

BROOKINGS INDIA

**ANNUAL  
REPORT**

**2017-  
2018**





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## INTRODUCTION

# Who We Are

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Established in 2013, Brookings India is an independent Indian research institution working towards improving governance across different areas of public policy in our country. Our single-focused mission is to produce and promote independent and high-quality research that contributes to India's nation-building.

The institution serves as a platform for research on a number of issues, including Development and Governance, Foreign Policy and National Security, and Energy, Natural Resources and Sustainability. Brookings India provides policy recommendations for stakeholders to better understand existing policy issues and arrive at potential solutions.

Brookings India is registered as a non-profit institution under Section 8 of the Companies Act 2013 (formerly Section 25 of the Companies Act, 1956). All our research products and publications are online and available for free to all.

Brookings India's fundamental objective is to contribute meaningfully to the process of designing solutions for India's policy problems.

We aspire to do this in a way which fully reflects the core values of analytical quality, empirical evidence and independence of views.





**The purpose of our research is to impact policy through rigorous, independent and empirically based analysis on issues of contemporary relevance to the decision makers in India. I am proud to say that our work in health, education, power, renewable energy and international affairs has been well received by the government at every level, and that today, Brookings India is an integral part of the policy firmament.**

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# From the Chairman's Desk

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Brookings India has recently completed six years of operations. Over these years, we have steadily and assuredly built up our research capabilities. At the close of FY 2018, we had a research staff of 25 focused primarily along the verticals of economic development, energy, natural resources and environment, and international affairs.

The purpose of our research is to impact policy through rigorous, independent and empirically based analysis on issues of contemporary relevance to the decision makers in India. I am proud to say that our work in health, education, power, renewable energy and international affairs has been well received by the government at every level, and that today, Brookings India is an integral part of the policy firmament.

Brookings India is an organic affiliate of the leading independent think tank in the world, the Brookings Institution in Washington D.C. It has, therefore, the advantage of access to over 100 scholars of international renown in their respective fields. Brookings India has also relationships with universities and other think tanks in India and overseas. This has also strengthened our research capabilities.

Brookings India is a not-for-profit registered under Section 8 of the Companies Act. It has no revenue model. All of its research output is publicly available. For it to sustain its quality of research and, indeed, deepen it, it is dependent on the generosity of donors from corporates, foundations and other entities. In this context, I wish to acknowledge Brookings India's debt of gratitude to its Founder Circle members, the individuals and companies that have supported its establishment. Without their unstinting backing, it could not have grown as fast it has, nor had the impact it has had. On behalf of the fellows and staff of Brookings India, I thank them all for this generosity.



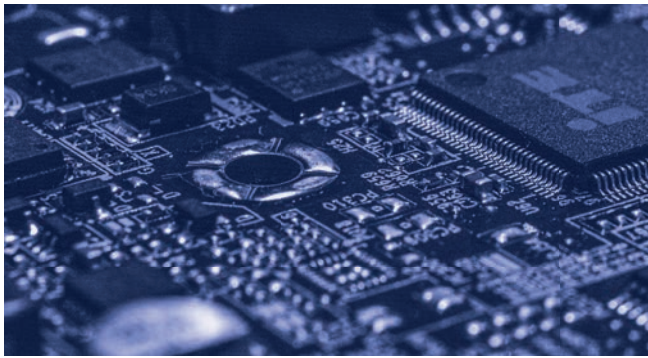
**Vikram Singh Mehta**  
CHAIRMAN & SENIOR FELLOW  
Brookings India

# Development Economics

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Under the Development Economics vertical, our focus remains on India's key developmental and governance challenges in the fields of health, gender, education, urbanisation, financial inclusion, impact investing, banking reforms, and technology.





# Gender

In the year that birthed the extraordinary #MeToo movement, a global reckoning against sexual harassment, gender emerged as a central theme of public discourse. And yet, gender remains a critically important but largely ignored lens to view development issues across the world – something we try to address through our research.

‘Missing women’ is a phenomenon first noted by Nobel laureate Amartya Sen in the 1990s that highlighted the shortfall in the number of women against the expected number of women in a region or country. This absence of women has far-reaching economic, social, and political implications. As part of her work on gender, Shamika Ravi takes the question of ‘missing women’ forward and examines women’s representation and political participation in India.

In an earlier academic paper, Mudit Kapoor and Shamika Ravi (EPW 2014) study the voter turnout in all the Indian state assembly elections over 50 years, from 1962 to 2012. Based on an improving voter sex ratio, the authors establish that the gender bias in voter turnout has steadily fallen in India over the years. These findings become especially significant because there has not been any deliberate policy intervention at a national or state-level to increase women voter turnout. It is driven by more women going out to cast their vote, a voluntary act of self-empowerment -- an extraordinary achievement

in the world’s largest democracy with 717 million voters, of which 342 million voters are women. This is what the authors term a “silent revolution” in India. In a working paper that is under review, “Missing female patients: An analysis of gender ratios from a tertiary care hospital in New Delhi,” authors Shamika Ravi, Mudit Kapoor, Deepak Agarwal, Randeep Guleria, and Ambuj Roy assess gender gaps in access to healthcare using patient

## ***An analysis of voter turnout in Indian state assembly elections over 50 years, from 1962 to 2012, reveals a positive and consistent trend of rising female voter participation.***

data from the All India Institute of Medical Sciences (AIIMS), one of India’s biggest public hospitals. Though gender gaps in access have been studied in India, it has largely been in selective patient groups or selected medical conditions and in small studies. This paper examines this gap in healthcare access to a large referral hospital catering to a large population of North India by contrasting the sex ratio of patients across all departments of the hospital, excluding obstetrics and gynaecology.





## DIFFICULT DIALOGUES 2018

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Brookings India was a knowledge partner at Difficult Dialogues 2018 conference on gender equality that was held from February 9 to 11 in Goa. The conference featured leading experts, policymakers, and renowned personalities including filmmakers Prakash Jha and Ketan Mehta; actors Nandita Das and Deepa Sahi; LGBT rights activists Laxmi Narayan Tripathi and Ashok Row Kavi, women's rights activists Flavia Agnes, Zakia Soman, Vrinda Grover, Urvashi Butalia, and Ritu Menon.

The thought-provoking dialogues sparked by the conference didn't end with it; many of the presentations at the conference turned into essays for **Difficult Dialogues: A Compendium of Contemporary Essays on Gender Inequality in India**, a volume edited by Shamika Ravi that was launched in 2019. The compendium was curated with an objective to capture gender issues within modern Indian economy, ranging from political representation to women in leadership positions and labour market opportunities to identifying and addressing issues of vulnerable women in our society.

As we step into the year and take the gender agenda forward, Brookings India is forming a Gender Secretariat with experts from across industries, academia, research, and media to discuss and deliberate gender issues in India. The Gender Secretariat at Brookings India seeks to better understand and document the existing inequalities that women face in different spheres – from health to financial inclusion to labour force participation. The ultimate aim of the project is to promote gender-responsive governance.

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Difficult Dialogues:  
A Compendium of  
Contemporary Essays on  
Gender Inequality in India



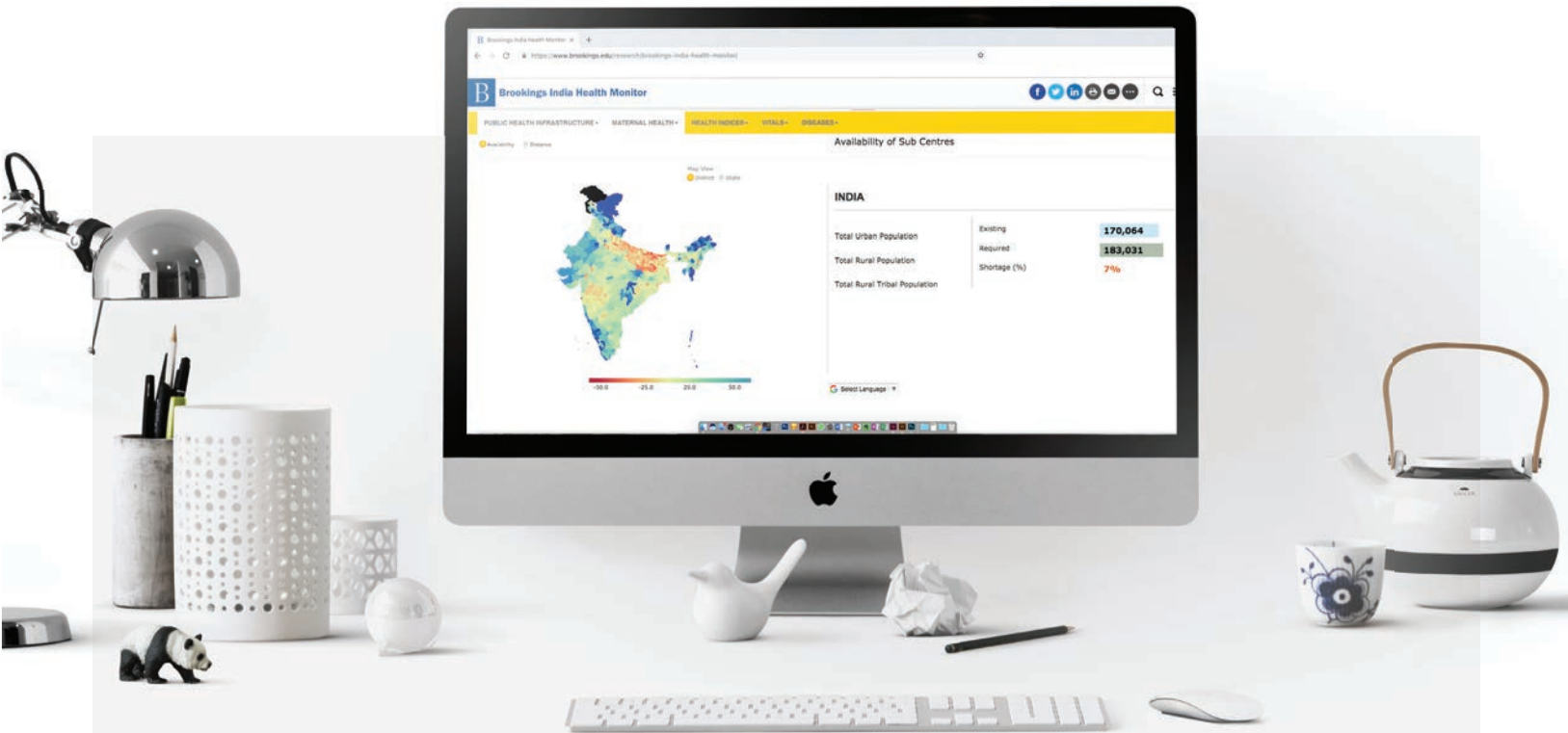
A collection of medical supplies including syringes, pills, a bandage, a thermometer, and a pill bottle, arranged on a light blue background.

# Health

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Since its inception, Brookings India has sought to study deeply the health care sector in India and the challenges it faces in order to propose effective solutions.

In a succinct policy brief, 'Nutrition in India: Targeting the First 1,000 Days of a Child's Life', authors Shamika Ravi and Ramandeep Singh tackle the pernicious, often invisible, challenge of maternal and child under-nutrition that continues to be a national public health concern. India is home to over 40 million stunted and 17 million wasted children (under-five years), despite the country's sizeable economic gains in the last few decades. The authors lay out a series of policy recommendations to alleviate child under-nutrition in India.



## **BROOKINGS INDIA HEALTH MONITOR**

The Brookings India Health Monitor, launched in 2017, compiles and analyses publicly available datasets to produce a data visualisation to generate actionable insights and specific recommendations for improved access to healthcare in India. The Health Monitor, supported by a grant from the HCL Foundation, supports real-time precision policy making in India at the national, state and district level in the area of healthcare.

The Health Monitor is a unique data visualisation tool that aggregates data from India's Health Management Information System (a system where all public health institutions are required to upload institution level details), Census 2011, and Rural Health Statistics.

The Monitor includes district-level data on availability of sub centres, primary health centres, community health centres, sub-divisional and district hospitals across districts and ranks states on an Infrastructure Index. In addition to this, it has a wealth of data on

maternal health, from deliveries and registrations in hospitals to treatments received by pregnant women to postpartum check-ups.

In 2018, we expanded the Health Monitor to include data from the National Family Health Survey-IV on Vitals such as BMI, Glucose, Haemoglobin, Blood Pressure and Diseases such as Cancer, Diabetes, Asthma, Thyroid and Heart. The data also provides a breakup of income quintiles within districts and states so individuals can compare the prevalence of a condition or disease between different income groups alongside female-male and rural-urban prevalence of diseases and conditions.

The Monitor is being used by policymakers, state governments, corporates and NGOs to priorities and target interventions, impacting lives in the process.

## AYUSHMAN BHARAT

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In 2018, prime minister Narendra Modi launched PM Jan Aarogya Yojana (PMJAY), or the National Health Protection Scheme (NHPS) under the Ayushman Bharat initiative, with an aim to provide financial protection to 10.74 crore poor, deprived rural families. The scheme provides a defined benefit cover of Rs 5 lakh per family per year for secondary and tertiary care hospitalisation.

In an op-ed for Mint, Shamika Ravi and Neeraj Sood, a professor of public policy at the Sol Price School of Public Policy and Schaeffer Center for Health Policy & Economics, University of Southern California, lauded the NHPS as a significant move towards universal health coverage. “While not all insurance programmes are successful, there is sufficient evidence that if implemented well, insurance can save lives and improve financial well-being,” the authors wrote. Ravi maintains that while India’s commitment to health insurance is commendable, it should not be the only financing model for public healthcare in India.

## MEDICAL EDUCATION

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Scholars at Brookings India have been studying the state of medical education in India to come up with solutions and recommendations rooted in data-based evidence.

In August 2017, Shamika Ravi, Dhruv Gupta, and Jaclyn Williams authored an Impact Series paper on ‘Restructuring the Medical Council of India’. After analysing medical education accreditation and global best practices, the authors suggested practical recommendations to overhaul medical education in India, including removing National Medical Council members from Medical Advisory Boards, adopting WHO standards for board guidelines, revisiting guidelines for accreditation of postgraduate schools and MBBS doctors, and mandating that all medical school graduates work in the country for a limited amount of time.

Building on this work, scholars at Brookings India are studying the state of allopathic medicine and doctor capacity in India, the results of which will be compiled in a forthcoming report. The paper is based on a database developed by researchers at Brookings India that includes college-level dataset of every medical college that currently has recognition by the MCI. The data includes the year of inception of the college, the number of seats approved for a medical course, whether the college is considered private or public, and the management of the college. Additionally, the data tracks the number of seats each college was allowed from 1998 to 2018.



## EDUCATION

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A sector that consistently demands policy revisions, owing to its integral role in shaping the future generations of policy makers, thinkers, and leaders, is education. At a Brookings India development seminar, 'The Online Education Revolution and India', Dr. Alex Tabarrok discussed how online education can offer possibilities of quality education for India's vast population. In collaboration with the Center for Universal Education at the Brookings Institution, Brookings India launched the report 'Millions Learning: Scaling up quality education in developing countries' which identifies 14 core ingredients that contribute to scaling quality learning. They include essential elements for

designing, delivering, financing, and enabling the scaling of quality education. Empowering young girls through holistic education is indispensable to achieving gender equality. To address this intersectional aspect of gender and education, Brookings India launched 'Reaching for the Sky' by Urvashi Sahni, Non-Resident Fellow at the Center for Universal Education, the Brookings Institution, which illustrates how education can be truly transformative when it addresses the everyday reality of girls' lives and responds to their special needs and challenges with respect and care. These discussions led to insights and lessons bearing implications for wider policy-making in education.

## BROOKINGS INDIA NFHS CONSORTIUM

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Based on the NFHS-4 survey, Brookings India has created a consortium of scholars across many institutions, to produce high-quality papers and policy briefs in a timely manner to inform health policy in India. The Brookings India NFHS-4 Consortium aims to highlight public health research from different specialisations including economics, demography, nutrition, data analytics, machine learning, and management. The common research agenda is to inform real-time health policy making through empirical evidence based on the NFHS surveys.

The broad topics of research covered include infant, child, and adult mortality; adult and child

nutrition; maternal and child health coverage; non-communicable diseases; as well as big data analytics from the NFHS-4.

On April 24, 2018, Brookings India, in partnership with NITI Aayog, the government's think-tank, conducted the first in a series of workshops under this consortium, where affiliated scholars presented their initial findings. Brookings India will organise a series of workshops and seminars by researchers in collaboration with government bodies including the Ministry of Health and Family Welfare, NITI Aayog, and selected state governments (and their health missions).

# Impact Investing

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Globally, impact investing which combines financial returns and social impact is an idea whose time has come. The Global Impact Investing Network estimates that \$228 billion is currently invested globally in impact investing, double the estimate from the previous year.

India has emerged as an attractive market for impact investors, where innovative financing tools such as successful development impact bonds (DIB) have been tested. Such tools serve as an avenue to improve millions of lives and plug gaps left by governments or philanthropy. India's impact investing market could grow to US\$ 6-8 billion in 2025, according to a McKinsey report.

As impact investing grows rapidly, scholars across the Brookings Institution have been studying closely the trends, outcomes, and implications for sectors such as education, health, and sustainable development. With a focus on indicators and early-learnings on the field in other countries, scholars at Brookings are interested in studying and watching the market for Innovative Financing in India.

In an op-ed in Mint, Shamika Ravi and Purna Sharma outline their vision for Social and Development Impact Bonds (SIBs and DIBs) as an innovative financing

instruments that can address service provision gaps. "When investment is tied to outcomes, rather than activities, service providers gain greater flexibility to innovate and improve their programmes," they write.

The scholars closely followed and wrote about the outcomes of the world's first development impact bond -- Educate Girls, launched in Rajasthan's Bhilwara district in 2015. With the aim of targeting 18,260 school-going children, the DIB intervention led to positive improvements in learning outcomes and enrolment rates far surpassing the targets initially set. Drawing lessons from social impact investment successes in the United Kingdom, they argue that, "The promotion of such instruments in India would require the existence of local institutional frameworks that allow and promote all the necessary stakeholders to perform properly." In another op-ed for the Hindustan Times, Ravi and Sharma argue that the positive results of Educate Girls should spur private and government actors to ensure that this stream of investment goes beyond a market experiment and is scaled up.





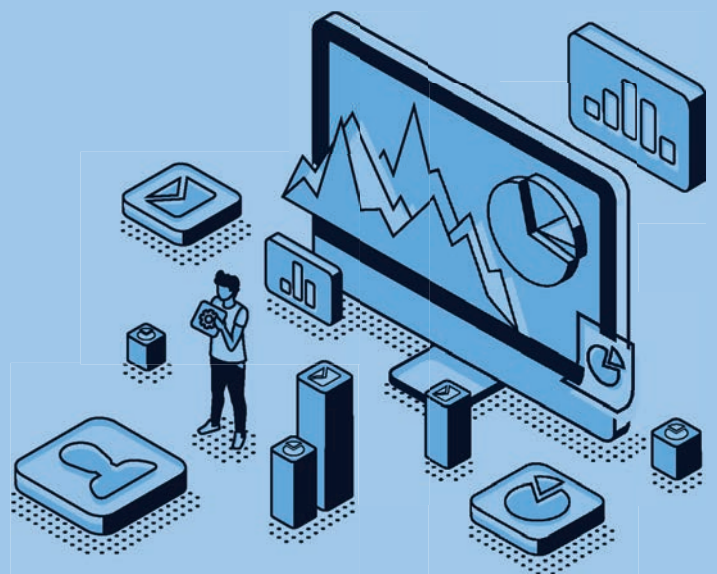
*By 2024, India could aspire to and reach today's China, if it prioritises and directs policy initiatives on four levers: improving physical infrastructure, expanding digital access availability, bringing more women online, and investing in research and development.*



Bhaskar Chakravorti delivers a seminar on the digital planet



Shamika Ravi and Vasant Dhar talk about AI's impact on nation states.



# Towards a Digital World

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Digital technology has been the most transformative force of the last decade. Rapid technological advances present unique opportunities for policymakers – to leverage the power and possibility of a digital world in order to find solutions to age-old, entrenched problems, while also posing challenges in terms of regulation or ethical and moral dilemmas attached to technology.

Bhaskar Chakravorti, Non-Resident Fellow at Brookings India and the Dean of Global Business at The Fletcher School at Tufts University, studies digital evolution, digital trust, and issues such as privacy. Chakravorti's research focuses on developing a Digital Evolution Index, an indicator that measures the digital competitiveness of countries. Ranking 60 countries on a variety of digital indicators, the Digital Evolution Index analyses hundreds of attributes across four main buckets: supply-side, demand-side, institutional environment, and innovation and change.

At a Brookings India seminar, Chakravorti explained that even though India's digital trust environment scores hug the median, it has a significant digital experience gap to close. For example, Indians scored very high in patience in online engagements but very poorly in security, accountability, and privacy, his study found.

Chakravorti believes that by 2024, India could aspire to and reach today's China, if it prioritises and directs policy initiatives on four levers: improving physical infrastructure, expanding digital access availability, bringing more women online, and investing in research and development.

In his writings in Harvard Business Review and the Indian Express, Chakravorti points out that countries in the "Digital South" that are less technology-evolved, but fast-developing are the most vulnerable and examines the role of WhatsApp and Facebook in mob justice, lynchings, and communal violence, arguing that the platforms must work harder to curb this.

A digital economy is a precursor to a digital world. The "fourth industrial revolution", characterised by end-to-end digitalisation, has led to unprecedented increases in connectivity and data flows. In India, the digital economy is expected to contribute \$550bn-\$1tr in GDP by 2025, and add 1.5-2 million jobs by 2018 through its Digital India initiative.

Joshua Meltzer, Senior Fellow, Global Economy and Development at the Brookings Institution, while speaking on regulating the digital economy and cross-border data flows in Asia, argued that when restrictions have to be placed to ensure legitimate goals such as citizens' privacy or national security, governments must make efforts to balance these with maximising the economic and trade opportunities offered by cross-border data flows.

# Financial Inclusion

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The Pradhan Mantri Jan Dhan Yojana (PMJDY) is one of the world's largest financial inclusion programmes that seeks to make financial services such as bank accounts, remittances, credit, insurance, and pensions affordable and accessible to all.

With a mandate that large, India needs to examine the challenges and opportunities linked to financial inclusion, from capacity building to promoting financial literacy to technological innovation that could aid in this. Financial inclusion has a significant role to play in economic growth, as well as in implementing direct benefits transfer through Jan Dhan and other bank accounts, Aadhaar, and mobile phones.

In September 2017, Shamika Ravi was a speaker at the UN Conclave on Financial Inclusion in New Delhi, where she made a strong case for targeting women in such programmes. "There's enough empirical evidence from global economies that targeting women is not only good for the businesses themselves, but also it has a disproportionately large impact on the households, and the general well-being of the children, and for society as a whole," she said.



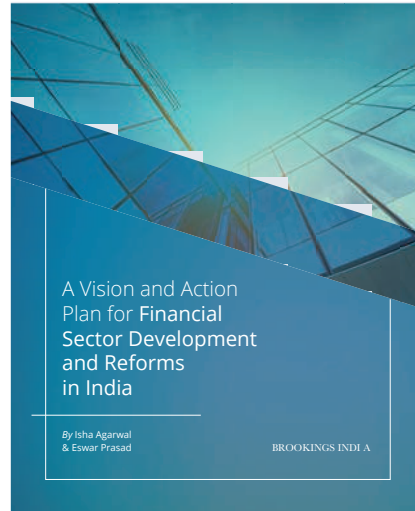


# Financial and Banking Sector Reforms

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The Indian banking system is beleaguered with non-performing assets (NPAs). In the March 2018 quarter, the gross NPAs of Indian banks surged past Rs 10 trillion.

Brookings India organised a roundtable in Mumbai on NPA resolution; participants ranged from a former Deputy Governor of the RBI, to bankers from public and private sectors, asset reconstruction companies to rating agencies, IMF representatives to financial journalists and academics. In a wide-spanning discussion, a few key themes emerged, summed up by Richa Roy, Krishnamurthy Subramanian, and Shamika Ravi in a blog: the privatisation and governance of public sector banks, the governance and regulatory practices of the RBI, and re-engineering of banking practices.



In an Impact Series paper, 'A vision and action plan for financial sector development and reforms in India', authors Isha Agarwal, research scholar, Cornell University, and Eswar Prasad, Senior Fellow, Global Economy and Development, take stock of India's financial system,

identify areas of improvement, outline long-term objectives for financial sector development and reforms, and provide policy recommendations to achieve the long-term objectives

## INDIA'S MONETARY POLICY

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In a Brookings India working paper, Indian monetary policy in the time of inflation targeting and demonetisation, authors Rakesh Mohan, former Deputy Governor of the Reserve Bank of India and Distinguished Fellow at Brookings India, and Partha Ray, Professor, Indian Institute of Management, Kolkata provide an overview of the country's monetary policy since the North Atlantic Financial Crisis (NAFC) in the mid-2008 till the government's demonetisation move in late 2017.



# Development Seminar Series

The Development Seminars Series at Brookings India is a platform for global scholars to present their work to a curated audience of senior government officials, politicians, journalists, academics, and policy enthusiasts. The format of the seminars includes a senior researcher as a lead presenter and a government/industry expert to discuss the results and relevance within the Indian context. The fundamental focus of the seminar series is to draw research-based insights to shape and influence policy dialogues in India, through purposeful and pointed discussions.

In the past year, we hosted twelve Development Seminars with leading scholars on issues as wide-ranging as digital economy, artificial intelligence, inflation, manufacturing jobs, using technology to improve efficacy of school feeding programmes, and migration.



Sisir Debnath, assistant professor, Indian School of Business on using technology to improve mid-day meal programmes



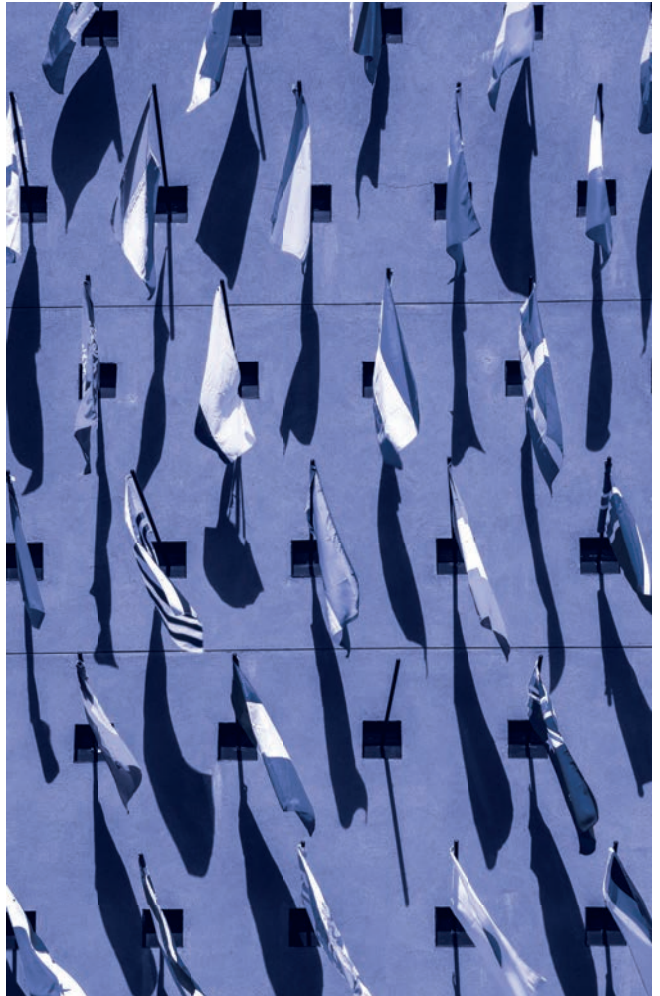
Viral Acharya, deputy governor, RBI discusses monetary policy with Shamika Ravi

# Foreign Policy

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The Foreign Policy Initiative at Brookings India examines, explains, and interprets global challenges and foreign policies that affect India's security and prosperity. Through our scholars' commentary and analysis, we raise awareness of important issues and shape key debates. Over time, the Foreign Policy Initiative also seeks to identify and incubate the next generation of Indian foreign policy thinkers and practitioners through regular networking events and engagements.





# India-US Relations

Brookings India scholars continued their work on analysing India-US relations. Brookings India released “India-U.S: Relations in transition,” a collection of short memoranda on India-U.S. relations written by experts from Brookings India and its affiliate, the Brookings Institution in Washington D.C. The memos, each representing the personal views of the authors, were meant to provide different, and sometimes differing, perspectives on how to make progress on some of the key issues that impact India-U.S. ties. The briefing book covered the broad topics of the bilateral relationship; convergence between the two countries in higher education, healthcare, energy and the environment; and regional cooperation. It has contributions from Vikram Singh Mehta, Stephen P. Cohen, Teresita C. Schaffer, and Michael E. O’Hanlon, among others.

Exploring the theme of India-US cooperation further, Brookings experts examined how the defence and security space could still represent a natural area of cooperation between the two countries. This was part of a four-part series published by Mint on the India-U.S. relationship, co-authored by Brookings India and Brookings Institution scholars.

Brookings India experts watched the U.S. elections of 2016 closely, specifically in relation to how they would impact India. This resulted in several research papers, opinion pieces, events and activities on the topic. In “Making sense of Uncertain India-US relations”, an article in the Indian Foreign Affairs Journal, Dhruva Jaishankar noted that in an era of greater flux and uncertainty, it was important for India to identify the key variables triggered by President Donald Trump’s election. They relate, essentially, to the four broad areas: bilateral relations, the Asian balance of power, terrorism, and global governance. While the logic of converging India-U.S. interests along every dimension remains strong, regardless of the change of administration in Washington, India can no longer take traditional U.S. positions for granted, he cautioned. India must double-down on its own unilateral efforts as well as seek alternative partners, whenever possible. In February, soon after Trump had took the reins, Brookings India also organised a roundtable with Tanvi Madan, Fellow and Director of the India Project at the Brookings Institution, moderated by Dhruva Jaishankar, where a frank discussion on bilateral ties ensued.

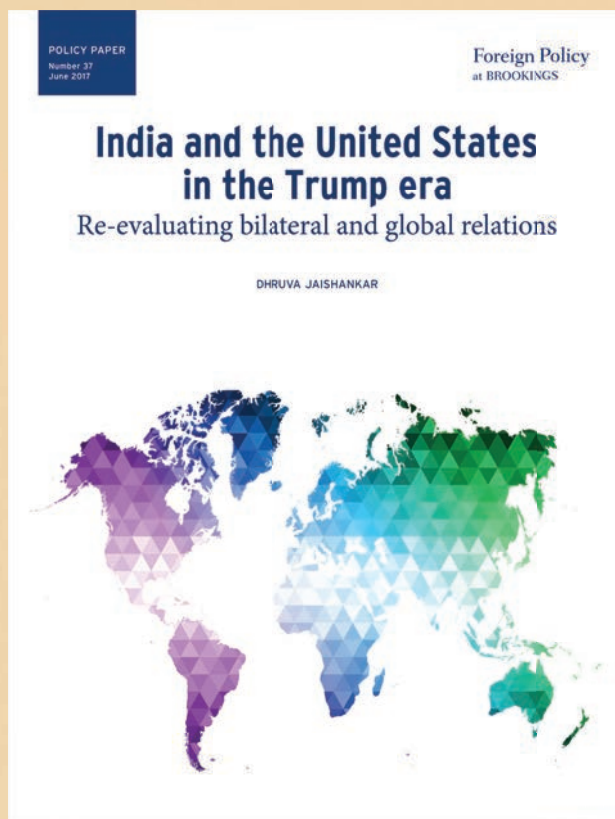
Non-Resident Fellow Anit Mukherjee co-authored a commentary at the Rajaratnam School of International Studies (RSIS) in Singapore titled, “Trump and Modi: Seeking a Global Partnership?”, where he argued that the Indian prime minister’s first face-to-face meeting with the US president was an opportunity to imprint a unique Trump-Modi vision on Indo-US relations by charting an ambitious agenda while guarding against potential irritants.



***In an era of greater flux and uncertainty, it was important for India to identify the key variables triggered by President Donald Trump’s election. They relate, essentially, to four broad areas: bilateral relations, the Asian balance of power, terrorism, and global governance.***

In another paper for the Brookings Institution titled, “India and the United States in the Trump era: Re-evaluating bilateral and global relations”, Jaishankar argued that India must continue to engage with the Trump administration and other stakeholders in the United States—including the U.S. Congress, state governments, and the private sector. New Delhi must attempt to convince Washington that India’s rise is in American interest. “At the same time, India must insure against the prospect of a more “normal” America, an imbalance of power in the Asia-Pacific, divergent counter-terrorism priorities, and a relative vacuum in global governance,” wrote Jaishankar.

Brookings India also conducted several discussions around Donald Trump’s foreign policy priorities and implications for India. These included an all-day conference, in association with Federation of Indian Chambers of Commerce & Industry (FICCI), with then U.S. Ambassador to India Richard Verma, Vice-Chairman and Managing Director of Bharti Enterprises Rajan Bharti Mittal, Member of Parliament Shashi Tharoor, former Foreign Secretary Kanwal Sibal, and Ambassador Arun K Singh as participants.



Dhruva Jaishankar was also a member of the Center for American Progress U.S.-India task force. The task force, co-chaired by Verma and former Indian foreign secretary and Ambassador to the U.S. Nirupama Rao, released its report in January, focusing on convergence of U.S. and Indian interests and where collaboration in both democracies can drive progress.



# India and its Neighbourhood

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## INDO-PACIFIC

As the concept of the 'Indo-Pacific' region increasingly gains momentum, there remain many opportunities and challenges for India to regionally integrate and realise the concept of the Indo-Pacific. Brookings India explored this concept through various research outputs.

In May 2017, Brookings India participated, along with six other partner think tanks, in a six-country public opinion survey of Australia, China, India, Indonesia, Japan, and South Korea. The survey covered attitudes to the United States, China, regional security, trade, investment, immigration, and democracy. Brookings India experts analysed the India-specific results. The survey results were compiled and discussed in a report, where our Fellow Dhruva Jaishankar wrote the chapter on India – The Asian Research Network: Survey on America's role in the Indo-Pacific. The survey helped fill the gap in understanding of public Indian attitudes concerning the United States, China, and the international system; India's role and relations with Pakistan; Indian identity and democracy; and perspectives on trade, investment and immigration. Overall, the survey showed extraordinarily high Indian public opinion of the U.S., wariness about China, strong support for free trade agreements and foreign direct investment, consistent views on democracy, and concern about regional competition.

Jaishankar also wrote a chapter in October 2017 for a PerthUSAsia report titled "Realising the Indo-Pacific:

Tasks for India's Regional Integration". This report brought together emerging scholars from Australia and India to explore India's regional integration into the Indo-Pacific. In his chapter titled "Uneasy triangle: India's evolving relations with the United States and China", Jaishankar noted that the United States, China, and India are the world's three largest countries by population and will soon comprise the world's three largest economies. India, at various times, has played the role of go-between, balancer, shared adversary, and promising partner to both the United States and China. We may now be at another inflection point. Navigating this new strategic terrain will require New Delhi to continually engage both China and the United States in an equal but differentiated manner, he argued.

The Indian Ocean holds particular importance for India, as the littoral's most populous country. Indeed, for the rest of the Ocean's littoral states, and even those outside the region, India's leadership role will be important in determining the strategic future. Anit Mukherjee wrote a chapter on "Indian Ocean region strategic outlook" as part of a monograph published by RSIS in Singapore. In it, he described India's Indian Ocean strategy as three-pronged: drawing closer ties with the United States and its allies; strengthening links with Indian Ocean littoral states; and internal balancing through building up its own military power.

## FOCUS ON CHINA AND JAPAN

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China's economic achievements in the last three decades of 10 percent-plus GDP growth have inspired awe around the world. The accumulation of hard power in all its forms, China as the world's manufacturing workshop, the trillion dollar foreign exchange surpluses, the ability to determine commodity prices in world markets, the presence of China in most global value and production chains, and so on. The speed and scale of China's transformation are astonishing. As a rising power, meanwhile, China is determined to have an independent say in the economic, political, and security order around her and in the world. What does China's rise mean for India? Experts at Brookings in India and in Washington have analysed this question from varied perspectives over the last few years. Analyses have ranged from that on the Belt and Road Initiative, to the India-China border standoff at Doklam in June 2017, and the South China Sea.

One dimension of India's 'Look East/Act East' has involved forging new kinds of strategic partnerships in the Asia-Pacific region. India and Japan, motivated primarily by shared concerns about China, have been developing a closer defence partnership defined by regular maritime exercises and high-level political consultations. In an RSIS publication in May 2016, Jaishankar argued that this upward trajectory in strategic ties between India and Japan can be maintained, as long as both countries take certain structural limitations into consideration.

## CONSTANTINO XAVIER JOINS BROOKINGS INDIA AS FELLOW, FOREIGN POLICY

Constantino Xavier joined Brookings India as a Fellow in Foreign Policy studies. He researches on India's foreign and security policies as a regional power, with a focus on institutions and decision-making processes, and also on relations with Europe.

Xavier is currently writing a book on India's crisis response and involvement in neighboring countries (Nepal, Sri Lanka, and Myanmar), and also examining the challenges of connectivity and security across the South Asian and Indian Ocean regions. Xavier's research also focuses on how India's democratic values and institutions influence its external engagements and its relations with other democratic powers.

Previously, he worked at the Brookings Institution, in Washington D.C., as a media correspondent in South Asia, and as an adviser to the Embassy of Portugal in New Delhi during the presidency of the European Union. He held fellowships at the Institute for Defence Studies and Analyses and the Observer Research Foundation, in New Delhi, and received research awards from the United States Fulbright program and the Indian Council for Cultural Relations. Xavier holds a Ph.D. in South Asian studies from the Johns Hopkins University, School of Advanced International Studies.



***“One dimension of India's 'Look East/Act East' has involved forging new kinds of strategic partnerships in the Asia-Pacific region. India and Japan, motivated primarily by shared concerns about China, have been developing a closer defence partnership.”***

# ACT EAST

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A sub-set of our work on the Indo-Pacific has been our focus on India's Act East Policy. After years of a Look East policy that recognised the importance of the Asia-Pacific region for Indian interests, the Indian government decided to upgrade it rhetorically to 'Act East'. The objective of the Act East policy is to ensure a multi-polar Asia, through deeper institutional engagement, land and maritime connectivity, and security partnerships with Southeast and East Asia.

In his paper published as part of the ISAS Insights, Jaishankar looked at how India's Look East policy had fared so far – what India had accomplished, what more it could do. The paper, titled "Actualising East: India in a Multi-polar Asia", recommended that for New Delhi to 'Actualise East', a rethinking of the country's China policy in the light of developments there, improving India's connectivity with Bangladesh and Southeast Asia, and prioritising Indian Ocean security, is required.



Brookings India also organised the 1st Act East Dialogue in New Delhi in April 2017, hosting over 75 delegates from 27 countries. The day-long conference explored ways in which India could deepen its cooperation and involvement to its east, in particular with the member states of the Association of Southeast Asian Nations (ASEAN). The conference was organised in collaboration with the Ministry of External Affairs.

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# India's Foreign Policy Alignment and National Security

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In a book chapter released in 2017, Jaishankar evaluated the elements of Indian strategy. But in a larger sense, he argued that grand strategy is becoming harder – and not just for India. Even though the state is getting stronger, adversaries are harder to identify, public debates have become more cacophonous, and the tools of statecraft have become more varied. In the chapter, titled “Indian Strategy in a Non-Strategic Age”, Jaishankar noted that while implementation has perhaps been India’s greatest weakness, it was not for want of strategic acumen.

To attempt a critical appraisal of India’s foreign policy over the last three years, Brookings India organised a panel discussion on “Deconstructing the Modi Doctrine: Three Years of Modi’s Foreign Policy,” featuring Dr.

Vijay Chauthaiwale, Dr. Rajiv Kumar, and Dr. Sreeram Chaulia, moderated by Dhruva Jaishankar. The discussion focused on Prime Minister Modi’s foreign policy achievements in the last three years, as well as criticisms and challenges going forward.

To discuss the state of defence reforms in India, Brookings India hosted a discussion with Anit Mukherjee and Walter Ladwig, lecturer at King’s College London. The discussion veered towards questions that have preoccupied India’s strategic community over the past several years, such as how prepared Indian defence forces are to tackle current and future security challenges, what is required to ensure that they are optimally trained, equipped, and managed, and what India can learn from the experiences of other militaries.



## ‘INDIA AND THE WORLD’ ROUNDTABLES WITH SHIVSHANKAR MENON

Brookings India Distinguished Fellow and former National Security Adviser Shivshankar Menon continues to lead our ‘India in the World’ roundtables that aim to foster frank discussions between foreign policy experts and yield insights relevant to policymakers.

In a series of roundtables held over the year, Ambassador Menon discussed issues pertinent to India’s foreign policy decisions, from India-China ties to multilateral trade diplomacy to civil-military relations within India. One of

the roundtables chaired by Ambassador Menon included a discussion on U.S. policy on South Asia and China with General David H. Petraeus, former commander of the International Security Assistance Force in Afghanistan. Another roundtable with discussants Pradeep S. Mehta, Secretary General of CUTS International, and Dr. Harsha Vardhana Singh, former Executive Director at Brookings India outlined the need for a distinct Indian strategic vision on facilitating trade agreements and policies and challenges we face.







John Allen, President of Brookings Institution, on his annual visit to the India center.



John Allen in conversation with Dhruva Jaishankar and Strobe Talbott.

# FOREIGN POLICY EMERGING VOICES NETWORK

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The Foreign Policy Emerging Voices Network is meant to facilitate interactions between the next generation of leaders in Indian foreign policy, including from the Indian government, private sector, universities, think tanks, non-profit organisations, and media. Frequently held at different venues in New Delhi, the informal Emerging Voices meetings offer the opportunity for participants to interact and network with one another and with members of the foreign diplomatic community. Past meetings have included interactions with U.S. Ambassadors to India, Richard Verma and Kenneth Juster, Australian and U.K. High Commissioners to India, Harinder Sidhu and Sir Dominic Asquith, and Ambassador Kenji Hiramatsu of Japan, among others.



Harinder Sidhu, Australian High Commissioner to India



Gareth Bayley, U.K. Special Representative on Pakistan and Afghanistan



Kenneth Juster, U.S. Ambassador to India



Nina Vaskunlahti, Finnish Ambassador to India



Sir Dominic Asquith, U.K. High Commissioner to India

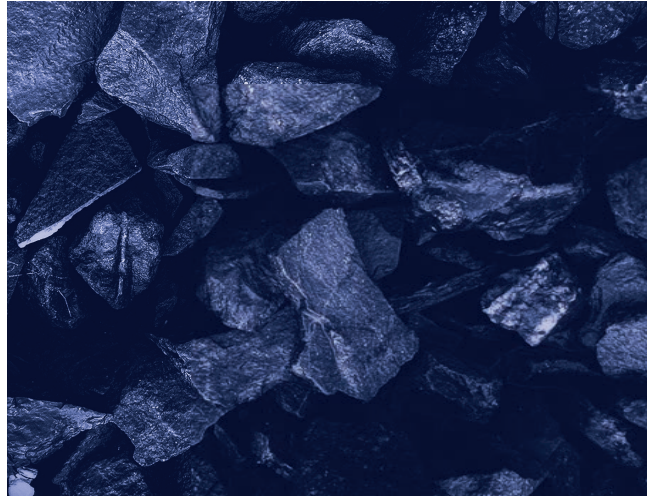


Kenji Hiramatsu, Japanese Ambassador to India

# Energy, Natural Resources and Sustainability

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The Energy, Natural Resources and Sustainability vertical at Brookings India is dedicated to conducting comprehensive research on India's energy potential and requirements. Our work centers on the study of coal, natural gas, mineral and power sectors, renewable energy, electric vehicles, and climate change in India. Our objective is to advance impactful research that helps understand India's energy needs while being mindful of the environmental concerns around it.



# Future of Coal

More than two-third of India's power generation comes from coal—the importance of this resource cannot be overstated. Brookings India's multi-year effort on the future of coal in India identifies key coal sector trends, analyses existing policies, and devises suitable frameworks to enable future optimal utilisation of coal for the country. The Brookings India study also has a slightly broader scope and extends to the ecosystem of coal, to include transportation, electricity (including renewable energy), etc. Our report in 2016, titled "India's coal requirement by 2020: A bottom-up analysis", has had a deep impact in putting coal in context of changing demand and growing renewables. The disparate threads of our research on coal in India will come together in the form of a forthcoming book, which will be launched in 2019.

One of the issues that formed the crux of coal-related discussions at Brookings India was the future of coal demand and the targeted domestic coal production linked to it. Are we headed towards an oversupply of coal? What implications would that have for India's carbon footprint? **A related discussion with three Government of India secretaries from the Ministries of coal, power, and renewables, Anil Swarup, P.K. Pujari, and Upendra Tripathy**, respectively, attempted to triangulate what impact a reduced domestic coal production would have on the three sectors/ministries.



“One of the issues that formed the crux of coal-related discussions at Brookings India was the future of coal demand and the targeted domestic coal production linked to it. Are we headed towards an oversupply of coal?”



In their report, “Recommendations for reforms in India’s coal mining space”, Fellow Rahul Tongia and research associate Anurag Sehgal analysed the government’s Coal Vision 2030, a document that defines the future outlook for the sector and the trends shaping it. Our experts offered suggestions and feedback on how to improve coal availability in the country and reduce the impact of externalities.

Other discussions and research at Brookings India centred on the electricity demand in the country and optimal fuel mix, economics of coal auctions, block allocations, and specific focus on reverse auctions and regulations from the government to incentivise coal washing and its implications on water table, power price, etc.

In a Planet Policy blog, “Commercial coal mining in India: A possible but not irrefutable game changer”, Sehgal and Tongia weighed in on the government’s decision to open coal mining to commercial miners, who were given the freedom to sell coal in the open market.

Brookings India’s research also offers perspectives on private participation in the coal industry and what Coal India Limited’s monopoly on mining coal means for this sector. While the government has introduced several policies that have increased the role of the private sector, the idea of mining going all private is still unexplored. In a discussion led by Brian Fisher, Managing Director, BAEconomics Pvt. Ltd., he shared insights from Australia on the valuation and regulation of coal, carbon, and natural resources.



# Railways and Coal

Coal and railways in India are heavily interdependent. On average, railways accounts for over 85 per cent of costs for transporting coal to thermal power plants, as a number of power plants are pithead/ near coal mines and do not use this mode for transportation. Coal is 44 percent of IR's freight revenues and has an even higher share in its profits. Indian Railway's (IR) business model is based on passengers underpaying and freight overpaying. In a Brookings India study, "Indian Railways and coal: An unsustainable interdependency", Puneet Kamboj and Rahul Tongia look at the relationship between Indian Railways and the coal sector.

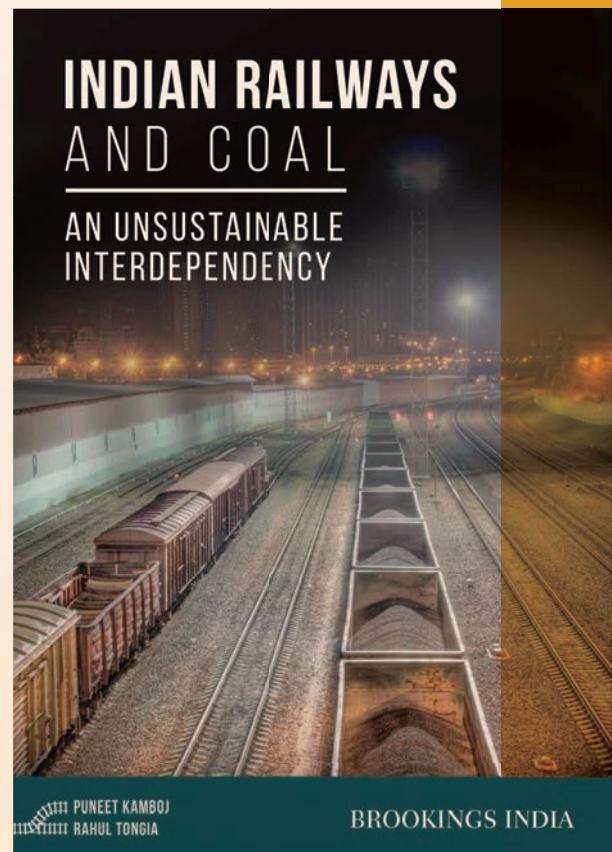
The report argues that this relationship is unsustainable and looks at a combination of raising

passenger fares, improving efficiency, and budgetary support as a solution. At a panel discussion held at Brookings India, Rakesh Mohan, Vivek Sahai, HS Bajwa, and Rahul Tongia explored the possible options to tweak the equilibrium and examine the larger changes required.

The report was cited in both media and research, including the IEA report "The Future of Rail", which looks at the role of railways globally in order to reduce the energy use and environmental impacts associated with transport.

## ENERGY NETWORK OF SCHOLARS

Brookings India has initiated an effort to jointly organise a voluntary network of energy scholars/ researchers interested in engaging and sharing ideas, needs, best practices, draft research, etc. This network was established in collaboration with IIT-Bombay and the Shakti Sustainable Energy Foundation. Brookings India is the secretariat for the effort. The Network kicked off in March 2017, bringing together diverse experts from institutions across India, and has had several meetings since.





# Power

## ELECTRICITY ACCESS

India has undertaken massive strides in household-level wiring for electrification in the last few years. As of 2016, 80 percent of India's population was electrified as compared to 55 percent in 2001. This growth in electrification was highest as compared to other Southeast Asian, Sub-Saharan African, and other developing countries.

Brookings India continued multiple strands of this complex topic relating to distribution of electricity, ranging from access to energy to verification of supply quality.

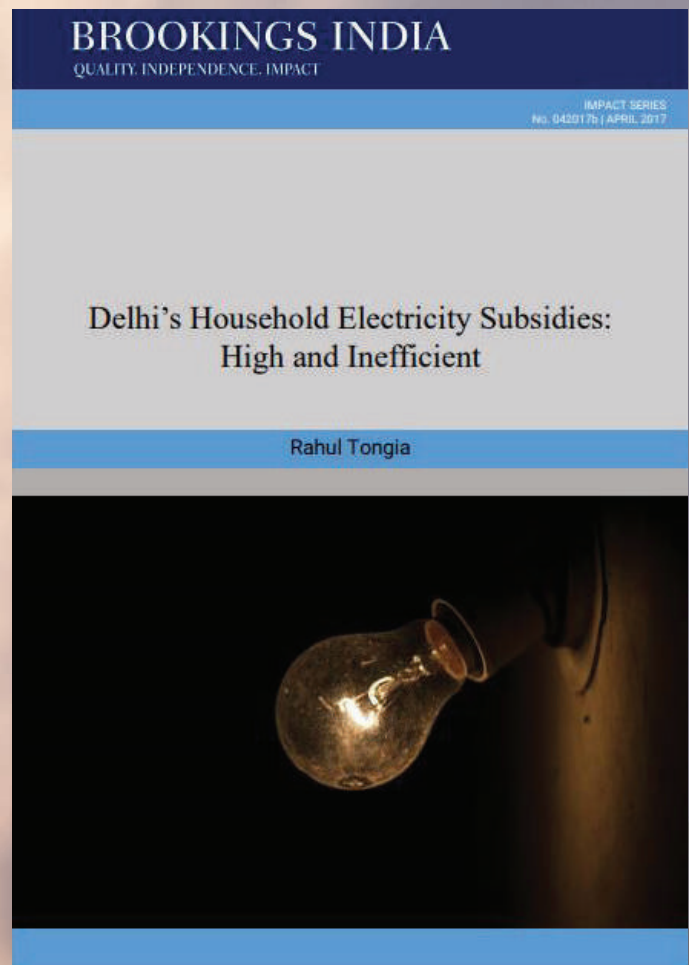
Our experts argue that a village can be called electrified only if majority of the households have good, "meaningful" supply of electricity, not merely a wire connection to every household.

In this context, Brookings India experts commented extensively on the government's Saubhagya electrification scheme that aims for 100 percent household electrification. While one can concur that Saubhagya would potentially take care of wiring up the last unelectrified consumers, scholars at Brookings India point to service quality being the next concern. They argue that usage charges from these last-mile homes are likely to be below cost. This might reduce a Distribution Company's cost, motivating to keep them connected.

Taking a state-specific example, Tongia examines that substantial subsidies that the Delhi government offers to household consumers of electricity. In the study, "Delhi's household electricity subsidies: High and inefficient", he shows that such subsidies turn out to be the most generous, but benefit the rich far more than they benefit the poor.

Subsidies can play a helpful role in keeping power affordable for citizens, but the downsides of poor subsidy designs range from poor signalling of true costs, leading to wastage, to over-charging some

users and financial losses for the utilities. Tongia suggests tweaking the subsidy policies to maintain much of the coverage—even increase it for the most deserving—and also save the state government around Rs 1,000 crore annually.



# Renewable Energy

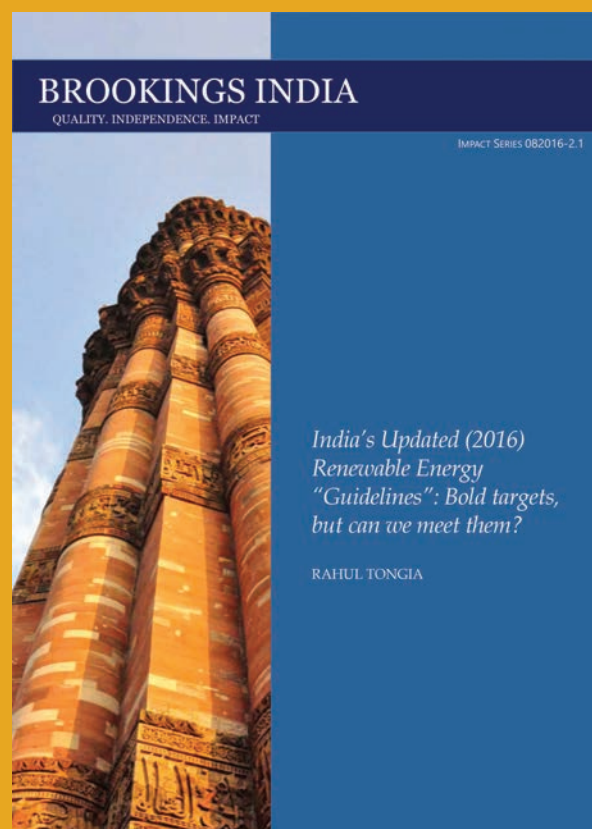
## SUSTAINABILITY

India is committed to generating 175 gigawatts of renewable energy (RE) by 2021, roughly a five-fold growth from 2015. While RE is valuable because it uses no fuel—helping everything from sustainability to energy security—it has a number of challenges that are exacerbated by India’s requirements and specificities. Our experts believe the two biggest challenges for RE in India are finance and grid integration. Our work on the subject has therefore largely involved these two threads, besides other related issues.

India sits at the nub of the crisis of the current high carbon model of development. It might not be responsible for this crisis but it cannot escape the fact that it is amongst the nations that are most vulnerable to global warming.

Vikram Singh Mehta’s working paper “Transitioning Towards a Sustainable Energy Future: Challenges and Opportunities for India” (originally written for the National University of Singapore’s Institute of South Asian Studies) underlines that the Indian government recognises the severity of the problem and has embarked on an ambitious programme to tackle the crisis on its own. However, it requires better alignment of the political, institutional, and financial framework for implementation in a given time-frame.

In his Impact Series paper, “India’s Updated (2016) Renewable Energy ‘Guidelines’: Bold targets, but can we meet them?”, Brookings India Fellow Rahul Tongia compares RE capacity targets with generation (consumption) targets; examines RE growth rates required; and compares India’s RE targets with targets elsewhere. He suggests that RE for India not be just about targets, but a systemic approach: consistency, clarity, and coordination.



# BROOKINGS INDIA



Navroz Dubash, Samantha Gross, Rahul Tongia and David Victor discuss climate change

A panel discussion involving the Cross-Brookings Initiative on Energy and Climate co-chair David Victor discussed what's missing from scaling of RE in India, at a systems level. Is there a missing finance link? Are there lessons from other countries that hold relevance for India? This event also focussed on the "what next" in the dynamic and ever-changing global landscape for climate change. While there is pressure to limit global warming to 2°C or even 1.5°C, there is also some divergence between the plans of developed and developing countries. India and the United States are two of the most important pegs or components of the global picture, but questions remain on whether they are on track.

There was extensive commentary from experts across the Brookings Institution and Brookings India on U.S. President Donald Trump's decision to withdraw from the Paris Accord. On its implications for India, experts point that India and the United States collaborate extensively on energy and clean energy and that these efforts will likely continue as India represents an enormous (and now even more important) market for U.S. suppliers.

At a public event organised by Brookings India on the topic, Fellow from the Cross-Brookings Initiative on Energy and Climate, Samantha Gross, pointed out how state and local governments and companies in the U.S. were still quite focused on the Paris agreement. She also noted that at the corporate investment level, energy companies typically make decisions that have very long lifetimes of 20-40 years. They are unlikely to change their investment strategy in response to the Trump administration.

## FINANCING

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Over the last two years, Brookings India undertook several expert discussions to examine renewable energy financing, including discussions with U.S. Assistant Secretary of State, Charles Rivkin; the U.S. Special Envoy for Climate Change, Jonathan Pershing; and with Brian Deese, Senior Advisor to the President of the United States.

The discussions also included participation from industry leaders from financial and banking sectors, project developers, academics, and media. The roundtables discussed issues of unpredictability while financing RE, whose risks are not yet well understood for a country like India. Discussants

noted that the government could help in setting up systems which can ensure some risk assurance.

An important thread in the discussions was the need for a model Power Purchase Agreement (PPA) for the various states and utilities to follow. The challenge of creating a model PPA is particularly acute for RE, which is volatile and expensive in the short term, making project due diligence and closure more time-consuming and expensive. Writings at Brookings India focus on what happens when utilities don't buy the power as they promised, or take the power but don't pay.

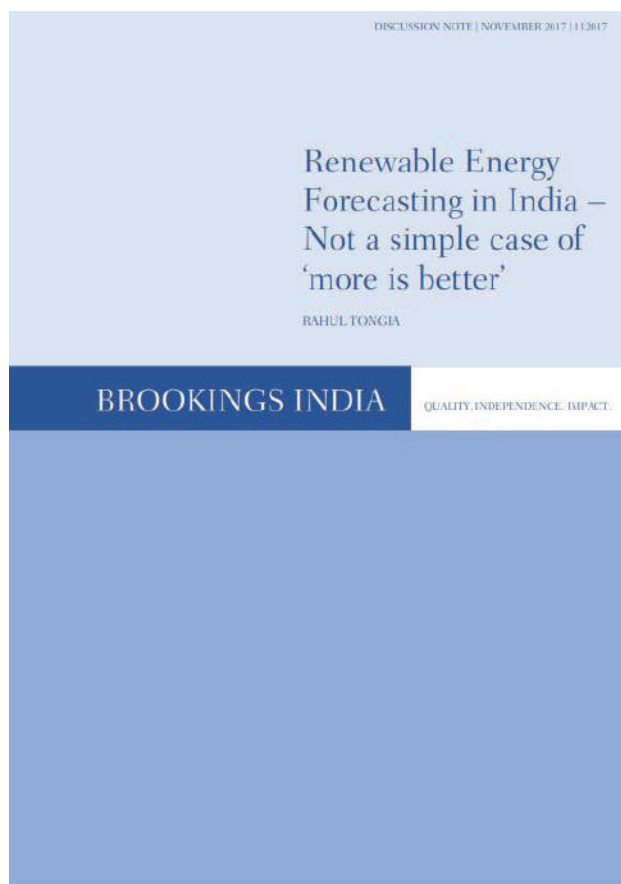
## FORECASTING

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Growing RE also means a greater variability in supply. One cannot control the wind or sun, but one at least needs to predict it well so that the rest of the grid can plan its output accordingly. As the grid evolves, storage matures and price signals improve, the ability to handle RE will improve. Thus, over time, RE prediction norms must become tighter.

Tongia's discussion note "Renewable Energy Forecasting in India – Not a simple case of 'more is better'" argues that forecasting is just one part of the puzzle – "what next" is the key issue.

Tongia is a key contributor and Policy Working Group Chair of the Clean Energy Finance Forum (CEFF), a group of finance and industry experts established at the request of then Minister for Power, Coal, and Renewables, Piyush Goyal. He contributed to a report released by CEFF in December 2016 on Policy Issues of Scaling up Renewable Energy in India, where he recommended improving the process of rating electricity distribution companies that measures their operations and financial performance.



# ELECTRIC VEHICLES

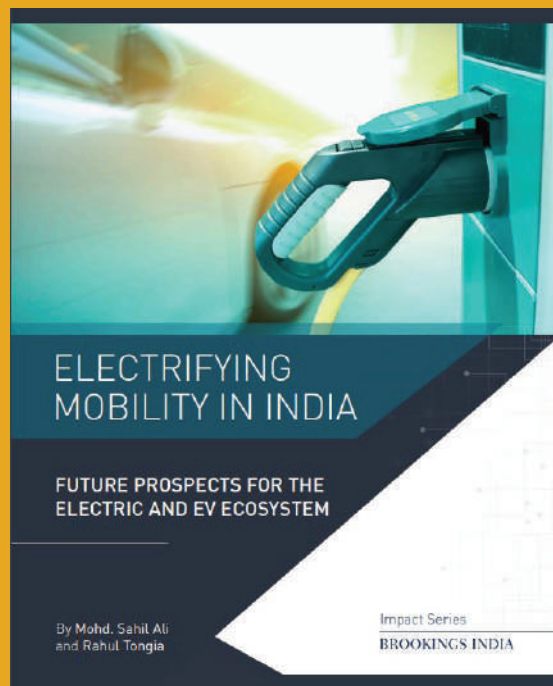
An important and connected thread to our work on clean energy has been a study of electric vehicles and the ecosystem that can encourage their viability - from costs to battery life and, charging stations to synergy with the electricity grid. India's electric vehicle (EV) aspirations are steep from where we stand today, but they have sparked remarkable interest and action in policy, industry and research arenas. The government's mandate to only have electric vehicles plying on Indian roads by 2030 has been tempered, but high EV penetration scenarios remain likely. In an op-ed for Mint, Rahul Tongia argues that unless we understand Indian-use cases for EVs, their limitations and opportunities, we risk ambitious targets that will remain only aspirational.

Our Impact Series paper, 'Electrifying Mobility in India' builds on these ideas, where Rahul Tongia and associate Fellow Sahil Ali argue that any push for EVs in India needs to be backed by manufacturing, grid capabilities, and developing charging infrastructure. The paper maps electricity grid-level impact of EVs and the drivers and fallouts from a large-scale transition to EVs.

In another opinion piece, "What will fuel India's electric vehicles?", Tongia says that beyond the

issue of manufacturing, it is concerted action and policies that rethink electricity's ecosystem and pricing that can make EVs both greener and cheaper to run.

The long-run goal isn't just to make vehicles electric but to reduce personal driving. This means urban redesign for walking or biking, more shared services, and more and better public transport which is convenient and fast enough that the rich will also choose it.



## MICROGRIDS AND SMART GRIDS

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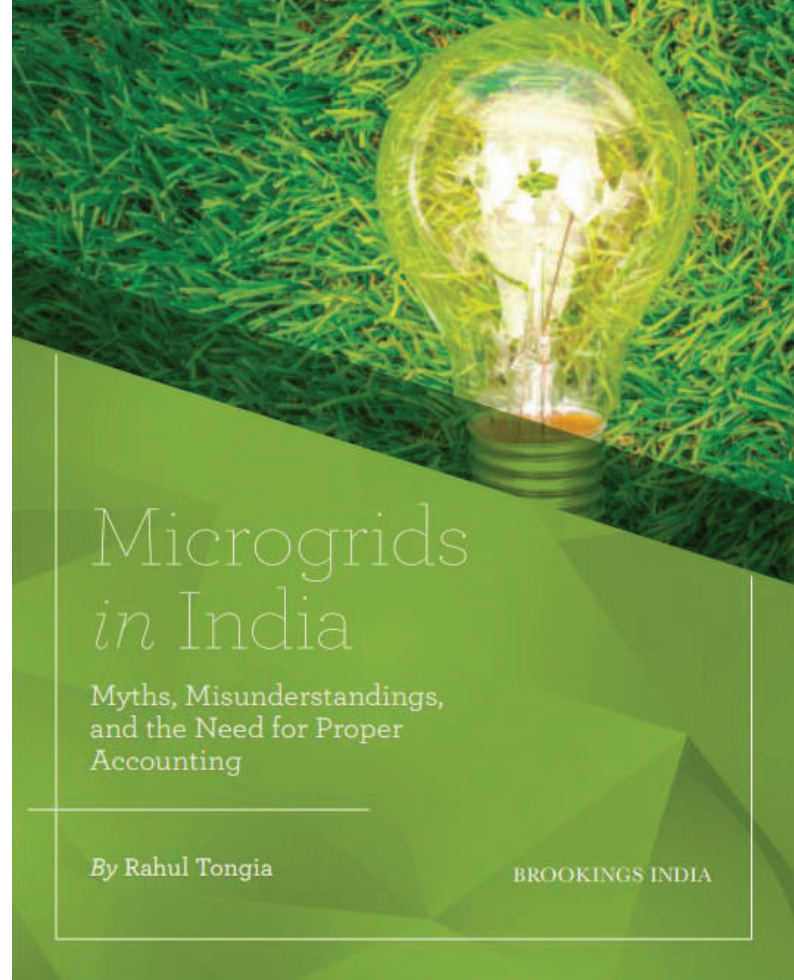
As technology advances and large grids become unwieldy, countries such as India need to sharpen their focus on developing Microgrids and Smart Grids. Experts at Brookings India posit that such grids can be anchors for Smart Cities and give us one starting point for the design. The traditional grid is now evolving to become smart, or rather smarter, driven by an intersection of digital technology and the use of RE. How we manage this transition will determine not just our supply mix of fuels but the fundamental nature of the grid and the relationships among its stakeholders.

Keeping in mind these crucial concerns, Rahul Tongia's report on "Microgrids in India" offered a detailed study of whether microgrids could indeed fill the gaps in grid-based supply, their reliability, quality, and suggestions on improving microgrid viability as well as overall electrification.

Our work on Smart Grids and Smart Meters has benefitted from the fact that Tongia helped found and was the Advisor to the Indian Smart Grid Task Force, which has now evolved to the National Smart Grid Mission, where he remains a key invited contributor.

Three key questions that our work focusses on, for a successful rollout for smart meters include: Are utilities ready? Do they have a plan? And is there regulator buy-in?

Brookings India was a key contributor and helped shape the national policy on Functional Specifications for Advanced Metering Infrastructure, as well as the mandate for phased roll out of Smart Meters across India. For two consecutive years,



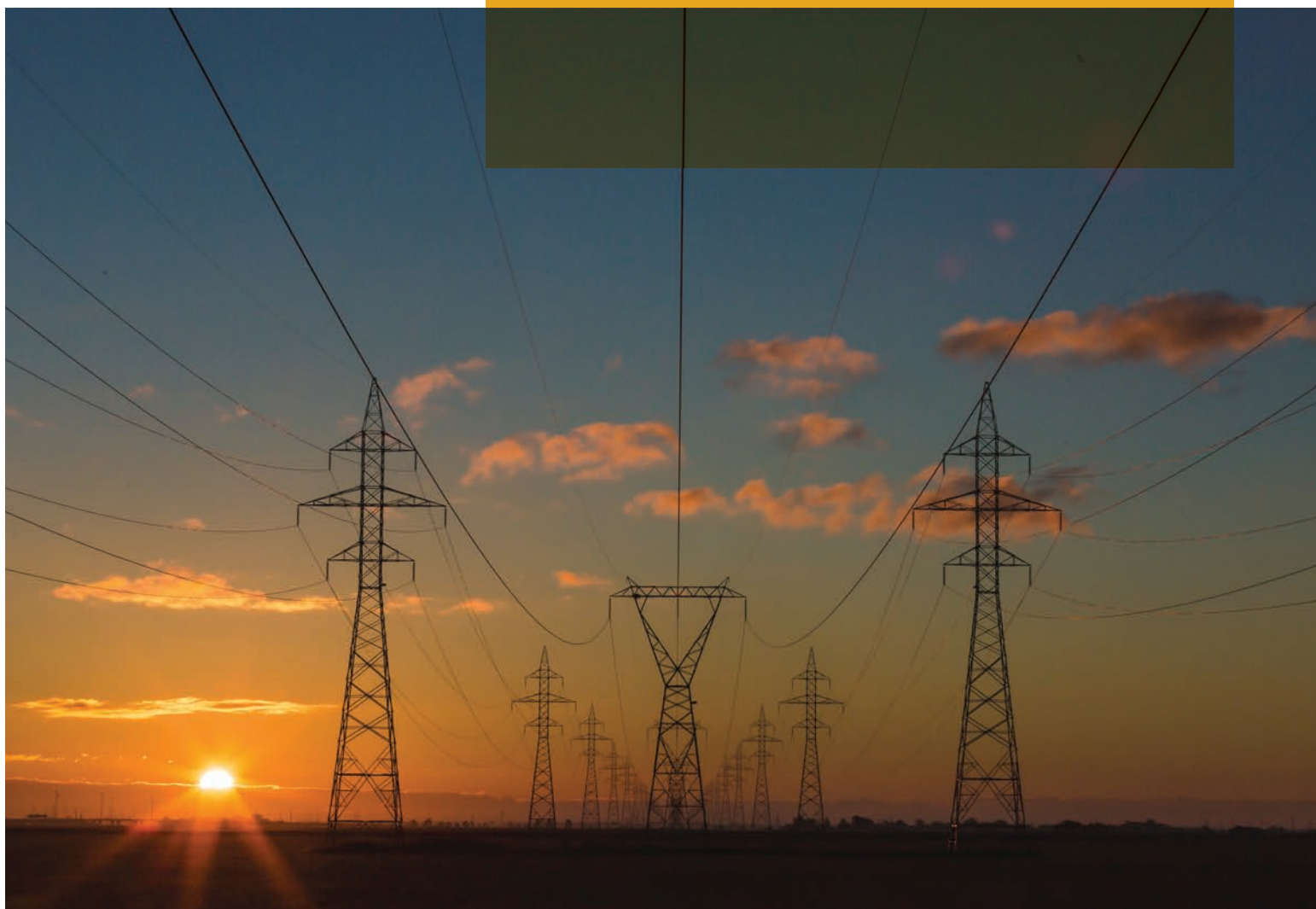
Brookings India has been a Knowledge Partner at India Smart Grid Week organised by India Smart Grid Forum.

Brookings India was also a Knowledge Partner at the India Power Conclave 2017 organised by Network18 in September 2017. At the conclave, Brookings India Chairman Vikram Singh Mehta participated in a panel discussion on opportunities and apprehensions of Indian power sector, while Fellow Rahul Tongia was a presenter on "Embracing next-gen technology" and "Smart Grids as Anchors for Smart Cities". He was also a panellist on the states' perspective.

## SUPPORT FOR THE STUDY OF INDIA'S DISCOMS

Viable utilities (DISCOMs) underpin all of India's electricity ambitions, spanning from 24x7 power for all to sustainability and transformation to a Smart Grid. Taking note of Brookings India's work in this area, the Shakti Sustainable Energy Foundation gave us a key grant for research that aims to examine the political economy of DISCOMs, techno-economics, and a deep dive into prospective scenarios that meet the social contract. This study is unique in its scope and "deep-dive" into several states, digging into assumptions, and cash flows, among other areas.

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## DATA AND ACCESS

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India has no central body that maintains, disseminates or analyses energy data. A lack of robust datasets has hampered India's energy research, undermining policy and regulatory compliance. Data from different bodies, some statutory, are often reported as gross averages and lack timeliness; they may be incomplete and vary in accuracy, and depend on different methodologies and assumptions.

Rahul Tongia in Nature magazine in January 2017 proposed the creation of a national Energy Information Agency to replace the current patchwork of systems. This would collect, standardise, and analyse data across energy domains and make it publicly available.

In July, Brookings India, in collaboration with the National Smart Grid Mission (NSGM), organised a workshop on Power Sector Data, bringing together IT and Electricity leaders across India to discuss how data is being used/shared today and how India is handling issues of ownership, rights, and privacy for power sector consumer data.

Data democracy and giving people the right to their own data is an important debate of our times. Just recently, the Supreme Court in a unanimous 9-0 verdict from a constitutional bench, found privacy to be a Fundamental Right. With the rise of information technology, and eventually the Internet of Things, data is now an enabler of change. Power sector is no different.

For now, power data appears to be the property of the electricity distribution company (DisCom) and consumers can only access it, based on what the DisCom chooses to share. On their part, DisComs struggle with privacy and security challenges.

In the report, "Power Sector Data and Frameworks: Thinking ahead for data usage, access, and rights", Rahul Tongia and Arun Kumar Mishra, Director of the National Smart Grid Mission, Ministry of Power, discussed ways of improving power sector outcomes through data.





***“One of the key measures to bring about competition is open access, whereby, mainly large consumers have access to the transmission and distribution networks to obtain electricity from suppliers other than the local electricity distribution company.”***

Our experts were also among the first to suggest use of online and real-time feeder monitoring, visualisation, and analytics, now a national policy and programme.

For the last 15 years or so, introduction of competition has been one of the main aims of reform in the electricity sector in India. One of the key measures to bring about competition is open access, whereby, mainly large consumers have access to the transmission and distribution networks

to obtain electricity from suppliers other than the local electricity distribution company. Unfortunately, success of open access has been very limited in spite of numerous attempts to facilitate it. In a Brookings India Impact Series paper “Newer Challenges for Open Access in Electricity”, visiting scholar Daljit Singh discussed the reasons why this is so and how it can be remedied.

## **NATIONAL ENERGY POLICY**

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The NITI Aayog’s draft document on National Energy Policy (NEP) offers a blueprint of possible solutions to India’s existing and future energy challenges. It examines demand and supply, reviews regulatory and infrastructural mechanisms, technical capabilities and international cooperation, and offers strategies to tackle India’s energy needs. Rahul Tongia and Sahil Ali evaluated whether the NEP, while a welcome step in the right direction, was an actionable policy and submitted their technical comments on the draft to NITI Aayog.

# Brookings India at a Glance

Over the last few years, Brookings India has grown significantly, adding a number of research and non-research positions. Our work environment encourages all our employees to have an impact on problems facing society. Brookings emphasises individuality while promoting institution-wide collaboration, and fosters collegiality amongst staff in all departments and at all levels.

## Changing face of Brookings India

Brookings India has, over the year, operationalised its systems – policies, processes, practices – to gear up to meet the institution's growth. Our vision is future-focused and evolving, with the objective of ensuring an environment where quality work thrives. Policies have been drawn up that integrate seamlessly and uphold Brookings' values and culture, with a view to create robust and efficient systems. These efficiencies include:

1) Human Resources: Systems streamlined for hiring (especially interns), on-boarding, payroll, leave, remote working and employee engagement. Professional grades, bands and KRAs finalised.

2) Information Technology: IT infrastructure made more robust with better services for internet, security and resource access. Hardware and software augmented.

3) Administration/Technology: Overall clarity of systems and procedure. Conferencing and Communication facilities refined and upgraded.

4) Finance and Legal: Best practices and procedures adopted for accounts, audits and tax structures so as to be fully compliant and meet process schedules and legal obligations. An improved and strong MIS created, as well as follow up steps for funding commitments. Agreements, contracts, MoUs drawn up and executed with diverse stakeholders.



## Finding support for research

Philanthropy has been the engine that has driven Brookings India's work since 2013. The generosity of Brookings' donors sustains its commitment to quality, independence, and impact and makes possible its experts' efforts to provide practical, effective solutions to the major policy challenges facing India and the world today. By instituting strong procedures to review potential gifts and transparency in acknowledging financial support, Brookings maintains the independence that is its principal asset and the cornerstone of its contributions to the public good.

Brookings actively seeks support from a diverse group of donors to ensure that no single person, entity, or industry can be perceived to have influence on the research or

recommendations produced by Brookings scholars. As a matter of policy, Brookings does not accept gifts from donors who would impinge on the independence of its scholars' research or otherwise predetermine or influence recommendations, nor does the institution accept support for proprietary research (research that is not publicly disseminated).

Brookings has established policies for a thorough internal review of all potential sources and terms of support, as well as standards for transparency and disclosure related to its funding. Brookings staff, scholars, and affiliates engaged in prospect and donor cultivation, solicitation and stewardship follow these policies throughout the giving cycle





## Brookings India Internship Programme

The Brookings India internship programme provides an opportunity for undergraduate and graduate students from diverse backgrounds to engage with our researchers and get first-hand insights into how empirical research informs the process of policymaking. Our aim is to encourage students who want to seriously pursue research and equip them with skills.

The aim of our internship programme is to provide students and recent graduates with a meaningful and practical experience related to their field of study or career interest. Both our summer and winter internship programmes draw hundreds of applications from qualified candidates, out of which a small pool is selected.

During the course of their four- or six-week long tenure at Brookings India, interns work closely with our scholars, contribute to research projects and reports, as well as develop their own research interests. In addition to this, interns have the opportunity to attend orientation sessions with all scholars, local think tank events, research workshops, and Brookings India events as well as network with other interns throughout the institution.

Interns may work with Brookings India staff in our research areas – Development Economics, Foreign Policy, and Energy and Sustainability. Brookings India also offers students the opportunity to intern in departments such as communications, finance, and development (fund-raising).

# Interns Speak

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**Aditi Yadav,**  
DELHI SCHOOL OF ECONOMICS

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“The research is very new, very exciting, and the topics are such that you would want to read about it. I really think that I joined Brookings India at the perfect time in my career cycle. It was the perfect mix of technical knowledge and research in policy. There’s a place for everyone at Brookings. If you get through, it is an experience of a lifetime.”

**Manvi,**  
ASHOKA UNIVERSITY

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“What I learnt at Brookings, in addition to a whole lot of technical stuff, is that India has a lot of data. Particularly in terms of health and education related data, it has been extremely interesting to find data and use it. If you’re interested in research, if you’re interested in policy, it is a great place to be and there are a lot of great people to help you out.”

*“Our aim is to encourage students who want to seriously pursue research and equip them with skills.”*

**Sankalp Sharma,**  
RAMJAS COLLEGE

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“You get a very hands on exposure to things that you have always thought of from an abstract point of view. You learn how to reconcile theory with actual, real data.”

**Anaihita Singh,**  
DURHAM UNIVERSITY

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My time at Brookings was an extremely enriching experience, in more ways than one. In addition to being introduced to new fields of study and ways of researching, I also got to meet an incredible mix of people. I have left armed with a new set of skills and fond memories to look back on.

**Yamini Sharma,**  
ASHOKA UNIVERSITY

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“I found the development economic orientation session with Shamika Ravi very interesting, because we spoke about poverty and gender, in a way where we could see how it was linked to economics. Dhruva Jaishankar has been a very helpful mentor, as he helped me see how I can make my research more relevant in the current context.”

# Communications

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Brookings India places a strong emphasis on disseminating our scholars work through publications, events, media appearances, and innovative digital media tools. As the Communications team at the institution, we seamlessly oscillate between all our verticals maintaining the most-effective digital products and other means available for outreach, engaging diverse audiences. These various engagements with our stakeholders help us in reaching out to a broad and influential audience so that Brookings India scholars' findings have lasting impact on policy formulation.



**11.56%**  
INCREASE IN  
SUBSCRIBERS



**52.00%**  
GROWTH IN  
FOLLOWERS



**15.00%**  
INCREASE IN  
SUBSCRIBERS



**85**  
EVENTS HELD



**13,686**  
NEWSLETTER  
SUBSCRIBERS



**176**  
EXTERNAL ARTICLES  
AND OP-EDS



**27**  
PAPERS, POLICY BRIEFS, DISCUSSION  
NOTES AND REPORTS



# Fellows

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## **Vikram Singh Mehta**

**CHAIRMAN AND SENIOR FELLOW  
ENERGY AND SUSTAINABILITY  
M.A. IN ECONOMICS FROM OXFORD UNIVERSITY**

Vikram Singh Mehta currently serves as the executive chairman of Brookings India in New Delhi and a Senior Fellow at the Brookings Institution. Mehta started his career with the Indian Administrative Service in 1978, resigning in 1980 to join Phillips Petroleum in London as their senior economist. In 1984, he returned to India to join the government company Oil India Ltd. as an advisor for strategic planning. He joined Shell International in London in 1988, was appointed managing director of Shell Markets and Shell Chemical Companies in Egypt in 1991, and chairman of the Shell Group of Companies in India in 1994.

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## **Shamika Ravi**

**RESEARCH DIRECTOR AND SENIOR FELLOW  
DEVELOPMENT ECONOMICS  
PH.D. IN ECONOMICS FROM NEW YORK UNIVERSITY**

Shamika Ravi is Director of Research at Brookings India and a Senior Fellow of Governance Studies Program at Brookings India and Brookings Institution Washington D.C. She is also a Member of the Economic Advisory Council to the Prime Minister of India. She leads the Development Economics research vertical at Brookings India, where the focus is on financial inclusion, health, gender inequality, and urbanisation.

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## **Rakesh Mohan**

**DISTINGUISHED FELLOW  
DEVELOPMENT ECONOMICS  
PH.D. IN ECONOMICS FROM PRINCETON**

Rakesh Mohan, before joining Brookings India as a Distinguished Fellow, has been Executive Director at the International Monetary Fund, Washington D.C., representing India, Sri Lanka, Bangladesh, and Bhutan. Dr Mohan, who holds a B.Sc in Electrical Engineering from Imperial College, University of London, a B.A. from Yale University and a Ph. D in Economics from Princeton, had earlier held the position of Deputy Governor of the Reserve Bank of India.

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## **Shivshankar Menon**

**DISTINGUISHED FELLOW  
FOREIGN POLICY  
M.A. IN HISTORY FROM DELHI UNIVERSITY**

Shivshankar Menon is a Distinguished Fellow at Brookings India. His long career in public service spans diplomacy, national security, atomic energy, disarmament policy, and India's relations with its neighbors and major global powers. Prior to joining Brookings, Menon served as national security advisor to the Indian Prime Minister from January 2010 to May 2014.





## **Rahul Tongia**

**FELLOW  
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PH.D. IN ENGINEERING  
AND PUBLIC POLICY FROM CARNEGIE MELLON UNIVERSITY**

Rahul Tongia is a Fellow with Brookings India and Member, World Economic Forum (WEF) Global Future Council on Advanced Energy Technology. His work focuses on technology and policy, especially for sustainable development. He leads the energy and sustainability group at Brookings India, and also is active in broader issues of technology.

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## **Dhruva Jaishankar**

**FELLOW  
FOREIGN POLICY  
M.A. IN SECURITY STUDIES FROM GEORGETOWN UNIVERSITY**

Dhruva Jaishankar is Fellow in Foreign Policy Studies at Brookings India in New Delhi and his research examines India's role in the international system and the effects of global developments on India's politics, economics, and society, with a particular focus on India's relations with the United States, the Indo-Pacific, and Europe.

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## **Constantino Xavier**

**FELLOW  
FOREIGN POLICY  
PH.D. IN SOUTH ASIAN STUDIES FROM JOHNS HOPKINS UNIVERSITY**

Constantino Xavier is a Fellow in Foreign Policy Studies at Brookings India in New Delhi and the Brookings Institution in Washington D.C. He researches on India's foreign and security policies as a regional power, with a focus on institutions and decision-making processes. His areas of expertise include Europe, India, international affairs, South Asia, and democracy.

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## **Bhaskar Chakravorti**

**NON-RESIDENT SENIOR FELLOW  
DEVELOPMENT ECONOMICS  
PH.D. IN ECONOMICS FROM THE UNIVERSITY OF ROCHESTER**

Bhaskar Chakravorti is the Non-Resident Senior Fellow at Brookings India. He is also Dean of Global Business & Finance, Executive Director of the Institute for Business in the Global Context, and Professor of the Practice of International Business at The Fletcher School, Tufts University.

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## **Krishnamurthy Subramanian**

**SENIOR VISITING FELLOW  
DEVELOPMENT ECONOMICS  
MBA AND PH.D. IN FINANCE FROM THE UNIVERSITY OF CHICAGO**

Krishnamurthy Subramanian is a Senior Visiting Fellow at Brookings India and the current Chief Economic Adviser to the Government of India. He is also Associate Professor of Finance and Executive Director for the Centre for Analytical Finance at the Indian School of Business, Hyderabad, India.

# BROOKINGS INDIA

## Research Staff



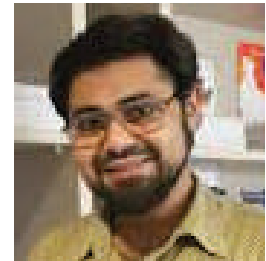
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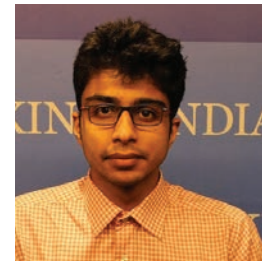
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# Staff



**Kabir Vasudeva**

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**Preeti Vij**

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**Shriya Patnaik**

Development Officer



**Shruti Gakhar**

Development Officer

# Financials

## BALANCE SHEET AS AT 31 MARCH, 2018

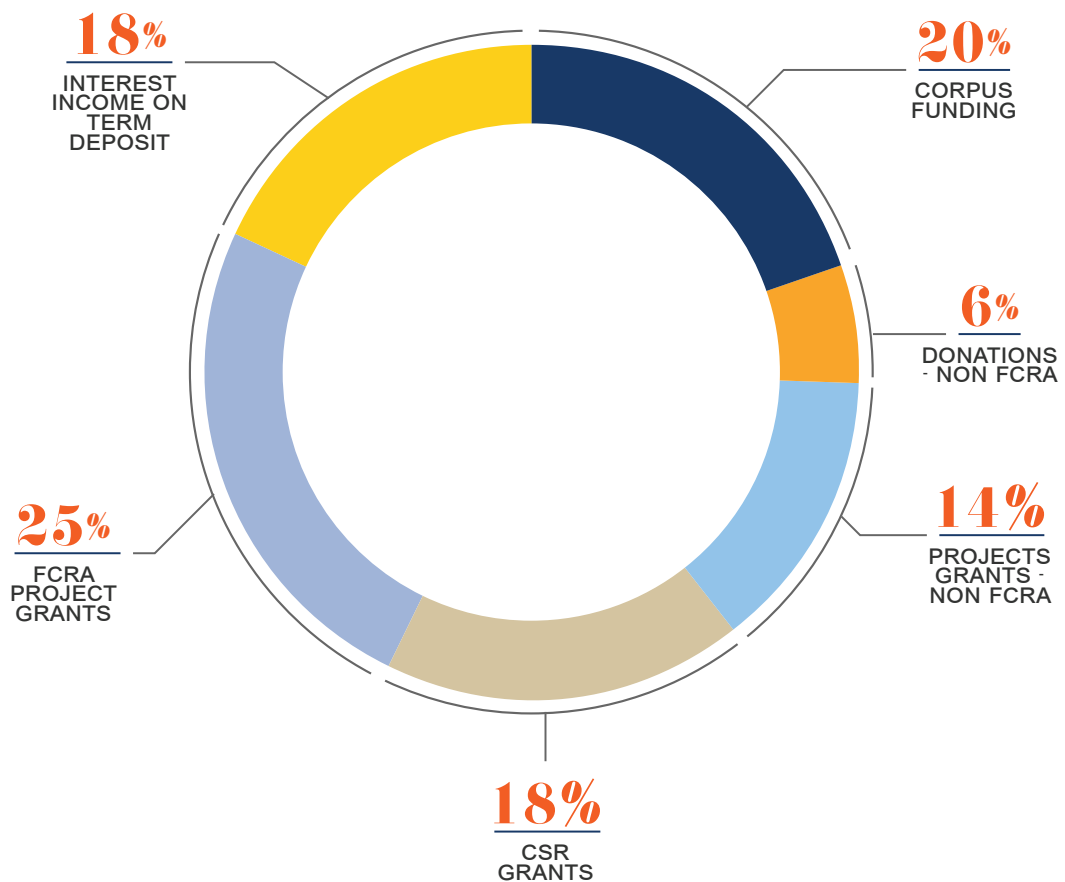
PARTICULARS	as of 31 <sup>st</sup> march, 2018 (₹)	as of 31 <sup>st</sup> march, 2017 (₹)
<b>I. EQUITY AND LIABILITIES</b>		
<b>1. Shareholder's Funds</b>		
(a) Share capital	100,000	100,000
(b) Corpus Funds	371,700,000	350,500,000
(c) Reserves and surplus	(28,825,387)	(25,374,500)
	<b>342,974,613</b>	<b>325,225,500</b>
<b>2. Non-Current Liabilities</b>		
(a) Long-term provisions	1,547,859	1,116,384
<b>3. Current Liabilities</b>		
(a) Trade payables	2,337,526	588,687
(b) Short term provision	8,857	5,032
(c) Other current liabilities (deferred revenue)	38,225,102	18,303,720
	<b>40,571,485</b>	<b>18,897,439</b>
	<b>Total</b>	<b>Total</b>
	<b>385,093,957</b>	<b>345,239,323</b>
<b>II. ASSETS</b>		
<b>2. Non-Current Assets</b>		
<b>(a) Fixed Assets</b>		
(i) Property, Plant & Equipment	12,919,981	16,312,296
(ii) Intangible assets	28,965	64,296
(iii) Capital work in progress	---	---
	<b>12,948,946</b>	<b>16,376,592</b>
(b) Long term loans and advances	14,132,756	10,618,125
	<b>27,081,702</b>	<b>26,994,717</b>
<b>2. Current Assets</b>		
(a) Cash and bank balances	354,791,772	317,316,699
(b) Short-term loans and advances	293,640	532,136
(c) Other current assets	2,926,843	395,771
	<b>358,012,255</b>	<b>318,244,606</b>
	<b>Total</b>	<b>Total</b>
	<b>385,093,957</b>	<b>345,239,323</b>

# STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31 MARCH, 2018

PARTICULARS		As of 31st March, 2017- 2018 (₹)	As of 31st March, 2016- 2017 (₹)
I.	REVENUE FROM OPERATIONS	65,710,398	39,458,896
II.	OTHER INCOME	19,157,686	20,025,840
III.	TOTAL INCOME (I + II)	<b>84,868,084</b>	<b>59,484,736</b>
IV.	EXPENSES		
	Employee benefits expense	35,476,830	29,981,490
	Finance costs	---	60,297
	Depreciation and amortisation expense	3,846,100	3,860,256
	Other expenses	48,996,041	41,359,313
	Total expenses	<b>88,318,971</b>	<b>75,261,356</b>
V.	Profit / (Deficit) before tax (III - IV)	(3,450,887)	(15,776,620)
	Tax expenses		
	Current tax	---	---
	Deferred tax	---	---
VII.	Profit / (Deficit) for the year (V -VI)	<b>(3,450,887)</b>	<b>(15,776,620)</b>
VIII.	Earnings per equity share:		
	Basic and diluted	(3451)	(15,777)
	Nominal value of equity shares	100	100

# Funding Source 2017-2018

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## **FOUNDER CIRCLE**

1. Adi Godrej
2. Aditya Birla Group
3. Ajay Piramal
4. Bharti Infratel Ltd
5. Baba Kalyani, Bharat Forge Ltd.
6. Dattaraj V. Salgaocar
7. DCM Shriram
8. Gamesa Renewable Ltd.
9. Gaurav Dalmia
10. Geetanjali and Vikram Kirloskar
11. JK Organisation
12. Jubilant Bhartia Group
13. Kiran Mazumdar-Shaw
14. Mayank Singhal
15. Nishith Desai Associates
16. Nita and Mukesh Ambani
17. Onkar S. Kanwar and Neeraj R.S. Kanwar
18. Rahul Bajaj
19. Rajiv B. Lall
20. Rana Kapoor, Yes Bank
21. Sanjay Nayar
22. Shardul Shroff and Pallavi Shroff
23. Standard Chartered
24. Sudha and Kris Gopalakrishnan
25. TATA Group



**QUALITY.**

**INDEPENDENCE.**

**IMPACT.**

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