whose North Star goal is to find a cure for Alzheimer's disease. With the exception of the Centre for Neuroscience at IISc, no other institution in the country focuses on long-term, longitudinal research designed to understand how the brain ages and thereby develop better preventative and treatment strategies for dementia.

"I am hopeful that this investment will trigger other people to contribute to [health] research," says Mr. Gopalakrishnan. "It is an area that I am very passionate about, and it is something we need as a nation."

Because of its fundamental research focus, it is too early to measure results from CBR's initial work.¹⁸ What is clear is that CBR is a critical "field builder" and is making progress towards its goals. By working to fill knowledge gaps in the field of neuroscience research that is specific to India, CBR aims to help multiple institutions build capacity and achieve a shared, ambitious mission: discover early diagnosis and intervention strategies to slow the progression of age-related brain diseases.

What is clear is that CBR is a critical "field builder" and is making progress towards its goals.

Like CBR, which fills a large knowledge gap in a field, the eGovernments Foundation (eGov) was established to fill a gap in the field of urban governance. Nandan Nilekani, co-founder of Infosys, and Srikanth Nadhamuni, CEO of Khosla Labs, launched eGov in 2003,¹⁹ to beat back a looming crisis: the inability of the nation's urban governments to provide municipal services that keep pace with the country's surging urban population, which forecasters expect will comprise more than 40 percent of the country's total population by 2030.²⁰

Because many city governments lack the up-to-date technology and the manpower to deliver water, sanitation, transportation, and other critical city services, eGov has built a scalable digital platform, DIGIT. Its government-facing modules enable administrators to make data-driven operational decisions and respond to rapidly growing urban demand.

16 M Gourie-Dev, "Epidemiology of neurological disorders in India: Review of background, prevalence and incidence of epilepsy, stroke, Parkinson's disease and tremors," *Neurology India* 62, no. 6, (November-December 2014): 588-589.

17 Kris Gopalakrishnan has committed INR 255 crores (USD 38.5 million) over 10 years to CBR, the largest individual investment in scientific research in India's history.

18 One of CBR's initiatives, Genome India, aims to develop an India-specific reference genome, which will allow scientists around the world to conduct genetic research that specifically applies to the Indian population.

19 In addition to Nilekani, eGov's funders include Omidyar Network, Tata Trusts, and Google. To date, they have invested INR 52 crores (USD 7.8 million).

20 "State of World Population: Unleashing the Potential of Urban Growth," United Nation Population Fund, 2007.

The platform also includes citizen-facing modules that provide urban dwellers with access to municipal services through apps, websites, and service centers. Without DIGIT, citizens would have to show up at municipal offices to resolve service issues.

“Historically, solutions aimed at improving urban governance in India have focused on addressing the needs of citizens, which involves enabling citizens to report issues that [urban governments] are responsible for solving,” says Viraj Tyagi, CEO of eGov. “However, eGov is capacity building from the government’s side, as well, by empowering [urban governments] to respond to this increased demand. Taking this two-pronged approach is the only way we can deliver sustained results.”

Since its launch 15 years ago, eGov’s digital applications have helped city governments process 4.7 million service requests and address 2 million citizen-logged grievances (with a 90 percent resolution rate). In the state of Andhra Pradesh, municipal-service response times have fallen from an average of 55 days to fewer than 10 days in less than two years since DIGIT was installed in April 2016. In the same time frame, annual revenue collection from property tax and water charges in Andhra Pradesh have increased by INR 100 crores (USD 15 million) and INR 239 crores (USD 36 million), respectively. Importantly, eGov empowers city administrators and citizens to interact more seamlessly, and thereby invigorate the entire field.

In both of these initiatives, philanthropists set up a new institution and strengthened its capacity to fill the field’s white spaces.

Informing public policy

ANNUAL STATUS OF EDUCATION REPORT

While student enrollment rates in India’s schools have increased steadily over the past 40 years, until recently, educators lacked conclusive data on whether better attendance was leading to more learning. The ASER Centre’s²¹ nationwide survey, the Annual Status of Education Report (ASER), has provided some deeply researched answers since 2005. ASER, which measures basic reading and math skills of rural children aged 5 to 16, collects learning outcomes data from approximately 600,000 children across every rural district in India. ASER takes a radically different approach from other learning assessments. Local volunteers conduct the survey orally, in families’ homes. That way, the survey accounts for all children—including those who might be absent from school on a given day or those who are not enrolled.

Through its pioneering approach, ASER is using data to make starkly evident the extent of India’s education crisis: about 50 percent of Indian children in grade 5 cannot read at a grade 2 level, while roughly 75 percent cannot solve simple division problems at a grade 3 or 4 level, depending on the state. These alarming statistics have shifted India’s national discourse from focusing on enrollment rates to improving learning outcomes. For example,

²¹ ASER Centre is the autonomous research arm of Pratham Education Foundation, one of India’s most well-regarded education nonprofits.

the government of India cited ASER in its 12th Five-Year Plan (2012–2017) and stated that the overarching goal in elementary education is to ensure that children not only attend school, but they learn at a grade-appropriate level.

ASER’s compelling results have also put a global spotlight on the need to ensure quality education for every child. The World Bank’s 2018 World Development Report on the global learning crisis cites ASER data in its first paragraph. It is also likely that ASER’s findings have helped frame the United Nations’ Sustainable Development Goals (SDGs). Whereas the UN’s Millennium Development Goals, set in 2000, focused on access to education, its SDG for education, set in 2015, aims to “ensure inclusive and equitable quality education...for all.”

“I am sure it was the ASER Centre’s work that led to the introduction of learning measurement into the Sustainable Development Goals,” says Ruth Levine, program director of global development and population at the William and Flora Hewlett Foundation (Hewlett Foundation)—ASER’s primary philanthropist. “The fact that, in a decade, [the ASER Centre] could alter the conversation around education in the world’s largest democracy and contribute to the global debate on education is truly impressive.”

Since 2010, the Hewlett Foundation²² has provided core funding to help the ASER Centre’s international unit expand its survey model to 13 countries in Latin America, Africa, and Asia, so that they too might use rigorous evidence to drive advocacy efforts around the urgent need to build better education systems.

“The fact that, in a decade, [the ASER Centre] could alter the conversation around education in the world’s largest democracy and contribute to the global debate on education is truly impressive.”

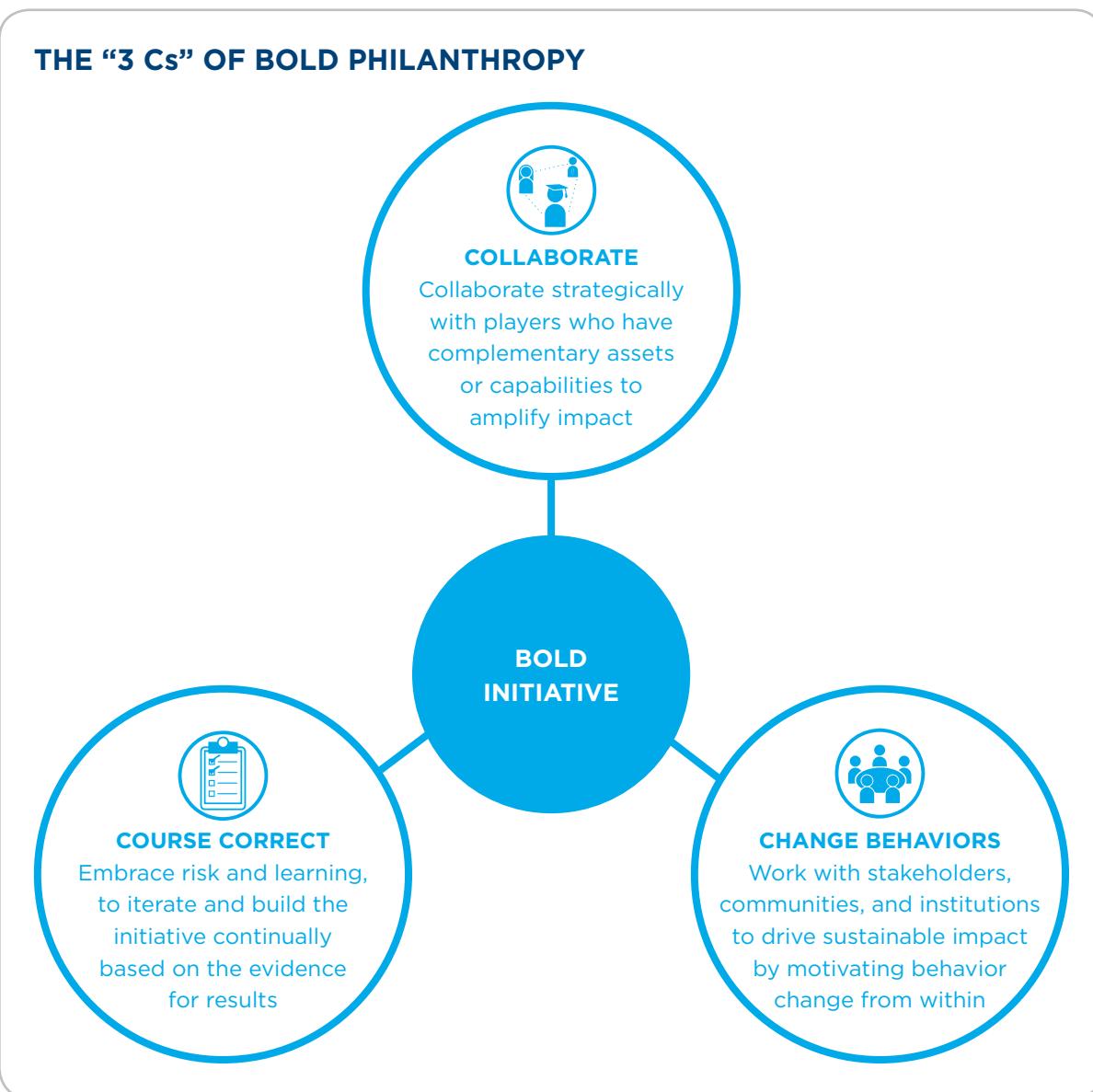
Ruth Levine
Program Director, Global Development and Population, William and Flora Hewlett Foundation

²² The Hewlett Foundation is providing INR 53 crores (USD 8 million) over 10 years.

Cross-Cutting Learnings

The eight bold initiatives outlined above highlight a number of widely recognized, baseline requirements for effective philanthropy in any context, such as setting clear goals, defining the pathways to change, and measuring results. When we dig a little deeper, three approaches consistently emerge as key to amplifying a bold initiative's impact: Collaborate, Course Correct, and Change Behaviors. Indeed, these three dimensions are all hallmarks of successful, bold social change initiatives, as detailed in the Bridgespan article "[Audacious Philanthropy](#)."

Achieving each of these "3 Cs" requires a deep, systemic investment of financial and human resources and a tolerance for risk-taking. Equally important, it behooves philanthropists to remain patient enough over an extended period to allow the initiative to bear fruit. We also found that technology and data can boost an initiative's effort to achieve the "3 Cs" and drive impact.



COLLABORATE WITH ORGANIZATIONS THAT POSSESS COMPLEMENTARY CAPABILITIES

It takes a diverse portfolio of skills to drive an ambitious social impact initiative. The organization creating change must identify and fill the voids within its capabilities—both at the outset and as the effort evolves and new needs emerge. That can mean looking beyond its organizational boundaries and collaborating with actors that can deliver needed assets, such as conducting research, analyzing and sharing data, contributing technical support, delivering services, building public awareness, or informing policy.

Given the almost unimaginably vast and varied needs in India, no single player can address every element of a problem. At some point, the lead organization will have to become adept at partnering with entities that possess the skills, resources, and funding streams that it lacks. For any social initiative that aims to accelerate impact, collaboration can come to life in several different ways, subject to on-the-ground challenges and the capabilities required to drive social change.

- **Collaborate with other funders.** Since its establishment in 2003 with funding from Nandan Nilekani, eGov has received funding from other philanthropies such as Tata Trusts and Omidyar Network. By pooling their philanthropic capital and expertise, eGov's funders have collectively driven results that go beyond the reach of any single donor.
- **Collaborate with the private sector.** The two major organizations behind Internet Saathi, Google and Tata Trusts, contribute specific capabilities and assets. Google brings its deep technological knowledge to bear, while Tata Trusts have an extensive understanding of how to build partnerships with local governments and nonprofits in rural areas.
- **Collaborate with the government.** To scale its video-based model to improve agricultural practices among predominantly female smallholder farmers, Digital Green partnered with the government of India's NRLM, one of the world's largest poverty-reduction programs. The Dell Foundation and CSF's Rajasthan Adarsh Yojana also owes its impact to its deep collaboration with the government. In fact, the leadership provided by the state's chief minister and its secretary of education helped drive systemic reforms.
- **Collaborate with other actors.** CBR's researchers partner with the National Institute of Mental Health and Neurosciences, which has deep relationships with the local government and community stakeholders. CBR has also established a partnership with Sri Devaraj Urs Medical College, which provides subsidized medical services to study participants.

COURSE CORRECT TO DELIVER BETTER RESULTS

The maxim applies as much to the social sector as it does to the for-profit world: “If you are not willing to risk the unusual, you will have to settle for the ordinary.”²³ In daring to push past status quo approaches and ambitions, bold philanthropic initiatives amplify the risk/reward ratio—and quite often, especially in an effort’s early stages, the former can loom larger than the latter.

Risking much by undertaking an audacious philanthropic initiative, the effort will likely endure setbacks along the way. That is especially true of the bold philanthropic initiatives that we have profiled, given the scale of India’s challenges and the novelty of some of the initiatives’ approaches. As a result, the philanthropists and organizations that are leading these efforts have committed to evolving their approaches along the way and making more significant design changes when they run into obstacles or opportunities to improve.

For example, to ensure that the initiative is moving the needle on upgrading municipal services in cities, eGov’s leaders embraced a culture of evidence-based learning, regularly collecting and analyzing data from the platform. eGov tracks gains and declines in the rate of grievance settlements, application processing, and revenue collection. With this information in hand, eGov can enhance its platform’s functionality and work directly with partners to diagnose and rectify performance gaps.

Beyond leveraging technology and data, eGov has also changed course with respect to its scaling strategy. Over the past 15 years, the nonprofit grew its platform by working with reformist state governments and urban local bodies. In 2018, with Omidyar Network’s support, eGov began working directly with the National Institute of Urban Affairs and the Ministry of Housing and Urban Affairs to turn DIGIT into a cloud-based, national urban governance platform that local governments can utilize.

Digital Green also made a mid-flight correction with its video-based knowledge sharing initiative. During its early years in both India and Ethiopia, Digital Green delivered its video-based innovation through nonprofit partners. While these partners successfully rolled out the model, their geographic reach was limited, which made it difficult to scale the effort. So it was that in 2012, Digital Green jumped at the opportunity to partner with India’s NRLM and its state-level missions, as well as in 2013 with Ethiopia’s Ministry of Agriculture and Livestock Development. These government agriculture-extension systems have the infrastructure and the resources to reach the millions of farmers in need.

²³ The quote is from Jim Rohn, an American entrepreneur and author.

CHANGE THE BEHAVIORS OF KEY STAKEHOLDERS

Several books²⁴ have underlined the notion that in almost every context, much of the way that people move through life falls within deeply grooved patterns of habit. That much of what we do, we do as we have done before. The result is that more often than not, the possibility of making real progress resides outside of people's self-imposed mental models. Arguably, this conundrum is more pronounced in rural India, where caste, patriarchy, tribalism, and profoundly ingrained traditions can render communities resistant to social impact efforts, regardless of their level of need. Stakeholders charged with serving communities, such as government bureaucrats and nonprofit managers, are also susceptible to the drag of old mental models. Their legacy beliefs can blind them to opportunities for achieving breakthrough thinking.

To win hearts and minds, the steep challenge for philanthropists and nonprofits is to "change behaviors" and open constituents up to the possibility that an intervention will better their lives, without imposing the behavior change on the community. One approach is to delve into community and individual mindsets and elicit change from within. So it was that Google and Tata Trusts, when launching the Internet Saathi initiative, looked to village women to help lead the effort. Those "Saathis" who received digital training went on to serve as ambassadors, training other women in nearby communities to use smartphones. Instead of viewing Saathis simply as recipients of its largesse, Tata Trusts made them critical collaborators, which helped to dramatically increase technology adoption rates.

Changing behaviors can also apply to stakeholders and institutions that seek to drive social impact. Recognizing that it could never eliminate TB from India without engaging systematically with private healthcare providers, the Gates Foundation developed innovative mechanisms to incentivize them to adhere to government prescribed, standardized protocols for diagnosing, notifying, and treating the disease. To do so, the Gates Foundation and the government TB program worked with anthropologists to understand the mindsets and practices around private care across the TB continuum. Based on these anthropological findings, they designed the initiative to enlist private healthcare providers in the effort to reveal previously "missing" patients, and to ensure they complied with their treatment regimens.

24 One such book is *Presence: An Exploration of Profound Change in People, Organizations, and Society*, by Peter M. Senge, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers (New York: Doubleday Publishing/Society for Organizational Learning, 2005).

The Imperative for Bold Philanthropic Giving

Looking across India's social sector, it is evident that there is both the necessity and the opportunity for philanthropy to drive social change efforts. As the country strives to achieve the SDGs across poverty, health, education, and 14 other focus areas, the magnitude of unmet and unfinanced needs is motivating philanthropists to aim for loftier targets. With access to capital that is flexible, adaptive, and risk tolerant, more and more philanthropists are realizing they have a critical role to play in helping India achieve its long-term social goals.

While it is true that bold philanthropic initiatives do not always yield big advances, small, cautious efforts rarely do. Our research shows that those philanthropists who commit to bold giving have designed their philanthropy to overcome systemic barriers to social change. These barriers include shifting political and policy priorities, a dearth of reliable data, deeply entrenched socio-cultural norms that are resistant to change, the limited capacity of some nonprofits and other potential partners to scale, and the social sector's talent and leadership gaps.

The risk/reward trade-offs involved in these bold bets require funders to be patient and strategic. Consider Kris Gopalakrishnan, who made India's largest-ever individual investment in scientific, longitudinal research when he established CBR. His North Star goal of finding a cure for Alzheimer's will likely take years to yield progress. Accordingly, he has committed to funding CBR for a decade, which allows its investigators to pursue research with more distant time horizons. He also embedded CBR within the highly regarded IISc, to attract top research talent. His strategy is to invest in a significant white space—long-term brain research—and use computational technologies to strengthen the field.

The risk/reward trade-offs involved in these bold bets require funders to be patient and strategic.

Above all, Mr. Gopalakrishnan's big, bold bet just might inspire other institutions—global as well as domestic—to collaborate and to scale their investments in basic or scientific research. "The private sector or philanthropy should invest 1.5 percent of GDP from the meager 0.2 percent we invest today [in research]," he says. "If that is to change, I need to walk the talk and invest in research myself. I strongly feel that India's development requires our own IP creation. India has the institutions and the talent—we just need the funding in order to develop the field."

Those philanthropists who also aspire to "walk the talk," by designing and executing their own bold initiatives, might think through three critical questions:

WHAT IS THE UNIQUE ROLE THAT MY PHILANTHROPIC CAPITAL CAN PLAY?

In this paper, we outline six unique roles or archetypes for bold giving. Whether philanthropists build a field, scale a proven solution, or pursue one of the other four archetypes, they would be wise to ensure that the archetype aligns with their values and capabilities, even as it addresses the sector's unmet needs. When philanthropic capital goes where government or private funding has not gone before, it dramatically increases the odds of driving population-level change. In choosing to pursue the "build a field" archetype, for example, Mr. Gopalakrishnan identified the white spaces in the field of brain research, which deeply resonated with him. "It is something we need as a nation and it is an area that I am very passionate about," he says. Given his previous leadership position at Infosys, Mr. Gopalakrishnan also had the knowledge and the network to help bring a first-class research institution to life.

WHAT MEASURES CAN I TAKE TO INCREASE THE LIKELIHOOD OF SUCCESS?

Our analyses revealed that to tackle difficult and often entrenched social challenges, bold initiatives invest in essential levers like the "3 Cs":

- They *collaborate* strategically with partners across the ecosystem that have complementary assets or capabilities.
- They summon sufficient patience to embrace risk, learn from failure, and *change course*, when the data indicates that a different path will lead to better results.
- They invest in deeply understanding and *changing the behaviors* of communities and institutions, by motivating change from within.

HOW CAN MY BOLD INITIATIVE SUSTAIN IMPACT OVER TIME?

It can take years for a bold initiative to improve the lives of thousands or millions of people in need. Our research suggests that initiatives should be designed upfront for sustained impact, even if philanthropic funding ends. Sometimes creating enduring change will require the institutions or activities of the initiative to continue in perpetuity, in which case questions of "take-out funding" for the philanthropic support become germane. For other initiatives, it's about creating a "new normal"—as Roger Martin and Sally Osberg describe in *Getting Beyond Better*—that endures after the initiative ends.

For initiatives in which ongoing investment is required, we found that initiatives that are embedded in government or community systems have a greater chance of achieving long-term impact. To that end, the Rajasthan Adarsh Yojana and Digital Green's video-based knowledge sharing initiatives work closely with government institutions. Similarly, the Gates Foundation's innovation in TB care relies on public health systems to scale and sustain it. And for Lakhpati Kisan, CInI is working closely with community stakeholders

(such as SHGs, farmer collectives, and local government representatives) to transition ownership of its work after 2020.

Technology is another potential enabler. Building technology-based platforms or models, for example, can address unmet needs and scale a social change effort, while economizing on the investment of time and capital. eGov is a case in point: its open-source DIGIT platform can help scale and sustain impact at a national level, equipping urban local governments with the technological tools needed to serve their citizens more effectively. Moreover, eGov's work with the National Institute of Urban Affairs and the Ministry of Housing and Urban Affairs ultimately aims to turn DIGIT into a cloud-based, publicly-owned urban governance platform that the urban local governments can directly access, maintain, and use.

Of course, every bold initiative carries a certain degree of risk. In any effort, there will likely be challenges and setbacks. Some experiments will almost certainly fail. However, philanthropists who dare to give boldly understand the logic underlying every outsized effort: given the vast scale and scope of India's challenges, there is far greater risk in thinking small.

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Appendix

Methodology for Identifying Eight Bold Philanthropic Initiatives

To identify the eight bold initiatives that met all of our criteria, we undertook a four-step process:

- **Sourcing:** Through our own networks, as well as through conversations with sector experts including philanthropists and nonprofit leaders, we identified about 100 philanthropic initiatives that merited closer consideration.
- **Short-listing:** Through secondary research, we screened for initiatives that qualify as bold, according to our definitions (as noted earlier in this paper).
- **Vetting:** We then conducted phone interviews with the philanthropists and leaders of the short-listed initiatives to understand their goals, their approach to driving impact, results to date, and their perspectives on whether they believe their initiatives are, in fact, truly bold. These discussions were critical in finalizing our list of eight truly bold efforts.
- **Researching:** For the eight bold initiatives that we went on to profile, we interviewed their key philanthropists/funders, executives, beneficiaries (where possible), and partner organizations. We supplemented those conversations with field visits and in-depth secondary research.

Notable Initiatives with Bold Ambitions

As we searched through approximately 100 philanthropic initiatives across India that might meet our criteria for bold philanthropy, we considered a number of promising initiatives that are already reaching many multitudes of people. We did not profile them in this report, as some were still in their early stages, while others were well-known or similar to initiatives that we did profile. They include the following six efforts, which are worth watching as they seek to amplify their impact. By no means, though, are these exhaustive of philanthropic initiatives with bold ambitions that are on a strong trajectory for impact.

COMMON APPLICATION SOFTWARE (CAS)

The Integrated Child Development Services (ICDS) program of the Ministry of Women and Child Development, Government of India seeks to promote the health, nutrition, and well-being of children under age 6. Anganwadi centers (rural centers for mothers and childcare) administer the program with their staff of Anganwadi workers (AWWs), by providing basic healthcare and nutrition services. The AWWs have historically logged their work into multiple paper registers, resulting in time lags in client information flow. Such lags hamper effective care provision and impede timely decision making at the state and central levels when urgent intervention or additional resources are needed. To help ICDS increasingly reach “the right beneficiaries at the right time with the right services,” the Gates Foundation supported the development of a new digital platform called Common Application Software (CAS). CAS allows the AWWs to enter client information into a centralized database using digital devices and to track real-time information about the health needs of their communities. CAS was launched early in 2017 with an initial plan to reach 200,000 AWWs across eight states. As of July 2018, it had already reached 130,000 AWWs in six states, with full rollout to all 1.4 million AWWs in India targeted for 2020.

EKSTEP

Nandan Nilekani, Rohini Nilekani, and Shankar Maruwada launched EkStep Foundation in 2015. EkStep’s mission is to improve literacy and numeracy by increasing access to learning opportunities for 200 million children in India by 2020. The foundation has developed an open-source digital learning infrastructure that allows for the co-creation of scalable education modules for learning. This open-source software supports the government of India’s national teacher platform DIKSHA by making digital teaching and learning materials accessible to teachers and students across the country. It also supports a school leadership platform called SHIKSHA LOKAM, which provides a variety of customized courses for school leaders, nonprofits, and government stakeholders. The Nilekanis launched the effort with an initial commitment of INR 65 crores (USD 10 million). While a relatively young initiative, EkStep’s approach of creating public goods for learning holds potential for large-scale impact.

JANAAGRAHA'S CIVIC TECH PLATFORMS

Janaagraha is a nonprofit that aims to transform quality of life in India's cities and towns. In 2011, with funding from Omidyar Network, Janaagraha began creating civic technology platforms to provide urban citizens with tools to more deeply engage with city administrations. One such tool, I Paid a Bribe (IPAB), is an online, crowd-sourced anticorruption platform. Through citizen reports on the platform, IPAB seeks to uncover corruption and recommend process changes. Since its launch, IPAB has witnessed over 155,000 reports from over 1,000 cities, amounting to INR 2,900 crores (USD 420 million) in bribes.

In 2012, Janaagraha launched another civic technology platform, I Change My City (ICMC), to help improve city living conditions. ICMC connects concerned citizens with relevant government officials in their cities. Citizens can report issues (e.g., potholes, unattended garbage, unsafe infrastructure) and also vote on which logged complaints are the most pressing. To date, more than 1.4 million users have logged over 2 million complaints. Municipal service departments have resolved 99 percent of those cases.

NATIONAL DEWORMING PROGRAM

The Children's Investment Fund Foundation (CIFF) is the driving philanthropic force behind an INR 120 crores (USD 17.7 million) initiative that supports the government of India's effort to implement an evidence-based, nationally-mandated deworming program. CIFF aims to reach at least 75 percent of children (aged 19 years or younger) in the country. The foundation works with key partners—Evidence Action, Deworm the World Initiative, and GlaxoSmithKline—to administer deworming medication at scale for soil-transmitted helminths (parasitic worms). In 2015, health workers dewormed approximately 90 million children in 10 states and one union territory, of a total of 220 million children at risk for infection. CIFF is working with the government of India over a six-year period, from September 2014 to September 2020, on this initiative.

PIRAMAL SWASTHYA

Piramal Swasthya, an initiative of Piramal Foundation, focuses on "democratizing healthcare" via universal health coverage. Operating in 16 states of India, Piramal Swasthya's Remote Health Advisory and Intervention Service uses helpline and telemedicine approaches to connect patients with trained health advisors and doctors, including specialists who would otherwise be physically or financially inaccessible. Its Community Outreach Program deploys 448 mobile medical units to underserved villages, providing health screens, medications, referrals, and follow-up services. Through these two efforts, Piramal Swasthya has served about 99 million individuals over its 10 years of operation.

Piramal Swasthya also works to advance tribal maternal health and nutrition, with demonstrated results from its ASARA tribal health initiative. ASARA provides pre- and post-natal and neonatal care to vulnerable mothers and children in the difficult-to-access terrain of the Araku valley in Andhra Pradesh. Piramal Swasthya plans to scale its tribal health model to other tribal areas of India.

READ INDIA

In an effort to improve learning levels in schools, Pratham, one of India's largest education-focused nonprofits, launched Read India in 2007 with dedicated funding from individuals, corporations, and foundations. The initiative serves children in grades 3 to 5 enrolled in government primary schools. In an average classroom in India, students' learning levels vary widely. Read India uses a Combined Activities for Maximized Learning methodology (CAMA), also known as Teaching at the Right Level (TaRL), to conduct reading and arithmetic assessments and then groups students with similar learning levels. Instructors use appropriate teaching and learning methods and materials to help children move into successively higher groups. Within 30 to 50 days, more than 70 percent of all children in the program are reading fluently and confidently doing basic numeracy operations. Six controlled trial studies by the Abdul Latif Jameel Poverty Action Lab have found that Pratham's approach improves student learning to a statistically significant degree. For example, in one evaluation, 98 percent of children who could only read at the word or paragraph level moved to story level by the end of the intervention. Read India currently operates through Pratham and in partnership with government across 21 Indian states.



Bold Initiative Profiles

Empowering Rural Women Through Digital Literacy: Internet Saathi

OVERVIEW: Google and Tata Trusts came together to increase digital literacy among rural women. Their initiative, Internet Saathi, develops local women trainers (Internet Saathis) to train other women on how to use the internet, which in turn helps them improve their income and overall quality of life. Now, Internet Saathi is rolling out the initiative's second phase: expanding from digital literacy to digitally enabled livelihoods, by empowering women to become entrepreneurs and service providers in their communities.

ESTABLISHED: 2015

QUICK FACTS

PRIMARY PHILANTHROPISTS:

Tata Trusts
(in partnership with Google)



GRANT AMOUNT:

> INR 68 crores¹
(> USD 10 million)

PRIMARY FOCUS:

Rural Livelihoods—women and girls

ARCHETYPE: Build innovative solutions

Internet Saathi adopts an innovative model (training of community members) and unique approach (tapping into technology to promote livelihoods) to bridge the digital divide and empower rural women.

KEY PARTNERS:

- Tata Water Mission
- Nonprofits working at the grassroots level

WHY BOLD?

Internet Saathi adopts a novel approach to addressing a white space in internet literacy and usage for rural women in India. This approach empowers rural women to serve as trainers and helps to break down social barriers facing women in these areas. The initiative has expanded to more than 15 million women across 150,000 villages; over 80 percent of the women who have been trained by Saathis say they have a better understanding of the internet. Finally, Internet Saathi has grown out of a unique partnership between the social and private sectors.

KEY LEARNINGS



Channel philanthropy to test high potential but risky solutions that others would not consider



As on-the-ground conditions change, evolve the initiative's approaches for deeper impact



Build partnerships based on common values and goals but distinctive capabilities



Engage champions in the community to increase the initiative's scale and deepen its impact

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

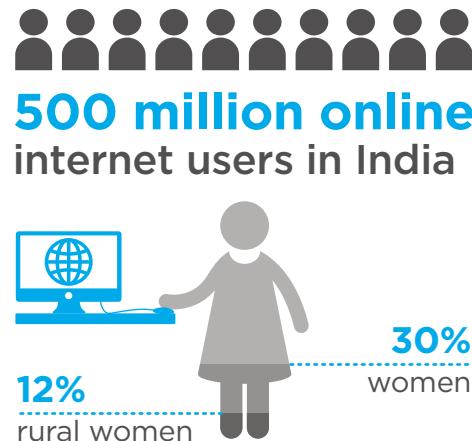
Very few women have access to the internet in India, especially women living in rural areas. With over 500 million internet users, India has the world's second largest online population.² However, only 30 percent of India's online users are women,³ considerably less than other developing countries such as China and Indonesia, which have greater than 40 percent female internet users.⁴ In India's rural areas, the proportion of female internet users drops to 12 percent.⁵

Several social factors contribute to this equity gap among rural women. Despite being the backbone of rural communities and producing between 60 and 80 percent of all food in India,⁶ women face social hurdles when it comes to gaining access to education, health, land rights, as well as technology. Culturally, rural communities are often suspicious of technology. In fact, women themselves question whether the digital realm is right for them, often dismissing it as a man's terrain. Low literacy rates also prevent women from comfortably texting on phones and using the internet. In some households, elders or husbands often expect women to seek permission for basic tasks, such as using technology.

By limiting their use of technology, women are not able to access the benefits it brings. Using a mobile phone to seek advice for farming or trade ideas for building a micro-business can help women secure a better economic life.

Nowadays, with more and more social services becoming available online, the consequences of India's digital gap loom even larger for women. For instance, [Digital India](#), a government-led initiative launched in 2015, aims to put all government forms and identification documents online. When rural women cannot connect to the internet, they miss out on services that would improve their lives.

The United Nations' Sustainable Development Goals have elevated this issue of internet access for women. Specifically, its goals that address gender equality and the need to build infrastructure in least developed countries highlight the importance of bridging the digital divide.⁷



2 Shruthi Mohan, "[12 million women across 110,000 Indian villages are becoming tech savvy, thanks to Internet Saathi](#)," *Your Story*, January 22, 2018.

3 Ibid.

4 [Doubling Digital Opportunities: Enhancing the Inclusion of Women & Girls in the Information Society](#), The Broadband Commission Working Group on Broadband and Gender, September 2013.

5 "[12 million women across 110,000 Indian villages are becoming tech savvy, thanks to Internet Saathi](#)."

6 Mrinal Pande, "[Empower Women Farmers](#)," *Pragati*, July 18, 2017.

7 SDG Goal #5 (Gender Equality) includes the target: "Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women." SDG #9 (Industry, Innovation, and Infrastructure) includes the target: "Significantly increase access to information and communications technology and strive to provide universal and affordable access to the internet in least developed countries by 2020."

A BOLD APPROACH TO DIGITAL LITERACY FOR RURAL WOMEN

Google and Tata Trusts recognized this gap and decided to address it. For Google, it was part of a strategic goal to expand people's digital skills in a high-priority country and build its [Womenwill initiative](#), which works to create economic opportunity for women by connecting them to the online world. Google also recognized the heightened need in rural parts of India compared to urban areas. For Tata Trusts, bridging the online gender divide is in line with its larger mission: to catalyze transformational change in India by focusing on sustainable development through innovation. The initiative also aligns with the Trusts' belief that in the 21st century, digital skills are essential for truly empowered livelihoods.

Hence, the two organizations came together to launch [Internet Saathi](#), a digital literacy initiative for rural women. The work grew from Google's [Helping Women Get Online](#) effort to expand women's ability to use the internet. Google and Tata Trusts then led a set of pilot projects coupled with an extensive on-ground study, to understand how best to help rural women living in Rajasthan, Madhya Pradesh, and Gujarat become digitally literate. Through experimenting and testing, Google and Tata Trusts refined the model and scaled it across 17 states in India.

Internet Saathi's goal is to promote gender equity in internet usage across rural India by expanding opportunities for women to take more ownership of their lives and improve their economic well-being. In turn, this helps generate access to new income streams and boost women's social status. In fact, according to a 2012 [report](#) by Dalberg and Intel, more than 30 percent of mobile-only female internet users surveyed globally are able to earn additional income through the internet,⁸ and more than 50 percent of Indian women believe the internet gives them greater freedom.⁹

HOW THE INITIATIVE WORKS

Google and Tata Trusts have deployed an innovative model, where they collaborate with local nonprofits to train rural women on how best to use smartphones to access the internet. These women attend a two-day intensive, hands-on training on how to use smart devices. After this training, the women become "Saathis," the Hindi word for "friend." The nonprofits assign each Saathi to her own and three nearby villages, where she acts as an internet literacy trainer. For six months, Saathis travel across villages carrying smart devices, which they use to teach women about the benefits of the internet and how to embrace it in their daily lives.

Sustainable Development Goals



⁸ *Women and the Web: Bridging the Internet gap and creating new global opportunities in low and middle-income countries*, Intel, 2012, page 76.

⁹ Ibid: 42.

A Saathi not only teaches women how to access the internet and thereby leverage opportunities to improve their livelihoods, but she also contributes to her own economic well-being. She is paid a monthly stipend, which covers her costs and acts as an incentive to do this work on a month-to-month basis.

Digital access helps women refine vocational skills (by taking online classes in agriculture, textile design, beautician training, and more), improve financial literacy, keep up with government programs that benefit their families, and learn about nutrition. (Google's [Helping Women Get Online](#) website, available in various languages, provides the technical support for women as they cross the digital divide for the first time.)

The two organizations behind Internet Saathi, Google and Tata Trusts, contribute specific capabilities and assets. Google brings its deep technological knowledge to bear, including approaches to training the Saathis and designing the initiative's digital underpinnings. Tata Trusts, on the other hand, shares an extensive understanding of and experience in building partnerships with local governments and nonprofits in rural areas, as well as a mutual trust with local populations. Additionally, the Trusts' experience in managing large-scale field projects helps ensure that managers are well-positioned to implement the initiative. Partnerships with local nonprofits bolster the organization's work. For example, Internet Saathi's partner Jagriti Sewa Sansthan provides field-level planning, interviews job applicants, and lends day-to-day support to Saathis. The nonprofit is the initiative's "eyes and ears" at the grassroots level.

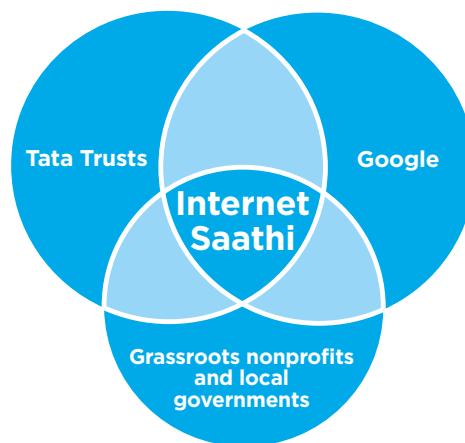
PROGRESS AND RESULTS

In the three years since Internet Saathi's launch, over 15 million women have benefitted from the resources and education provided by 48,000 Saathis, who work across 150,000 villages. These numbers will grow, as the initiative is on track to cover almost half of India's 600,000 villages in the next few years.

A [2017 study by Ipsos](#), a global market research firm, revealed that over 80 percent of the women who attended Saathis' trainings said they had a better understanding of the internet. Consequently, 25 percent of the respondents stated that they continued to use the internet five times a week on average. In addition, one-third believe that their economic well-being had improved by learning new skills on the internet.

The positive results extend beyond the initiative's participants; local governments and stakeholders have supported the initiative, such as by providing community spaces for women to convene and interact with Saathis.

An innovative model to empower rural women



LOOKING TO THE FUTURE

Going forward, Internet Saathi faces some challenges, such as how to translate gains in digital literacy to sustain improved livelihoods. To help address this challenge, Google and Tata Trusts added an extra dimension to Internet Saathi in December 2017, where they aim to empower Saathis to extend the initiative's impact beyond their digital literacy engagement period. After acting as trainers for the internet, Internet Saathis can form a powerful network to understand rural India and drive positive change. Given the knowledge and credibility they have gained in their communities, Saathis can both disseminate and gather valuable information that can help strengthen socio-economic conditions in rural areas. For example, Saathis have helped other women to access government services through the [Haqdarshak](#) mobile platform. For the Tata Water Mission, Saathis were engaged as digitally equipped behavior change communication agents, promoting toilet usage, hand washing, and clean storage and use of drinking water. The Tata Water Mission aims to provide potable water to 7,000 villages within the next three years.

Tata Trusts set up the Foundation for Rural Entrepreneurship Development (FREN) to support the Saathis in their transition to this next phase of their entrepreneurial lives. The Foundation is supported by Google. An extension of the Internet Saathi initiative, FREN's primary role is to identify opportunities for the Saathis to secure better livelihoods and thereby sustain the digital momentum that has been created in the rural areas of the country.

The initiative is also working to address two other challenges to maximize its impact. Interviews with staff and beneficiaries reveal that over the long term, some women forget what they learn from the Saathis if they do not have continued access to personal smartphones. The initiative is exploring solutions to ensure that women who have undergone training have access to smartphones.

In addition, the initiative still encounters logistical challenges. At times, Saathis struggle to manage their schedules and meet with local women. As Internet Saathi scales and expands its reach to thousands of more villages across India, the key operating partners face challenges in ensuring that the initiative is working at its optimal level in all locales.

LEARNINGS TO DATE

Channel philanthropy to test high potential, but risky solutions that others would not consider. Philanthropic funding has the capacity to serve as "risk capital," testing innovative but unproven ideas that might lead to transformative impact, particularly those approaches that government and the private sector would likely deem to be too daring. There is little doubt that Internet Saathi took some risks. To the best of our knowledge, no other initiative in India has sought to improve digital literacy and rural livelihoods at this scale by training female community members. The effort was particularly risky because it tackled social taboos, requiring village communities to modify their behavior and change their mindsets as women received technological guidance from trained women. Still, launching the effort was a worthwhile risk, as rural women have thus far embraced the technology and local governments have expressed their support.

As on-the-ground conditions change, evolve the initiative's approaches for deeper impact. Knowing something is not the same as doing something. Although it is helpful to have a blueprint and stay focused on that outlined plan, a willingness to make mid-flight corrections can help evolve the initiative's approach and potentially increase the level of impact. For instance, Internet Saathi's primary focus was to drive digital literacy rates among rural women. The initiative's first phase, built on an innovative community trainer model, has made real progress toward that goal. However, as the initiative's leaders thought more deeply about how to sustain impact over the long term, they realized a second phase was needed. They introduced an initiative that aims to build digitally enabled livelihoods, to better ensure that former Saathis can create new income streams for themselves.

Internet Saathi has also updated its approach in other smaller ways. When some women struggled to type out searches on a keypad, Saathis were taught how to train participants to do voice searches. The initiative also incorporates feedback from Saathis through regular monthly meetings, a forum for sharing ideas and insights. By staying operationally agile, organizers can refine an initiative to cater to the participants' actual needs, rather than needs conceived by donors.

Build partnerships based on common values and goals, but distinctive capabilities.

Internet Saathi took advantage of two organizations with specific strengths. Since launching the initiative, each partner focused on its unique capabilities. Collectively, however, their values were fully aligned around promoting digitally enabled empowerment for rural women. Ensuring that the mission is the same for both parties is a nontrivial issue, especially when the partnership, as in this case, cuts across the corporate and social sectors.

Google drew on Tata Trusts' understanding of rural India and its significant social sector expertise. Similarly, Tata Trusts respected Google's extensive resources and its capacity to serve vast populations with technology.

Engage champions in the community to increase the initiative's scale and deepen its impact. Instead of viewing the target population as passive beneficiaries, Internet

Saathi drew on women from that population to increase the initiative's scale and deepen its impact. Saathis played a pivotal role in getting other women excited about the internet's possibilities: the push for digital literacy came from a trusted local voice, a Saathi, not from an imposing outsider.

Because Saathis served as catalysts for the model, the initiative scaled rapidly, spreading from village to village. Saathis became powerful change-makers in their communities, channeling their time, effort, and passion to train other women. In fact, when Google piloted the work using professional external trainers, the trainers attracted only a small number of participants. The initiative took off only when rural women themselves served as trainers. Internet Saathi invested in local women, and they reciprocated by helping the initiative gain the trust of local communities. Lastly, the initiative invested time and resources to secure buy-in from local governments, which Saathis also helped initiate.

Mainstreaming Private Healthcare Systems for Tuberculosis Control

OVERVIEW: Mainstreaming Private Healthcare Systems for Tuberculosis Control seeks to alleviate the growing burden of tuberculosis (TB) in India by integrating the private sector in TB reporting and care. Though the private sector caters to the bulk of patients suspected of having TB, there are challenges with the private sector notifying patients to government authorities and ensuring that patients adhere to standardized care. To address these gaps, the Bill & Melinda Gates Foundation and the government's Revised National Tuberculosis Control Program (RNTCP) developed an initiative to incentivize private healthcare providers to diagnose and treat TB according to standardized guidelines, and to notify the government of new cases.

ESTABLISHED: 2013

QUICK FACTS

PRIMARY PHILANTHROPIST:
The Bill & Melinda Gates Foundation

GRANT AMOUNT:
approximately
USD 9 million
(INR 63 crores¹)

PRIMARY FOCUS:
Health
(infectious diseases
and systems
strengthening)

PRIMARY GEOGRAPHY:
Mumbai, Patna, and Mehsana

ARCHETYPE: Build innovative solutions

The initiative's innovative model aims to standardize TB diagnosis, notification, and care in the private sector through a series of incentive mechanisms, supported by an information and communications technology backbone to monitor and track treatment compliance by TB patients.

KEY PARTNERS:

- RNTCP
- PATH
- World Health Partners

WHY BOLD?

The initiative targets TB control through a novel approach. It aims to integrate private healthcare providers for TB care with public systems to overcome one of the biggest roadblocks to eliminating TB in India: missing patients who contract the disease and seek treatment in the private sector, but are not notified to public TB monitoring systems. By using incentives and leveraging strategic partnerships, the initiative has increased the number of TB cases that private providers notify to the government, improved patients' compliance with standardized treatment regimens, and increased TB cure rates in the three cities where the initiative is active.

KEY LEARNINGS

 Use philanthropic funding as risk capital to demonstrate potential for impact at scale

 Partner with the government at the outset to design for national needs and ensure scale

 To change mindsets, deeply understand the actors' needs and incorporate incentives

 Leverage partners' capabilities to achieve effective results

 Use data to evolve and learn

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

Tuberculosis (TB) is India's sixth-leading cause of death.² In 2016, some 423,000 people succumbed to TB.³ Drug sensitive TB, the disease's most common type, is curable if the patient receives a six-to-nine month course of anti-TB medication. However, many patients do not adhere to the prescribed drug regimen or drop out of treatment because of the course's lengthy duration. Noncompliance results in multidrug-resistant TB (MDR-TB), where patients become resistant to first-line drugs for treating TB. MDR-TB requires an expensive and more protracted treatment regimen. India also has the world's largest concentration of MDR-TB. In 2016, some 147,000 drug-resistant cases were diagnosed in India.⁴

Recognizing that TB is an enormous public health threat, the government of India has committed to eliminating the disease by 2025. In 2012, in an effort to track and manage TB cases, the government declared it a "notifiable" disease, meaning that healthcare workers must notify new cases on a government portal for TB control maintained by the Ministry of Health and Family Welfare. Despite the government's mandate, "missing patients"—that is, TB patients who have not been notified on the government TB portal—comprise one of the biggest obstacles to eliminating TB in India. Globally, 4.3 million TB cases go unreported. Of these, more than a quarter (1.1 million cases) are from India.⁵

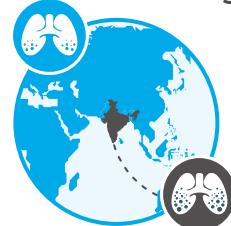
Private healthcare providers are a crucial link for controlling TB in India. They are both the first point of contact for a majority of TB cases and handle most of India's missing TB patients. Almost 80 percent of all TB patients first approach the private sector⁶ for diagnosis and treatment, and private healthcare providers are believed to manage nearly one million of India's missing TB cases.⁷ Any effort to eliminate TB in India depends on winning the private sector's full support.

However, the private sector for TB care is an extremely diverse body of providers.⁸ The sector ranges from private chest specialists and general practitioners, to traditional, informal care providers. Each of these stakeholders takes a different approach to diagnosing and treating TB and each is equally important in the TB care continuum.



423,000 people
in India succumbed to TB in 2016

TB—TOP 10 CAUSES
of death globally



SIXTH-LEADING CAUSE
of death in India

2 "Country Profile: India," Institute of Health Metrics and Evaluation.

3 *Global Tuberculosis Report 2017*, World Health Organization, May 2018, 29.

4 Ibid., 45.

5 *Global Tuberculosis Report 2016*, World Health Organization, October 2016, 19.

6 *Universal Access to TB Care Concurrent Assessment Report*, CTD and WHO Country Office for India, May 2016, 5.

7 Ibid., 5.

8 The private sector in TB care in this initiative involves the formal private sector comprised of private physicians with an MD or MBBS degree who treat patients in their clinics or private hospital facilities, chemists and private diagnostic labs, and informal physicians comprised of traditional care practitioners from the AYUSH (Ayurveda, Yoga and Naturopathy, Siddha and Homeopathy) network.

For example, traditional care providers might start treating TB patients for a cough (instead of the disease itself), or take time to refer them to a specialist. Chest specialists might swiftly begin TB treatment, but fail to record the case on the TB notifications portal.

Recognizing the need to include the private sector in TB elimination efforts, the government of India issued a call for quick, concerted action by both the public and the private sectors when it unveiled the [National Strategic Plan for TB control, 2012–2017](#).

When the government publicized the plan, there was no proven and scalable mechanism for engaging the private sector in TB management. As a result, there was both the opportunity and the need to formulate an effective model for public-private sector collaboration to control TB.

A BOLD APPROACH TO ALLEVIATING THE BURDEN OF TB

The Bill & Melinda Gates Foundation (Gates Foundation) has worked across the globe to develop better diagnostic tools, drugs, vaccines, and care-delivery mechanisms for TB. The magnitude and severity of the TB crisis in India compelled the Gates Foundation to focus on TB after the organization undertook its initial work on HIV in the country.

The Gates Foundation decided to support the government of India's vision of integrating the private sector in national TB care mechanisms. The organization sought to demonstrate a successful model for aligning the private sector around standard TB care, which the government could then scale nationally.

The Gates Foundation collaborated with the Revised National Tuberculosis Control Program (RNTCP) to pilot a model that could strengthen TB care by motivating private healthcare providers to report new cases to the government and to provide TB patients with standardized treatment. Through new diagnostics, an information and communications technology (ICT) system, and efforts to improve recording and tracking of TB cases, the model was designed specifically to address the problem of missing patients.

In 2013, the Gates Foundation initiated the pilot initiative, Mainstreaming Private Healthcare Systems for Tuberculosis Control, for engaging the private sector in TB care. The foundation and its partners designed the initiative to enable behavior change by incentivizing the private sector to promptly diagnose and treat TB and adhere to the government's notification protocols. To reduce the number of missing patients, the initiative placed a heavy emphasis on notifying new TB cases in a timely manner. The pilot was undertaken in three cities—Mumbai, Patna, and Mehsana.

HOW THE INITIATIVE CAME TO LIFE

The Gates Foundation and the public-sector TB programs were keen to incentivize the private sector to notify and treat TB cases in a standardized and timely manner. They worked closely with anthropologists to understand private healthcare providers' attitudes and motivations, as well as TB patients' challenges. Based on their understanding of these behaviors, professors from the Indian School of Business developed incentive mechanisms tailored to different stakeholders.

Since the private sector for TB care was uncharted territory for researchers and extremely heterogeneous, a flexible model supported by robust research and evidence from the field was required. There was also a need for partners who could innovate and iterate a robust model to engage private healthcare providers.

A lot of thought went into selecting the cities that would host the pilot. Mumbai had the nation's highest density of TB cases and the municipal government's [2012 Mumbai Mission for TB Control](#) had emphasized the need to work with the private healthcare system. Patna was selected because of the Gates Foundation's previous work there and its relationships with key stakeholders—organizations that understood Patna's healthcare landscape. Finally, in Mehsana, the state and district TB program leaders were keen to test whether an approach that focused on the private sector would help universalize access to TB care. Mehsana also had an optimal mix of urban and rural populations and the RNTCP was intent on engaging directly with private healthcare providers.

In Mumbai and Patna, the initiative chose to partner with nonprofits that function as Private-Provider Interface Agencies (PPIAs). PPIAs aggregate private healthcare providers and work closely with them to ensure that the model performs smoothly. A PPIA's task list entails coordinating with private healthcare providers, facilitating patient referrals for TB diagnosis, hand-holding patients through the TB treatment process, and ensuring that private physicians notify and treat new TB cases.

In Mumbai, PATH is the PPIA. PATH operates in partnership with The Mumbai Mission for TB Control. Because Mumbai's outreach population is large, PATH engages two local nonprofits—ALERT India and Maharashtra Jan Vikas Kendra—for home visits and psychosocial support to patients. In Patna, World Health Partners (WHP) and its volunteer network carry out the PPIA role. The PPIA helps to enable positive changes in patients' behaviors, by using tech tools like 99DOTS⁹ to monitor their adherence to treatment regimens.

Finally, to tie its nonprofit partners to results, the Gates Foundation structured its grant to include a performance-based component. The foundation provided a USD 6 million (INR 39 crores) grant to PATH and a USD 3 million (INR 19.5 crores) grant to WHP, both of which ran from 2013 to 2016. Fifteen percent of the grant amount was tied to indicators like private-sector case notifications, microbiological confirmations of diagnoses, and treatment completion rates. In Mehsana, grants from the Gates Foundation supported an ICT platform and electronic voucher (e-voucher) payments via WHP.

The Gates Foundation, PATH, WHP, and the government TB programs devoted a significant effort to map the private healthcare providers (formal and informal providers, chemists, and labs) in Mumbai, Patna, and Mehsana to understand the landscape of TB care in each of their intervention areas.

⁹ [99DOTS](#) is a TB adherence technology where patients call a toll-free number every time they take their TB medication.

HOW THE INITIATIVE WORKS

The initiative attempts to enable and incentivize private healthcare providers to diagnose, notify, and treat TB according to nationally mandated standards. The initiative operates across the TB care continuum, from diagnosis to treatment, and works with different types of private healthcare providers.

As local informal providers are usually the first point of contact for low-income patients suspected of having contracted TB, the initiative encourages informal providers to refer suspected TB patients for chest X-rays or smear tests. These diagnostics are provided free of cost to the patient through an electronic voucher (e-voucher) system. The patient is provided with a unique number (that is, a voucher) when an informal provider prescribes a diagnostic test. The e-voucher links the patient with the PPIA representative. A call center operated by the PPIA generates and tracks this e-voucher and reimburses the diagnostic facilities for the test.

If the diagnosis tests positive for TB, the informal provider refers the patient to a formal provider or a specialist for a GeneXpert (Gx) test or culture test to obtain microbiological confirmation of TB. The Gx test also screens for drug resistance. If patients are found to be resistant to a strain of anti-TB drugs, they are referred to the public healthcare system for more tests and a longer treatment regimen of one to two years.^{10 11} The e-voucher system reimburses the cost of the Gx test, which typically amounts to INR 1,600 (about 23 USD).¹² By facilitating a quick referral, the informal providers are not deprived of their clients. Instead, they benefit due to an increased level of trust between the patient and the provider.

Partner nonprofits work closely with private healthcare providers to ensure that they notify the government of all diagnosed TB cases. They also guide patients through the diagnosis process to ensure easy access to accurate diagnosis.

Patients who can be treated with the first-line of anti-TB drugs must follow a six-to-nine month regimen. These patients receive their monthly prescriptions from specialists or formal providers. Monthly prescriptions provide an opportunity for patients to consult with doctors and discuss their progress. The monthly prescriptions come with an e-voucher, which patients can use to obtain medications (from a list of approved anti-TB drugs) from any local chemist who participates in the initiative. Over time, the initiative seeks to move away from a list of drugs to a single fixed-dose-combination (FDC) drug for TB, to make treatment more compliant with government standards.¹³ Both the government of India and WHO consider the FDC approach to be a best practice.

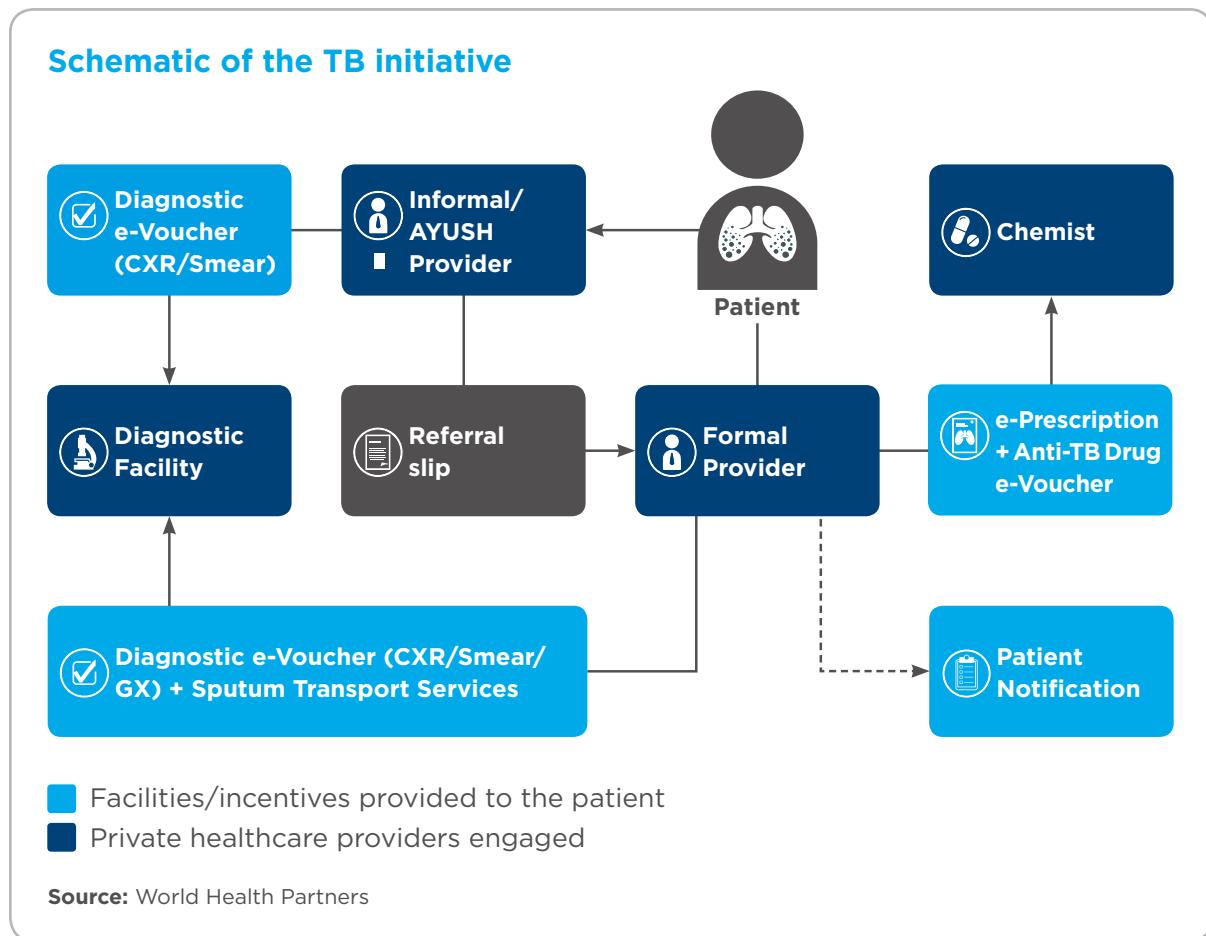
10 “The Shorter MDR-TB Regimen,” World Health Organization, May 2016.

11 Patients with MDR TB do not fall under the purview of the initiative. These patients can choose to stay with the private health provider and pay for the treatment or access TB treatment free of cost from government facilities.

12 Umesh Isalkar and Ekatha Ann John, “Indigenous kit may cut TB test cost by 50%, trials underway,” *The Times of India*, June 29, 2017.

13 According to the WHO report *Fixed-dose combination tablets for the treatment of tuberculosis*, TB is treated with three to five different drugs simultaneously, depending on the patient category. To simplify the process and minimize patient effort, anti-tuberculosis drugs can be given as single-drug formulations or as fixed-dose-combination (FDC) formulations, where two or more anti-tuberculosis drugs are present in fixed proportions in the same formulation. WHO and the International Union Against Tuberculosis and Lung Disease advocate replacing single-drug preparations with FDC tablets as the primary treatment for tuberculosis.

Over the entire course of the treatment process, the PPIAs and the TB program in Mehsana deploy field workers to monitor and facilitate drug compliance. For instance, if a patient misses drug doses and does not respond to phone calls from the call center, the nonprofit (in Mumbai and Patna) or government program field workers (in Mehsana) make home visits.



The national and state TB programs and the Gates Foundation innovated in a number of ways to design and implement this TB-care initiative. For instance, the Gates Foundation selected PATH and WHP as implementing partners because of their flexibility in creating an effective model of engagement with private healthcare providers. It also designed an incentive system supported by a technology backbone for e-vouchers and drug adherence monitoring to enable private healthcare providers to diagnose, notify, and treat TB cases.

The Gates Foundation channels most of the initiative's funding for provider and patient engagement through PPIAs and ICT tools like the call center and e-vouchers for diagnostics and drugs. The RNTCP and the Gates Foundation facilitated knowledge exchange through quarterly convenings. For instance, WHP was able to ramp up microbiological diagnosis in Patna by deploying field staff to ensure that samples were collected and diagnosed. They adopted this practice from the PATH team. All three sites benefited from the early studies around patient pathways to TB care and quality of care studies carried out by Dr. Madhukar Pai (McGill University) and Dr. Jishnu Das at the World Bank and their teams.



A TB patient receives counseling support from a PPIA partner. (Photo: Bill & Melinda Gates Foundation)

PROGRESS AND RESULTS

The initiative has made notable progress in working with both formal and informal healthcare providers in the private sector. Its success has prompted national-level action. After the pilot initiative, The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund), in collaboration with the RNTCP will co-opt and support the private-sector engagement model at 33 sites across the country.

By 2015, the initiative was working with a large proportion of formal and informal private healthcare providers as well as private pharmacies and labs across the three cities. For example, in Mumbai, the initiative worked with 817 formal providers (22 percent of those mapped), 1,464 informal providers (30 percent of those mapped), and 310 pharmacists (29 percent of those mapped).

The initiative defined key result indicators: notification rates (both public and private), the proportion of microbiologically confirmed TB cases, and adherence to and completion of TB medication regimens. PPIAs monitored progress against these metrics regularly. (See the table below for the initiative's key results.) The initiative saw a significant increase in TB notification rates from the private sector in all the pilot cities.

A majority of patients who initiated anti-TB treatment through the initiative successfully completed their regimens. Mumbai saw a 73 percent treatment completion rate, Patna achieved 75 percent, and Mehsana reported 72 percent. TB treatment completion rates in the private sector have not been tracked previously in India, so this data will set a valuable baseline.

The initiative's key results

Reach	Mumbai				Patna				Mehsana			
	M	T	E	A*	M	T	E	A*	M	T	E	A*
Formal	3,772	3,108	1,315	817 (22%)	1,812	875	634	570 (31%)	344	312	312	107 (31%)
Informal	4,813	4,002	1,977	1464 (30%)	1,563	929	720	576 (37%)	131	-	-	-
Pharmacists	2,710	310	310	310 (11%)	1,556	972	692	444 (29%)	437	177	172	90 (21%)
Notification	Mumbai				Patna				Mehsana			
	'13	'14	'15	'16	'13	'14	'15	'16	'13	'14	'15	'16
Private-sector notifications	2,891	7,253	18,134	25,153	0	3,728	16,581	18,812	0	1,108	2,903	3,686
Total TB notifications	34,794	38,104	45,334	47,520	4,662	8,269	20,695	22,291	2,075	3,560	5,353	6,203
Adherence	Mumbai				Patna				Mehsana			
	Tracked				28,152				40,326			
	Completion rate				73%				75%			

Key: M = mapped, T = targeted for outreach, E = engaged, A = active (and currently participating in the program)

*figures in brackets refer to the percent of total mapped providers who are active

Source: Bill & Melinda Gates Foundation (collated across years)

Most importantly, the initiative's key stakeholders—private-sector physicians—believe the model matters. “Before the PPIA project, the time between patients’ diagnosis and initiation of treatment was as long as 45 days,” says Dr. Vikas Oswal, a private chest physician in Mumbai. “[Now] it has been cut down to four days.”

The initiative has demonstrated that funders and their partners can structure programs to change stakeholders’ mindsets, if the right incentives are written into the design. The initiative did not achieve these results by recasting the role of private healthcare providers, who

“Before the PPIA project, the time between patients’ diagnosis and initiation of treatment was as long as 45 days. [Now] it has been cut down to four days.”

Dr. Vikas Oswal
Private Chest Physician,
Mumbai

continue to be the patients' first touchpoint for TB care. Rather, the initiative's leaders worked incentives into the existing system to motivate private healthcare providers to subscribe to standard TB care practices. This adaptation enabled the RNTCP to receive accurate notifications and support patients in complying with their treatments. It also demonstrated positive outcomes and made the case for scaling the PPIA model that aims to improve case notification and treatment completion rates for patients accessing care in the private sector.

LOOKING TO THE FUTURE

The pilot initiative's success in Mumbai, Patna, and Mehsana helped demonstrate proof of concept for a model that engages private healthcare providers to diagnose, notify, and treat TB cases and to strengthen adherence to the TB treatment regimen. Government programs and development aid agencies (e.g., The Global Fund) have adopted the initiative and are aiming to scale it.

The pilot intervention areas are at various stages of integration with their respective government programs. Mumbai is the furthest along—the Municipal Corporation has already contracted nonprofits to function as PPIAs and established a supply chain for government procured drugs in private healthcare facilities. "The private-sector pilot was one of the several strategies implemented by the Mumbai Corporation, and I am happy that it helped demonstrate and provide evidence for scale up," says Dr. Daksha Shah, deputy executive health officer and city TB officer for Mumbai.

The Global Fund along with the RNTCP is investing in scaling the PPIA approach in 33 cities across India. Learning from this initiative, the national TB program also plans to incorporate innovative care delivery elements like direct benefit transfers to patients for their nutrition intake, and an honorarium for doctors to notify TB cases in a timely manner.

KEY LEARNINGS

Use philanthropic funding as risk capital to demonstrate potential for impact at scale.

Before the Gates Foundation took on the initiative, India lacked a proven approach for engaging with the private sector to deliver TB care to nationally mandated standards. The Gates Foundation therefore decided to work closely with the government to demonstrate a scalable model for private-sector engagement in TB care. The goal was to test the approach in cities of diverse sizes and resources, as well as varying degrees of government involvement in TB care.

"The private-sector pilot was one of the several strategies implemented by the Mumbai Corporation, and I am happy that it helped demonstrate and provide evidence for scale up."

Dr. Daksha Shah
Deputy Executive Health Officer and City TB Officer for Mumbai

As Sameer Kumta from the Gates Foundation put it, they “invested in uncharted areas to develop and demonstrate potential solutions.” Through testing, learning along the way, and demonstrating through pilots that the approach was working, the Gates Foundation increased the odds that the initiative might scale over the long term.

“[The Gates Foundation] invested in uncharted areas to develop and demonstrate potential solutions.”

Sameer Kumta
Senior Program Officer,
Bill & Melinda Gates Foundation

Partner with the government at the outset to design for national needs and ensure scale.

The government of India’s TB control program made the integration of private healthcare providers a top priority, which led the Gates Foundation to target the private sector for an intervention. The Gates Foundation worked closely with the government to identify areas that were ripe for innovation and forged partnerships with government to scale the model if it proved successful. For example, the Mumbai municipal government had an active TB control mission, whose proponents were keen to engage the private sector and provide buy-in for PATH’s PPIA activities.

To change mindsets, deeply understand the actors’ needs and incorporate suitable incentives. To ensure the willing participation of private-sector providers in the initiative, the partners invested in understanding their motivations and concerns and designed incentives to address them. For example, by leveraging insights gleaned from behavioral studies and other anthropological research, the partners persuaded thousands of private healthcare providers to adhere to nationally mandated standards of TB care and to notify new TB cases on the government TB notification portal.

Leverage partners’ capabilities to achieve effective results. The RNTCP of India and the Gates Foundation partnered with organizations that had the capacity to deliver. Both PATH and WHP were already integrated into the TB care systems of their respective intervention areas. Their field networks enabled them to reach all private healthcare providers. The partners also had the ability to innovate and create scalable solutions, iterate, and employ technology-based solutions, all of which were critical for driving results.

Use data to evolve and learn. The partners employed ICT tools at various stages of the initiative, both to inform its design and track results. For instance, partners conducted a mapping exercise to broaden their understanding of private healthcare providers, identify providers to include in the initiative, and monitor progress as they expanded their outreach. Anthropological evidence helped the initiative’s leaders understand the challenges that providers and patients encounter. Adherence monitoring, home visits, and calls from the call center helped the initiative to focus on those patients who found it most difficult to continue treatment.

Finally, to hold itself accountable for results, the initiative used ICT tools to track metrics associated with notification, compliance, and adherence to TB medication in a prespecified format.

Leveraging Technology to Improve Smallholder Agriculture at Scale: Video-Based Knowledge Sharing

OVERVIEW: Digital Green is a nonprofit that partners with governments and communities to produce, disseminate, and monitor the impact of short, locally relevant videos that increase the uptake of improved agriculture practices among predominantly female smallholder farmers. The organization operates primarily in India and Ethiopia, while pursuing additional projects in 13 other countries in Africa, Asia, and Latin America.

ESTABLISHED: 2008 (spun out of Microsoft Research)

QUICK FACTS

PRIMARY PHILANTHROPISTS/ FUNDERS:

The Bill & Melinda Gates Foundation (Gates Foundation) (India and Ethiopia); USAID (global)



GRANT AMOUNT:

INR 169 crores¹ (USD 25 million) from the Gates Foundation;
INR 136 crores (USD 20 million) from USAID



PRIMARY FOCUS:

Rural Livelihoods—Agriculture

ARCHETYPE: Scale proven solutions

Digital Green developed a comprehensive evidence base for its video-based knowledge sharing model, which it leveraged to scale the initiative's reach and impact.

KEY PARTNERS:

- National Rural Livelihoods Mission and State Rural Livelihoods Missions (India)
- Ministry of Agriculture & Livestock Development (Ethiopia)

WHY BOLD?

Digital Green uses innovative technology and works through government systems to drive higher and more cost-effective adoption of best practices in agriculture among predominantly female smallholder farmers. A comprehensive evidence base of quantitative and qualitative studies serves as a testament to the success of Digital Green's model. To date, the organization has scaled its reach to 1.9 million smallholder farmers globally through its video-based knowledge sharing model and is expanding its focus to include the dissemination of health and nutrition best practices to rural populations.

KEY LEARNINGS



Invest philanthropic capital in piloting innovations and scaling what works



Use technology to help frontline workers deliver and scale programs more effectively



Tailor messaging to maximize engagement and motivate behavior change



Identify and partner with government entities that have wide reach and share similar goals in order to scale



Continuously refine, adapt, and build on a model to accelerate its impact

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

India's economy is highly dependent on agriculture. Roughly 43 percent of the country's labor force (some 224 million individuals) relies on farming for employment.² Eighty percent of Indian farmers are smallholders who own fewer than two hectares of land³ and are highly susceptible to food and nutrition insecurity. Drought, flooding, and other factors can drastically limit the yields, welfare, and consumption of these families. Indeed, more than half of India's 191 million undernourished citizens come from smallholder farming households.⁴

In 2011, India's Ministry of Rural Development established the National Rural Livelihoods Mission (NRLM) to stimulate self-employment among the rural poor, particularly women. Partly funded by the World Bank, it is one of the world's largest poverty reduction programs, with an annual budget of approximately INR 2,500 crores (USD 364 million).⁵

At the state level, the NRLM establishes State Rural Livelihoods Missions (SRLMs), responsible for forming women's self-help groups (SHGs) that catalyze economic activity within their communities. For example, SHGs can access government credit and savings programs to establish small businesses. SRLMs further engage SHGs by establishing agriculture extension systems comprised of agriculture experts and predominantly female frontline extension workers. Agriculture experts conduct scientific research on farming-related best practices, while frontline workers teach SHG members how to adopt them. SRLM extension systems can also disseminate information on health, nutrition, and family planning.

However, it is challenging to scale government efforts that support smallholder-farming communities. Because such communities are typically located in remote areas with limited internet connectivity, agriculture extension systems traditionally rely on in-person information sharing between frontline workers and farmers, with limited use of visual aids. Beyond being resource intensive and time consuming, this highly personal approach is prone to inconsistencies in information dissemination among farmers.

A BOLD INVESTMENT FOR SMALLHOLDER FARMERS

To help smallholder farmers, Digital Green, a nonprofit dedicated to improving the livelihoods of the rural poor, developed a video-based knowledge sharing initiative to strengthen agriculture extension systems. The organization partners with SRLMs,

2 "Employment in agriculture (% of total employment) modeled ILO estimate," The World Bank, International Labour Organization, ILOSTAT database, data retrieved November 2017; "Labor force, total" The World Bank, International Labour Organization, ILOSTAT database and World Bank population estimates, data retrieved November 2017.

3 George Rapsomanikis, *The economic lives of smallholder farmers: An analysis based on household data from nine countries*, (Rome: Food and Agriculture Organization of the United Nations, 2015): 1.

4 2017 *The State of Food Security and Nutrition in the World: Building Resilience for Peace and Food Security*, Food and Agriculture Organization of the United Nations (Rome, 2017: 89).

5 Roopal Suhag, "Demand for Grants 2017-18 Analysis," PRS Legislative Research (Institute for Policy Research Studies: February 27, 2017) 7.

equipping them with the skills to produce and disseminate short videos that explain agricultural best practices to smallholder farmers. Digital Green's growing library of more than 5,800 videos, each featuring local farmers, covers such topics as the importance of growing kitchen gardens, measuring wheat grain quality, and collectively selling produce.

SRLM agriculture experts review and vet video content before frontline workers show the videos to SHGs during weekly information sharing sessions. At these sessions, frontline workers—all of whom come from the villages they serve—respond to farmers' questions and track adoption of best practices. Since 2012, Digital Green has expanded the focus of its video-based knowledge sharing initiative beyond agriculture to health and nutrition, targeting the same smallholder farming populations.



Trained video-resource people film content to be included in an instructional video featuring local farmers.
(Photo: Digital Green)

HOW THE INITIATIVE CAME TO LIFE

In 2006, Digital Green began as a research project within the Technology for Emerging Markets Group of Microsoft Research, a division of Microsoft dedicated to using technology to support people living in underserved rural and urban communities throughout the world. Between 2006 and 2008, researchers including Digital Green's CEO Rikin Gandhi conceived and piloted the video-based knowledge sharing model.

In 2007, the team tested the approach through a controlled trial study of smallholder farmers in Karnataka. The study showed promising results. Digital Green's model appeared to be 10 times more cost effective than a conventional agriculture extension system, and to result in seven times more uptake of farming best practices.⁶ Encouraged by those

⁶ Rikin Gandhi, Rajesh Veeraraghavan, Kentaro Toyama, and Vanaja Ramprasad, "Digital Green: Participatory Video and Mediated Instruction for Agricultural Extension," *Information Technologies and International Development* 5, no. 1 (Spring 2009): 1.

results, Mr. Gandhi established Digital Green in India in 2008 as a nonprofit, with the goal of lifting farmers out of poverty. With pilot funding from the Bill & Melinda Gates Foundation (Gates Foundation), Digital Green began rolling out its video-based initiative through nonprofit implementation partners in four states: Jharkhand, Karnataka, Madhya Pradesh, and Odisha. While Digital Green was successful at the village level, it faced difficulties in scaling its reach, not least because of the limited geographic footprint of many of its nonprofit partners.

Its effort to expand and scale impact improved significantly in 2012, when the NRLM invited Digital Green to become its formal partner and embed its video-based knowledge sharing model in state-level agriculture extension systems. This milestone paved the way for a strong partnership with state governments and shaped the initiative's rapid growth over the past six years.

HOW THE INITIATIVE WORKS

To deliver its video-based knowledge sharing model, Digital Green partners with SRLMs in five states: Andhra Pradesh, Bihar, Jharkhand, Madhya Pradesh, and Odisha. Its ultimate goal is to help government partners in each state build sufficient capacity to take over the initiative's operations. To achieve this, Digital Green provides technical training and support across three levels of government:

- **District level:** At a district level, Digital Green and SRLM partners identify four to six video-resource people who receive five days of professional training. Those selected learn to produce instructional videos featuring local farmers speaking in their local languages.
- **Village level:** At a village level, Digital Green and SRLM partners train frontline extension workers to screen videos using portable projectors, facilitate discussions with SHGs, and capture program data, such as attendance at information sessions and best practice adoption rates. Frontline workers receive two to three days of training on their role, along with periodic follow-up trainings as needed.
- **State level:** At a state level, Digital Green helps SRLMs procure video production and dissemination equipment, which SRLMs are responsible for funding. The organization also works with SRLM leadership to develop and refine protocols related to its video-based initiative and to oversee the handover of its model.

During weekly information dissemination sessions, frontline extension workers collect feedback on the clarity and relevance of the videos they screen. The workers collate the feedback on a monthly basis and share it with district- and state-level extension system employees, who then modify video content as needed.

To capture and analyze data, Digital Green developed COCO, a data management system that works both online and offline. It links to a digital analytics dashboard that provides near real-time information on attendance, adoption rates, field operations, performance targets, and other metrics. With this information in hand, SRLM leadership can troubleshoot delivery of its video-based knowledge sharing initiative in areas where attendance or adoption rates are low.

HOW THE INITIATIVE HAS SCALED IMPACT

Since its establishment in 2008, Digital Green has scaled operations in India to reach more than 1.5 million predominantly female smallholder farmers across five states. In 2013, Digital Green established a permanent presence in Ethiopia, where it partners with the government's Ministry of Agriculture & Livestock Development (MoALD), after having piloted its model in collaboration with implementing nonprofits.⁷ Digital Green works closely with MoALD's regional bureaus to embed its video-based model into the agriculture extension systems of four administrative regions that account for approximately 75 percent of Ethiopia's agricultural output: Amhara; Oromia; Southern Nations, Nationalities, and Peoples' Region; and Tigray. Today, Digital Green reaches more than 364,000 smallholder farmers in Ethiopia.

The nonprofit also pursues initiatives in agriculture extension funded by the United States Agency for International Development (USAID) and the United Kingdom's Department for International Development (UK DFID) in 13 other countries across Africa, Asia, and Latin America.⁸ These additional projects involve assessing global agriculture extension systems and sharing locally customized solutions to improve their effectiveness. In some of these countries, Digital Green engages with nonprofit and government partners to implement Digital Green's video-based approach. Altogether, Digital Green has reached 1.9 million smallholder farmers globally.

Two factors have been fundamental to Digital Green's growth in India and Ethiopia: (1) its pivot from working with nonprofits in its early years to forming government partnerships, and (2) committed funding from the Gates Foundation.

In both India and Ethiopia, state- and regional-level agriculture extension systems cover vast populations of smallholder farming communities. These systems employ thousands of workers who have established strong relationships with members of their communities. "We partner with existing government programs, like Government of India's National Rural Livelihoods Mission (NRLM), who have scaled our approach as well as sustained it as they have seen it improve the efficiency of their day-to-day, grassroots-level work," says Mr. Gandhi. The fact that both India's NRLM and Ethiopia's MoALD saw the utility of using video technology to empower their frontline workers presented Digital Green with an almost boundless opportunity for growth. By shifting its delivery strategy from partnering with implementing nonprofits to embedding its video-based approach in government extension systems, Digital Green has accessed a critical mass of smallholder farmers in both countries.

" We partner with existing government programs, like Government of India's National Rural Livelihoods Mission (NRLM), who have scaled our approach as well as sustained it as they have seen it improve the efficiency of their day-to-day, grassroots-level work."

Rikin Gandhi
CEO, Digital Green

⁷ Implementing nonprofits include Oxfam America, International Development Enterprises, and Sasakawa Africa Association.

⁸ Additional countries include: Afghanistan, Bangladesh, Burkina Faso, Ghana, Honduras, Kenya, Malawi, Myanmar, Nepal, Nigeria, Senegal, and Uganda.

The second factor for driving growth—funding from the Gates Foundation—continues to allow Digital Green to test and scale its model and experiment with digital innovations that could amplify its impact. Since 2009, the Gates Foundation has provided Digital Green with approximately INR 169 crores (USD 25 million) to scale its operations in India and Ethiopia, continue building its evidence base through three additional controlled trial studies, and experiment with a variety of digital innovations that could advance the model's impact. Digital Green has also received approximately INR 136 crores (USD 20 million) from USAID to pursue additional projects across Africa, Asia, and Latin America, some of which incorporate the use of Digital Green's video-based model to disseminate information to smallholder farmers.

Beyond scaling its reach and impact, Digital Green has also experimented with expanding its areas of focus. In partnership with nonprofits such as SPRING, PATH, and VARRAT,⁹ along with funding from USAID and UK DFID, Digital Green began piloting the delivery of health and nutrition videos in India and Ethiopia through state extension systems in 2012. These videos highlight best practices such as handwashing, breastfeeding, and food supplementation. An external impact study of this pilot revealed that health and nutrition interventions were “well-received by rural communities and viewed as complementary to existing frontline health services.”¹⁰ While Digital Green mainly focuses on agriculture, it has received funding from USAID for a five-year project to support health and nutrition outcomes in India.



A frontline extension worker in Bihar, India, disseminates a video to a women's self-help group.
(Photo: Digital Green)

⁹ SPRING stands for Strengthening Partnerships, Results, and Innovations in Nutrition Globally; PATH stands for Program for Appropriate Technology in Health; and VARRAT stands for Voluntary Association for Rural Reconstruction & Appropriate Technology.

¹⁰ Suneetha Kadiyala, Emily H. Morgan, Shruthi Cyriac, Amy Margolies, and Terry Roopnaraine, “Adapting Agriculture Platforms for Nutrition: A Case Study of a Participatory, Video-Based Agricultural Extension Platform in India,” *PLOS ONE*, October 13, 2016, 19.

PROGRESS AND RESULTS

Over the years, Digital Green has continuously added to its video-based model's evidence base. To date, three controlled trial studies confirm the efficacy of its video-based approach in driving higher adoption rates of farming best practices compared to traditional agriculture extension systems. Two of the studies focused on measuring the adoption of improved rice cultivation practices in Karnataka and Bihar through Digital Green's model, compared to traditional extension systems.

The study in Karnataka, published in 2009, demonstrated that Digital Green's model was 10 times more effective, per dollar spent, than traditional extension systems in driving best practice adoption. Additionally, the model helped smallholder farmers adopt best practices at seven times the rate of traditional systems. The study conducted in Bihar, and published in 2015, demonstrated a 50 percent increase in adoption of best practices compared to traditional extension systems.¹¹

The third study, conducted in Oromia and Amhara in Ethiopia, and published in 2017, demonstrated an increased incidence of wheat cultivation and collectivized marketing best practices by 12-13 percent, compared to 2 percent in control groups.¹² In addition, the Gates Foundation and UK DFID are funding an ongoing randomized controlled trial in India to confirm the impact of Digital Green's health and nutrition work in such areas as reducing the rate of stunting.

As noted above, Digital Green has scaled its reach significantly. To reach 1.5 million Indian smallholder farmers, 90 percent of whom are female, Digital Green has helped SRLMs produce 4,800 videos, resulting in more than 2.6 million best practice adoptions. To reach 364,000 smallholder farmers in Ethiopia, Digital Green has helped regional MoALD bureaus produce 950 videos, resulting in more than 85,000 best practice adoptions. Globally, 1.9 million farmers and 20,000 frontline extension workers have benefitted from Digital Green's work.

Progress notwithstanding, Digital Green faces some operational challenges. For one, as it rapidly scales, the nonprofit has found that some frontline workers fail to enter information into the COCO system in a timely manner. At times, some extension workers enter inaccurate information. To address these problems, Digital Green established a comprehensive, data-quality assurance protocol, where frontline workers and external

Digital Green's model vs. traditional extension systems in India



¹¹ Kathryn Vasilaky, Kentaro Toyama y Tushi Baul, Mohak Mangal, and Urmi Bhattacharya, “[Learning Digitally: Evaluating the Impact of Farmer Training via Mediated Videos](#),” Columbia University Earth Institute, August 15, 2015, 6, https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=NEUDC2015&paper_id=519.

¹² Gashaw T. Abate and Tanguy Bernard, “[Farmers' quality assessment of their crops and its impact on commercialization behavior: A field experiment in Ethiopia](#),” Ifpri Discussion Paper, 2017.

auditors recheck data entries on a periodic basis. Another challenge: some SRLMs in India lack the financial capacity to procure video production and screening technology. Those SRLMs require long lead times to purchase equipment and continue embedding Digital Green's video-based knowledge sharing model in their extension systems.

LOOKING TO THE FUTURE

Digital Green's strategy for the next five years reveals a shift in the way it thinks about measuring its impact. To date, Digital Green's data monitoring system has focused solely on the reach and rate at which farmers adopt best practices. The organization has only measured additional impact metrics, such as crop yield and farmer income, during controlled trial studies. Moving forward, Digital Green aims to have a clear view on how the adoption of best practices directly affects those impact metrics. Frontline extension workers, by conducting periodic surveys, will soon be responsible for tracking crop yield and income.

With this information, Digital Green plans to identify videos that have led to the highest increases in crop yield and farmer income, and screen them more often. By doing so, Digital Green aims to achieve a sustainable and measurable 25 percent increase in the incomes of 1.1 million smallholder farmers globally by 2022. It also plans to identify two to three additional focus countries (beyond India and Ethiopia) to scale its video-based model through government partnerships. In addition, Digital Green will continue to develop a host of other innovative technologies that aim to strengthen farm-to-market linkages. A few of these innovations include:

Loop. This farm-to-market transport initiative encourages smallholder farmers to use technology to collectively transport and sell their produce. Collectivizing through Loop significantly reduces transportation costs, saves farmers from having to travel to the market, and consolidates their selling power. Digital Green enables digital payments between farmers and aggregators through a Loop mobile app in partnership with Paytm, a digital payments company based in Noida, Uttar Pradesh. The nonprofit has deployed Loop in India in 2015 and Bangladesh in 2017, which has facilitated the sale of 75,000 tons or INR 89 crores (USD 13 million) worth of produce. Digital Green is now in the process of spinning out Loop into a separate, commercial social enterprise.

Digital Green's goal (2022)



Interactive Voice Response (IVR). Through an interactive hotline, farmers can access automated best practice information and speak directly to extension workers. IVR also sends automated text reminders that reiterate the video content that a farmer has watched. Digital Green is deploying IVR in India, Ethiopia, and Uganda.

Satellite yield estimation. Digital Green uses satellite imagery to estimate the crop yields of a given plot of land. The organization is running a feasibility study with Stanford University to examine the accuracy of this technology compared to traditional in-person assessments.

By developing a host of innovative technology solutions, Digital Green ultimately hopes to create a comprehensive platform for farmer-centered services and interventions aimed at increasing incomes among the rural poor.

KEY LEARNINGS

Invest philanthropic capital in piloting innovations and scaling what works. Before Digital Green spun out of Microsoft Research, the research team that conceptualized the video-based model focused on rigorously testing the viability of its approach. The organization deployed a comprehensive, 13-month controlled trial in the state of Karnataka to measure the adoption of improved rice cultivation practices through Digital Green's model and compare it to traditional extension systems. Motivated by the positive results of the study, the Gates Foundation began funding the nonprofit a year after it spun out of Microsoft Research. Once Digital Green formed partnerships with the governments of India and Ethiopia, the Gates Foundation again provided substantial funding to scale Digital Green's model across five states in India and four regions in Ethiopia, by embedding it within government agriculture extension systems.

Use technology to help frontline workers deliver and scale programs more effectively. Recognizing the potential for information and communications technology to strengthen traditional agriculture extension systems and to scale its impact beyond the existing in-person tutorial model, Digital Green developed a video-based model to empower frontline extension workers to more effectively engage with farmers. The model enabled the traditional agriculture extension system to disseminate information with greater reach and accuracy. The nonprofit's additional investment in COCO, its data management system, has also improved the initiative's effectiveness. Equipped with farmer-level data, SRLM leaders can troubleshoot program delivery issues in areas where attendance or adoption rates are low.

Tailor messaging to maximize engagement and motivate behavior change. Digital Green's videos are "of the farmer, for the farmer, and by the farmer." They feature local community members narrating (in their own regional languages) their personal experience in adopting agriculture best practices. These champions, who themselves are smallholder farmers from nearby villages, lay out the steps for adopting best practices and walk through the direct benefits that result. By equipping local teams with video production skills, Digital Green tailors video content to each community. For smallholder farmers, seeing a best practice work for a neighbor assures them of its worth. Follow-up discussions, mediated by frontline extension workers, reinforce the adoption of best practices shown on screen.

Identify and partner with government entities that have wide reach and share similar goals in order to scale. While Digital Green's initial nonprofit partners implemented the organization's model with fidelity, achieving scale through these partners was a challenge. Teaming with India's Ministry of Rural Development (the NRLM and SRLMs) and Ethiopia's MoALD dramatically improved Digital Green's capacity to scale, as these governments' agriculture extension systems already reached significant populations of smallholder farmers. Both governments also committed to funding the procurement of video production and dissemination equipment, along with the cost of training networks of frontline extension workers. By embedding its program model within government agriculture extension systems, Digital Green has reached 1.5 million smallholder farmers in India and 364,000 in Ethiopia.

Continuously refine, adapt, and build on a model to accelerate its impact. Digital Green constantly reevaluates and modifies its video content to promote higher adoption rates. It has established a comprehensive protocol for collecting farmers' feedback during weekly information-dissemination sessions. This feedback helps to improve video content. Beyond striving for higher adoption rates of agriculture best practices, Digital Green has committed to developing and piloting innovations—including Loop, IVR, and satellite-based technology for assessing soil health—aimed at increasing the annual incomes of smallholder farmers.

Lifting Rural Farmers Out of Poverty: Lakhpatti Kisan

OVERVIEW: Lakhpatti Kisan strives to lift rural farmer populations in central India (currently Gujarat, Maharashtra, Odisha, and Jharkhand) irreversibly out of poverty through community-led income enhancement interventions.

ESTABLISHED: 2015

QUICK FACTS	<p>PRIMARY PHILANTHROPIST: Tata Trusts</p>	 <p>GRANT AMOUNT: INR 120 crores¹ (USD 18.5 million) over five years (Tata Trusts' contribution)</p>	 <p>PRIMARY FOCUS: Rural livelihoods—tribal communities</p>					
<p>ARCHETYPE: Support community-driven development</p> <p>Lakhpatti Kisan helps to advance development in economically distressed communities in the Central India Belt by engaging with community members and motivating them to drive change.</p>			<p>KEY PARTNERS:</p> <ul style="list-style-type: none"> • Bharat Rural Livelihoods Foundation • Infosys Foundation • Tata Communications 					
<p>WHY BOLD?</p> <p>Lakhpatti Kisan focuses on marginalized tribal communities in high poverty areas (Gujarat, Maharashtra, Odisha, and Jharkhand), using a community-led approach that addresses a wide range of their needs to dramatically improve the incomes of farming families. To date, it has reached approximately 100,000 households across 800 villages and helped create nearly 20,000 Lakhpatti Kisans (households with an income of over INR 120,000).</p>								
<p>KEY LEARNINGS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 33%;">  <p>Mobilize around a clear, meaningful goal</p> </td> <td style="text-align: center; width: 33%;">  <p>Empower the community to lead</p> </td> <td style="text-align: center; width: 33%;">  <p>Involve the “doers” in the decision making</p> </td> </tr> <tr> <td style="text-align: center;">  <p>Collaborate with the broader ecosystem of funders/partners for greater impact</p> </td> <td style="text-align: center;">  <p>Adapt continuously and course correct based on realities on the ground</p> </td> <td></td> </tr> </table>			 <p>Mobilize around a clear, meaningful goal</p>	 <p>Empower the community to lead</p>	 <p>Involve the “doers” in the decision making</p>	 <p>Collaborate with the broader ecosystem of funders/partners for greater impact</p>	 <p>Adapt continuously and course correct based on realities on the ground</p>	
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 <p>Collaborate with the broader ecosystem of funders/partners for greater impact</p>	 <p>Adapt continuously and course correct based on realities on the ground</p>							

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

One of the largest concentrations of rural poverty in Asia is in the forested areas of Central India, where tribal populations have lived for generations. About 100 million tribal individuals live in India, accounting for 8.6 percent of the nation's population. Over 70 percent reside in this expansive region, which spans eight states: Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh, Odisha, Jharkhand, and West Bengal.²

Many tribal or indigenous groups of India are categorized by the Indian government as scheduled tribes. Historically, these tribes have occupied the lowest class in the socioeconomic strata and in the caste system. Whereas 26 percent of India's rural population lives in poverty, nearly half (45 percent) of the scheduled tribes in rural India live below the poverty line.³

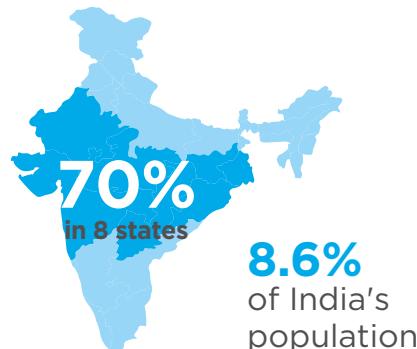
For tribal populations, social and cultural contexts make it doubly challenging to build sustainable livelihoods. Despite the rich vegetation and good rainfall in the tribal dominated blocks of Central India, the communities live in poverty and often face acute food insecurity due to factors such as their lack of connectivity to the outside world and the absence of scientific knowledge and support systems. For example, many farmers lack the kind of irrigation systems that can sustain their crops throughout the year. They have limited access to economic opportunities, including lack of direct access to credit and markets. As a result, they endure vicious cycles of rain-fed farming, followed by extended periods of forced migration to make ends meet. Each of these factors contribute to persistent food insecurity in these rural communities, as well as limited employment options. Since poverty spans generations, tribal populations have been mired in debt traps for decades.

Furthermore, tribal communities speak their own dialects. Thus, their children struggle in Hindi- or English-speaking schools, leading to a lack of confidence and limited participation. This puts them at a disadvantage as they grow older and seek employment opportunities.

For all of these reasons, Tata Trusts under its Central India Initiative launched Lakhpatri Kisan: Smart Villages, an initiative that aims to lift tribal populations in Central India irreversibly out of poverty and improve their quality of life.



**100M tribals
live in India**



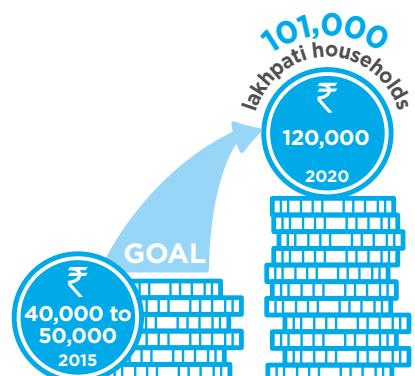
2 "Demographic Status of Scheduled Tribe Population of India," Anthropos India Foundation; "Tribal People of India," Fact and Details.com, Last updated June 2015.

3 Somesh Jha, "Fewer poor among SC, ST, OBC," *Business Standard*, March 14, 2014.

A BOLD INITIATIVE IN THE LIVELIHOODS OF TRIBAL COMMUNITIES

Driven by Ratan Tata's strong desire to have a deeper impact on tribal marginal farmers in Central India, Lakhpatti Kisan is an initiative led by Tata Trusts and its associate organization, Collectives for Integrated Livelihood Initiatives (CInl), which strives to help tribal populations in Central India build durable livelihoods. Specifically, the initiative has set a goal of making 101,000 tribal households "lakhpatti," meaning that by 2020, each of those households would earn more than INR 120,000 per year (or approximately USD 1,850), up from a baseline of INR 40,000 (about USD 615) to INR 50,000 (about USD 770) per year. Critical inputs from the community, backed by CInl's analysis, set the INR 120,000 target, an amount that would prevent families from sinking back into poverty. Lakhpatti Kisan harnesses innovative, market-oriented interventions that aim to bolster elements of the agricultural value chain in rural areas and generate diversified sources of income for communities.

Lifting tribal households out of poverty



What really distinguishes the Lakhpatti Kisan initiative from others is that it is community-led, women-led, and focused on robust implementation on the ground. Ganesh Neelam, zonal manager, Tata Trusts and executive director of CInl, notes the importance of this approach in the work. "According to our principles, the community, and mostly women-led community institutions, are spearheading their own development process. It is through the community and with the community that we develop interventions on the ground. Their buy-in and ownership of the initiative are critical to ensure sustainability," he says.

As part of this approach, "Lead Didis"—women who are often early adopters and have a deep understanding of Lakhpatti Kisan's interventions—work as influencers, where they try to get more households to adopt new farming strategies and technologies. Rather than using a top-down approach, the initiative is working from the ground up, trying to build the capacity of self-help groups (SHGs), which are women-centric, and other community members, making them adept at charting their own courses towards prosperity.

Lakhpatti Kisan focuses on tribal families in the states of Jharkhand, Odisha, Maharashtra, and Gujarat—a part of the central belt of India where deep rural poverty endures. The initiative focuses on 17 tribal blocks of varying sizes as drivers of regional growth in these states. All of the selected blocks have tribal populations that constitute more than 50 percent of the area's total

"It is through the community and with the community that we develop interventions on the ground. Their buy-in and ownership of the initiative are critical to ensure sustainability."

Ganesh Neelam
Zonal Manager—North and Central,
Tata Trusts and Executive Director of CInl

population. By focusing on holistically developing these tribal communities, CInI aspires to make them a blueprint for helping other communities prosper.

HOW THE INITIATIVE WORKS

The key players behind Lakhpatti Kisan include the Tata Trusts, which developed the idea and provides financial support and technical guidance, and CInI, an initiative of Tata Trusts, which is responsible for devising and coordinating implementation. There are also Implementation Support Agencies (ISAs) in the field—nonprofits that execute interventions at the community level. Finally, there are community-based groups, including women-led SHGs, village organizations, farmer producer organizations, and federations. They lead the work by helping design interventions, supporting families in executing them, and garnering support from block officers (government officers responsible for the specific administrative blocks). These groups will ultimately carry the work to more households in the region.

Lakhpatti Kisan has a unique funding model that draws on a broad base of support. The initiative design requires an investment of INR 65,000 per household, with the aim of taking them irreversibly to lakhpatti level within a five-year timeframe. Fifteen to 20 percent of these funds come from Tata Trusts; another 15-20 percent comes from the rural households

themselves through in-kind or cash contributions; and the remaining 60-70 percent is drawn from a variety of funders. To date, these additional funders include departments of state governments, the National Bank for Agriculture and Rural Development, Infosys Foundation, Ernst and Young Foundation, Tata Communications CSR, Ford Foundation, Tata Steel CSR, and Bharat Rural Livelihoods Foundation, among others.

For its part, Tata Trusts has committed over INR 120 crores (USD 18.5 million) over five years (April 2015 to March 2020). The remaining funds are to be leveraged from government and other donors. The projected total budget for the initiative is INR 600 crores (USD 92 million).

Sirshendu Paul, a Tata Trusts regional manager (Jharkhand), explains that rural communities should also contribute funding or in-kind support to the initiative, so that local people are more invested in the work and gain exposure to market realities. “One of the biggest learnings for us is that agriculture cannot be sustained by subsidies, but has to be viewed with a business lens. Funding can be an enabler, but profits should be able to sustain it in the long term,” he says.

Lakhpatti Kisan educates target households on new technologies and guides them on how to improve farming practices, increase productivity, and thereby build their economic lives. These technologies, for example, include drip irrigation, tractors, solar power, and

“ One of the biggest learnings for us is that agriculture cannot be sustained by subsidies, but has to be viewed with a business lens. Funding can be an enabler, but profits should be able to sustain it in the long term.”

Sirshendu Paul
Regional Manager (Jharkhand), Tata Trusts

high-tech ‘nurseries’ for saplings, which are beyond the reach of many tribal farmers. One example of the initiative’s technical assistance is educating farmers on farming practices, such as transplanting saplings from nursery greenhouses. The initiative targets at least one-third of households in each of the 17 blocks for new techniques and technologies; this level is the “critical mass” that has the potential to drive broader behavior change in the community to help move towards prosperity, according to a CINI analysis.

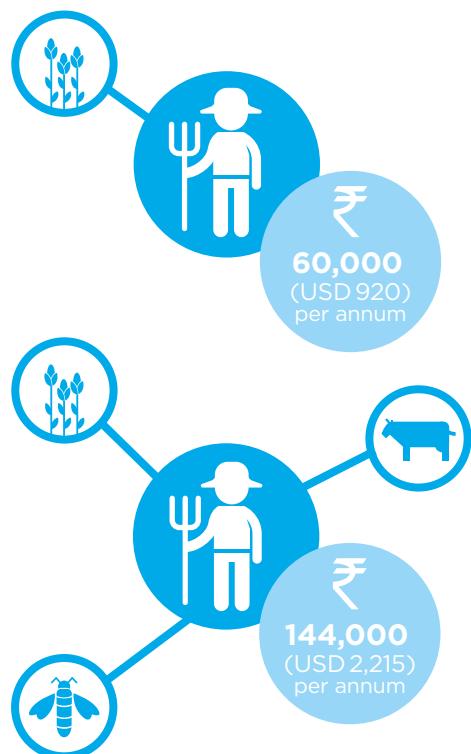
Most of the households in these areas already grow maize, rice, and wheat, which are staple crops and rarely provide a substantial jump in income. Instead, farmers are trained to cultivate high-value crops based on market demand. Crops that can command a higher price for tribal farmers include watermelon, chilies, tomatoes, and gourds, among others. By educating communities about the wider variety of agricultural products that are available to them, Lakhpatti Kisan’s leaders aim to diversify farmers’ yields and raise their incomes.

In fact, Lakhpatti Kisan’s goal is to introduce a layering approach, where families diversify their incomes, which helps to ensure that they are not overly dependent on one source of revenue. A farmer engaging in high-value agriculture alone will earn about INR 60,000

(USD 920) annually. But a farmer who layers on additional activities, such as raising livestock or cultivating non-timber forest products (NTFPs) like lac, can earn INR 144,000 (USD 2,215) annually. By diversifying their revenue sources, rural households are better able to weather market-price fluctuations and accelerate income growth to cross the lakhpatti mark.

Lakhpatti Kisan also works to build community-wide infrastructure. When the initiative adds irrigation systems or builds a high-tech nursery, the whole community benefits. Lakhpatti Kisan also addresses the need for financing new types of agriculture. The initiative introduced a new loan model in partnership with organizations such as Avanti Finance and Rang De that allows households to have access to affordable loan products, so they can better afford farming tools and technologies. Local SHGs make loans available at more affordable interest rates—approximately 25 percent annually, versus the more typical 4 percent a month (approximately 48 percent annually) from traditional financing structures. By working with SHGs, families feel less intimidated. Rather the loans operate on a trust-based model since the loan funding comes from community members.

Diverse sources of revenue





Mulching practices taught through Lakhpatti Kisan benefit smallholder farmers in Jharkhand.
(Photo: Lakhpatti Kisan)

PROGRESS AND RESULTS

Since 2015, Lakhpatti Kisan has helped 100,000 households across 798 villages. It has worked with 5,380 SHGs, as well as 340 village organizations. On the agricultural front, the initiative has transitioned more than 60,000 households to year-round high-value agriculture. Given that water management and irrigation are key components to cultivating crops in all seasons, the initiative has helped create nearly 1,500 irrigation structures in 56 villages. As part of its layering approach, the initiative is working with more than 10,000 households on livelihood development and around 4,000 households on NTFPs.

The initiative also has transformed nearly 20,000 households into lakhpatti kisans earning over INR 120,000 annually, which means it has taken a first step towards the overall goal of producing 101,000 lakhpatti kisans. Systems and processes are now in place to accelerate that effort. Lakhpatti Kisan has incorporated strong feedback mechanisms, where there are regular discussions on progress and adoption rates with members of the nonprofits and community groups. Those conversations help to ensure that one block can learn from another.

LOOKING TO THE FUTURE

By March 2020, Tata Trusts and CInl are committed to achieving its goal of helping 101,000 farming households achieve lakhpati status.

By 2025, CInl plans to scale its impact beyond that benchmark, ideally with the help of state and local governments. The Lakhpati Kisan initiative is preparing community institutions, like the federations and producer companies, to take more ownership of the work after 2020. As Mr. Neelam says, “Our hope is that after five years, CInl’s role as a facilitator changes substantially, and the community institutions are the leaders.” Ultimately, the initiative aims to have governments and other organizations in the sector adopt and scale these interventions in the target states and beyond, glimpses of which are already being seen.

“ Our hope is that by five years of the program, CInl’s role as a facilitator changes substantially, and the community institutions are the leaders. ”

Ganesh Neelam
Zonal Manager—North and Central, Tata Trusts and Executive Director, CInl

Although the initiative has ambitious goals and is making progress, there have been some challenges. For instance, while lakhpati kisan households are newly empowered, it is hard to tell whether these rural communities are prepared to take full ownership of the work without CInl’s help. So far, while some households have seen success from this work, others have hesitated to risk adopting new technology or taking on loans. Also, the uptake of interventions within communities has not been as rapid as expected. Many families are vulnerable and highly risk averse, given their challenging economic circumstances.

Even when they make the leap to planting different crops or switching to a drip irrigation system, households find that sometimes their income gains can be slow. (The goal is for one decimal (1/100 of an acre) of land to provide INR 1,000 of income per year.) That is partly because households are not always successful in their first attempts in adopting new approaches, nor do they have existing market linkages to sell their high-value agricultural products.

There are external challenges as well. Government has been slow to fund and scale the initiative, though there is increasing momentum around promoting the approach. Lakhpati Kisan has also had to push other partners to strive for the five-year goal. Some partners are somewhat risk averse and cautious. Lastly, the CInl team managing this work currently lacks real-time MIS data, such as the interventions that different households are engaged in and changes in income. The initiative is trying to improve systems to capture data faster and more accurately.

LEARNINGS TO DATE

Mobilize around a clear, meaningful goal. With this initiative, Tata Trusts channeled philanthropic funding to define and highlight a clear, meaningful goal. By articulating the initiative's core objective and identifying impact metrics over an ambitious timeframe, Lakhpatti Kisan has brought focus and momentum to the work. The publicly announced goal of helping 101,000 households reach lakhpatti status has unified staff, partners, and supporters, increasing the odds that they will make significant progress. Additionally, community members targeted INR 120,000 as the desired household income for irreversibly lifting them out of poverty, which made the goal meaningful.

Empower the community to lead. Instead of viewing rural communities as passive populations, Lakhpatti Kisan worked to empower them, by incorporating their input and looking to SHGs to carry the work forward. The initiative depends in part on the work of women-led community groups, SHGs, village organizations, and farmer producer organizations. These groups provide valuable input in designing and iterating on interventions.

To spur a community's involvement, Lakhpatti Kisan invests deeply in building community-based groups and in providing ongoing support to them. One case in point are the new loan products, which arose from a belief that farmers do not need handouts. On the contrary, they have the wherewithal to make smart financial decisions, as long as they have some guidance. Now, in addition to improving rural people's economic prospects, this work has given farmers a voice in their communities and growing confidence in their abilities.

Involve the “doers” in the decision making. The Lakhpatti Kisan initiative ensures that those who must execute the program are involved in designing it. Their input helps ensure the goal is realistic and the approach is sound. This occurs in a two-fold manner: first, the CIInI staff, who are responsible for managing operations, provide extensive input into the design. To ensure that the staff's ideas are aligned with what is happening on the ground, CIInI leadership conduct frequent site visits to the communities. Second, as cited above, SHGs and community members serve as pivotal partners, by providing feedback to the effort's leaders on how to improve the work.

Collaborate with the broader ecosystem of funders/partners for greater impact. When identifying potential funders and partners, the initiative casts a wide net. Lakhpatti Kisan leverages funding from Tata Trusts to draw in a range of funders. It also designs interventions that are adapted to those funders' areas of interest, provided they fit into the initiative's 2020 framework. For example, Axis Bank Foundation is interested in supporting specific blocks in Jharkhand.

Lakhpatti Kisan also identifies opportunities to support the efforts of other actors leading similar work. For example, The World Bank's Jharkhand Opportunities for Harnessing Rural Growth Project collaborated with the initiative to enhance rural incomes for smallholder households in 65 blocks of Jharkhand. By developing productive collaborations with various actors, the initiative helps communities benefit from a supportive ecosystem.

Adapt continuously and course correct based on realities on the ground. A strong feedback loop between the farming households, SHGs, and nonprofit workers allows the initiative to quickly identify what is working and apply learnings from one block to another. By design, Lakhpatti Kisan's work is very iterative, with a range of interventions and approaches that staff test continuously at the local level.

The CInI staff rapidly pinpoint promising interventions, as well as those that are less effective. Then, the initiative customizes the intervention mix across geographies, even as it factors each area's specific challenges. For instance, the initiative quickly expanded the use of drip irrigation systems after determining the technology was succeeding in a few localities. The same goes for community members who learn from each other and adapt based on interventions that are working well.

Transforming Government School Education in Rajasthan: Rajasthan Adarsh Yojana

OVERVIEW: The Rajasthan Adarsh Yojana is a holistic effort to improve government education in Rajasthan through systems reform. The initiative focuses on improving governance processes associated with education, reducing teacher and school leadership vacancies in schools, and improving school infrastructure.

ESTABLISHED: 2014

QUICK FACTS

PRIMARY

PHILANTHROPISTS:

Michael & Susan Dell Foundation (Dell Foundation), Central Square Foundation (CSF)



GRANT AMOUNT:

INR 27 crores¹
(USD 4.1 million) from the Dell Foundation;
INR 152 lakhs
(USD 225,000) from CSF



PRIMARY FOCUS:

Education

ARCHETYPE: Strengthen/reform systems

Rajasthan Adarsh Yojana aims to transform the quality of education in government schools across the state of Rajasthan through a series of holistic measures intended to improve the governance of schools, ensure adequate teachers and principals, and upgrade school infrastructure and learning.

KEY PARTNERS:

- Department of Education, Government of Rajasthan
- The Boston Consulting Group

WHY BOLD?

The Rajasthan Adarsh Yojana intends to improve the quality of education for 4.6 million students in 9,895 government schools across Rajasthan. The philanthropists are holistically supporting the government to strengthen the education system of Rajasthan. They have decided to focus their capital towards augmenting the government's core capabilities, which should ensure long-term impact.

KEY LEARNINGS



Collaborate effectively with key government stakeholders for systemic change



Focus on strengthening administrative infrastructure, which provides a foundation for other reforms



Build the system's capacity to sustain change



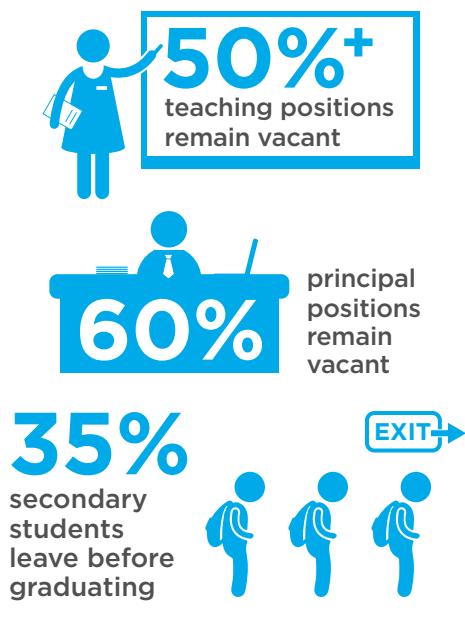
Use data to support behavioral change at multiple levels

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

Until very recently, Rajasthan, India's seventh most populous state, had one of the nation's poorest performing public education systems. According to the National Achievement Survey, an assessment administered to children in government schools across India, Rajasthan's students performed consistently below the national average in reading comprehension, mathematics, language, and other subjects.² In 2012–2013, across all subjects and grades, Rajasthan ranked 24th out of 29 states and five union territories.³ That dispiriting result delivered an unequivocal message: if Rajasthan was to equip its young people with the knowledge, skills, and mindsets to compete in the nation's economy—and thereby improve the state's GDP—its schools could not continue to receive failing grades.

Government schools before the initiative



Rajasthan's 80,000 government schools were poorly equipped and understaffed. Numerous vacancies diminished the state's teaching and administrative ranks. Urvashi Sahni, advisor to the chief minister of Rajasthan, noted that until recently, more than 50 percent of the state's teaching positions and 60 percent of its openings for school principals were vacant. Many schools also lacked essential amenities. According to the 2014 Annual Status of Education Report (ASER), 37 percent of Rajasthan's rural schools lacked playgrounds, 26 percent did not have a provision for drinking water, and 23 percent did not have a separate toilet for girls.⁴ Not surprisingly, almost 35 percent of the system's secondary school students left before graduating.

With high-quality public education in short supply, low-cost private schools emerged as alternatives. Private school enrollments in Standard I (first grade) through Standard V (fifth grade) had increased from about 35 percent in 2008 to 46 percent in 2014.⁵ With fewer students—along with fixed and limited

budgets—government schools have had to spend more per pupil to provide the same education services, challenging their viability.

Although some philanthropic organizations are trying to improve India's government schools, most address single issues, such as enrolling girls or improving teacher training. The Michael & Susan Dell Foundation (Dell Foundation), which has a dedicated portfolio

² National achievement survey 2014 state scorecard noting data for a number of states surveyed; CSF grants page for overall rank of Rajasthan.

³ Ibid.

⁴ Annual Status of Education Report (Rural) 2014, ASER Centre (January 13, 2014: 247).

⁵ Ibid, 232.

for education investments in India, and Central Square Foundation (CSF), which specializes in education, are taking a more holistic approach. They are working in concert to help the Rajasthan government strengthen the government education system's core components, such as governance and accountability processes, school infrastructure, and teacher and administrator training.

A BOLD INITIATIVE IN GOVERNMENT EDUCATION SYSTEM TRANSFORMATION

In 2014, the government of Rajasthan announced a new initiative, the Rajasthan Adarsh Yojana, which would establish one adarsh (Hindi for “ideal”) school in each of the 9,895 gram panchayats across the state (a gram panchayat comprises a cluster of villages governed by a single village council). The state defined an adarsh school as an integrated primary and secondary school that is large, child-friendly, and fully staffed; most importantly, it provides a high-quality education. This model government school would serve as a blueprint for other nearby schools and ensure that at least one fully equipped, integrated school would be accessible to the area’s children.

Naresh Gangwar, the education secretary of Rajasthan, spearheaded the initiative. Inspired by the state’s commitment to improve its education system, the Dell Foundation and CSF, in 2015 and 2016 respectively, started to support the government’s effort. The philanthropists committed to helping the government implement its vision and to funding the Boston Consulting Group (BCG) to provide strategic and project management support to the government.

Through the Rajasthan Adarsh Yojana, the government aims to improve the quality of education for at least 4.6 million children by the end of 2018. The effort is bold, not merely because of its scale, but also because it requires significant behavior change: stakeholders at every level in the education system, from teachers to government officials, will have to contribute to changing the quality of government schools. The initiative also envisions adarsh schools as “models” that will eventually set the standard for all of the state’s schools.

Given the initiative’s ambition, the biggest challenge to getting started, from the partners’ perspective, was in identifying and understanding the education system’s core components, selecting those that needed to be restored or even reimagined, and creating a plan that would enable the government to bring such a transformation to life.

The Dell Foundation and CSF are backing this program because they believe that systems reform is the key to achieving impact at scale in education. “The millions and millions of children in this country is really the landscape that we want to address,” says Debasish Mitter, who directs the Dell Foundation’s India programs. “This is not about small changes on the fringes.”

“The millions and millions of children in this country is really the landscape that we want to address. This is not about small changes on the fringes.”

Debasish Mitter
Director, Michael & Susan Dell Foundation, India

HOW THE INITIATIVE WORKS

The Rajasthan Adarsh Yojana envisioned that by the end of 2018, all of Rajasthan's gram panchayats would have one fully functioning adarsh school. With a staff of trained teachers, each school would produce improved learning outcomes for students in grades 1-12.

The Rajasthan Adarsh Yojana also recognized the importance of good governance and accountability to improve school-level outcomes. In addition to activities geared towards advancing student learning, the initiative would also institute mechanisms that hold teachers, school leaders, and government officials accountable for achieving its objectives. To realize such a lofty goal, the initiative drew on a strong network comprised of the state government, the two philanthropic foundations, BCG, and local community groups.

The government has undertaken a host of activities to ensure that the initiative holistically transforms the education system. Key activities include: 1) integrating small primary and secondary schools to function as one adarsh school for grades 1-12; 2) improving the infrastructure of these schools; 3) fully staffing the adarsh schools, by creating transparent processes for transferring teachers and other support staff from overstaffed to understaffed regions; 4) installing an online, real-time management information system (MIS) to track data and build accountability at the student, teacher, school, block, district, and state levels; and 5) institutionalizing the State Initiative for Quality Education, a model where teachers continuously evaluate each student's performance and provide feedback tailored to each student's needs and learning style. Importantly, the data collected on the MIS is used to create reports that rank districts and schools on their progress towards becoming adarsh.

BCG, for its part, provides expertise in planning and management, at both the state and district levels. At the state level, BCG helps design the initiative and sets goals, works with key state government representatives (such as the chief minister, minister of education, and the secretary of education), and monitors progress. At the district level, BCG assists with the initiative's roll out. As the initiative nears its completion date, the consultancy is focusing on building the capacity of district officials to carry the initiative forward.

Both philanthropic partners contribute to the initiative. The Dell Foundation shares what it takes to scale and sustain education initiatives, which it has gleaned through supporting education initiatives globally and across India. Drawing on its experience from managing other education grants across India, CSF advises BCG and the government on specific areas like student assessments and pedagogy. By supporting this initiative, CSF is keen to learn more about how best to strengthen education systems and initiate similar programs in other states. To date, the Dell Foundation has given INR 27 crores (USD 4.1 million) to the initiative and CSF has contributed INR 152 lakhs (USD 225,000).

The initiative also operates at the grassroots level. Parents and other community members participate in school management committees, monitor the schools' functioning, and hold school authorities accountable to targets.



Students use e-learning tools in an adarsh school. (Photo: The Boston Consulting Group)

PROGRESS AND RESULTS

Since its launch in 2014, the Rajasthan Adarsh Yojana has rolled out its program across much of the state. The effort has converted about 95 percent of the 9,895 designated schools to the adarsh model. The total number of government schools in Rajasthan has dropped from 80,000 to 65,500, due to the integration of smaller schools into larger, adarsh schools. Teacher vacancies in those schools have dropped to 20 percent, from a previous average of 50 percent in 2014.

As more adarsh schools have opened their doors to Rajasthan's children, enrollment across all government schools has increased to about 700,000 across adarsh schools, with many students returning to the government schools from private schools, according to BCG. "School enrollment in government schools has bumped up," says Ms. Sahni. "The private sector had taken over a huge chunk of their children, because people had lost faith in government schools. But now the trend has reversed."

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Urvashi Sahni
Advisor to the Chief Minister
of Rajasthan

Adds Mr. Mitter of the Dell Foundation: “[Increased enrollment] is a very, very important metric. It shows that parents are finding that the government schools are starting to become a choice and they do not have to necessarily take their children to a low-fee private school.”

Management information systems have been installed by project staff in every adarsh school and have helped government officials make real-time decisions. According to Govind Rathore, a government district officer, before the system was installed, he could not determine how many schools in his geographically disparate jurisdiction needed his support as they tried to achieve their adarsh goals, or if they needed to be inspected to ensure teacher and principal attendance. Now, with granular data available on each school that even a smartphone can easily access, he can make these decisions in real time.

Most importantly, the initiative seems to be improving student learning. An external assessment commissioned by UNICEF and conducted by the Center for the Science of Student Learning showed that performance in core subjects improved by an 8 percent to 20 percent margin from 2014 to 2016 among students in the third and fifth grades in select adarsh schools. Notably, in the third, fifth, and seventh grades, girls outperformed boys in languages. According to BCG, the 2018 National Achievement Survey ranked Rajasthan’s education system among the nation’s top five states, a significant jump from 2014, when Rajasthan was 24th out of 29 states and five union territories.

The results achieved by the initiative have created an ecosystem for other, more targeted learning interventions to take place. “The Rajasthan Adarsh Yojana has helped reduce teacher and principal vacancies, and establish essential governance mechanisms for Adarsh schools. The initiative presents a great opportunity to now focus on improving standards of learning through strengthened classroom instruction,” says Bikram Singh, managing director of CSF.

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Bikram Singh
Managing Director,
Central Square Foundation

LOOKING TO THE FUTURE

Going forward, the initiative will seek to maintain progress and build on its administrative and infrastructure improvements in adarsh schools. It also seeks to make greater strides in improving students’ learning, and to transfer some of the quality improvement initiatives that were successful in adarsh schools to non-adarsh schools. For example, the data management systems that were originally installed to monitor adarsh schools are now present in many non-adarsh schools as well. Only one-sixth of the state’s schools are adarsh schools. Ensuring that all government schools offer quality education is crucial to achieving Rajasthan’s vision of improving learning outcomes amongst all of the state’s youth.

The Rajasthan Adarsh Yojana plans to increase its focus on improving classroom learning through the State Initiative for Quality Education. It is also plans to scale blended learning, adaptive learning,⁶ and other innovative learning approaches, like [Mindspark](#) and [Hello English](#), to all adarsh schools and eventually to non-adarsh schools as well. In addition, the Dell Foundation and CSF believe there is an opportunity to expand the effort, by eventually offering training opportunities in career skills, which would help improve students' livelihoods.

LEARNINGS TO DATE

Collaborate effectively with key government stakeholders for systemic change. The Dell Foundation and CSF decided to collaborate with a state government that was committed to transforming its education system in a holistic fashion, and whose leadership played an active role in creating and executing the initiative. The philanthropists then supported the government's effort to identify the key areas that needed to change, which in turn affected multiple components of the education system. The chief minister and the secretary of education of Rajasthan are closely involved in ensuring Rajasthan Adarsh Yojana's success, by continuously monitoring the program and helping to execute to plan. The state's commitment to the initiative makes it easier for the partners to add value.

The philanthropists also partnered with civil society groups to bring in subject-matter expertise (such as student learning assessments), introduce learning tools, and encourage community-level engagement for implementing the initiative. Without such collaboration, the philanthropists or the government might not have been able to help schools make such significant improvements.

"A strong and effective collaboration amongst the senior-most levels of the government, the civil society, the private sector—including strategy consultants—and others has to be orchestrated to change such a large and complex system," says Mr. Mitter. "No one organization, however well-intentioned, should ever try to attempt such reforms by themselves."

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Debasish Mitter
Director, Michael & Susan Dell Foundation, India

⁶ Blended learning is a form of learning that mixes e-learning with in-classroom, traditional methods of teaching; adaptive learning platforms are typically e-learning tools that 'adapt' their content according to the learning levels of the user.

Focus on strengthening administrative infrastructure, which provides a foundation for other reforms. By investing first in improving the education system's backbone (for example, instituting governance processes, integrating multiple schools into one viable unit, and upgrading school infrastructure), the initiative is laying the groundwork to sustain academic reforms over the long run. For instance, the initiative tries to decrease teacher vacancies and streamline the number of hours teachers teach, to create a platform for innovations to improve teacher performance. This approach contrasts with education initiatives that introduce learning tools or in-classroom innovations without strengthening the capacity of the system to sustain these efforts over the long term.

Build the system's capacity to sustain change. The philanthropists focused on building the government's capacity to initiate change, rather than fostering the government's dependence on third parties. By funding BCG's participation, the donors also provided the government with an important resource for assessing the education system, identifying what needs to change, developing a strategy to improve the quality of education in schools, increasing accountability of schools and the state government, and enabling a more effective system to emerge. To sustain this work after its exit, BCG is focusing on building the capabilities of the education system's district-level players.

Use data to support behavioral change at multiple levels. Systems-reform often requires behavioral change. Installing an MIS in every school enabled all stakeholders—from government officers at the state level to teachers in schools—to have a clear line of sight into how the initiative was functioning. The partners were able to utilize this data to create scorecards and incentives for schools and districts, and to motivate officials to change their behavior when needed. The data also provided a mechanism for top-down monitoring.

Building the Field of Neuroscience Research in India: The Centre for Brain Research

OVERVIEW: The Centre for Brain Research (CBR) at the Indian Institute of Science in Bengaluru, Karnataka is a pioneering research institution that conducts clinical neuroscience studies focused on brain disorders among the Indian population. CBR's first project addresses aging-related brain disorders.

ESTABLISHED: 2014

QUICK FACTS

PRIMARY PHILANTHROPIST:
Kris Gopalakrishnan



GRANT AMOUNT:
INR 255 crores¹
(USD 38.5 million)
over 10 years



PRIMARY FOCUS:
Health—clinical
research

ARCHETYPE: Build a field

CBR fills a deep knowledge gap in the field of longitudinal, cohort-based brain research in India.

KEY PARTNERS:

- Indian Institute of Science (IISc)
- Indian Institute of Technology Madras (IIT Madras)
- National Institute of Mental Health and Neurosciences (NIMHANS)
- Sri Devaraj Urs Medical College

WHY BOLD?

CBR fills a white space in the field of brain research by conducting long-term studies to better understand the factors that cause and protect against dementia in the Indian population. CBR emphasizes a collaborative approach through a public-private partnership within India and by partnering with local and global research institutions. It aspires to build the first India-specific reference genome, which will help scientists across disciplines, not just in brain research.

KEY LEARNINGS



Use philanthropic funding as risk capital to seed less-funded initiatives



Fill knowledge gaps that catalyze efforts across the field



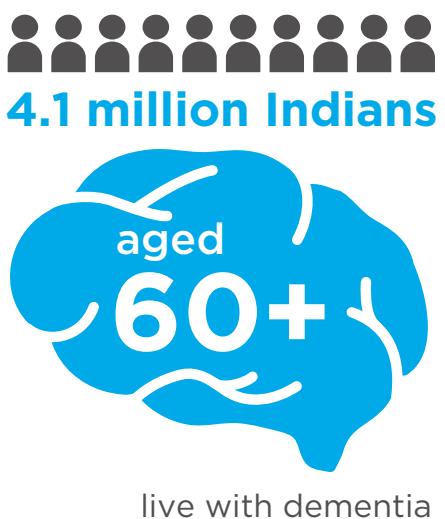
Collaborate with partners to accelerate progress

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

As India's population continues to grow, the country is wrestling with a sprawling health burden: escalating neurological disorders.

It is estimated that more than 30 million Indians are living with some type of neurological disorder, such as epilepsy, stroke, and tremors, a number which has steadily been rising in recent years.² For example, while the overall rate of stroke in developing countries has declined by more than 40 percent over the past four decades, India's stroke incidence has doubled, affecting approximately 1.8 million people annually.³



Another worrisome trend is the rising incidence of dementia, a neurodegenerative disorder that causes loss of cognitive function. Alzheimer's Disease International estimates that as of 2015, about 4.1 million Indians, roughly 5 percent of the country's population of individuals 60 years and older, are living with dementia, for which there is no effective cure.⁴ By 2030, the number could double to 8 million, partly because India's elderly population is growing faster than the country's total population.⁵

In India, clinicians have found that fighting dementia is especially challenging. Large swathes of India's population are unaware of its various forms, including Alzheimer's and Parkinson's disease, and their related risk and protective factors. Among this population, memory loss and brain degeneration, two of dementia's

most profound symptoms, are viewed as inevitable signs of aging. As a result, significant portions of the country's dementia cases remain undiagnosed and untreated.

In the context of India's growing incidence of neurological disorders, the quantum of investment in scientific research in the country is particularly sobering. Whereas countries like China, South Korea, and the United States invest 2 to 4 percent of their GDP in research every year, India only invests about 0.8 percent of its GDP in scientific research.⁶ Of the research that is pursued, few projects, if any, are large scale and longitudinal in nature. Rather, the bulk of research is funded by short-term government grants, typically lasting three to five

2 M Gourie-Devi, "Epidemiology of neurological disorders in India: Review of background, prevalence and incidence of epilepsy, stroke, *Parkinson's disease* and tremors," *Neurology India*, Vol. 62, Issue 6, (2014): 588-589. (Abstract)

3 Lipilekha Patnaik, Himanshu Sekhar Sahoo, and Trilochan Sahu, "Awareness of the warning symptoms and risk factors of stroke among adults seeking health care from a rural hospital of India," *Annals of Indian Academy of Neurology*: 18(4) (2015 Oct-Dec): 487-488.

4 Martin Prince, Anders Wimo, Maëlenn Guerchet, Gemma-Claire Ali, Yu-Tzu Wu, Matthew Prina, *World Alzheimer Report 2015 The Global Impact of Dementia An analysis of prevalence, incidence, cost and trends*, Alzheimer's Disease International, (August 2015): 25.

5 Ibid: 22.

6 "India's R&D spend stagnant for 20 years at 0.7% of GDP," *The Economic Times*, January 29, 2018.

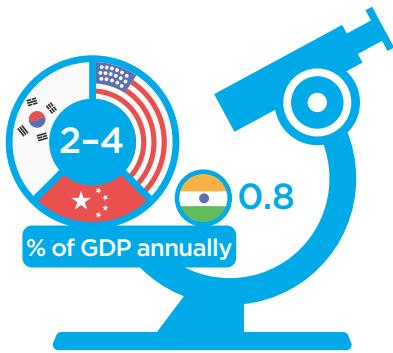
years. As a result, India lacks foundational research infrastructure, such as a comprehensive neuroscience data repository, which would serve as a critical resource for future investigations into brain function and genomics. Whereas India has yet to complete a wide-scale genome mapping project, countries such as the United States, United Kingdom, and Japan initiated this type of research in the early 1990s.

One of India's biggest challenges in its fight against neurodegenerative diseases is to fill this gap in knowledge. Only then will India be able to improve the quality of life of its growing population of aging citizens by developing better preventative and treatment strategies for dementia.

A BOLD INVESTMENT IN BRAIN RESEARCH

In 2014, Kris Gopalakrishnan, the former executive vice chairman of Infosys, one of the country's largest IT companies, worked with faculty at the Indian Institute of Science (IISc) to launch the Centre for Brain Research (CBR), whose purpose is to address this critical knowledge gap. CBR is the result of a unique partnership between the public and private sectors. Mr. Gopalakrishnan privately funds CBR, which is an autonomous institution situated in the Bengaluru-based campus of IISc, one of India's premier higher education institutions. CBR's founding also set a new philanthropic benchmark, as Mr. Gopalakrishnan's donation is the largest investment by an individual in scientific research in India's history.

GDP spend on scientific research



"I am hopeful that this investment will trigger other people to contribute to [health] research," says Mr. Gopalakrishnan. "It is an area that I am very passionate about and it is something we need as a nation."

Faculty at CBR conduct clinical research, with a current focus on understanding how the human brain ages and whether novel therapies can be developed to prevent brain degradation. As Mr. Gopalakrishnan puts it, "We are going to make an impact in India by addressing a looming question: 'How do we take care of our elderly people?'" In the long run, Mr. Gopalakrishnan is hopeful that through CBR's work a cure for Alzheimer's disease may one day be developed.

CBR is unlike other Indian research institutions as it focuses on long-term, longitudinal research projects. It aims to build a foundational brain research infrastructure that is specific to India by collecting clinical data from a large and diverse population of Indian research participants. A fully evolved infrastructure, CBR faculty argue, will enable long-term research initiatives related to the human brain, such as investigations that aim to identify indicators of dementia and factors that might prevent or delay the disorder's onset.

“I am hopeful that this investment will trigger other people to contribute to [health] research.”

Kris Gopalakrishnan

With the exception of the Centre for Neuroscience at IISc, which is conducting a small research project that longitudinally tracks an urban cohort of 500 individuals, no other institution in the country focuses on long-term, cohort-based research projects designed to better understand how the brain ages. Thus, CBR acts as a “field builder”: an intermediary that aims to fill knowledge gaps in the field of neuroscience research that are specific to India, contribute to India’s science infrastructure, and thereby enable real progress towards reversing the rate of neurological disorders in the country.

“We are looking at a goal that is global, ambitious, and audacious: a cure for Alzheimer’s. That is a big ask,” says Mr. Gopalakrishnan. “We are also demonstrating that India can conduct world-class research. And because of our traditional knowledge of Ayurveda, yoga, meditation, and our multilingual capabilities, we are contributing unique knowledge to solving the problem, which could interest others in working with us.”

In addition to funding clinical brain research at CBR, Mr. Gopalakrishnan is also funding six chair professorship positions over the next 10 years—three each at IISc and the Indian Institute of Technology Madras (IIT Madras), another of India’s leading higher education institutions. These chair professors are global leaders in brain research and are responsible for forming research cohorts—comprised of faculty and students at each institution—that pursue brain-related multidisciplinary research initiatives. The chair professorship cohorts conduct computational brain research that focuses on using advanced technology to understand basic brain architecture and function. Mr. Gopalakrishnan hopes that this research will result in the development of cutting edge technology and computing methods that could be commercialized, as well as significantly inform CBR’s research pursuit of finding a cure for Alzheimer’s.

“We are looking at a goal that is global, ambitious, and audacious: a cure for Alzheimer’s. That is a big ask.”

Kris Gopalakrishnan

HOW THE INITIATIVE CAME TO LIFE

Mr. Gopalakrishnan’s decision to invest in neuroscience stemmed from his interest in brain function and his desire to contribute to the development of India’s basic research ecosystem. His belief that private actors have a role to play in spurring the sector was another motivator. “Of the 0.8 percent of GDP that India invests in scientific research annually, only 0.2 percent comes from philanthropy,” he says. “If this is to change, I need to walk the talk and invest in research myself. India has the institutions and the talent—we just need the funding in order to develop the field.”

Once he decided to fund the establishment of CBR in Bengaluru, Mr. Gopalakrishnan consulted with faculty from IISc and identified two key gaps in clinical research in India. First, India lacks sufficient data on genomics and the prevalence of neurodegenerative diseases, like Alzheimer’s and Parkinson’s. Second, there is insufficient understanding around risk and protective factors, and therapies that can preserve cognitive functions through early diagnosis and intervention. Through its research, CBR aims to narrow both gaps.

Mr. Gopalakrishnan's conception of CBR's work also involved establishing collaborative partnerships with local and international research and medical institutions. The goals of these collaborations are to: gain technical support, ensure that CBR adheres to global scientific standards, and promote knowledge sharing by and with international research institutions. "If India collaborates with the rest of the world, we can jump-start research in the country," says Mr. Gopalakrishnan. "It is a sunrise sector for India."⁷

" If India collaborates with the rest of the world, we can jump-start research in the country. It is a sunrise sector for India."

Kris Gopalakrishnan

HOW THE INITIATIVE WORKS

Mr. Gopalakrishnan funds CBR's research programs through the Pratiksha Trust, which will provide INR 225 crores (USD 34 million) over 10 years. The Trust has also committed an additional INR 30 crores (USD 4.5 million) to construct a purpose-built facility for CBR, which will be completed by 2019 on the IISc campus.

Pratiksha Trust will contribute



to construct
a purpose-built
CBR facility on
the IISc campus



Currently, CBR is engaging in two noteworthy research efforts, SANSCOG (Srinivasapura Ageing Neuro Senescence and Cognition) and Genome India, led by three faculty members (Dr. Ganesh Chauhan, Dr. Bratati Kahali, and Dr. Smitha Karunakaran) and a director who oversees the institution (Dr. Vijayalakshmi Ravindranath).

Over the course of 20 years, SANSCOG seeks to collect biological, genetic, and behavioral data from 10,000 individuals over the age of 45. Research participants all live in Srinivasapura Taluk, in Karnataka's Kolar district. Given the initiative's broad scope, SANSCOG researchers are partnering with the National Institute of Mental Health and Neurosciences (NIMHANS), which has deep relationships with the local government and community stakeholders, and plays a vital role in overseeing field research logistics and codeveloping research protocol. CBR also collaborates with the Sri Devaraj Urs Medical College, which provides medical services to the study's participants.

SANSCOG represents the kind of long-term initiative that is essential for building an infrastructure that can enable further scientific research. Because the project focuses on middle-aged people living in rural areas instead of cities, it may surface unique risk and protective factors for dementia among the bulk of India's aging rural population.

⁷ Raghu Krishnan, "By getting into brain research, we gain and so does the world: S Gopalakrishnan," *Business Standard*, January 05, 2016.

The SANSCOG data repository will allow CBR researchers to identify various biological and lifestyle factors that could indicate the potential risk of developing dementia. With this information, researchers could develop experimental interventions aimed at treating and mitigating dementia's effects, and even preventing or delaying its onset. The project also aims to enhance the government's and the media's awareness of general healthcare issues associated with aging in rural communities, as well as help clinicians identify and treat other disorders that may be revealed during medical examinations, especially when they are still in their early stages.

CBR is spearheading its second project, Genome India, in partnership with 16 other research institutions. As its name implies, the project aims to develop an India-specific reference genome, which seeks to provide a good approximation of much of an average Indian's DNA. Researchers from CBR and its partner institutions are collecting genetic data from at least 1,000 individuals across India, in order to represent the country's diverse ethnic makeup. Once the reference genome is developed, scientists around the world can use it to conduct genetic research that specifically applies to the Indian population. A reference genome will also significantly reduce the cost of researching how genetics give rise to a variety of chronic diseases that affect people living on the Indian subcontinent.



Kris Gopalakrishnan (fourth from left) signs a memorandum of understanding with IISc, initiating the construction of a dedicated CBR facility on the Institute's campus. Dr. Vijayalakshmi Ravindranath (fifth from left) serves as the director of CBR. (Photo: CBR)

PROGRESS AND RESULTS

Given CBR's focus on long-term research and its establishment three years ago, it is too early to measure results. However, CBR has made progress on defined milestones such as designing and launching the SANSCOG project. In its first year, CBR formed partnerships with NIMHANS and Sri Devaraj Urs Medical College and secured government support for its research activities in Kolar, Karnataka. SANSCOG researchers also recruited participants for the 20-year program and comprehensively assessed the first batch through physical and cognitive tests with the support of medical doctors from NIMHANS. Genome India is also in its early stages; to date, CBR has attracted dedicated research partners across the country, such as the Rajiv Gandhi Centre for Biotechnology in Kerala and the Institute of Bioresources and Sustainable Development in Manipur, and is working with them to develop data collection protocol.

Notwithstanding its progress, CBR is encountering some recruiting challenges. Chief among them is the shortage of highly qualified science research staff in India, especially compared with the United States and Europe. CBR faculty members indicated that many accomplished Indian researchers prefer to work abroad, rather than in India, due to higher funding and better infrastructure. CBR is also finding it difficult to attract enough medical doctors to help the SANSCOG team collect biological data, as many prefer careers in providing critical medical care than in conducting research.

An International Scientific Advisory Board comprised of leading neuroscience researchers advises CBR on critical aspects of the project such as data collection and analysis. CBR faculty disseminate their research findings in peer-reviewed science journals and at international conferences. For example, in February 2018, faculty at the IISc Centre for Neuroscience and CBR coauthored a paper that was published in the *Journal of Neuroscience*, indicating a possible biomarker for Alzheimer's.

LOOKING TO THE FUTURE

The CBR team's first challenge is to identify risk factors that signal the onset of dementia and protective factors that might delay or even prevent it. If researchers succeed on that front, they then plan to develop and test experimental therapies aimed at reducing dementia's burden on the Indian population in collaboration with the chair professorship research cohorts at IISc and IIT Madras.

To achieve this, CBR's leaders aim to recruit more faculty and initiate new research studies (apart from SANSCOG and Genome India). What is clear is that any future study design will continue to be longitudinal and cohort-based. To finance future projects and secure collaborations to further brain research in India, CBR is also looking to secure additional funding streams that deepen Mr. Gopalakrishnan's investment. CBR is expecting to receive additional funding through Tata Trusts' Elderly Care, Wellness and Engagement Programme, which provides monetary support to initiatives that aim to improve the quality of life of elderly people.

LEARNINGS TO DATE

Use philanthropic funding as risk capital to seed less-funded initiatives. Philanthropic capital has the potential to be flexible and risk tolerant, and can therefore support initiatives that might be overlooked by other funding sources. Mr. Gopalakrishnan put his philanthropy to work in an area that neither the public nor corporate sectors have fully embraced: he is privately funding long-term brain research. Unlike public research funding, which is typically supported by comparatively short-lived grants, Mr. Gopalakrishnan's 10-year funding stream enables CBR's faculty to pursue projects with more distant horizons, demonstrating his risk appetite and commitment to finding a cure for Alzheimer's.

Fill knowledge gaps that catalyze efforts across the field. Field builders typically work to help multiple actors build capacity and achieve a shared, ambitious goal. As the field evolves and new needs and challenges emerge, it is often the field builder that fills the voids in knowledge and skill sets. By conducting original research that might one day help clinicians learn and improve, CBR is filling knowledge gaps in neuroscience.

Specifically, Mr. Gopalakrishnan identified key gaps in the field, including the dearth of hard data on the prevalence of dementia in India and the need to better understand dementia's risk and protective factors. Having pinpointed the field's white spaces, he then decided to fund long-term, basic neuroscience research, a crucial part of developing a foundational research infrastructure in India. Once CBR builds them, its data repositories and an India-specific reference genome will likely augment the efforts of many actors—including the computational brain researchers at IISc and IIT Madras—who are working to stem the spread of dementia and other neurological disorders.

Collaborate with partners to accelerate progress. Funders and nonprofits increasingly recognize that no single organization, no matter how successful, can solve a complex problem at scale. CBR's leaders, who are building strong relationships with external partners in order to leverage their unique strengths, understand that it takes teamwork to achieve ambitious goals.

Consider CBR's collaboration with NIMHANS, which has been instrumental in attracting participants for its longitudinal study. Thanks to NIMHANS' close ties with Kolar's health system, CBR was able to secure buy-in from Kolar health officials and enroll study participants from the local community. NIMHANS, through its medical doctors, has also helped CBR collect biological data from study participants. Similarly, CBR's partnership with the Sri Devaraj Urs Medical College, which provides subsidized care for any study participant who is diagnosed with health issues, enabled research teams to enroll eight out of every 10 individuals they approached for the SANSCOG research project. Study participants are enrolled on a voluntary basis and CBR has established safeguards to ensure the security of study participant data. CBR's collaborative mindset is proving fruitful, especially since CBR is taking on large-scale projects.

CBR's long time horizon and its focus on building a research infrastructure has the potential to significantly impact India's health research landscape and ultimately catalyze the entire field.

Leveraging Technology to Advance Urban Governance: The eGovernments Foundation (eGov)

OVERVIEW: The eGovernments Foundation (eGov) is a nonprofit organization that aims to transform urban governance in India through DIGIT, its flagship technology platform. DIGIT helps urban local bodies (ULBs) more efficiently manage operations, track finances, and provide municipal services to citizens.

ESTABLISHED: 2003

PRIMARY

PHILANTHROPISTS/ FUNDERS:

FUNDERS: Nandan Nilekani, Omidyar Network, Tata Trusts, and Google



GRANT

AMOUNT:

INR 52 crores¹
(USD 7.8 million)
to date



PRIMARY

FOCUS:

Urban governance

ARCHETYPE: Build a field

eGov's DIGIT platform strengthens municipal service agencies and improves urban Indians' quality of life.

KEY PARTNERS:

- Vassar Labs
- Karvy
- National Institute of Urban Affairs

WHY BOLD?

By incorporating both government-focused and citizen-focused technology solutions in DIGIT, eGov has developed a 360-degree solution to India's urban governance problem. In addition, DIGIT's open-source technology allows for the rapid creation of new modules, in partnership with a wide array of software developers. To date, DIGIT has been deployed in five states—Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, and Uttar Pradesh—delivering enhanced services to 40 million urban citizens.

KEY LEARNINGS



Establish a scalable model to enable widespread adoption



Partner with government officials who are committed to mobilizing change



Invest in efforts to increase public awareness and adoption



Build solutions that address the needs of all stakeholders



Use the expertise of partner organizations to drive impact



Use data-driven feedback loops to improve program efficacy

QUICK FACTS

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

With India's rapidly swelling urban population, demand for municipal services is straining urban governments' capacity to provide them. This problem will only worsen as India continues to urbanize. While it took 40 years (from 1971 to 2008) for India's urban population to rise by nearly 230 million people, it will take only half that time to add the next 250 million.²

India's leaders have long recognized that the nation's municipal services would struggle to keep pace with the country's surging urban population. In 1992, the Parliament of India passed the 74th constitutional amendment to address the problem and serve citizens more efficiently, transferring a range of administrative responsibilities from state governments to a newly formed layer of urban governance. Comprising this urban governance layer are urban local bodies (ULBs), city-level government entities. ULBs come in three forms, depending on factors such as their population density and the prevalence of employment in nonagricultural activities—municipal corporation (mahanagar palika), municipality (nagar palika), and notified area/city council (nagar panchayat). Together, they provide water and sanitation, urban transport, voter registration, grievance resolution, and other services.

Despite the legislation, urbanization continues to overwhelm ULBs. Many have neither the human resources nor the technological infrastructure to provide services in a timely, effective, and transparent manner. They also face a range of bottlenecks: most lack online channels for citizens to pay taxes or access services, as well as the ability to capture and analyze data in order to improve operational efficiency. These issues hamper ULBs' ability to perform essential activities, such as addressing citizen grievances, thereby increasing the backlog of unresolved work.

A BOLD INITIATIVE IN URBAN GOVERNANCE

Recognizing these operational gaps in urban governance, Nandan Nilekani, co-founder of Infosys, one of the country's largest IT companies, and Srikanth Nadhamuni, CEO of Bengaluru-based startup incubator, Khosla Labs, established the eGovernments Foundation (eGov) in 2003. The nonprofit seeks to provide a seamless technological interface between Indian citizens and their ULBs.

eGov has developed a scalable digital platform to help ULBs manage their operations and finances and provide efficient municipal services. The platform, known as DIGIT (Digital Infrastructure for Governance Impact & Transformation), enables ULBs to be more effective and accountable—and to make better, data-driven decisions. Its open-source software ensures both interoperability among ULBs and rapid development of new modules by a wide array of software partners.

2 “India’s urbanization: A closer look,” *McKinsey Quarterly*, July 2010.

HOW THE INITIATIVE CAME TO LIFE

Back in 2003, Mr. Nilekani and Mr. Nadhamuni saw two challenges converge: the growing inability of India's urban local governments to provide services effectively and a disproportionate focus of government development spending on rural India. Based on their technology backgrounds, particularly in building platform-based solutions, they viewed technology as a potentially powerful response to these challenges. That same year, they launched eGov, to help city administrators use digital solutions to enhance productivity and improve service.

From eGov's first rollout of DIGIT in Bengaluru's Municipal Corporation in 2004, Mr. Nilekani and Mr. Nadhamuni's initiative has grown to encompass 331 of India's roughly 4,000 ULBs. These ULBs employ the platform to provide services to more than 40 million citizens in five states.

HOW THE INITIATIVE WORKS

DIGIT is distinctive, in that it serves both citizens and government. "Historically, solutions aimed at improving urban governance in India have focused on addressing the needs of citizens, which involves enabling citizens to report issues that ULBs are responsible for solving," says Viraj Tyagi, CEO of eGov. "However, eGov is capacity building from the government's side, as well, by empowering ULBs to respond to this increased demand. Taking this two-pronged approach is the only way we can deliver sustained results."

The platform lets individuals receive services without having to visit a municipal office. Through mobile apps and online portals, they can remotely access such municipal services as marriage registration, birth and death registration, property tax assessment and payment, and grievance reporting.

To serve citizens who do not have access to internet-enabled devices, several ULBs have established physical service centers at their offices. Those who visit these service centers can access DIGIT's various modules while receiving assistance from government employees.

The platform's government-facing tools enable employees to better manage operations at an aggregate and department level. For example, DIGIT's Big Data Analytics Engine creates up-to-date visual dashboards that let ULB decision makers measure such metrics as employee performance, department-level workflow, expenditures, and revenue collection. Additionally, DIGIT has a mobile app (Pura Seva), which lets civic employees manage workflows and collect field information remotely, saving travel time while increasing employee efficiency.

“ Historically, solutions aimed at improving urban governance in India have focused on addressing the needs of citizens... However, eGov is capacity building from the government's side, as well... Taking this two-pronged approach is the only way we can deliver sustained results.**”**

Viraj Tyagi
CEO, eGov



A schematic of the DIGIT platform's various modules (Photo: eGov)

DIGIT is designed to encourage collaboration. Open-source software opens the platform to a wide array of digital development partners for constant improvements. For example, eGov partnered with Vassar Labs, a Boston-based technology firm, to build its government-facing dashboards. Implementation partners take responsibility for installing the DIGIT platform at ULB sites. They also train government workers on how to manage its operations. For instance, in Andhra Pradesh, a professional services company, Karvy, trains ULB employees on how to use the platform.

The foundation's software development costs are fully covered by Nilekani (INR 23 crores, USD 3.4 million) and two other funders—Tata Trusts (INR 9 crores, USD 1.3 million) and Omidyar Network (INR 13 crores, USD 1.9 million). State governments bear the costs of installing and customizing the platform. As a nonprofit, eGov only charges ULBs nominal fees to recover costs.

Beyond providing financial support, Nilekani, Tata Trusts, and Omidyar Network contribute crucial strategic and technical support to the eGov team. While Nilekani meets monthly with eGov leadership to discuss organizational strategy and platform functionality, Tata Trusts uses its pan-India network to expedite efforts to scale the DIGIT platform. Omidyar Network has also fostered collaboration between eGov and other organizations that are advancing the field of technology-enabled governance around the world.

“ Every one of our partners plays a very significant role. They keep a keen eye on the progress we are making and enable us to achieve the highest level of impact possible.”

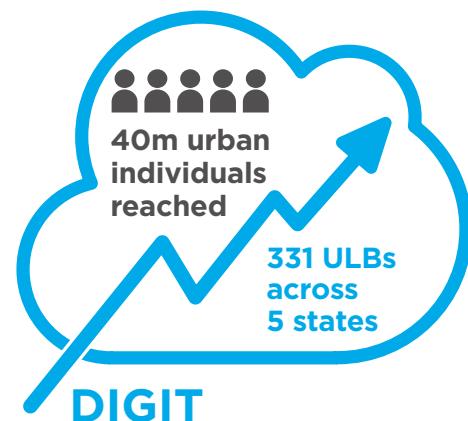
E. M. Bhargava
Director of Partnerships, eGov

"Every one of our partners plays a very significant role," says E. M. Bhargava, director of partnerships at eGov. "They keep a keen eye on the progress we are making and enable us to achieve the highest level of impact possible."

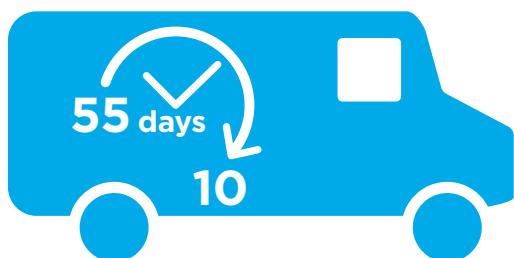
PROGRESS AND RESULTS

Since its first launch in Bengaluru 14 years ago, eGov has scaled DIGIT to 331 ULBs in the states of Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, and Uttar Pradesh. The nonprofit estimates that it has reached 40 million people across urban India. In total, eGov's digital applications have processed 4.7 million service requests, resolved 2 million citizen-logged grievances (with a grievance-resolution rate of over 90 percent), and saved 2,500 years worth of time, thanks to workflow efficiencies. In addition, according to an externally conducted survey³ of 354 citizens and 151 ULB employees in Andhra Pradesh in February 2018, 57 percent of citizens report that DIGIT has directly resulted in an improvement in their quality of life, while 100 percent of ULB employees report that DIGIT has improved their quality of work or ability to serve citizens.

15 years
since platform launch



Municipal Services delivery in Andhra Pradesh (2018)



One particular success has been in Andhra Pradesh. Beginning in April 2016, eGov installed DIGIT's full suite of tools across the state's 110 ULBs within a year. eGov credits the state leadership for a high degree of political will and support in accomplishing this feat.

Since DIGIT's advent, annual revenue collection from property tax and water charges by Andhra Pradesh's ULBs have increased by INR 100 crore (USD 15 million) and INR 239 crores (USD 36 million), respectively. In addition, ULBs in Andhra Pradesh have seen a significant increase in early tax and service payments, which have accrued

additional interest over time. In the two years that DIGIT has been operating in the state, interest from early payments has totaled INR 266 crores (USD 40 million). Government officials attribute these increases mostly to the platform.

A testimonial to the platform's value comes from the commissioner of the Tenali Municipal Office in Andhra Pradesh, Mrs. S. Shakuntala, who says, "DIGIT is a great innovation. It has reduced inefficiencies, red tape, and bureaucracy in our municipal office and has made our operations more transparent."

³ The survey was funded by Omidyar Network and executed by LeanData.

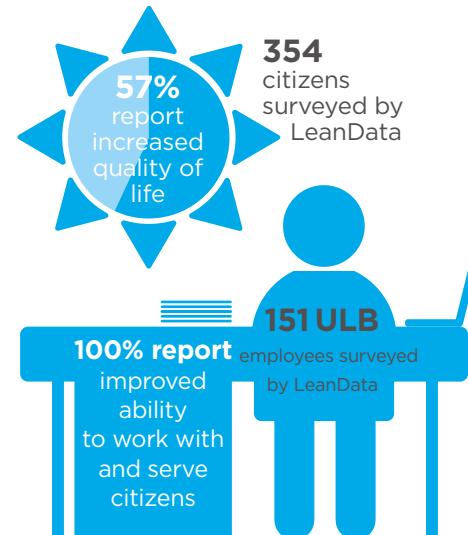
The numbers support her claim: the average length of time for delivering a municipal service in Andhra Pradesh has fallen from 55 days to fewer than 10 days.

However, challenges remain. Many citizens are not benefitting from the platform because they are either unaware of it or lack internet access. A persistent cultural norm of visiting government offices in person also decreases the number of users among India's urban population. To boost participation, several ULBs have launched informational advertising campaigns and door-to-door visits by municipal field officers. And as noted above, some ULBs have established service centers equipped with DIGIT's citizen-centric software at their offices, so citizens can access municipal services with the help of government employees.

As eGov looks to scale nationally, the challenge will be for ULBs across states to adopt and expedite rollout of the platform and spread its benefits to all urban citizens.

Improvements to citizens' quality of life

and ULBs' operational efficiency in Andhra Pradesh in 2018



LOOKING TO THE FUTURE

By 2020, eGov has laid out an ambitious goal: scaling its platform from 331 to 2,000 ULBs. This will require changes in its growth strategy. To date, eGov has implemented its platform in response to individual ULB or state government requests. Going forward, eGov aims to convince the central government of the platform's unique value.

With the support of Omidyar Network, eGov is working directly with the National Institute of Urban Affairs and the Ministry of Housing and Urban Affairs to turn DIGIT into a national urban governance platform that is available as a public good. eGov hopes to make DIGIT available on the cloud in every state of India. According to eGov's leadership, a cloud-based architecture will dramatically reduce the time to adoption and total cost of platform ownership. Moreover, it will drive common standards for urban governance across all ULBs and states.

LEARNINGS TO DATE

Establish a scalable model to enable widespread adoption. Recognizing that ULBs across India share a number of inefficiencies, Mr. Nilekani deployed philanthropic capital in order to develop a targeted, open-source solution. The nonprofit charges ULBs, at cost, for the implementation and customization of DIGIT. By focusing funding on software development, eGov has built a platform that is both tailored to India's urban

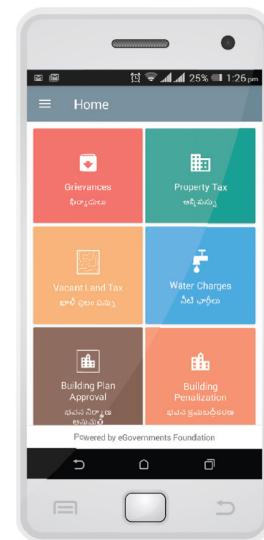
government context and customizable to specific ULB needs. This combination is uncharacteristic of other commercially available administrative software. The platform's easy-to-implement layout, low service fees, and ability to increase ULB operational efficiency and earnings create a strong business case for investing in the solution, increasing the likelihood of scaling it to eGov's target of 2,000 ULBs by 2020.

Build solutions that address the needs of all stakeholders. eGov tackles India's urban governance problems by addressing both citizens' and local governments' needs. The platform provides citizens (and nongovernment bodies) with convenient and remote access to municipal services through apps, websites, and service centers, which greatly improves convenience. Without DIGIT, citizens would have to queue up at ULB offices for services. For ULBs, the platform enables them to generate more and earlier revenues, improve oversight of operations, and provide citizens with services in a more timely manner.

Partner with government officials who are committed to mobilizing change. eGov rolled out the DIGIT platform across all 110 ULBs in Andhra Pradesh in under a year, thanks to strong support from the chief minister of Andhra Pradesh and a close working relationship with the state's Municipal Administration Department director. Strong government support was also critical during the rollout of DIGIT in Tamil Nadu, Karnataka, Delhi, and Maharashtra. In other states where eGov has struggled to secure buy-in from government officials, rollout has either been delayed or stopped. With the support of Omidyar Network, eGov has connected with the National Institute of Urban Affairs and the Ministry of Housing and Urban Affairs in order to scale the platform nationally.

Use the expertise of partner organizations to drive impact. eGov works with software-development partners that greatly contribute to building out the software's functionalities and capabilities. For example, eGov collaborated with Vassar Labs, a technology company based in Boston, to integrate data visualization dashboards into its platform. In states like Andhra Pradesh, the public can also view these dashboards, which adds transparency and accountability to the state government's work. Additionally, eGov works closely with professional services firms like Karvy in Andhra Pradesh to provide ongoing technical support and training to the ULBs.

Invest in efforts to increase public awareness and adoption. While ULB officials who have adopted DIGIT recognize the value in enabling citizens to access government services online, they also acknowledge that many citizens are unaware of these solutions. As a result, ULBs in Andhra Pradesh and other states have invested in advertising campaigns and door-to-door visits by municipal field officers to disseminate information about the DIGIT platform. Where citizens lack access to the internet, ULB-established service centers provide free access to DIGIT, allowing citizens to access and pay for municipal services with the help of government workers.



DIGIT application
on a smartphone
(Photo: eGov)

Use data-driven feedback loops to improve program efficacy. eGov regularly collects and analyzes data from its platform to quantify impact. It tracks improvements in rates of grievance settlements, application processing, and revenue collection. The intent is to understand the ways in which the platform has enabled ULBs to provide better services to citizens, operate more efficiently, and collect higher revenues. With this information at hand, eGov can improve platform functionality and work directly with ULBs to diagnose and rectify process gaps.

Changing the Public Discourse on School Learning: The Annual Status of Education Report

OVERVIEW: The Annual Status of Education Report (ASER) is an annual survey that aims to provide reliable estimates of children's schooling status and basic learning levels in reading and math for every rural district in India. ASER is designed for use in rural communities. Volunteers orally deliver the survey questions in families' homes, to account for all children, regardless of whether they are enrolled in school.



GRANT AMOUNT:
INR 53 crores¹
(USD 8 million)
over 10 years



PRIMARY FOCUS:
Education

ESTABLISHED: 2005 (first report published);
2008 (ASER Centre established as autonomous unit within Pratham's network)

PRIMARY PHILANTHROPIST:

The William and Flora Hewlett Foundation

ARCHETYPE: Inform public policy

ASER creates a comprehensive evidence base of learning levels among rural children in India.

KEY PARTNER:

- Pratham

WHY BOLD?

ASER is the largest citizen-led survey in India and the country's only annual source of data on children's learning outcomes. ASER citizen volunteers reach children in every rural district in India and use a radically simple assessment tool that is administered in households instead of schools. ASER results have informed the national and global discourse on education, shifting the focus from enrollment to learning quality.

KEY LEARNINGS



Use philanthropy to create an evidence base and drive advocacy efforts around an issue



Develop novel and inclusive tools when existing ones do not serve your purpose



Where possible, empower citizens to drive advocacy efforts that maximize impact



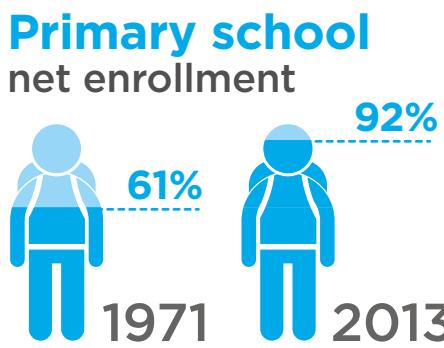
Continuously experiment with new approaches to addressing a problem

QUICK FACTS

¹ Conversion rates (INR to USD) reflect rates available during the April 2018 to June 2018 time period.

THE OPPORTUNITY FOR IMPACT

Over the last 40 years, India has made great strides in providing free public education to primary school children. India's primary net enrollment ratio—the percentage of children of primary school age that are formally enrolled in school—rose from 61 percent in 1971 to 92 percent in 2013.²



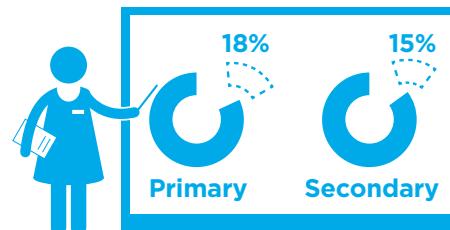
In 2009, the Parliament of India enacted the Right of Children to Free and Compulsory Education Act (RTE), underscoring the importance of public education. The Act requires government and local authorities to ensure the admission, attendance, and completion of elementary education by all children aged 6 to 14. It also stipulates that students automatically move up to the next grade level at the end of each school year, until they reach grade 8.

While student enrollment rates have increased steadily, other areas of India's education system are floundering. For starters, the country is dramatically short on teachers. According to India's Human Resources Development Minister, 18 percent of teaching positions in government primary schools and 15 percent of teaching positions in government secondary schools remain unfilled, resulting in a nationwide shortage of approximately one million teachers.³ Needless to say, teachers at government schools are stretched thin. And teacher absenteeism abounds: approximately 24 percent of government teachers fail to come to work on an average day.⁴

While India's push to get children into school is commendable, there has been little focus on the quality of their education and a lack of conclusive data indicating whether higher enrollment resulted in better learning.

In 2001, the government attempted to measure learning outcomes by implementing the National Achievement Survey (NAS), a pen-and-paper exam testing math, science, language, and social sciences for students in grades 3, 5, and 8. However, experts argue the test overstates learning levels, as it is administered only among school-enrolled children and its questions are framed in exactly the same form that children study them. Additionally, the

Teaching positions that remain unfilled



Across India's public schools, there is a shortage of 1 million teachers

2 "School enrollment, primary (% net)," United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics., The World Bank.

3 Abhishek Waghmare, "India's Unfolding Education Crisis: Government Schools Short Of 1 Million Teachers," *IndiaSpend*, December 12, 2016.

4 Karthik Muralidharan et al., "The Fiscal Cost of Weak Governance: Evidence from Teacher Absence in India," *Journal of Public Economics* 145 (January 2017): 116.

government only administers the NAS every three years or so. Meanwhile, the RTE's policy of automatically promoting students until grade 8 ensures that children who have fallen behind will still progress through the system, even though they lack the requisite skills to learn at their appropriate level.

A BOLD INITIATIVE IN EDUCATION QUALITY MEASUREMENT

To address the question of whether children in India are learning, the ASER Centre—the autonomous research arm of Pratham, one of India's most well-regarded education NGOs—regularly conducts the Annual Status of Education Report (ASER) survey, which measures basic reading and math skills of rural children aged 5 to 16.

Education crisis



50% of students cannot read at a grade 2 level



75% of students cannot do division at a grade 3/4 level

In many regards, ASER is a revolutionary survey. It is the only annual source of data that delves into whether India's rural children are actually learning. It has an outsized reach: to assess learning at the national, state, and district levels, ASER collects learning outcomes data from approximately 600,000 children across every rural district in India. Moreover, the process by which ASER collects this data is radically different from other learning assessments. Designed for use in rural communities, local citizen volunteers conduct the survey orally, in families' homes. That way, the survey accounts for all children—including those enrolled in public or private school, those who might be absent from school on a given day, or those who are simply not enrolled.

Through its pioneering efforts, ASER has made starkly evident the extent of India's education crisis: roughly 50 percent of Indian children in grade 5 cannot read at a grade 2 level, while roughly 75 percent of Indian children in grade 5 cannot solve three-digit by one-digit division problems at a grade 3 or 4 level, depending on the state. These alarming statistics have shifted India's national discourse on education from focusing on enrollment rates to improving learning outcomes.

"Prior to ASER, the assumption was that 'schooling' and 'learning' meant the same thing," says Dr. Suman Bhattacharjea, director of research at the ASER Centre. "In other words, if children go to school, they will learn. The ASER Centre's work demonstrates with rigorous evidence that this assumption simply is not true in India."

What does seem true, based on the evidence, is that ASER's powerful results have put a global spotlight on the need to ensure quality education for every child. Organizations in 13 other countries in Latin America, Africa, and Asia have designed and implemented surveys based on the ASER model.

“[Prior to ASER, the assumption was that] if children go to school, they will learn. The ASER Centre's work demonstrates with rigorous evidence that this assumption simply is not true in India.**”**

Dr. Suman Bhattacharjea
Director of Research, ASER Centre

HOW THE INITIATIVE CAME TO LIFE

Pratham has been operating primary education programs throughout rural India since 1994. Through its work, Pratham's team observed that many rural Indian children were failing to learn basic reading and math skills. With all the focus on driving school enrollment, no one was paying attention to whether or not children were actually learning. That dispiriting insight pushed Pratham to create an evidence base aimed at assessing whether such a learning gap actually existed, and if so, at what scale.

Pratham hoped to shift educators' and policymakers' focus from only escalating enrollment numbers to surmounting the challenge of helping every child acquire foundational reading and math skills. In order to collect evidence of poor rural learning outcomes, Pratham's in-house statisticians, econometricians, educationists, and assessment experts developed, piloted, and iterated simple, oral tests to measure children's reading and math skills. External experts subsequently validated the overall survey design.

Once developed, the tools were deployed nationally for the first time in 2005. From its inception, the survey was conducted in families' homes, to account for children who were not enrolled in or were absent from school. Additionally, volunteers oversaw the survey to ensure that ASER was conducted frugally in every rural district. Further, by delivering the survey through volunteers, Pratham hoped to raise rural communities' awareness of India's subpar education system.

In 2008, the ASER Centre spun out of Pratham's assessment unit and became an independent organization, with the primary responsibility for conducting the ASER survey each year. ASER's autonomy helped reinforce the effort to collect student data without bias. The ASER Centre also conducts grant-funded research focused on measuring education and health outcomes in a given region or state.

In 2006, global initiatives to improve education systems in developing countries began to run in parallel with India's efforts. That year, the William and Flora Hewlett Foundation (Hewlett Foundation), together with the Bill & Melinda Gates Foundation (Gates Foundation), founded the Quality Education in Developing Countries (QECD) Initiative. Both the Hewlett Foundation and Gates Foundation believed that because children were leaving school without becoming proficient in reading and math, the world faced a learning crisis. Through QECD, the foundations aimed to confront the problem by providing funding to organizations working to measure and reverse learning crises in India, East Africa, and West Africa.

In 2010, the Hewlett Foundation began providing core funding to the ASER Centre and also helped establish its international unit, which has worked with organization leaders from Bangladesh, Cameroon, Ghana, Kenya, Mali, Mexico, Mozambique, Nepal, Nigeria, Pakistan, Senegal, Tanzania, and Uganda to develop ASER-like surveys in each country. The Hewlett Foundation also provided direct funding to organizations in Kenya, Mali, Mexico, Senegal, Tanzania, and Uganda to execute their versions of the ASER survey.

HOW THE INITIATIVE WORKS

To ensure comprehensive and unbiased results, ASER randomly samples villages in every rural district. Within each of the sampled villages, ASER also randomly samples households. Volunteers assess every child aged 5 to 16 within a selected household.

Through spoken assessments conducted in the home and visits to one government school in each surveyed village, the survey collects:

- **The enrollment status** of children aged 3 to 16.
- **Basic household information** including household size, parental education, and household assets.
- **Reading and math skills** for children aged 5 to 16. The highest level of reading tested—reading a story—corresponds with grade 2. The highest level of math tested—simple division—corresponds with grade 3 or 4, depending on the state.
- **Additional information**, such as basic English or applied math skills. These additional tests vary from year to year.
- **Government school information** on school infrastructure, enrollment, attendance, and the number of teachers.

ENGLISH TEST SAMPLE

Give this test to ALL children.
Record the highest reading level.
Note the ability of the child to tell the meaning of words OR sentences
depending on the child's highest reading level.

Capital letter A J Q N E Y R O <small>Ask the child to recognize any 5 letters. At least 4 must be correct.</small>	Small letter h p x u m d g t <small>Ask the child to recognize any 5 letters. At least 4 must be correct.</small>	Word cat red sun new fan bus <small>Ask the child to read any 5 words. At least 4 must be correct. If the highest level that the child has reached in reading English is the 'Word Level', then ask the child to say the meaning of those words she has read correctly. She can say the word meaning in the local language. The meaning of at least 4 words must be correct.</small>	Sentence <u>What is the time?</u> <u>This is a large house.</u> <u>I like to read.</u> <u>She has many books.</u> <small>Ask the child to read all sentences. At least 2 must be correct. If the highest level that the child has reached in reading English is the 'Sentence Level', then ask the child to say the meaning of those sentences she has read correctly. She can say the meaning in the local language. The meaning of at least 2 sentences must be correct.</small>
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ASER's English assessment is used to determine whether a child can read English at a grade 2 level.

गणित की जाँच SAMPLE

अंक पहचान 1–9	संख्या पहचान 10–99	घटाव	भाग
1 4 7 3 6 9 5 2	51 83 37 65 55 26 91 43 36 27	$46 - 29 = 17$ $47 - 28 = 19$ $92 - 76 = 16$ $52 - 14 = 38$ $63 - 39 = 24$ $45 - 17 = 28$ $84 - 57 = 27$ $66 - 48 = 18$	
बच्चे ने जोई भी 5 अंक पहचानने को पढ़ें। कभी ने अपने 4 चाही होती रहाएँ। बच्चे ने जोई भी 5 संख्या पहचानने को पढ़ें। कभी ने अपने 4 चाही होती रहाएँ। बच्चे ने जोई भी 2 घटाव के लक्षण करने को पढ़ें। दोनों ही चाही होती रहाएँ। बच्चे ने जोई भी 1 भाग का लक्षण करने को पढ़ें। यह चाही होता रहाएँ।			

ASER's math assessment tool determines whether a child can solve arithmetic problems at a grade 3 or 4 level, depending on the state. (Photos: ASER Centre)

Every year, about 30,000 survey administrators assess roughly 600,000 children in India. During three-day district-level training workshops, volunteers learn how to conduct the survey as per the ASER Centre's strict protocol. Training includes classroom sessions, field practice, and a quiz.

Through its nationwide network of partners, the ASER Centre selects its volunteers from a vast range of colleges, universities, NGOs, youth groups, women's organizations, self-help groups, private companies, and other organizations. It has partnered with more than 2,000 organizations since the survey's inception in 2005.



A child is tested using the ASER tool. (Haryana, 2013) (Photo: ASER Centre)

PROGRESS AND RESULTS

From the outset, Pratham aimed to shift the national conversation around education from increasing enrollment to improving learning outcomes. It has succeeded in doing this, and much more. ASER's exhaustive data collection, reliable analysis, and easy-to-understand results have provided compelling evidence of India's education crisis and the profound need to improve the education system in rural communities.

Today, ASER's impact has reverberated through the national, state, and district levels in India. The Government of India cited ASER in its five-year plan (2012-2017) and stated that the overarching goal in elementary education is to improve learning outcomes. It is worth noting that the ASER Centre has worked with state governments to help them interpret ASER results and think about how they can design policy, improve teacher training, or develop curricula to address learning gaps.

ASER's influence has also gone global. The World Bank's World Development Report (WDR 2018) on the global learning crisis cites ASER data in its first paragraph. And, whereas the United Nations' Millennium Development Goals, set in 2000, focused on access to education, its Sustainable Development Goals, set in 2015, aim to ensure an "inclusive and equitable, quality education...for all."

"I am sure that it was the ASER Centre's work that led to the introduction of learning measurement into the Sustainable Development Goals," says Ruth Levine, program director of global development and population at the Hewlett Foundation. "The fact that, in a decade, [the ASER Centre] could alter the conversation around education in the world's largest democracy and contribute to the global debate on education is truly impressive."

While ASER has helped shape the global conversation around improving education, challenges remain. In particular, ASER has not led to substantial, community-level advocacy beyond survey data collection in rural districts. The ASER Centre acknowledges that it needs to investigate ways to directly engage citizens in rural districts before and after the survey is conducted. Only then can the organization close the feedback loop between collecting data and mobilizing community-level efforts to improve the quality of education.

“The fact that, in a decade, [the ASER Centre] could alter the conversation around education in the world's largest democracy and contribute to the global debate on education is truly impressive.”

Ruth Levine

Program Director, Global Development and Population, William and Flora Hewlett Foundation

LOOKING TO THE FUTURE

Moving forward, the ASER Centre plans to continue conducting its flagship ASER survey on an annual basis, to expand its evidence base, and to investigate more deeply the shortcomings of India's education system. "We think it is important to continue running ASER every year," says Dr. Wilima Wadhwa, director of the ASER Centre. "If you want data and evidence to impact policy, it needs to be available on a regular basis, and at a district as well as a national level."

As was done in 2017, when ASER focused on measuring the ability of children aged 14 to 18 to solve applied reading and math problems (for example, counting money, telling the time from an analog clock, and following written instructions), the ASER Centre's leadership would like to assess different age groups in future reports. However, dealing with different age groups will require the development of a diverse range of new assessment tools, as well as comprehensive pilot projects to test their efficacy.

LEARNINGS TO DATE

Use philanthropy to create an evidence base and drive advocacy efforts around an issue.

The ASER Centre uses philanthropic resources to develop ASER survey tools, recruit and train tens of thousands of volunteers, distribute survey materials across the country, establish a team to oversee the survey's execution every year, and disseminate the survey's findings. Through the survey, the ASER Centre gathers irrefutable evidence of the education crisis in India. ASER's findings have galvanized government leaders, civic society, and the media around the urgent need to build better education systems in India and globally.

Develop novel and inclusive tools when existing ones do not serve your purpose. When ASER was developed in 2005, it differed radically from other learning assessments that, by design, exclude children who are not enrolled in or are absent from the formal schooling system. Unlike the NAS, which is a pen-and-paper, school-administered test that consists of 45 or 60 questions, ASER is a spoken, 15-minute survey conducted in a child's home to account for all children, whether they are enrolled in public or private school, or if they are absent from school or not enrolled. Pratham and the ASER Centre have designed a tool that is exceedingly simple to administer and is able to cater to the on-the-ground realities of rural India, even as it produces reliable and valid results.

Where possible, empower citizens to drive advocacy efforts that maximize impact.

By employing citizen volunteers to conduct the survey, ASER is able to reach roughly 16,000 villages representing every rural district in India. This comprehensive data set draws into sharp relief the magnitude of India's education crisis and it holds district, state, and national actors accountable for taking action. What is more, when the ASER Centre trains its 30,000 surveyors, it increases people's awareness not only of the education crisis, but also of the value of the survey itself.

Continuously experiment with new approaches to addressing a problem. Each year, in addition to its standard set of questions, the ASER survey includes one or more novel assessment tools that aim to deepen the public's understanding of India's education crisis. For example, in 2007, 2009, 2012, 2014, and 2016, children were tested in basic English reading skills. In 2017, children aged 14 to 18 were assessed on functional skills and were asked to solve applied math problems, such as adding and subtracting money, adding the weights on a scale, and calculating the total number of hours between two given points in time. Before the national rollout of ASER surveys, teams conduct comprehensive and large-scale field trials to test the robustness of new survey tools.

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