



# THE ASPEN INSTITUTE CONGRESSIONAL PROGRAM

India's Emergence and Development Challenges:  
Policy Implications for the U.S.

February 18 - 26, 2017  
New Delhi and Hyderabad, India







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Vol. 33, No. 1

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This project was primarily made possible by a grant from the Bill and Melinda Gates Foundation, with supplemental support from the Asia Foundation, the Democracy Fund, the Ford Foundation, the Heising-Simmons Foundation, the William and Flora Hewlett Foundation, the Holthues Family Trust, the Henry Luce Foundation, the John D. and Catherine T. MacArthur Foundation, Rockefeller Brothers Fund, and the Rockefeller Foundation.

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The Aspen Institute  
One Dupont Circle, NW  
Washington, DC 20036-1133  
Published in the United States of America  
in 2017 by The Aspen Institute

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Printed in the United States of America

ISBN 0-89843-661-3

Pub #17/007

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# India's Emergence and Development Challenges: Policy Implications for the U.S.

## Rapporteur's Summary

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The Aspen Institute's Congressional program organized a conference in India from February 18-26, 2017, on the subject of "India's Emergence and Development Challenges: Policy Implications for the U.S." In New Delhi and Hyderabad, 18 members of Congress interacted with nearly three dozen American and Indian scholars and policy practitioners on a range of issues facing India, shaping U.S.-India relations, and affecting American interests. The delegation also met with Indian Prime Minister Narendra Modi. In addition, members of the Indian parliament and the U.S. chargé addressed the conference. Furthermore, participants undertook a number of site visits to assess first-hand development initiatives supported by the U.S. government and foundations.

The conference started with a framing discussion, followed by a week of briefings and conversations on a number of topics, including India's development challenges and successes, its regional and domestic economic policies, the role of technology, the geopolitical landscape, the state of U.S.-India relations, and the drivers and significance of the bilateral relationship. A number of experts noted that, partly because of its sheer size, what happens in India in a number of policy areas will have a global impact. Scholars outlined for members the steps that the Indian government (central and state-level),

private sector, and civil society are taking in these areas, as well as the impact of the current and future U.S. role in these policy spaces.

### **An Era of Transformation: Development Achievements and Challenges.**

Scholars noted that India is going through an era of huge transformation, emphasizing that while it might not have dawned on global consciousness in a way that change in China had, the change in India has been and will be as dramatic. Detailing aspects of that transformation, scholars stated that over the last 25 years, India had brought 130-140 million people out of poverty, and grown at an average annual rate of over 6%.

Scholars provided examples of policy interventions in India and success stories, including the elimination of polio and the reduction in infant mortality. They noted that many of the interventions required a whole new way of thinking, as well as policy infrastructure. Across different sectors, they also mentioned the facilitating role of science and technology. For example, through the use of digital infrastructure combined with a universal identity program to improve financial inclusion, and better target and rationalize subsidies, or via the development of climate-resilient crops. Digital connectivity was also facilitating leapfrogging in some policy

areas, as was the absence of legacy systems that could have made change difficult.

In one session, a scholar elaborated on India's successful polio eradication program and the role that American organizations, as well as government agencies had played—for example, via technical expertise and social mobilization through information dissemination. The program involved scientists, bureaucrats, health workers and parents, as well as a range of institutional partners. The scholar emphasized the importance of community participation. He noted that current efforts were directed toward sustaining success and reaping the benefits of assets that have been built. He mentioned that challenges remain related to resources (e.g. financial, human resources), systems, and vaccine hesitancy in some quarters. India will have to continue surveillance and immunization drives, yet also strengthen routine coverage. Members asked if there was concern about polio's continuing prevalence in other countries and learned that India had offered assistance to others for this reason. Members also expressed interest in learning about India's ability to rapidly produce or access vaccines in an emergency and whether there was rapid ramp-up capability that could also contribute to related multinational efforts.

Scholars repeatedly stressed the need for collaboration between different stakeholders, and the necessity of building partnerships, including and especially with the U.S. They outlined two cases—one in agriculture, the other healthcare—where American contributions had already had an impact. One scholar outlined how technical and economic assistance from the U.S. government and foundations had helped India go from being a food importer in the mid-1960s to an exporter in the mid-1970s. The U.S. is also a major contributor to GAVI, the Vaccine Alliance, which has been working with the Indian government to improve access and drive down the costs of vaccines (the power of the Indian market in terms of sheer volume has meant, for example, that the price of the

Hepatitis B vaccine had gone from \$100 to 10 cents and the pentavalent vaccine from \$100 to \$1). For every dollar GAVI puts in, the Indian government contributes \$6, with the latter looking more for “catalytic support,” learning, ideas and experiences rather than money. Such organizations were helping with the introduction of programs, with the government then scaling them up.

The view of a number of commentators was that India is one of the most optimistic countries in the world today. But they stressed that many challenges remain, including massive variations in outcomes across states, with some doing very well while others need help. Scholars also highlighted the major challenge facing policymakers in terms of providing affordable, secure and sustainable access to energy and water resources to its citizens. With a growing Indian economy, demand for energy and water was also increasing. However, there are significant supply constraints and pressure to choose energy sources that are not just less carbon-intensive, but less water-intensive as well. Scholars outlined the government's energy policies, including its international dimensions, as well as U.S.-India engagement on these issues involving the governments, private sectors and technical experts among others. They also commented on India's plans to address the extent and impact of climate change.

What lies ahead for Indian policymakers are a range of opportunities, but also constraints—the kind that China didn't face, but the U.S., as a fellow democracy, can understand. Scholars asserted that what happens in India over the next few years will have a global impact, including in terms of the attainment of the sustainable development goals. The Indian experience could also provide new models and lessons that can be translated for/exported to other developing countries. Moreover, India itself can assist these countries to adapt such policy solutions to local conditions and build capacity.



Members were struck that, while established economies' choices were still largely tied to brick-and-mortar policy infrastructure, India—in many spaces not tethered to older, legacy systems—was poised to disrupt. They also especially wanted to learn how the costs of pharmaceuticals and vaccines had been brought down. Other subjects of interest were: the embrace of science; the attitude of Indians toward vaccines, genetically modified food and family planning; Indians' responses to large-scale policy interventions like demonetization; direct benefits transfers; philanthropy in India; how to avoid technology magnifying inequalities; the government's attitude toward nongovernmental organizations (NGOs); whether the concerns of American pharmaceutical companies were being adequately factored in; and the investment in infrastructure required to make healthcare systems work. Furthermore, in terms of India's energy and climate change policies, they engaged scholars on the subjects of energy infrastructure, the cost of renewable energy, the future of coal and nuclear power, and the electricity sector.

### **India's Economic Policies**

Scholars stated that over the next quarter century, India is going to be a—if not *the*—big story economically. It has been growing faster than other emerging and established economies, and is going to have the world's largest or second largest consumer market. They noted that this growth story particularly matters because it is happening in a democracy. India is helping demonstrate that development and democracy are not mutually exclusive. It is also development that aims to be inclusive, with politicians responsive to lower-income citizens partly because they turn out to vote. The growth story also matters because a world and an Asia in which a G-2 (U.S.-China) dominates looks very different from one where there's a G-3 (U.S.-China-India). India is a swing state in the international system, but it shares interests (including vis-a-vis Asia, counter-terrorism,

sustainability) and values with the U.S., and can help the U.S. remain part of the Asian story.

Scholars noted that the Indian government, on its part, is leveraging its external connections to facilitate domestic social and economic policies. Simultaneously, it is also engaging more actively and differently abroad, including via economic diplomacy. In its neighborhood, including via Neighborhood First, Act East and Heart of Asia initiatives, India is providing development assistance. For example, it is one of the largest donors to Afghanistan, where it brings some unique capabilities to the table. Commentators noted there is the potential for India to be a larger assistance partner. Delhi is exploring triangular cooperation, e.g. with Japan in Myanmar. U.S.-India attempts to work together in Africa, however, haven't quite gotten off the ground. India is also trying to re-energize some connectivity initiatives, both to its east and west.

There is also an effort underway to connect India better internally. The forthcoming implementation of the goods and services tax (GST) will help. While it will be watered down from what was originally envisioned, it will nonetheless move India toward being a common market. This effort was likened to the Interstate Commerce Commission. Scholars more generally discussed India's federal system as well, noting in the economic context, that, even when reform gets stuck at the center, there's competition among states to liberalize or provide a better investment climate.

A number of commentators during the conference noted that the major economic challenge ahead for Indian policymakers is job creation. India needs to create millions of jobs over the next three decades—by one estimate, a million jobs a month for at least the next 10-15 years. Another challenge is tackling corruption. A third: getting a growing number of Indian workers from the informal into the formal sector. Fourth, growing the tax base.

Members remarked on the tremendous diversity in India in terms of challenges, as well as solutions. A scholar responded that this why it is often said that multiple things can be true about India at once. Members delved into Indian labor laws, the role of women in the economy, potential for innovation in clean energy, policies to develop the rural economy, and reasons that American companies were interested in investing in India. They expressed concern about some aspects of Indian trade and policy on intellectual property rights, as well as market access problems for U.S. companies. Some also highlighted the reasons for concerns in the U.S. about non-immigrant visas such as the H-1B, which will have implications for India. Members asked about Indian perceptions of and potential reaction to the immigration debate in the U.S. more broadly, as well as the calls for “America First.”

Given that a country with 1.3 billion could easily just focus internally, members were curious about the role India was playing or likely to play in the maintenance of the rules-based global or regional order. Scholars noted that the country was playing a larger role since it had great stakes in the system and still stood to benefit from globalization. They expected that as India’s economic and military capabilities grew, so would this role. Scholars mentioned that there was a recognition in Delhi that greater capabilities were necessary if India was to be taken seriously. In turn, however, India wanted—and believed it deserved—a seat at the global high table.

### **India’s Role in the Region**

Scholars outlined India’s relations with its neighbors. On the India-Pakistan conflict, one noted that American policy had in the past been structured to balance and have similar ties with both countries. However, this had changed with an effort to dehyphenate and differently calibrate the two relationships. As an emerging global power and playing a greater role in the region, India, on its part, did not like to be seen just in

terms of Pakistan. On the problems between the two countries, the scholar noted that the issue was not just Kashmir—even if this was resolved tomorrow, a number of unresolved differences remained between the two countries. A crucial issue was terrorist groups based in Pakistan that were targeting India—a problem that the U.S. was also grappling with, given that American troops in Afghanistan are being targeted by groups based in or getting support from elements within Pakistan. The situation was made more complex by the fact that both India and Pakistan had nuclear weapons. The scholar noted that the U.S. cannot solve the India-Pakistan conflict—the two countries had to find a resolution. This was the line the Bush and Obama administrations had taken, noting the two countries also had to determine the pace and scope of any dialogue.

The scholar noted that the U.S. could continue to pressure Pakistan to end support for all terrorist groups. While Pakistan had begun to act against groups attacking Pakistani citizens and facilities, there was little evidence that it was doing much to tackle the groups targeting Afghanistan and India. Without action on this front, a dialogue on other long-standing issues was unlikely to be sustainable. Successive attempts by Indian prime ministers to reach out to their Pakistani counterparts inevitably found themselves quashed by terrorist attacks. Recent attacks and the Indian government’s response, which was seen as receiving public cover from the U.S., indicated that there was a limit to Indian restraint. After an attack on an Indian military base, the government took limited military action along the Line of Control—in a departure Delhi announced that it had done so publicly and framed it as a pre-emptive action against terrorist launching pads.

Members expressed concern about Pakistan-based terrorist groups and the potential for the country to develop and deploy tactical nuclear weapons. There was a debate about the value of the U.S. engaging Pakistan, and the balance of carrots and sticks that would be optimal to

encourage Pakistan to change course. One participant noted the importance of distinguishing between the Pakistani civilian and military authorities. There was also discussion of the potential impact of a change in Afghanistan policy on the American approach towards India and Pakistan, and interest in what India was doing in terms of border security and countering terrorism financing.

Another scholar commented on India's relations with its other South Asian neighbors and remarked on the inroads China was making into these countries. He noted that India was more willing to cooperate in the region with countries like the U.S.—a departure from the past—partly because of its own capacity challenges, but also because of this growing Chinese influence. India had also changed its approach on democracy promotion (though its idea of this was not necessarily the same as that of the U.S.) in the region and beyond. It had become bolder in its rhetoric about the value of democracies and democratization and was assisting with building capacity (for example, by training parliamentarians and electoral officers). There was also specific discussion because of questions from members about India's relations with Nepal, Iran and Myanmar. Members were also interested in learning about the impact of Indian resource constraints on its regional activities, particularly when compared to the resources available to China.

Members also expressed interest in India's current and future role in maintaining the regional and global order. One scholar noted that India was stepping up in its region more as a security provider and this could be an area of further collaboration between the U.S. and India. While the two weren't allies, defense and security ties had improved greatly, and increasing military exercises and defense procurement from the U.S. could also facilitate greater interoperability.

## **U.S.-India Engagement**

Commentators noted that U.S.-India relations have been quite positive recently, with stepped-up cooperation across a range of sectors. High-level engagement has increased—for example, over the last 2.5 years, there were nine meetings between President Obama and Prime Minister Modi, with the latter also addressing Congress in 2016. .

The Indian government is keen to keep this cooperation going and looking forward to engaging with the Trump administration. On strategic issues, there is particular interest in the new administration's approach toward China, which India sees as a strategic challenge, and terrorism. On the latter, India and the U.S. have been partners, but the American focus has been more global than the Indian one, which is focused on the terrorism challenge related to Pakistan.

On the economic side, the U.S. is India's largest trade partner if you include goods and services. Unlike with China, with which India has its largest trade deficit, this trade is more balanced with India having a small surplus. American companies have seen India as an opportunity, but there are also challenges. One is that operating there for companies can be like operating in 29 different countries because of the diversity across India's 29 states. This might change somewhat with the introduction of the GST, which is expected to improve the unity of the economy.

Along with diversity, another feature of the Indian economy has been contrasts: it is a country that successfully and frugally sent an orbiter to Mars, but also has about 250 million lacking access to electricity. Despite the impressive growth rates, it still has the largest number of people living in poverty. Commentators noted that this is why agencies like USAID can still play a role in India that will make a difference. USAID is working with the Indian government in sectors that have been identified as critical, such as healthcare, urban

sanitation, education and clean energy. While USAID's budget in India isn't large, the idea has been to leverage resources from the government, private sector, and American, Indian and global foundations (it has 45 partners), and to identify best practices or introduce initiatives, and then facilitate the Indian government taking them to scale (an example given of this was the tuberculosis detection machine).

Members expressed interested in the political landscape, the intellectual property regime that had implications for American companies, the state of the Indian policy debate on population control, Indian perceptions about American visa programs (including the H-1B program) and labor migration, challenges and opportunities for U.S.-India cooperation on energy policy (both clean energy and hydrocarbons). There was also interest in learning more about—and more detailed discussion of—Indian views on terrorism, China, Pakistan and Russia.

### **The Significance of the U.S.-India Relationship**

A former U.S. policymaker laid out the strategically important reasons for the U.S.-India relationship, arguing that it could shape the regional and global order. It was in U.S. interests to continue to nurture this partnership with a critical, rising democratic power that had a huge emerging middle class. India presented major opportunities for American companies looking for markets and ways to support job creation at home. This relationship also helped manage the rise of China, which India was increasingly concerned about because of deepening Sino-Pakistan relations. Moreover, India could serve as a model and offer lessons for other developing countries and democracies—for example, studying the reasons behind the limited number of India's Muslim population (the second largest in the world by some estimates) joining ISIS, and what policies could be adapted for other contexts. Overall, he noted that in a world of uncertainties, this relationship lent

stability. It had enjoyed bipartisan support in both India and the U.S., which stood out in an era of partisan political gridlock.

The speaker emphasized that the relationship required attention. The focus of official engagement has tended to be between the executive branches and he recommended greater interaction between Members of the U.S. Congress and the Indian Parliament—this could give the relationship greater continuity and new constituencies. He also stressed the need to engage with Indian states, given the federal nature of the country and the increasing role they were playing. Additionally, he suggested that the India Caucus in Congress identify some issues related to the bilateral relationship to advance.

He outlined the increasing bilateral cooperation in the defense and security space, including in terms of counterterrorism, defense trade, and military-to-military interactions. On the economic side, he noted that investment had grown, but trade continued to be a difficult issue and the two countries needed to think creatively about how to improve the situation. There was also increased engagement on energy policy issues and on water and sanitation. However, he stated that it was worth remembering that the U.S. and India don't always agree (for example, at the United Nations or on issues such as Iran), and managing differences will be as important as finding commonalities.

Members expressed interest in learning more about a range of issues like: India's relations with Russia; whether there was linkage between the relationship between the U.S.-India civil nuclear deal and closer China-Pakistan relations; the impact of U.S.-Pakistan relations on U.S.-India relations; the reasons for the lack of a U.S.-India bilateral trade or investment deal; and the state of China-India economic relations. There was also discussion of what would be the political case for U.S. engagement with India. The speaker responded that the sale of C-130J and C-17 military transport aircraft, for example,

was a win for American manufacturing (and therefore jobs) and a win for Indian regional and global leadership (by providing it strategic airlift capability). Another example was an American company winning a major deal to sell gas turbines in India—a deal that was creating jobs in South Carolina.

### **Next Generation Perspectives**

Members had the opportunity to engage with young Indians working on different issues, including agriculture, public education, energy access, climate change, corporate law, and promoting the employment and advancement of women in the technology sector. They laid out the policy challenges with which they were grappling, and discussed how they were framing and tackling problems. One young leader, for example, discussed the need to increase the rate of female participation in the workforce from its current level of 24 percent. She emphasized that India's success will hinge significantly on its ability to foster greater inclusion of its female population in the workforce. Elaborating on her organization's work to achieve this in the tech sector, she stressed that the challenge called for assertive strategies to increase educational and employment opportunities, as well as efforts to change cultural frameworks.

In terms of developing policy solutions, the young leaders stressed the importance of stakeholders' participation—co-creating policy interventions with them rather than just trying to sell them on top-down solutions. In India, they noted, the scale of the challenge and the number of participants (each with different interests) meant that one had to create alignments—if you didn't do it, others would align against your idea.

They also emphasized customized solutions, a focus on outcomes (and thus monitoring and evaluation), working with different stakeholders (including the government, financiers, private sectors, civil society), and the need to establish and change not just institutions, but cultures as well. Responding to a member's question, one

commentator noted that it was easier to solve the technical dimensions of a problem than the adaptive ones. The next generation observers also highlighted the need to think about trade-offs and integrated solutions, to get out of silos and look for collaborations, to use technology, and to try to do more with the same or fewer resources. With a million experiments being undertaken in India and islands of success, the challenge was how to learn lessons from the latter and scale up—and particularly for the latter, the government was a tough, but essential partner. Finally, the young leaders, many of whom had worked or studied in the U.S., noted the importance of continued American engagement not just with India, but globally.

### **Parliamentarians' Perspectives**

The congressional delegation also had the opportunity to engage with members of parliament (MPs) from different political parties. The MPs outlined the political and economic landscape in India, particularly commenting on the task of undertaking an economic transformation in a democratic context. One noted that in the first five decades after its independence, there had been a number of questions about India's ability to survive, given its diversity and the scale of the developmental challenges, but it had done so. It had transitioned from a least developed country to almost approaching middle-income status, and had even become an aid-giving country. It was also transitioning from an era of diffidence to an era of confidence in dealing with the world (the former partly stemmed from a post-colonial mistrust of outsiders). But even as it was being transformed, there were some aspects of India that were and would remain timeless.

The MPs commented on the aspirational, positive outlook in India today, but noted that there was a lot left to do and many challenges. For almost every MP, a majority of their constituents were living on less than \$2 a day. And their voters were more demanding today. They had to deliver results, but, in a democracy,

Indian policymakers also had to spend time and resources building consensus—nonetheless, despite this so-called “democracy tax,” the resulting policies were more sustainable since they had broader buy-in. One MP noted that being fellow democracies and sharing values also made for natural affinities between countries like the U.S., Japan and India; this and geopolitics, economics and the Indian diaspora made India’s relationship with the U.S. significant.

The MPs expanded on some of the political and economic challenges facing India. On the economic side, India needs to have high growth rates for at least the next two decades. It needs to undertake major structural reform and invest a massive amount in infrastructure. In terms of investment in social infrastructure (education, healthcare, sanitation), the intent is there but implementation is lagging. On the political side, parliamentary reforms are necessary, as are governance and campaign finance reforms. Constant elections, while serving as a referendum, also had an impact on policymaking ability. Additionally, there continue to be a number of social challenges (caste, religion, economic inequality), but the MPs did not see these as existential threats, but ones that had to be discussed and addressed within the democratic context.

Members of Congress additionally elicited the MPs’ views on regional parties, local government, the impact of coalition governments, the relative strengths and weaknesses of a presidential versus parliamentary systems, identity politics, the parliamentary committee system, the politics and economics of subsidies, the national unique identification program, rural versus urban issues, campaign finance reform, education, infrastructure, and the challenge of building consensus with so many parties.

### **Site Visits**

Members visited a number of sites where they learned about how American government

agencies and foundations were working with Indian government and non-government agencies and community groups as they tackled policy challenges such as lack of sufficient, affordable access to clean drinking water, sanitation and healthcare, diagnosing and preventing the spread of infectious disease, and improving farm incomes and agricultural productivity.

They saw USAID-supported efforts to improve sanitation in an urban slum in Delhi, as well as to provide clean water dispersal facilities in Hyderabad. They also visited two recipients of the U.S.-supported Global Fund to Fight AIDS, Tuberculosis, and Malaria: a maternal hospital, working to prevent mother-to-child transmission of HIV, and a community center where people living with HIV get access to support services. Additionally, they toured a private hospital, part of a healthcare initiative financed partly through the Overseas Private Investment Corporation, where healthcare charges are linked to patients’ income levels. Finally, they visited the International Crops Research Institute for the Semi-Arid Tropics, which receives a quarter of its budget from the U.S. and works with a number of American universities. It helps farmers transition from subsistence agriculture to commercial agriculture, with a focus on climate-resilient crops.

At each of these sites, they met with American and Indian experts, local partners, community members and beneficiaries, who discussed their experiences with the related initiatives. The American scholars and practitioners involved noted their ability to have outsize impact by partnering with a range of foreign and local partners, and leveraging Indian government resources. They detailed the level of Indian support to the projects, as well as American contributions. They particularly noted how initial funding helped mobilize additional resources and groups. Beyond the impact on individuals and communities, they outlined the impact in terms of building capacity,

institutional reform and implementation of best practices. Finally, they assessed the tasks ahead: helping raise additional contribution from partners, scaling up, increasing levels of success, and tackling continuing challenges.

### **Policy Takeaways**

Reflecting on what they'd heard, members were struck by the scale and scope of problems that Indian policymakers and people were tackling. Compared to the U.S., the security, economic and social challenges were much larger and tougher, and policymakers were having to deal with them with far fewer resources. Despite this, they had made real progress in a number of key areas, with the country remaining a functioning, pluralistic democracy. They particularly remarked on how technology had been transformative in India, especially in areas where leapfrogging was possible. However, members remained concerned about how Indian policymakers would plan for and handle long-term challenges like population growth (particularly the number of young people who would be coming into the job market every year), access to energy and water, and lifting more women and children out of poverty.

Members noted the sense of optimism and confidence in India that they felt was missing these days in a number of other countries, including the U.S. They remarked that the public seemed to continue to have trust in institutions, including the government. Some of the major policy successes (e.g. polio eradication) indeed were only possible because a number of institutions (public, private, civil society, foreign partners) had come together, along with the public, to tackle the policy problem—but these successes had also likely, in turn, engendered that trust. Members wondered whether such a collaborative approach was possible in the U.S. today.

More broadly, they appreciated the opportunity to study the issues India was facing, while grappling with America's own. They wondered whether and how best the U.S. and India could learn from each other, particularly given that both democracies were faced with some similar issues (including the need to improve education, infrastructure and benefits transfer systems), and had to think through prioritization and trade-offs.

A number of members commented that, while there was often discussion of Russia, China and the Middle East in Congress, there was very little on India, particularly its geopolitical significance—the last major discussion, one member noted, was in 2008. They stated that their experiences in India would help inform their broader discussions, but many also noted the necessity of discussing India more in Washington. They felt that because of its size, growth and nature, India was a pivotal nation and what happened there could have a global impact and affect U.S. interests.





# India's Poverty, Inequality, Food & Population Challenges: Their Global Impact and Consequences

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In 1991, as the world celebrated the end of the Cold War and the dawn of an era of global prosperity, India's economy was in freefall. Faced with massive deficits and vastly depleted foreign reserves, sufficient for just three weeks of import, India was forced to pledge its gold reserves and open up its economy—a tectonic shift initiated by then Prime Minister P. V. Narasimha Rao and Finance Minister Dr. Manmohan Singh and further reinforced by most subsequent governments. Twenty-five years hence, India appears to have decisively turned the corner.

## A Resurgent India

The post-1991 period has seen India's Gross Domestic Product grow at a sustained real rate of 6.5 %—one of the highest globally, though well behind China—contributing to poverty reduction on a very significant scale and vastly improved development outcomes for most Indians. Millennium Development Goals progress reports show that India more than halved its extreme poverty rates between 1990 and 2015, lifting over 130 million Indians out of extreme poverty. Improvements in child mortality and maternal mortality are similarly impressive. In 1990, 3.3 million children died before their fifth birthday. By 2015 those numbers had reduced by nearly 60% resulting in an additional two million children every year getting a chance to live healthy, productive lives. India also recorded similar improvements in saving the lives of mothers and eliminated diseases like polio and maternal and neonatal tetanus.

Food production has continued to rise over the last two decades, with India's farmers generating record surpluses of important cereals like rice and wheat even as they diversified into higher-value commodities like livestock products and horticulture. India is among the top two global producers (by volume) in most of these commodities. Absolute hunger has declined substantially since the dark days of the 1960s when India was forced to rely on food imports.

The last two decades have also seen a reshaping of the global narrative about India, from an almost irrelevant footnote in the global economy, to an emerging global powerhouse in diverse sectors such as technology, pharmaceuticals, manufacturing and entertainment. This has been accompanied by business growth and wealth creation on a large scale. India, absent in the Fortune 500 list in the early 1990s, had seven companies make the list last year. In the Forbes' 2016 World Billionaires List, India, with 84, contributed the most entries after the U.S., China and Germany. India's share of global trade, which had dipped to 0.7% in 1991 has steadily, if slowly, increased to nearly 2% in 2014. And the appeal of India's growing middle-class (estimated to reach 475 million by 2030) poses a tantalizing target to domestic and global businesses seeking new avenues for growth in a generally lackluster world economy. A few other important trends bolster the optimistic narrative about India's future.

## **Prospects for an Even Brighter Future but...**

India has one of the world's youngest populations (median age just above 27—compared with nearly 47 in Germany, 38 in the U.S. and 37 in China), which should help increase its proportion of the global workforce over the next 15 years. India is also urbanizing at a fairly rapid rate. The consulting firm, BCG, estimates that 40 % of India's population will live in urban areas by 2025 with most of the urban growth coming from smaller towns and cities. A third trend that should benefit India is its relatively recent but rapid adoption of digital technologies. Unencumbered by lumbering, legacy systems India has a unique opportunity to leapfrog into the future. The widespread national rollout of cellular phone networks (despite previously low penetration of terrestrial networks) and the rapid adoption of the national unique ID number, (Aadhaar)—which has enrolled nearly 1.1 billion Indians in just over six years—are two examples from recent years, which have combined to make India an excellent crucible for the adoption of digital financial services that have potential to reach the poor and unbanked. A final trend—critical for social and political reasons—is the growing autonomy and empowerment of India's states. This is important because India's states are extremely diverse and centralized, top-down policy-making has never been very effective and a greater voice for the states will likely lead to better economic and political outcomes and help bridge the fairly dramatic inequality across India's states—a facet often overlooked by national averages and aggregates.

These trends, if nurtured to full potential and maturity, could lead India to an era of immense prosperity and economic and social transformation. However, India will have to frontally address and solve some critical challenges if its future promise is to be fully realized. Further, given the vast size of India's youth population—with over 100 million individuals due to enter the workforce over the next 8-10 years—there is need for India to urgently and proactively develop innovative, scalable solutions rather than accept incremental change or wait for others to develop innovations.

If successful, India by virtue of its scale and diversity, will also have the opportunity to help provide answers to many of the world's most pressing development challenges—universal healthcare, high-quality education, food security, urban renewal and sustainable livelihoods among others.

## **An Agenda for Transformation**

To secure its future, India must embrace innovation and fully harness and develop its greatest natural resource—her people. This discussion prioritizes five specific issues essential to this transformation agenda and lays out implications and opportunities. These issues are not intended to be an exhaustive listing for India's future growth and prosperity—for example, critical matters like energy security, infrastructure development, fiscal reform and job creation are considered external to the scope of this note. Therefore, the focus is on five social and development priorities—health, nutrition, education, agriculture and gender equality. In addition, it is important to consider a critical enabler for transformational change in the aforementioned area—bridging the outcome gap across India's states. The disaggregated state-level analysis is also important for donors as they consider their India strategies to determine where they might have the most impact—the USAID, the World Bank, the Gates Foundation and most other donors are already making this shift.

### **Health**

Health is crucial for inclusive, sustainable development, both as a fundamental human right and as an essential contributor to economic growth. On the one hand India has created a world-class medical system, particularly at the tertiary level, which has resulted in India being marketed as the 'Heaven of Medical Tourism' and on the other hand, more than 80% of the population have to travel a long way and wait in queues to access health for any serious issue. Inadequate expenditure is one challenge—India spends a fraction of what China and Brazil invest in health and over two-thirds of all expenditure is out of pocket, imposing a huge burden for the poor. World Bank data shows that

39 million people are pushed into poverty by out-of-pocket payments for healthcare. Medical cost is now one of the most common reasons for rural bankruptcy. However, even adjusting for level of spending, India appears to face an efficiency gap vis-à-vis some of its neighboring countries like Bangladesh.

As noted previously, India's healthcare system has shown the potential to achieve impressive results when there is a focus on specific priorities and initiatives. Some areas for focus include strengthening overall health systems (including elements such as financing, quality, accountability and supply of care) to continue to accelerate reductions in maternal and under-age-five mortality; increasing public health spending from 1.4% of GDP to closer to 2% of GDP (levels closer to countries such as China and Sri Lanka); developing resource pooling mechanisms to eliminate catastrophic health shocks, particularly for the poor; and improving the efficiency of public spending by leveraging organized private sector providers at competitive, pre-negotiated rates. Further, India can also leverage advances in digital financial inclusion and deep expertise in information and communications technology (ICT) to build low-cost platforms to improve the delivery and monitoring of health services. The government of Gujarat has seen great success with an innovative model for tuberculosis (TB) control by engaging private health care providers through an ICT platform via electronic vouchers and a call center. This program triggered a three-fold increase in TB case notifications.

## **Nutrition**

If there is one thing that will raise India's enormous potential, it is addressing the nutrition crisis. Malnutrition is a silent killer—the cause of more than 600,000 child deaths a year in India. But that's only the beginning. India has the largest number of stunted children in the world: 44 million children under the age of five or nearly four of every 10 children. Every one of these children suffers irreversible damage to their bodies and minds—damage that makes it harder for them to learn in school and to earn a living as adults. Stunted girls grow into women who are more at risk of dying during childbirth

and are more likely to have stunted children. So malnutrition is not only a health and social equity issue. It also is an economic issue for all of India. If unaddressed, the lifetime earnings potential of children who suffer from malnutrition will cost the Indian economy a staggering \$46 billion by 2030. Other major emerging economies have been able to rapidly bring down stunting—Brazil has less than 7% of its children who are stunted and China has brought down stunting to 9%—both in less than a generation. There are clear priority areas that can drive progress—India has shown dramatic progress in achieving universal salt iodization—reaching almost 90% coverage. And India is the first country to produce at scale salt that is fortified with both iodine and iron. This promises to be a great tool to combat not just iodine deficiency but also the high rates of anemia. The government recently adopted standards for fortification of cooking oil, wheat flour, milk and rice. The next step is to make these standards mandatory—starting with vitamin A fortification of cooking oil. As with health, India can also leverage ICT to improve the coverage of exclusive breastfeeding in the first six months of an infant's life, a vital step that could save the lives of more than 170,000 children every year. And new research shows it also improves their IQ and protects women against breast cancer. The government is partnering with multiple partners to address these problems but there is need for greater urgency and innovation.

## **Agriculture**

Over the last half-century, India has made good progress in agricultural production thanks to the contribution of the “Green Revolution” (in crops) and the “White Revolution” (in dairy) which were driven by collaborations between Indian institutions and strong partners in the West, particularly the United States. However, with 17 % of the world's population (and growing) India faces a challenge to feed all her people with just 4% of the world's cultivable land and 3% of its freshwater resources. Climate change poses an added threat—research shows that with just a 2°C to 3.5°Celsius rise in temperature, India's rice yields could plummet

as much as 40% and wheat yields would fall by over half. This would be devastating for hundreds of millions of smallholder farmers as well as for India's economy. The Indian public agriculture research system—with its international scientific partners—is delivering new kinds of more resilient crop varieties. For example, researchers discovered a wild rice variety with natural protection against flooding. With a better understanding of the rice genome, scientists here in India were able to adapt the popular variety known as “Swarna” so that it could last up to 17 days submerged in water without losing its yield. India needs to apply similar approaches to develop higher-yielding varieties of pulses (legumes), that are the main source of protein for its population. Advances in genetics, for example the relatively new “gene editing” technology allows scientists to dramatically accelerate development of new plant varieties that can effectively withstand disease, pests, drought, and other stresses like salinity, heat, and floods. This is an area where collaborations with scientists and institutions in the U.S. can contribute to the development of critical, global public goods. Advances in remote sensing and communications technology can now deliver much more and better information to farmers. To extend this kind of capability, investments are needed to deploy field-level sensors, leverage remote sensing, digitize land records, and take advantage of drones and other technology that can yield real-time data.

## **Education**

To fully develop its human capital and participate actively in the global economy, India must also address the education gap. In the last decade, it has largely achieved the goal of making primary-school enrollment universal. But the data consistently says children school but not learning well. The Annual Status of Education Report (ASER) conducted by the education NGO, Pratham, reveals that only 40% of children in Class 5 can read at a Class 2 level and only one in five children in Class 5 can do simple division. This learning deficit in basic literacy and numeracy is catastrophic. India's education system produces a world-class elite.

But to achieve India's ambitions, the education system must be judged not by how efficiently it sorts out its brightest or most talented, but by how well it serves all its students. The government and many Indian donors are directing funding towards important areas like teacher professional development, assessment systems, remediation—things that will improve learning outcomes and provide feedback on gaps and improvements. An area with great promise is the evolving field of education technology (ed tech), which can greatly enable improvements in teaching and learning. Although past efforts like “One Laptop Per Child” failed to make a difference, recent advances in ed tech enable teachers to develop highly customized approaches to access content, plan and deliver lessons, target the specific learning needs of each student, and assess how they're doing. Further, it can enable students to learn at their own pace with the support of teachers, or parents. India has an opportunity to develop models that could work for students in hard to reach, resource poor settings.

## **Gender Equality**

There is widespread consensus that gender equality matters for development, economic growth and poverty reduction. Improving women's education, employment and health outcomes not only delivers benefits for women, but for whole communities and economies. India has sought to prioritize this issue, including Prime Minister Modi's national campaign to “Save and Educate the Girl Child”. However, there remain significant obstacles to achieving equal outcomes for women and men on key economic and social indicators. Understanding the nature and extent of the obstacles to gender equality is critical to designing effective policies to promote equality between men and women and consequently improving development outcomes.

While India has made much progress economically and socially, several gender disparities persist likely fed by adverse social norms, that are particularly influential in defining and influencing gender roles and relations, and mediate social, economic and health outcomes. These norms are manifested in

multiple ways. Norms around a preference for sons are reflected in female-adverse adult sex ratios. As per the Census, India has 940 women per 1,000 men or about 37.25 million fewer women than men at the population level. Similarly, while nearly three quarters of rural women are agricultural workers, norms about male ownership of property mean that less than 10% of rural women own land they work on. Only 65% of all Indian women, and only 29% of women from the most backward castes (termed Scheduled Castes) are literate compared to 82% of men (Census 2011).

One of the most persistent norms relates to violence against women. In India, Intimate Partner Violence (IPV) or violence by husbands/partners is of particular concern given its' high prevalence (nearly half of all women report ever being abused). Recent surveys in Bihar show that the incidence of IPV is strongly associated with worse health practices and outcomes among women such as lower antenatal care, institutional delivery, breastfeeding, and increased risk of stillbirths, miscarriages and delivery complications. IPV is thus an important link in the chain of efforts to address maternal and child health outcomes.

The good news is that social norms are mutable; however, they are slow to change and require a mix of social and policy change. Robust data is an important starting point. India has started taking steps to make available gender-disaggregated data for key social indicators, but national data collection systems need to be further strengthened. There are strong associations between improving maternal education and reductions in infant and child mortality. Evidence from Bihar suggests that it is possible to reduce inequity when health workers use technology and data to improve the coverage of outreach services such as antenatal care. In addition to outreach, innovations to improve patient-centric quality of care are also helpful. Another critical measure is to mobilize women and communities to improve health-seeking behaviors and adopt life-saving practices. The autonomy gained by women leads to improvements in care-seeking for themselves and their children. Members of

women's self-help groups report higher mobility and health care access in surveys across multiple states. Women's participation in a group is associated with a significant reduction in newborn (23%) and maternal (30%) deaths in a trial in Jharkhand.

### **Bridging State-Level Gaps**

National data and numbers about India are often meaningless if not grounded in the sub-national context. Till recently, this dimension was often missing in India's approach to public policy design and implementation. Though India's constitution outlined a federal vision with separation of powers between the Center and States, in practice the federal government (termed the Central Government in India) wielded greater executive and budgetary powers until recently. Over the last 15-20 years the states have started to exert increasing influence, and this trend seems to be strengthening since the 2015 decision to devolve a greater share of tax revenue directly to the states.

For the record, India has 29 states and 7 union territories (administered by the federal government), which are furthered sub-divided into over 700 districts. The Indian constitution lists 22 languages, and the 2001 Census of India mapped over 120 major languages (those spoken by over 10,000 people). There is similar diversity in religious faith and caste.

An accurate narrative of India must start with the states, because the diversity and differences inherent within India's national boundaries are more reminiscent of a continent, than a country. Neelkanth Mishra, India analyst for the investment bank Credit Suisse, offers up a very interesting comparison to make this point. The states of Uttar Pradesh and Bihar in northern India have a combined population roughly equal to the United States with low income levels closer to Nepal and Ethiopia. Richer Indian states, like Gujarat, Maharashtra and Tamil Nadu, only come close to the income levels of countries like Uzbekistan and Vietnam. Even Kerala, which compares favorably with many developed countries on its social indicators, has per capita income levels comparable to Yemen. Hence, a single

narrative—for example, that of India as a booming economy with income levels that peg it at lower middle income country (LMIC) level—hides this variation and could lead to incomplete or inaccurate perceptions of reality. The variations are vast.

For instance, the maternal mortality rates in Uttar Pradesh (UP) and Bihar (with a combined population over 300 million) are 25-40% higher than the Indian average. A mother in Uttar Pradesh is almost five times more likely to die during delivery compared to Kerala. Nearly half the children in UP and Bihar are stunted (significantly lower height for age) and the under-five mortality rates in these states are at levels comparable to what Kerala achieved nearly four decades back. Similar trends are visible in education. While states like Kerala and Maharashtra are close to attaining universal enrollment states like UP, Bihar and Odisha are nearly 25 % lower. Dropout rates (for children in the Class 1-8 range) are nearly twice as high as the best performing states. In agriculture, high-performing states such as Punjab, Andhra and Haryana have achieved yield levels nearly 60-100% higher than states such as UP, Bihar, Odisha and Jharkhand for major crops like rice and wheat. Not surprisingly these states have poverty rates that are 30-50% higher than India's average. The nine states that have above-average poverty rates are also home to over 510 million people (over 42% of India's population). There is a clear need to urgently improve outcomes in this cluster of lagging states for inclusive national progress.

India's government is seized of this urgency. As noted previously, the government has increased the proportion of tax revenue directly transferred to the states. This will give the state more discretionary power to design and fund development programs most relevant to their reality. The National Institution for Transforming India, the federal government's think-tank, is raising the level of state involvement in developing policy recommendations for flagship programs in health, financial inclusion, sanitation and agriculture. Donors are also increasing state-focused engagement. However, most of the

lagging states lack high-capacity, high-performing institutions and systems to help drive their progress in sectors such as education research, health systems design, agriculture & nutrition policy, and cross-cutting areas such as better data systems and strengthening public finance. There needs to be much greater investment in designing leading-edge institutions for policy analysis and developing cadres of well-trained human resources. Such institution strengthening efforts will be bolstered by partnerships with leading U.S.-based education and research institutions, provided there is a focus on transferring knowledge, skills and capabilities to local institutions.

## **Conclusion**

This is a pivotal moment in India's history. If the government and people of India prove equal to the task ahead of them, it will usher in an era of unprecedented growth and prosperity. While India has significantly improved its own abilities to take charge of designing and delivering solutions that will address its key development challenges, it will be incumbent on external partners who are aligned with India's national goals and priorities to provide catalytic support to complement and augment national capacities. In doing so, we can chart a path to solve not only the development challenges of this vast nation, but potentially for the whole world.

# India's Rising Economic Clout and Global Role: The Nexus of Growth and Poverty and Relevance to U.S. Policy

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## Introduction

With the government led by Prime Minister Modi, India has rededicated itself for the betterment of citizens across fellow developing countries. Despite being beset with its own concerns about ensuring sustainable livelihood for its own teeming millions, India embraced the philosophy of supporting its neighbors and other developing nations. While doing so, Prime Minister Modi's emphasis is on leveraging the external sector for domestic economic growth. After putting in due energy in the bilateral relations, Modi has supplemented the efforts at multilateral fora. The new emphasis is reflecting a far more confident India rather than its traditional approach of being defensive and dismissive.

The new approach to foreign policy is evident through the efforts to go beyond the richness of historical ties alone and has tied to capture the essence of three "Cs"--culture, commerce and connectivity. This takes soft power beyond curry and Bollywood. The efforts through policy measures and initiatives like 'Neighborhood-first', 'Act East policy', and 'Heart of Asia' to connect with South Asian, East Asian and Central Asian economies have assumed great significance. The twitter diplomacy led by Ms Sushma Swaraj, External Affairs Minister, has also attracted wider global attention across several partner countries.

The Ministry of External Affairs (MEA) has initiated measures to implement several programs under these priorities. In multilateral fora, particularly at the WTO, India changed

the approach completely. Even though India succeeded in blocking the trade-facilitation agreement, India and the U.S. worked out a mutually acceptable approach on food security. The understanding later helped at the time of the Paris climate accord, when the two partners could arrive at an understanding much before the U.S.-China announcement on climate deal came up.

Open-minded, confident India was again evident through deeper commitment for running the multilateral system with greater heft and flexibility. As Raja Mohan, Director of Carnegie India, says, 'Modi has moved India from an excessive state-centric approach to "multi-stakeholderism" that recognizes the role of the private sector and civil society.'

This new dynamism in the India-U.S. partnership in fact is a repeat of what we saw in the 1950s, when both the countries together implemented triangular development projects of building road networks for Nepal and providing radio networks across South Asia, particularly in Nepal and Sri Lanka. In this brief paper, we are confining ourselves to India's growing influence through development cooperation what is often described as Overseas Development Assistance. At this point, India is both a provider and a recipient of development cooperation. India is giving around \$4.5 billion and is receiving a slightly lesser amount annually.

## Historical Context

Capacity building and training has always occupied a central place in India's development cooperation portfolio. India established cultural fellowships for participants from other developing countries in 1949. The Indian Aid Mission (IAM), to be later renamed as Indian Cooperation Mission (ICM) in 1966 to signify that India's cooperation goes beyond aid, was launched in 1964 in Kathmandu for coordinating and monitoring implementation of various Indian projects in Nepal. In other countries such as Afghanistan and Ethiopia Joint Commissions were established to identify resources and capabilities for undertaking projects of mutual interest and exploring possibilities for expanding trade, including land transit trade arrangements. By this time the Economic and Coordination Division (ECD) was already established within the MEA in 1961.

In a gradual process, India's development assistance evolved through creation of many institutions which ultimately culminated into the establishment of the Development Partnership Administration (DPA) in 2012. DPA has been mandated to coordinate India's development assistance to the countries belonging to the Southern world.

Right from the Afro-Asian Conference held in Bandung in 1955 India believed and successfully convinced many other newly independent countries that national development across countries of the South is an outcome not only of the national efforts from individual governments but also of the international community as a whole meeting its obligations. The First Non-Aligned Movement Summit in 1961, under the Chairmanship of Prime Minister Nehru, further reiterated this commitment.

Simultaneous establishment in 1961 of the Organization of Economic Cooperation and Development (OECD) conceived by the developed countries and encouraged by the success of the Marshall Plan to re-develop war ravaged European countries created another option for providing development aid to the Southern nations. While the paradigm of development aid was informed by the famous "two-gap" theory, the philosophy of India's

and that of other non-aligned countries for providing development assistance was influenced by the spirit of solidarity towards fellow developing countries. If the OECD approach may be termed a vertical flow of support, the approach initiated by some of the Southern nations in helping other fellow Southern countries may be referred to as a horizontal flow of support, which came to be ultimately christened as South-South Cooperation (SSC).

The present note carries out a contextual mapping of India's role in SSC against the backdrop of some pressing livelihood issues faced domestically and the more pervasive paradigm of "aid effectiveness" doing the rounds in today's approach to development assistance. It is necessary to flag very clearly at this juncture that till the beginning of this millennium India was one of the largest recipients of external aid from the group of OECD countries and even today receives developmental support—mostly in the form of loans— from a few select bilateral and the a cache of multilateral donors.

## Development Cooperation: The Indian Perspective

South Asia is a region plagued by many economic and social concerns. There are both intra-state and inter-state disagreements. These have probably negated some of the positive effects of the aid provided by many bilateral and multilateral sources. India as a large economy in the region has the capacity to be an engine of development that can ameliorate some of these disagreements. Conditions are propitious for drawing a curtain over some of these disagreements and set the region on a path of development. Initiatives such as BBIN (Bangladesh, Bhutan, India and Nepal), BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation), etc. that attempt to improve connectivity can have a very positive impact on the region's future. Prime Minister Modi has widened the canvass for South Asia by revitalizing the groupings like Indian Ocean Rim Association (IORA), eventually connecting Indian Ocean rim countries through programs such as Blue Economy and scaling it up to the Summit level. The concept of Blue Economy is emerging as a new



narrative on productive and sustainable engagement with the vast development opportunities that oceanic resources offer. The important sectors of Blue Economy are fisheries, sea-minerals including oil & gas, ports & shipping, marine tourism, marine biotechnology, deep-sea mining, and transport & logistics. The first IORA Summit at the level of Heads of State will be in March, 2017 in Indonesia. India and Australia are playing important role in IORA.

A more peaceful and progressing South Asia would be in line with the objectives that various U.S. administrations have had over the years. In a number of areas India is in an intermediate position. It can help harness the U.S. technology to serve the interests of the people of South Asia as well as benefit the U.S. economy.

The major problem, apart from the disagreements facing the region, is the need to generate employment. Technological developments and needs of the external market have reduced the employment coefficient of growth. Lack of adequate employment opportunities is not a waste of resources but a source of social tension and disagreement. Better employment would also generate greater demand including that for goods produced by the U.S. economy. Appropriate technology transfer can speed up growth and generate greater employment opportunities. Indian economic policy has become much more welcoming to foreign investment. These changes have to be explained to the investing public in the U.S. which it seems is still unsure about the direction of government policy. The government is willing to further change its policy but such changes, as in any democracy, have to be at a pace congruent to the public's preferences. This would be crucial for developing value chains in the sub-region.

Over the years, India has been able to drive out millions of its underprivileged people out of poverty and they now constitute one of the largest middle classes in the world. The primary emphasis of the current government through its flagship programs is to constructively engage its youth in nation-building activities. According to the National Council of Applied Economic Research, by 2025-26 the number of middle class

households in India is likely to more than double from the 2015-16 levels to 113.8 million households or 547 million individuals. According to World Economic Forum India's middle class is growing at breakneck speed and will one day overtake the rest of the world.. A new WEF study states that the Indian middle class doubled in size over an eight year period from 300 million in 2004 to 600 million in 2012. Indian household saving rates have also leapt. In the eight years from 2005 they virtually tripled as more were lifted out of poverty and found themselves with disposable income for the first time.

During the last couple of years, the number of taxpayers in India has gone up substantially, increasing by 25 percent since fiscal 2011-2012. The year 2014-15 saw a rise to 50 million from 40 million registered income tax payers three years ago. The Indian government is seriously committed to simplification of labor and tax laws in order to ensure their greater compliance. The degree of comfort that people get while engaging with the government is now much higher than it was earlier and the gradual building of trust in the government has started showing dividends.

India has the resilience and strength to achieve accelerated economic growth in the coming years. "India's economy is projected to sustain a 7.6% growth rate in both fiscal years 2016-17 and 2017-18," according to the year-end update of the flagship report title *Economic and Social Survey for Asia and the Pacific 2016* of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). The report said India's economic growth is expected to remain at 7.6% in 2017 as investment regains momentum and the manufacturing base strengthens on the back of structural reforms. The ongoing structural reforms are also expected to benefit private investment in India.

During the last couple of decades India has attained enormous expertise and experience in successfully undertaking economic development programs abroad, with particular focus in its neighborhood. The presence of a strong India diaspora abroad, combined with the high level of goodwill India enjoys in the Global South, can lay the foundation of a mutually rewarding

relationship between India and U.S. in this important field. Governments can often guide public appreciation of the need for policy change but cannot completely override their preferences. The following paragraphs will elaborate the issues involved against the backdrop of India's operational model of implementing South-South Cooperation (SSC).

### **Modalities of Engagement**

India's approach to development cooperation is based on the non-negotiable principles that SSC can play a very effective role in complementing the efforts from the U.S. in particular and the OECD donors in general. The non-negotiable guiding principles of SSC as enumerated during the High-level United Nations Conference on South-South Cooperation held in Nairobi during 2010 are: Respect for national sovereignty; National ownership and independence; Equality; Non-conditionality; Non-interference in domestic affairs and Mutual benefit.

The operational model of implementing SSC by India is often referred to in the literature as "Development Compact", highlighting a development partnership that should offer opportunities for growth and economic expansion through human capacity building and strengthening of institutions. It should lead to the expansion of per capita income and improve the quality of growth. The idea of the development compact is rooted in the soil of cohesive and comprehensive development policies adopted by developing countries.

Development compact modalities need to be policy-coherent so that they do not adversely affect any sectors such as health, nutrition, education or even macro-economic variables such as income and employment. In this regard, the role of Civil Society Organisations (CSOs) becomes important in advancing the process, particularly from the viewpoint of participating in programs and delivering cost-effective services, and shortening bureaucratic delivery channels. CSOs may also help in generating ground development efforts within the partner countries (the part that CSOs can play in the Small Development Project (SDP) program is

discussed in the specific case of Nepal). In certain circumstances CSOs may also help in overcoming political vulnerabilities and possible non-engagements at the Track I diplomatic level.

As already noted, the earlier idea of a development compact arose in a different context. It was seen as a contract between developing and industrial countries for ensuring development of the former provided they fully implement Structural Adjustment Program (SAPs). The SSC modalities and principles, as evident from the literature, appear out of sync with the theory and assumptions behind SAP. The new development compact context, in its stress on policy coherence, is aimed at supporting all-round development of the partner country, not through meeting any specific undertaking nor any commitment to conditionalities. With its greater emphasis on self-reliance, SSC has overwhelmingly contributed towards a framework of policy coherence for development.. The Indian approach in fact enshrines various SSC modalities within the new approach to the development compact.

The different modalities embedded in India's operationalization of "Development Compact" are:

- Capacity building;
- Trade and investment;
- Development Finance;
- Grants (including Humanitarian Assistance); and
- Technology Transfer.

The stylized features that emerge out of India's experiment with a "Development Compact" as a means to foster SSC (Chaturvedi 2016) are:

- India established scholarships to foster cultural and educational relations with Africa and its neighboring countries in Asia. In this regard, the increasing focus is on three main components: providing training in India, sending teams of experts to partner countries, and providing equipment for project sites. What started in 1946 with a few

scholarships led to the launching of the Indian Technical and Economic Cooperation (ITEC) effort in 1964, which at this point is providing training to around 10,000 professionals from 120 countries every year.

- Considering the importance of trade as an engine for development, India has been offering duty free, quota free trade facilities to low income Southern countries. Investments in Southern countries are also encouraged with fiscal support. Southern countries are supported to develop their trade related infrastructure—both hard and soft.
- India has been providing Lines of Credit (LoCs) to other countries since the late 1940s. The program evolved as an important tool for relatively large projects, particularly those for which government wanted to avoid extending massive grants when in some cases returns were uncertain. Burma was the first beneficiary of an Indian LoC in 1950; it was for GBP6 million as a short-term loan from a blocked sterling account. The system for granting a LoC is designed with several inbuilt checks and balances to monitor money transfer. A major change to the LoC program was introduced in fiscal 2004, when the Indian Development and Economic Assistance Scheme (IDEAS) scheme was introduced. As per the scheme of IDEAS, the difference between the interest rate at which the EX-IM Bank borrows from the global market and the rate of interest it charges from the partner country is borne by the Government of India (GoI) as Interest Equalization Support (IES). Such EX-IM Bank LoCs carry double guarantees a sovereign one from the borrowing government and a counter-guarantee provided by GoI. In the period 2005 till date, \$ 613.59 million was spent by GoI as IES on LoC disbursed to the tune of more than \$ 12 billion.
- Building a technology and knowledge base is an important emerging area of engagement for the South. The similarity between them in stages of development and context of adaptation makes diffusion and adaptation a

relatively successful exercise.

Southern partners have been engaged in these exchanges for several years, largely as a means of achieving self-reliance. Management of partnerships varies depending on the nature of the problems, the level of common concern and of expertise, and the resources available. India has provided technology transfer support to many Southern countries including Ethiopia (Sugar) and Mozambique (Solar Panels).

- Grants are an old-established practice at both bilateral and multilateral levels. Initially amounts were quite small but have increased over time. At some point grants were extended totally in kind, but provider countries have now arrived at a point where even cash is being extended. There are also instances of LoCs being turned into grants, a process under which minimal cost is borne by the partner country. Between 2014 and 2017 India allocated \$ 6.43 billion worth of grants to different Southern countries, specially, Bhutan, Nepal and Afghanistan.
- India, a founding member of the UN, is one of the leading contributors to the UN Peace Keeping operations. India participated in more than 49 UNPK missions across Southern countries all over the world. A contingent of 180,000 Indian soldiers was part of these missions, which is the largest contribution by any country. Moreover, women peacekeepers are also part of the Indian contribution. India is the first country to contribute a Female Formed Police Unit to the UN Mission in Liberia. Due to Indian expertise and experience in the UNPK missions, it provides training to peacekeeping officers from a large number of countries and has trained over 800 officers from nearly 82 countries. India has also established a specialized center, the Center for United Nations Peacekeeping, for training and research on peacekeeping missions. Considerable humanitarian assistance has been rendered by India to countries affected by natural

disasters. During 2015-16 India provided cash assistance to Syria, Philippines, Jordan and Lebanon. In addition, medicines were supplied to Yemen and aerial ropeways were supplied to Nepal. India supplied the food packets, medicine etc following severe floods in Myanmar in August 2015. India also pledged \$ 2 million at the 2nd Kuwait Conference in January 2014 to UN's Syrian Humanitarian Assistance Response Plan. A sum of \$ 200,000 was provided to the Government of Dominica as humanitarian assistance in the wake of tropical storm Erika.

### Way forward

- India's commitment to a "Development Compact" plays a very constructive role in contributing to the development performance of its Southern partners. India is making efforts with other developing economies for standardizing the impact assessment and evaluation methodologies under this approach. The Network of Southern Think-tanks (NeST) is providing the due support.
- Such supports also created a conducive and mutually beneficial economic and political goodwill that has contributed meaningfully in taking care of domestic livelihood issues of the country through economic integration and social exchange across nations.
- The global platform on development cooperation today is in a state of confusion. The Busan process rightly recognized the role of SSC in global development partnership. Subsequent endorsement of the rightful space for SSC by three global processes— Financing for Development (Addis Ababa Action Agenda), SDGs and Climate Change (Paris agreement) in a global quest for an inclusive world, where no one is left behind, should have, by now, institutionalized an operational space for collective action among all the stakeholders in global development.
- The OECD-Development Assistance Committee (DAC)/UNDP led Global Partnership for Effective Development Cooperation (GPEDC) failed to convince the major emerging economies to come on board. Its fundamental emphasis on transparency and accountability being ensured through a single template to apply uniformly to all development partners is the main bone of contention that repels the major players in SSC. The recent effort by OECD in framing the argument of Total Official Support for Sustainable Development (TOSSD) has added further to the prevailing confusion and chaos in achieving a coherent framework for development partnership (Chaturvedi and Chakrabarti 2017).
- The U.S. and India should collectively explore this Indian model and revisit the U.S. commitment for Paris Declaration and the role GPEDC should play in shaping the global aid architecture.
- The U.S. and India should evolve mutually beneficial cooperation rather than self-interested competition. The Time has come when the new U.S. administration can reconfigure the relationships with 'Southern and Western' powers for better gains, which should provide peace, progress and collective economic growth by the elimination of poverty.

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# India's Rising Economic Clout and Global Role: The Nexus of Growth and Poverty and Relevance to U.S. Policy

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India is in many ways the shining star in the emerging-market pantheon. Chinese growth is slowing dramatically as the country moves to middle-income status, its workforce shrinks due to a rapidly ageing population, and overcapacity and excessive leverage take their toll. Countries like Russia, Brazil, Malaysia, Thailand, and South Africa are politically troubled. By contrast, India has become the world's fastest-growing major economy, expanding by between 7 and 7.5% yearly, and benefits from stronger democratic institutions and leadership than its developing-world peers.

India is also very poor, with a per capita Gross Domestic Product that is only 11 percent of U.S. levels. It boasts a \$2 trillion GDP and a larger population of poor people than live in all of sub-Saharan Africa. Average incomes remain so low that India's upside potential is enormous—just as rapid Chinese growth pulled hundreds of millions out of poverty over the past 30 years, so can sustained GDP expansion uplift India from its low base over the next 30 years. India has become a top recipient of foreign direct investment—in 2015 it was #1 in this category, attracting more than even the United States and China. Unlike China, its expansive infrastructure and developmental requirements mean that it can more easily absorb global investment capital.

India will soon have the world's largest workforce. Two-thirds of its population is under 36 years of age and half its people are under 25.

India's demographic boon could power rapid growth for decades, at a time when both the developed West and Asian powers like Japan, China, and South Korea grapple with ageing societies. China's remarkable growth has uplifted nearly all its neighbors through closer economic integration; India's could do the same in South Asia, a troubled region in which political and other barriers to trade make it the least-connected region of the world.

India's singular supply of raw human capital is also the country's Achilles' heel: the country's long-term performance hinges on its ability to productively employ a labor pool approaching one billion people. India's dysfunctional labor laws mean that 90 percent of the workforce toils in the informal economy, toiling in low-productivity sectors like agriculture (which still employs 50 percent of workers) and construction. India's economy must generate nearly one million new jobs every month to absorb new entrants into the labor force. In reality, job creation is nowhere near those levels, creating a drag on India's ability to grow out of poverty and handicapping the aspirations of young Indians who want more from life than to toil in the informal economy in borderline poverty.

Prime Minister Narendra Modi won a resounding mandate in 2014 on a campaign platform of "growth and governance." Following corruption scandals and economic underperformance during the previous, Congress

Party-led government, his focus on delivering results that would improve growth and administration were welcomed by the Indian electorate, which gave Modi's party the first majority in parliament in three decades (previous Indian governments were coalitions led by parties with only minority support). Yet Modi's record in office to date is not that of a free-market liberal; he is a developmental nationalist who wants to use state power to catalyze growth, including through incremental reform—rather than rolling back the state in big-bang style to liberate the private sector.

Beyond liberalizing foreign investment in different sectors of the Indian economy and passing a new bankruptcy law to help indebted Indian companies and banks de-leverage, the most consequential Modi reform has been approval of a constitutional amendment to implement a nation-wide Goods and Services Tax (GST), replacing a labyrinthine set of state and local levies that stymie commerce, including through customs controls at state borders within India. In theory, implementing GST would have the same effect as India doing a free trade deal with itself, turning 30 state markets into one national market. In fact, political compromises mean that GST is already being heavily watered down, with an array of different tax rates to be levied on different types of goods and services within India, reducing the economic gains expected from the reform.

Modi has also ambitiously sought to bring more Indians into both the formal and the digital economies. In late 2016, his government shocked the public by declaring that over 85% of currency notes in circulation would be replaced, creating a cash crunch that was a drag on economic growth, since much of day-to-day economic life in India is cash-based. The government hopes more Indians will switch to mobile, credit- and debit-card, and other forms of digital payment, in part so that more transactions are anchored in the formal economy (which can be taxed and regulated) rather than the informal, cash-based one. The Modi administration has also launched a poverty-alleviation program to provide individual bank accounts to millions of poor Indians, who then

can receive modest welfare benefits directly via digital transfer, rather than through corrupt middlemen who skim off the proceeds.

Modi has argued that foreign policy starts at home, and that only a strong and vigorous India that gets its domestic house in order will be respected abroad. Under his leadership, India has embraced a multi-vector approach to foreign policy that includes not only a neighborhood strategy and a defense buildup but also a far-reaching effort to enlarge trade and investment relations with the world's top economies. The overarching objective of this grand strategy is to fuel economic growth at home so that India can improve both its people's welfare and its security. Dramatic reforms to the country's statist economy are essential to seed growth and produce the jobs necessary to employ what will become the world's biggest workforce.

According to the economic historian Angus Maddison, the Indian economy was the world's largest in the early 17th century, comprising some 25% of global gross domestic product. It has fallen a long way since then. It is finally reemerging as the world's third-largest economy measured by purchasing power parity—yet a quarter of the population still lives on less than \$2 a day. More than half of Indians do not have access to modern sanitation or regular electricity. The average Indian has a per capita income of only \$1,500 at market exchange rates—compared with roughly \$7,000 in China, \$11,000 in Turkey, and \$12,000 in Brazil. Almost half of Indian children are malnourished.

On the international stage, India sometimes acts as an emerging world power, and at other times like a prickly, resentful, and impoverished country from the Global South. This dualism manifests itself in trade negotiations and at the United Nations. But India's growth puts it on a trajectory to be one of the most consequential world powers in the 21<sup>st</sup> century, with its enormous military, key strategic position along the Indian Ocean sea lanes that connect the energy resources of the Middle East to the rich markets of East Asia, and an aspirational population that will grow to make India the world's most populous nation within a decade.

Modi's decisive electoral victory on a "growth and governance" platform, and his early moves to liberalize key sectors of the economy, underline the failure of previous governments to free India's economy from the grip of the state and build a foundation for broad-based development. Modi has promised a South Asian economic miracle of Chinese-style growth after decades in which India lagged behind its Asian peers. Even Bangladesh has higher development indicators than India.

India is teeming with human capital that is underutilized by its still-protected economy. It needs advanced technologies to unlock its productive potential, as well as massive foreign direct investment to help build infrastructure and a manufacturing base capable of generating large-scale employment.

Prime Minister Modi's "Make in India" campaign seeks to ramp up manufacturing in an agriculture- and services-dominated economy in which factory production generates only about 15 percent of GDP (services employ about 30 percent and agriculture roughly 50 percent). Low-cost, mass-manufacturing employment was key to the development of the Asian tiger economies, from Japan and South Korea to Malaysia and China. But changes in the structure of the world economy, including global supply chains centered in China, the advent of innovations such as digital printing, and the "re-shoring" of advanced manufacturing in developed economies mean there may not be adequately large export markets for Indian manufacturing to service. India will also have difficulty integrating into global supply chains in manufacturing because of enduring high labor and transport costs, and the country's exclusion from key trade groupings.

This leaves India's domestic market, potentially the world's biggest. Yet sheer inefficiencies constitute roadblocks to the country's ability to produce mass employment. Even India's fabled information-technology industry only employs some 40 million workers.

Eighty-five percent of Indian manufacturing output comes from small- and medium-sized enterprises (SME's) with fewer than fifty

workers. Ninety-five percent of India's SME's are micro-enterprises; companies are deterred from growing by India's punitive labor laws. One solution to India's employment challenge would be to unleash the potential of small-scale enterprises through de-regulation so that they can expand. India's regulatory environment stifles formal job creation, making it very difficult to fire employees or grow a business.

Given political obstacles to reform at the national level, key reforms to generate growth are coming from the states. Those like Gujarat and Tamil Nadu are manufacturing-friendly and attract a disproportionate share of foreign direct investment. States like Rajasthan are experimenting with land and labor reforms that make it easier to do business, with encouraging results thus far. Competition between states could encourage employment-friendly reforms from the bottom up, even as the Modi government seeks to liberalize the national market from the top down through enactment of reforms like the Goods and Services Tax.

Ultimately, as in other areas, India is likely to find a uniquely Indian solution to its growth and employment challenges. They are daunting; but given good governance, there is no cultural or geographic reason India cannot move up the development curve like the many Asian tigers before it. Indian growth should be powered by the country's extraordinary demographic dividend, a vast internal market, and the ample productivity gains available to an economy with a yawning infrastructure deficit and a per capita GDP that is less than a tenth of America's and far behind China's.

Democratic politics in a country choc-a-bloc with young voters seeking greater economic opportunities should also reward leaders who deliver growth. If the next twenty years of development in India look anything like the last twenty years of modernization in China—albeit in very different domestic and global contexts—the South Asian giant unquestionably will emerge as a powerful engine of the global economy.

The implications for the United States are clear. India's trajectory will make it an

increasingly important player in the emerging world order, and a partner that can work with America to promote our mutual interests in Asia and beyond. India's demographics mean it will become the world's largest consumer market, and an increasingly important trade and investment partner for the United States. Unlike China and Russia, India is a democracy that does not threaten core U.S. interests but in fact shares them—including sustaining an open international economy, defeating terrorism, balancing China's ambitions to expand its sphere of influence in Asia, and delivering

broad-based growth that allows citizens to achieve their potential. India's democratic example can also inspire poorer countries, including in Africa, to pursue economic and political development without adopting Chinese-style centralized rule at the expense of human rights and individual freedoms. The United States has a self-interest in supporting India's development—because a richer, more confident, more powerful India is likely to reinforce U.S. objectives of security, stability, and prosperity in a pivotal part of the world.



# India's Energy Needs in the Context of Climate Change and Development

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India has accelerated the pace of reform of its energy and electricity sectors. The plain fact is that India faces big challenges on the energy front to propel its economic and social progress. With 1.2 billion people, India needs huge quantities of energy resources for its economic growth. India's already-exploding energy demand is set to further accelerate because its per-capita energy consumption levels remain very low by international standards.

India is already one of the world's largest energy importers. For example, it imports nearly four million barrels per day of crude oil. Its natural gas imports total more than 22 billion cubic meters. India's major dependency on imports is unlikely to diminish in the foreseeable future.

To become a developed nation, India must sustain economic growth at more than 7% a year over the next 25 years. That goal demands the availability of adequate and assured energy supplies. India, however, faces multiple challenges in securing adequate and assured energy supplies. There are several reasons for this:

- Few important countries face as formidable a challenge as India to build energy security. Indeed, the scale of India's energy-supply dilemma is daunting: Energy demand in India is expected to grow by about 90% just by 2030. India's domestic energy resources, however, are exceptionally small even compared to the current national demand.
- India, unlike China, shares no borders with energy-exporting countries. Worse still, India is located in a very troubled neighborhood. The tyranny of geography crimps India.
- By accepting obligations under the Paris climate change agreement, India is under pressure to contain its greenhouse gas (GHG) emissions, including by reducing the burning of fossil fuels. This pressure has come even before India has been able to supply electricity to all of its citizens.
- While it is a well-known that energy poses a special challenge as the leading contributor to the carbon-emission problem, the focus on carbon tends to obscure the other environmental challenge: the water-guzzling nature of the energy sector. The energy sector is so thirsty that it is the largest user of water in Europe and the United States. In the U.S., electricity-generating plants alone use 41 percent of the freshwater withdrawn nationally, while the figure for the European Union is 44 percent. India, however, is already a water-stressed country. Its per capita renewable water resources (1,430 cubic meters per year) are about one-seventh that of the United States.
- India indeed is under double pressure—to choose energy sources that are not only less carbon-intensive but also less water-intensive. If it truly chose less carbon-intensive and less water-intensive sources of energy, it would seriously limit its energy options and

sharply increase its financial burden. So it must strike a prudent balance between carbon intensity and water intensity in choosing its energy options.

- In an increasingly water-stressed India, the struggle for water is not only intensifying the impact on ecosystems, but is also crimping rapid expansion of the country's energy infrastructure. Water shortages also potentially threaten the viability of existing power generation projects, besides imposing additional financial and social costs.
- Still, major investments are needed to upgrade India's energy infrastructure in order to meet the fast-growing demand. To expand its generating, transmission and distribution capacities, India will have to make major imports.
- Indian firms have had very limited success in securing energy assets or contracts overseas. They have usually been outmaneuvered by Chinese state-run companies in the bidding competition. Examples extend from Myanmar and Iran to Kazakhstan and Angola.
- For the foreseeable future, India will remain a major importer of energy resources and energy-related technologies. The dependency on resource imports will make it vulnerable to the vagaries of the markets and to unforeseen supply disruptions and security developments. Because of India's proximity to the Middle East, that volatile, violence-torn region will remain the largest supplier of crude oil and liquefied natural gas to the Indian market, despite India's quest for diversity of supply.
- India's acute dependency on energy imports is likely to lead to greater investments in building maritime capabilities, including a stronger navy, to address the vulnerability of its external sources of energy. An emphasis on building greater maritime power is also underscored by the fact that India is the world's largest peninsula, which

explains why India throughout history has been closely bound by sea with other civilizations for trade and other exchanges.

## Electricity Scene

Annual per capita electricity consumption is an important measure of a country's level of development. In aggregate terms, India, with a yearly production of 1.3 trillion kilowatt-hours, is the world's fourth largest producer of electricity after China, the United States, and the European Union. In per capita terms, however, India does not rank even among the top 100 countries. Its yearly per capita electricity consumption of about 750 kilowatt-hours is one-fourth the global average and 13 times less than the average in the 35 developed countries of the OECD (Organization for Economic Cooperation and Development).

Looking ahead, India's population is projected to stabilize at about 1.6 billion. The magnitude of the Indian electricity challenge can be seen from the fact that supplying power to 1.6 billion people even at the current abysmally low level of per capita electricity consumption will demand that India increase its electricity production by about 40% of the present-day global output.

Which domestic energy resources can India utilize to produce power at that modest per-capita level? India's coal reserves can help generate that much electricity only for 13 to 15 years. So, even if carbon-related concerns were absent, domestic coal cannot be the answer for India.

According to projections of India's 12<sup>th</sup> Five-Year Plan from 2012 to 2017, electricity generation in this period will grow 9.8%, with coal and lignite accounting for 79% of the additional capacity, hydropower 12%, nuclear 6%, and renewables (especially wind and solar) slightly less than 4%. In the coming years, there will be increased focus on renewables, given the commitment under India's National Action Plan on Climate Change to reduce the carbon intensity of the Indian economy by about a third

by 2030, including by generating 40% of the electricity from non-fossil fuels.

This is a challenging goal India has set for itself. As part of the effort to reach that goal, a major realignment is under way in the mix of electricity generation by fuel source. In keeping with its greater emphasis on “clean” energy sources, India is set to increasingly turn to renewable energy sources, especially wind, solar and hydro power. It is conceivable that renewables (including hydropower) could account for between 35% and 40% of India’s total power generation by 2030.

Renewables, along with natural gas power, are likely to be at the center of the growth areas in India’s energy mix. Electricity generated from coking coal imported from Australia, the U.S. and elsewhere will also likely see growth. Nuclear power from reactors sold by American, French and Russian companies is projected to be an important growth area too, with the government setting a nuclear-power target of 12% of the total power generation by 2030. However, it is far from certain that the promise of a rapid increase in installed nuclear power capacity in India will be realized.

Speaking broadly, the bulk of the nuclear power plants under construction or planned worldwide are located in just four countries—China, Russia, South Korea and India. Nuclear plant-construction time frame, with licensing approval, still averages about a decade, as underscored by the new reactors commissioned in the past decade. In fact, the *World Nuclear Industry Status Report 2014* acknowledges that 49 of the 66 reactors under construction worldwide are plagued by delays and cost overruns. Such a reality makes nuclear power hardly attractive for private investors.

A major downside of nuclear power is the industry’s reliance on heavy state subsidies. Instead of the cost of nuclear power declining with the technology’s maturation—as is the case with other sources of energy—the costs have escalated multiple times. The sharp increase in average costs for installing nuclear power capacity just in the past decade has made the

industry more dependent than ever on fat subsidies.

The increasingly poor economics of nuclear power will likely temper India’s enthusiasm for this source of energy. Add to the picture the grassroots resistance post-Fukushima to nuclear power, which resulted in considerable delay in commissioning India’s Kudankulam plant.

### **Carbon Intensity versus Water Intensity of Energy Sources**

India faces important challenges in choosing truly “clean” energy sources--“clean” in terms of both carbon content and the demand on water resources. For example, “clean” coal, with carbon capture and sequestration, is very water-intensive. This is a reminder that what may be “clean” from a carbon prism is unclean from a water-resource perspective. So, embracing “clean” coal cannot mean going “green” if the net effect is water-resource depletion and environmental degradation.

Indeed, the focus on carbon has obscured a more fundamental fact: The energy-water nexus is at the core of the global sustainable-development challenges. This stress nexus is behind Asia’s three interlinked crises: A resource crisis has spurred an environmental crisis, which in turn is contributing to regional climate change.

Much of the electricity in India, as in the United States and elsewhere, is produced by steam-based power systems, which need a lot of water for cooling and steam-cycle processes, irrespective of whether they use coal, nuclear, natural gas, or other fuels. Moreover, copious amounts of water are needed for energy extraction and processing, including coal mining, oil refining, and shale fracturing. Water consumption by petroleum refineries is larger than the quantity of gasoline or diesel fuel actually manufactured by them.

As India embraces renewables, it must deal with their downside, including the fact that several renewable-energy technologies cannot be used to cover the electrical base load or for

peak load operations. In a densely populated country such as India, the solar photovoltaic technology also imposes vast demands on land space, which may not be readily available. Moreover, some renewable-energy technologies, such as solar thermal power and geothermal steam plants, are notoriously water-intensive. On the other hand, two technologies increasingly being employed in India—wind and solar photovoltaic plants—need no water for their normal operations.

In an increasingly water-stressed India, decisions about where to place new energy plants are increasingly being constrained due to inadequate availability of local water. Compounding the challenge is the fact that energy shortages in the heavily populated Indian states are usually the most severe in water-scarce areas. Given that large quantities of water are needed to generate electricity from coal, nuclear, natural gas, oil, biomass, concentrated solar energy and geothermal energy, water stress is exacerbating India's energy crisis. The country's largest power generator, the National Thermal Power Corporation, is being forced to abandon plans for new coal-fired plants in water-scarce areas.

India actually finds itself caught in a vicious circle, with attempts to solve the energy crisis contributing to the water crisis, and vice versa. As water becomes scarcer in India, its energy intensity amplifies, as more energy is needed to pump groundwater up from greater depths or to transport surface water across longer distances. For example, energy now makes up about 90% of the cost of Indian groundwater. India's water crisis is being exacerbated by the water demands of the energy sector and the expanding output of biofuels from irrigated crops.

Given the energy-water nexus, India must make prudent choices on a host of energy issues—from the sources of energy to the cooling technologies in electricity generation.

In the coming years, water constraints will increasingly shape Indian decisions about energy facilities, cooling technologies, and plant sites. For example, almost all new nuclear plants in

Asia—the center of global nuclear power construction—are located along coastlines so that these water-guzzling facilities can draw more on seawater. Yet seaside reactors face major risks from global-warming-induced natural disasters, as highlighted by Japan's tsunami-induced Fukushima disaster in 2011, which showed the risks of sudden sea changes. Moreover, with India's economic boom zones, like elsewhere in Asia, located along coastlines, finding suitable seaside sites for new nuclear plants is no longer easy. Coastal areas are often not only heavily populated but also constitute prime real estate. For example, India, despite a 6,000-kilometer coastline, has seen its plans for a huge expansion of nuclear power through seaside plants run into stiff grassroots objections.

### **Concluding Observations**

India's energy- and climate-related challenges should be seen in the larger international context since they are not unique to it. The harsh reality is that the world's climate- and energy-related challenges have become more acute in recent decades. For example, global emissions of planet-warming greenhouse gases still continue to grow, underscoring the energy-climate nexus. It should be recognized that effectively controlling the buildup of greenhouse gases in the atmosphere demands fundamental policy and lifestyle changes, which no society or state is willing to undertake. Climate change is challenging the ability of humans to innovate and live in harmony with nature.

As for India, energy and water shortages chain its poor to poverty. India needs an energy-technology revolution that can deliver cheap, reliable power to those mired in energy poverty and help clean up polluted waters, treat and recycle wastewater, and make ocean water potable. Such a revolution is also critical for India to achieve double-digit GDP growth rate.

India's internal dilemma on energy is compounded by an external dilemma, rooted in its reliance on imports to meet the bulk of its energy needs. India has to secure its energy

supplies in a hostile geopolitical environment: The region to its west is a contiguous arc of failing or troubled states, stretching from Pakistan to Syria, while to its north is a revisionist China that is also mounting a strategic challenge from the Indian Ocean, as highlighted by the docking of Chinese attack submarines at Sri Lankan and Pakistani ports.

Given the significant role that energy resources play in global strategic relations, India's heavy dependency on energy imports

also means that the country will have to carefully navigate the increasingly murky resource geopolitics. Concerns about sea-lane safety and vulnerability to supply disruptions cannot be properly addressed without India boosting maritime capabilities and power projection prowess. Strategic competition over energy resources will likely continue to shape Asia's security dynamics. The associated risks can be moderated only by establishing norms and institutions aimed at building rules-based cooperation.



# India's Energy Needs in the Context of Climate Change & Development

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*\*See end of essay for Figures 1-8, as referenced.*

Over the next few years, India is expected to have one of the fastest growing economies in the world. Energy is fueling this sped-up Indian economy, which in turn is fueling demand for even more energy. Ten years ago, India was the fifth largest consumer of energy in the world. It is now the third largest behind China and the U.S., having overtaken Russia and Japan (see fig. 1). And over the next two decades, its energy demand will double, with India expected to account for one quarter of the growth in total global energy demand over the next 25 years (see fig. 2).<sup>1</sup> India's energy consumption pattern and its energy mix will have implications for global energy demand, supply and, therefore, prices, as well as the country's economic and foreign policy, and climate change.

## India's Energy Mix

As India's appetite for energy has grown, so has concern about how these needs are going to be met. Some amount of India's three major sources of energy (oil, natural gas, and coal) already comes from beyond its borders. In addition, while there have been major improvements in the electrification rate over the last decade and a half, there are still about 240 million Indians who do not yet have access to electricity.<sup>2</sup> Moreover, as one observer put it, the world wants India to do something no country anywhere near its size has: grow cleanly.<sup>3</sup> Indian Prime Minister Narendra Modi has outlined the challenge: "Sustainable, stable and

reasonably priced energy is essential for the fruits of economic development to reach the bottom of the pyramid... On one hand, to meet the increasing demand, we need affordable and reliable sources of energy. On the other, we must be sensitive towards the environment." He has identified India's four priorities as energy (a) access (b) efficiency (c) sustainability, and (d) security.<sup>4</sup>

His government has pledged to increase the share of renewables in its energy mix, but over the next quarter century, India will remain a major consumer of fossil fuels (see fig. 3). Fossil fuels are expected to account for more of total Indian energy consumption, going from 73% in 2014 to 80% in 2040 (see fig. 2). However, fossil fuels' share of power generation will decrease over time from 82% in 2014 to 67% in 2040.<sup>5</sup>

Share of Electricity Generation (%)		
	2014	2040
Coal	75	55
Oil	2	1
Gas	5	11
Nuclear	3	6
Hydro	10	8
Bioenergy	2	3
Wind	3	7
Solar PV	0	8
Others	0	1

<sup>1</sup> International Energy Agency (IEA), *India Energy Outlook 2015* (Paris: OECD/IEA, 2015), p. 11.

<sup>2</sup> IEA, *World Energy Outlook (WEO) 2016*, (Paris: OECD/IEA, 2016) p. 92.

<sup>3</sup> Interview with analyst, New Delhi, March 2016.

<sup>4</sup> Narendra Modi, Address at the Inaugural Session of Petrotech," December 5, 2016, New Delhi, <https://goo.gl/hE3t7i>

<sup>5</sup> Projections are based on a scenario that assumes the Indian government will follow through on its policy commitments. *WEO 2016*, p. 602, 604.

Indian policymakers recognize the environmental implications of using **coal**, but with the scale of India's energy needs, its large proven coal reserves (9% of the world's<sup>6</sup>) and the relatively lower costs associated, India's coal usage will continue and grow both in absolute terms and as a share. However, even as India's demand for power more than triples, over time less of it will come from coal-fired plants (see table above).<sup>7</sup> There is an ongoing expansion of the coal industry and infrastructure in India, but imports are also likely to continue. The country has become the largest coal importer in the world because of domestic constraints (shortages, quality, transport). It is sourcing coal from Indonesia, Australia, South Africa, the U.S., Russia, Mozambique and Canada, among other countries.<sup>8</sup> Its imports are projected to increase, but import dependence is likely to fall from 33% in 2014 to 25% in 2040.<sup>9</sup>

**Oil and natural gas** consumption will also increase. From now till 2040, India will be the largest contributor to the increase in global **oil** demand.<sup>10</sup> It is also on track to be the second largest oil importer, with its import dependence expected to increase from 70% in 2014 to 90% in 2040 (see fig. 4 for sources of imported oil).<sup>11</sup> Natural gas will increase its share in India's energy mix, but because of the availability and cost of coal (and possibility of the availability of cleaner, more efficient coal technologies) and expected decreases in the cost of renewables, it is not expected to cross the 10% threshold. Another reason: India is not self-sufficient in natural gas (see fig. 5 for sources of imported oil). Its imports and import dependence are estimated to only increase from 35% in 2014 to 53% in 2040.<sup>12</sup>

Despite missing **nuclear** energy targets in the past, the Indian government is also committed to increasing its share in the energy mix. Both nuclear and **renewable** energy capacity is expected to grow. In terms of the latter, the government has already been putting in place better standards in the transport and electricity sectors, encouraging the use of cleaner cooking fuels, outlining incentives or mandates for renewable energy use, and setting ambitious targets. The government has outlined a plan for India to go from 40 gigawatts (GW) of renewables capacity to 175 GW by 2022 (100 GW of solar photovoltaics, 60 GW of wind power, 10 GW of biomass and 5 GW of hydropower).<sup>13</sup> Experts are skeptical that India will meet this target, but nonetheless

believe it could be positive in terms of priority-setting and attracting investment into the sector. There are also expectations that the price of renewables (particularly solar) will be much more competitive over the next decade and a half.

## The International Dimension

Over the last few governments, the magnitude of India's energy challenge has resulted in an official response—a strategy of diversification—that mirrors former British Prime Minister Winston Churchill's preferred strategy toward oil: “on no one quality, on no one process, on no one country, on no one route and on no one field must we be dependent. Safety and certainty ... lie in variety and variety alone.” Thus, India, while not necessarily in the most integrated way (partly a result of multiple ministries involved), has been exploring multiple energy policy options, multiple fuels, and multiple suppliers.

As part of this strategy, the Indian government has made numerous efforts, not always successfully, to increase supply and manage demand domestically (implementation in this sector, as in most others, has been a problem but there has been progress). Steps the Modi government has taken include reorganizing government (combining the position of the coal, renewables and power minister), rationalizing and reducing subsidies, increasing energy efficiency, increasing domestic oil, gas and coal production, and encouraging renewable energy usage. The government has also stressed the need to reduce India's import dependence for fiscal and security reasons, but, simultaneously, there is recognition that the international dimensions of India's energy strategy are crucial. India is looking abroad not just for resources (oil, gas, coal, uranium or even agricultural products for ethanol blending), but equipment (eg. solar panels), technology and financing as well. The government's approach has included:

- (1) Encouraging Indian oil and natural gas companies, both state-owned and private-sector ones, to acquire upstream assets, involving the purchase of equity in oil and gas blocks and stakes in exploration and production companies abroad. While nowhere near the scale of China's overseas investments, **Indian companies have**

<sup>6</sup> WEO 2016, p. 215.

<sup>7</sup> WEO 2016, p. 22.

<sup>8</sup> Ministry of Commerce, India, “Export Import Data Bank,” <http://commerce.gov.in/EIDB.aspx>

<sup>9</sup> WEO 2016, p. 218.

<sup>10</sup> WEO 2016, p. 114.

<sup>11</sup> *India Energy Outlook 2015*, pp. 118-119.

<sup>12</sup> WEO 2016, p. 196.

<sup>13</sup> Ganesh Nagarajan, “India to Quadruple Renewable Capacity to 175 Gigawatts by 2022,” *Bloomberg*, February 28, 2015, <https://goo.gl/F1svar>



**built a portfolio of such assets, including in the U.S.**

- (2) Expanding and diversifying India's network of bilateral supply contracts, including for liquefied natural gas (LNG). **India, for example, will begin importing LNG from the U.S. in 2017 and has been interested in additional deals.** Gas supply and prices, as well as India's increasing market power have also led Delhi to renegotiate existing long-term supply agreements, such as the one with Qatar. India has explored participation in transnational natural gas pipeline projects, such as those involving the Iran-Pakistan-India, Turkmenistan-Afghanistan-Pakistan-India, and Myanmar-Bangladesh-India routes. However, these have not gotten off the ground because of commercial or security reasons.
- (3) Ending India's nuclear isolation by signing civilian nuclear agreements with the U.S. and other countries such as Japan that could potentially give the nation access to required materials and technology, and expand the production and use of nuclear energy. Russia has recently committed to setting up additional nuclear reactors. **Westinghouse also has plans to set up six reactors, but that is contingent on financing, including possibly a loan from the U.S. Export-Import Bank.**<sup>14</sup>
- (4) Aiding the development and/or access to technology that would facilitate India's domestic initiatives to enhance supply and manage demand, including enhanced oil-recovery technology, clean-coal technology, and renewable energy technology.
- (5) Seeking foreign investment, financing and participation in India's domestic energy sectors. **American companies have particularly been increasing their investments in the renewable energy sector in India.**
- (6) Participation in international energy forums.
- (7) Undertaking active energy diplomacy, which is designed to enhance and diversify supply, lay the groundwork for future cooperation with other consumers and producers, attract investment, capital and technology, and aid Indian companies seeking opportunities and partnerships abroad. This energy diplomacy is not new, but there has been a new sense of

urgency over the last decade or so. It has involved cooperative agreements, high-level bilateral visits, and conference hosting, as well as deploying military and economic assistance tools at the government's disposal. **Energy cooperation has been a key agenda item on many of Prime Minister Modi's trips abroad, including to the U.S., which is seen as a crucial partner in this domain.**

Relatedly, in recent years, climate diplomacy has also been a priority. India ratified the Paris climate change agreement in October 2016. It has not committed to an emissions reduction target, arguing that the scale of its development needs is great, and its energy consumption, as well as emissions have been much lower than others'—both in absolute and per capita terms (see figs. 6 and 7). Instead, by 2030, it has committed to decreasing the carbon intensity of its GDP from its 2005 level by 33-35%, generating 40% of electricity from non-fossil fuel sources by 2040, and increasing its forest cover. The International Energy Agency projects that by 2040, if various commitments are met, Indian carbon dioxide emissions in 2040 will grow to just over the U.S. level today, but remain well below the Chinese level (see fig. 8).

India's position and commitment at Paris was seen as a shift and considered somewhat more forward-leaning than before. The Indian prime minister has stressed that while "climate change is not of our making," India was already facing its consequences and, therefore, would do its part.<sup>15</sup> He has also asserted that India was not taking leadership or action because of pressure from the U.S. or other countries, but because of the pressure of climate change.<sup>16</sup> India is considered to be highly vulnerable to its impact. Nonetheless, he and other senior officials have repeatedly emphasized the need for developed countries to take responsibility because of their historic emissions. They have also stated that India's ability to meet its commitments successfully depend on developed country support and participation.<sup>17</sup>

While India did not enter into the Paris agreement just because of the U.S., American participation in and enthusiasm for it, as well as commitment to facilitate India meeting its targets did play a key role in getting India to yes. Moreover, it also helped allay or counter

<sup>14</sup> Sanjeev Miglani and Douglas Busvine, "India seeks loan from U.S. for nuclear reactors, snags remain," *Reuters*, September 22, 2016, <http://reut.rs/2divCwZ>

<sup>15</sup> Narendra Modi, "Address at the inauguration of the India Pavilion at COP21," Paris, November 30, 2015 <https://goo.gl/f0Gt7F>

<sup>16</sup> "Narendra Modi, Barack Obama announce steps to promote clean energy," *Press Trust of India*, January 25, 2015, <https://goo.gl/TZzstn>

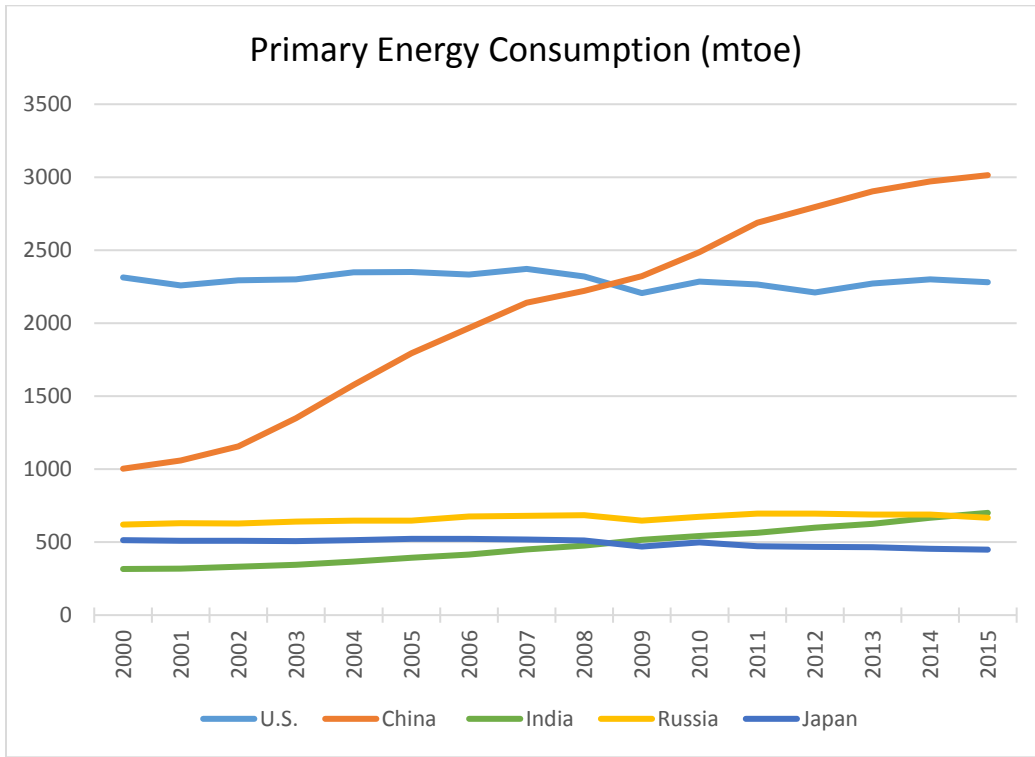
<sup>17</sup> Lavanya Rajamani, "What do India's climate contribution goals mean, and are they implementable?," *Economic Times*, October 23, 2015, <https://goo.gl/KAxN8l>

the concerns of domestic skeptics in India that countries like China and the U.S., whose historic emissions have been greater, would not take action. India has its own domestic imperatives for combatting climate change, but the future U.S. approach can affect India's options and the extent to which it can make the transition to using cleaner energy. Beyond potential U.S. withdrawal from the Paris agreement, Indian officials and analysts are

concerned about the implications for and of the U.S. not meeting commitments that it has made multilaterally and bilaterally to help India technologically and financially meet its targets.<sup>18</sup> There are other factors in play, of course, that will determine the impact such as whether or not private financing will be available and to what extent.

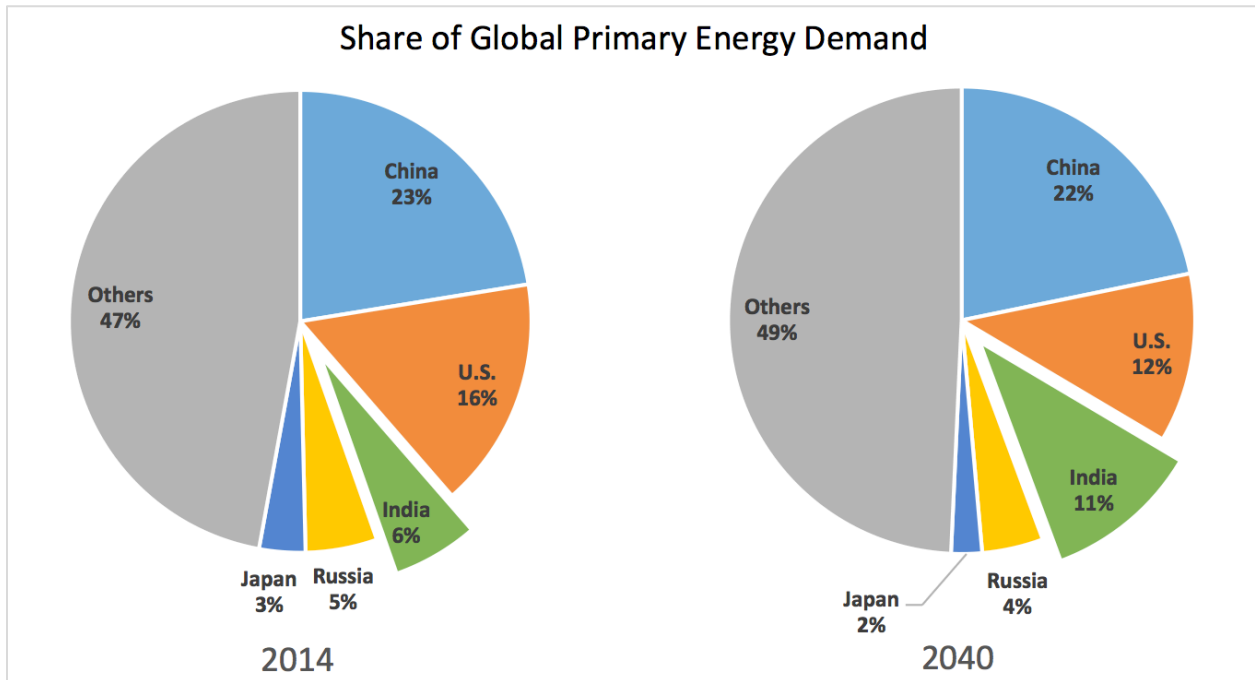
<sup>18</sup> The White House, "The United States and India – Moving Forward Together on Climate Change, Clean Energy, Energy Security, and the Environment," June 7, 2016, <http://go.wh.gov/tPXSx8>

**Figure 1**



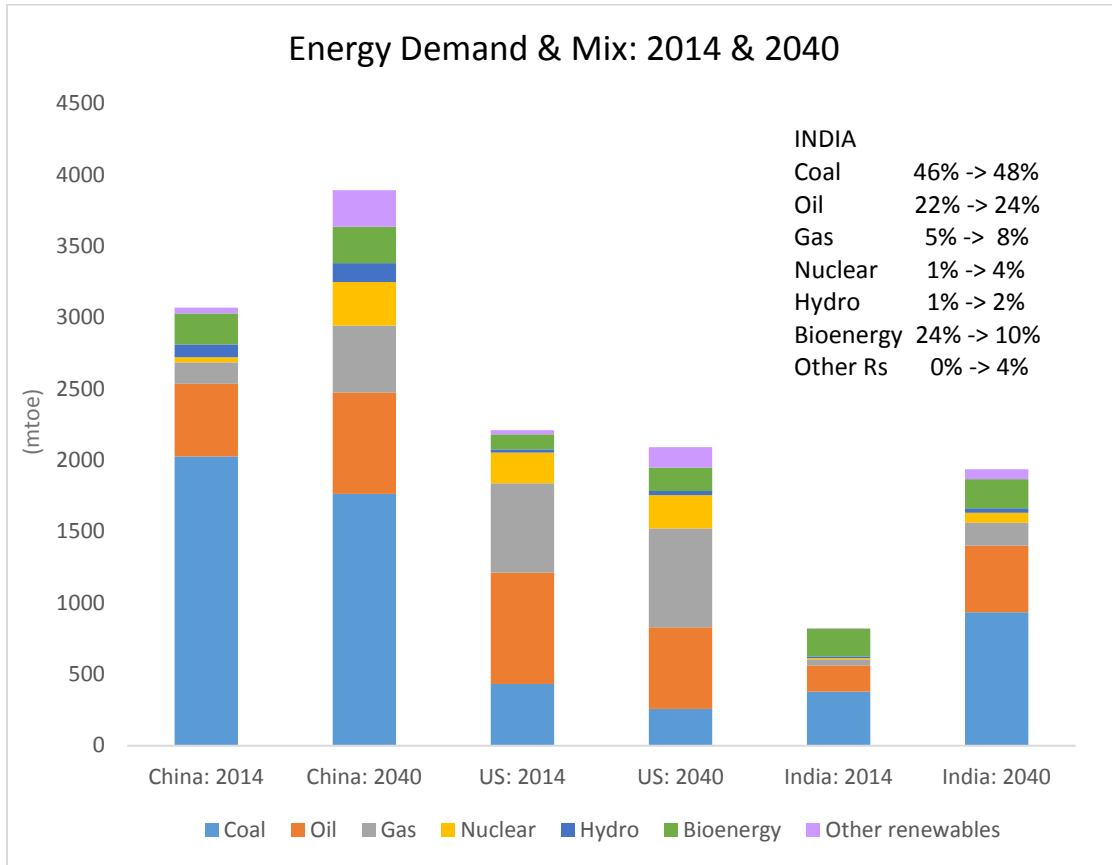
Data from: BP Statistical Review of World Energy 2016

**Figure 2**



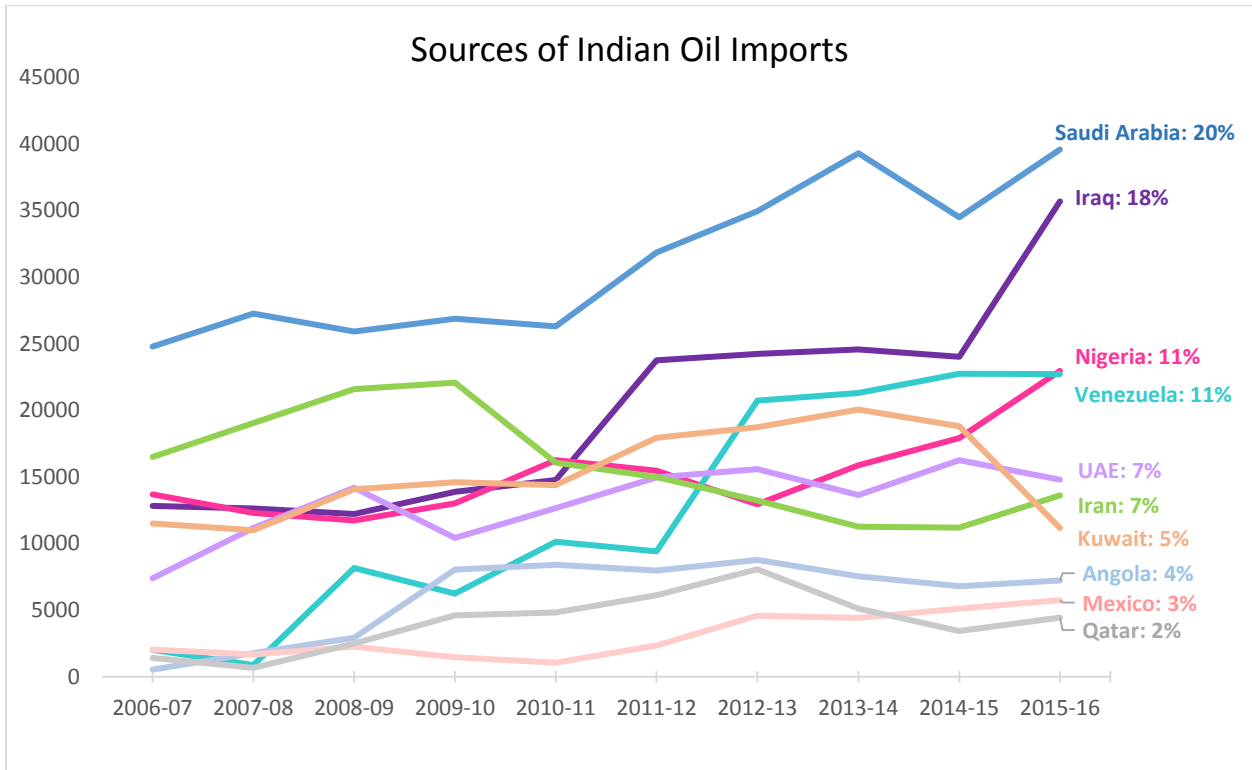
Data from: World Energy Outlook 2016

**Figure 3**



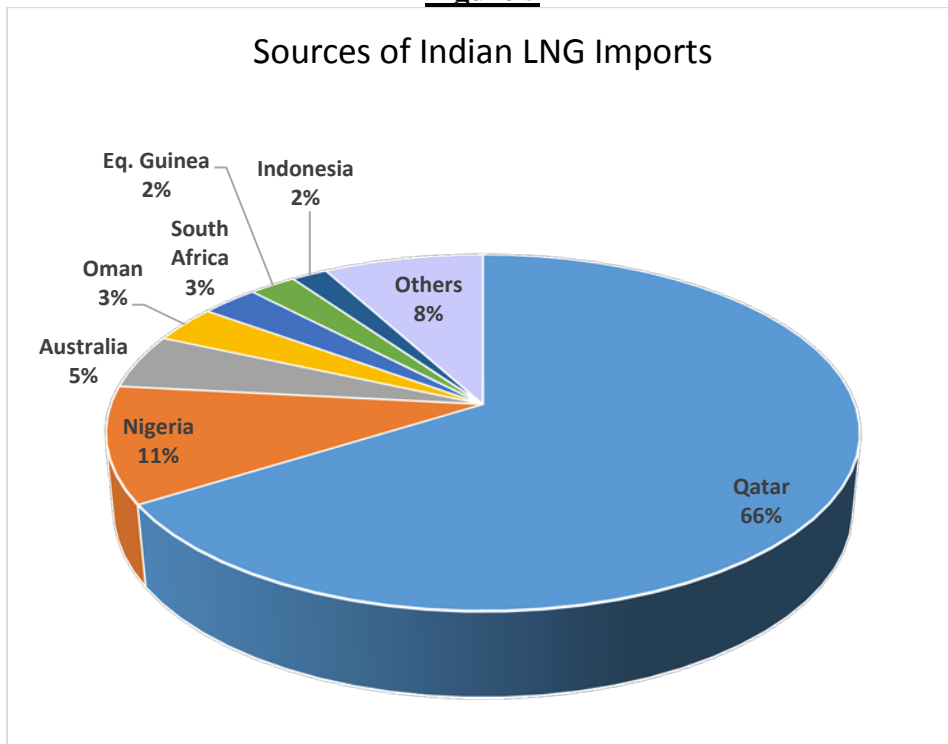
*Data from: World Energy Outlook 2016*

**Figure 4**



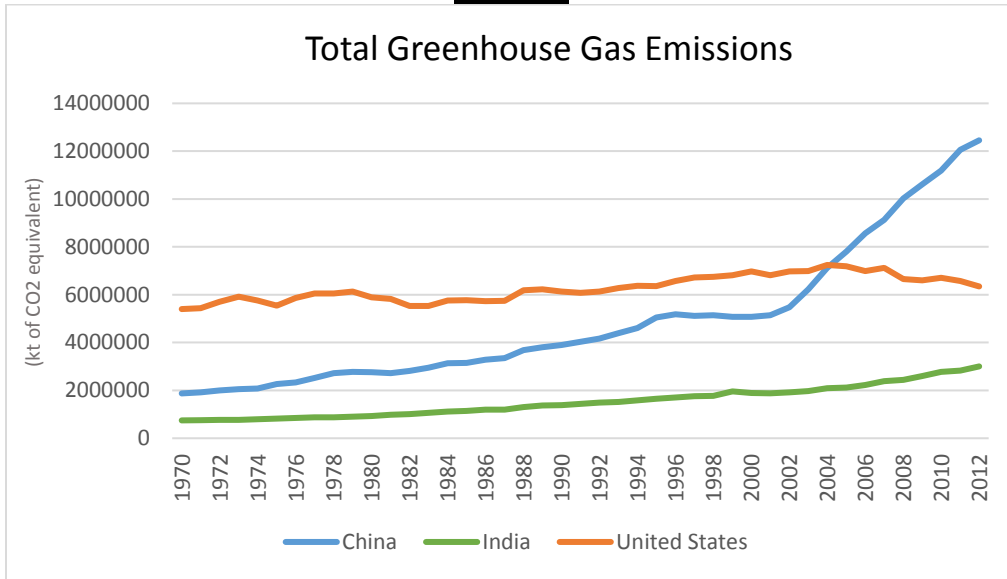
Data from: Indian Ministry of Commerce. Quantity in thousands.

**Figure 5**



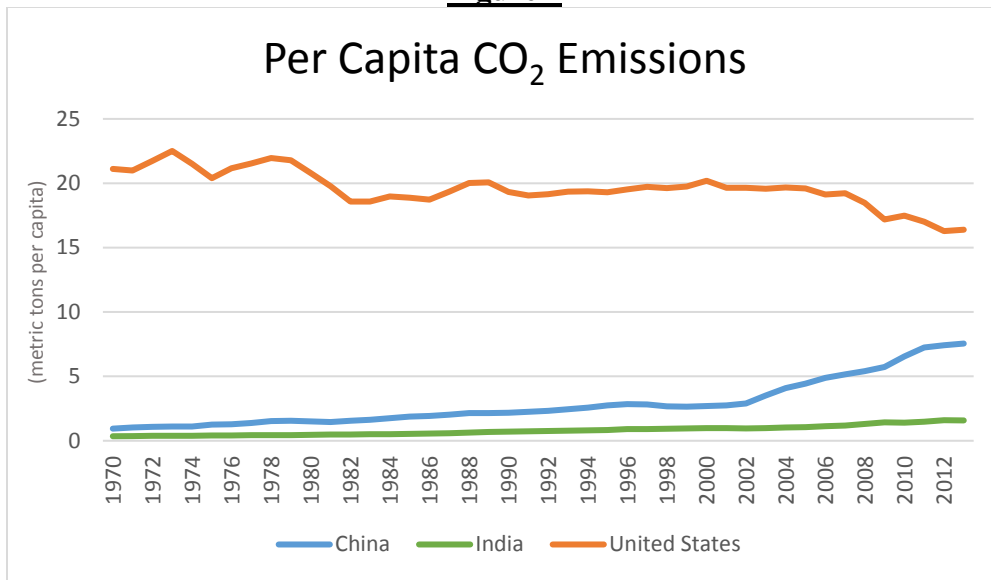
Data from: Indian Ministry of Commerce

**Figure 6**



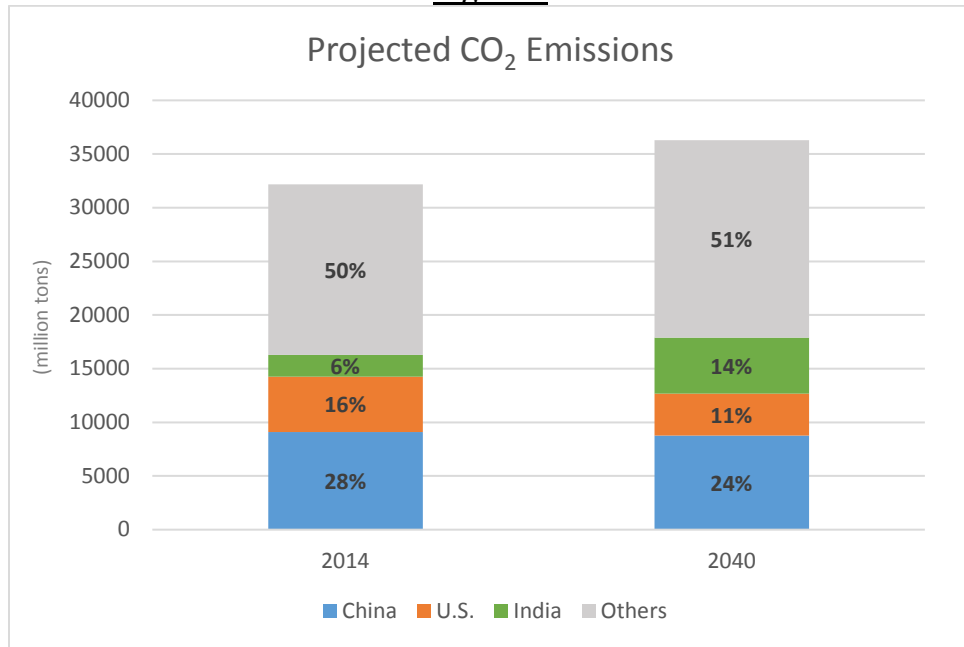
Data from: World Bank

**Figure 7**



Data from: World Bank

**Figure 8**



*Data from: World Energy Outlook 2016*





# India and the United States: A Defining Relationship for the 21<sup>st</sup> Century

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The Constitution of India, one of the nation's most treasured documents and the world's longest constitution including 395 original articles and 100 additional amendments,<sup>1</sup> begins with three words that resonate with the citizens of India, and are embraced by every American: "We the People."<sup>2</sup> Adapted by the Constituent Assembly in 1949 and implemented in 1950, the Constitution lays out the responsibilities of government and the rights of citizens, enshrining principles of liberty, equality, and justice. As both India and the United States work to deepen their important bilateral ties while simultaneously conquering economic obstacles that impede progress, both nations must look to these shared values defined in their respective constitutions to strengthen and grow this essential global partnership over the long term. In today's highly volatile and deeply uncertain world, this relationship is critical to world stability.

The Indian and American governments have some similar structures providing both impediments and opportunities for progress. As highly structured democracies with established bureaucracies, "gridlock" is a challenge and an excuse for both nations. This challenge can be compounded and multiplied when both countries grind through elections and experience significant domestic change. However, both systems also have very vibrant legislative branches, allowing them to build strong and lasting partnerships that can develop for years, even decades. These relationships between Members of the U.S. Congress and the Indian Parliament, the White House and the Prime Minister's office, along with the State Department and Indian Ministry of External Affairs, can lend momentum to these initiatives and have an indelible impact on this bilateral partnership. The

American presidential election, Indian state elections, and world trends toward populism and nationalism will test both sides' patience, yet there are many opportunities to strengthen it.

There are certainly many challenges to address. Our democracies are working as hard as possible to best serve their respective people, but both are faced with common problems of gridlock and partisanship. The issue of "governing" is exacerbated in India when considering the sheer size of the population (four times the size of the U.S.) and the subsequent issues the Modi administration is confronted with, including religious and economic diversity. Controversial issues such as labor reform, land reform, taxes on goods and services, and the demonetization initiative have generally resulted in incremental reforms, at least so far.<sup>3</sup> Even so, these modest reforms have achieved some symbolic and significant benefits for the population. Modi remains very popular. In terms of purchasing power parity, India is the third-largest GDP in the world and was the fastest-growing major economy in 2016, proving that it has come a very long way.<sup>4</sup>

The United States has been similarly hampered by severe gridlock that could get worse over the next 18 to 24 months with a government in transition and both parties digging their partisan trenches. With the new Trump Administration comes a new foreign policy strategy, and understanding how a Trump White House will approach India will be essential when projecting how the U.S.-India relationship is shaped for the next four years. Trump has mentioned that India will share a "phenomenal future" with the United States under his administration.<sup>5</sup> India could benefit

<sup>1</sup> The Constitution of India. [https://india.gov.in/sites/upload\\_files/npi/files/coi\\_contents.pdf](https://india.gov.in/sites/upload_files/npi/files/coi_contents.pdf).

<sup>2</sup> "Constitution of India," *Government of India*, <https://india.gov.in/my-government/constitution-india>.

<sup>3</sup> "India's Economic Long Game," *Stratfor*, December 19, 2016, <https://www.stratfor.com/analysis/indias-economic-long-game>.

<sup>4</sup> Doug Bandow, "Economic Reforms Lag, But Narendra Modi Still Has Time to Transform India," *Forbes*, December 27, 2016, <http://www.forbes.com/sites/dougbandow/2016/12/27/economic-reforms-lag-but-narendra-modi-still-has-time-to-transform-india/2/#6ccd71cc2f8d>.

<sup>5</sup> Radhika Iyengar, "Will India Stand to Gain from Donald Trump's Russia Policy," *The Indian Express*, January 12, 2017, <http://indianexpress.com/article/opinion/web-edits/will-india-stand-to-gain-from-donald-trumps-russia-policy/>.

from Trump's position on Russia, his tough stance on terrorism, and his philosophy of investing more in defense technology, cyber security, and the pharmaceutical industry. Trump's hawkish position on China is also likely to complicate India's geopolitical position in the region.<sup>6</sup> By focusing on improving the economic and business ties between both countries, India clearly has potential to work with the Trump Administration. There is already speculation that a Trump Administration will focus more on smoothing out the trade relationship, and thus concentrate less on human rights and religious freedom issues.

### National Security in an Insecure World

A top priority should be the close cooperation on Indian and American national security. Ensuring that the U.S. Department of Defense and the Indian Ministry of Defense, as well as the U.S. Department of State and the Indian Ministry of External Affairs, are collaborating closely and consistently is essential. Long-running joint training exercises have been a staple of the U.S.-Indian relationship and continue to strengthen and build both countries strategically and militarily. Former U.S. Defense Secretary Ash Carter was correct in his 2016 assertion that the U.S.-India defense partnership would become "an anchor of global security."<sup>7</sup> India and the United States are setting a gold standard for global security by tackling the most pressing issues that face the international community today, including counterterrorism operations, intelligence cooperation and cyber security issues. A strategic Dialogue on Homeland Security, started in 2010, should be reenergized and prioritized. Last year's annual bilateral exercise in the Chaubatia foothills (in India's state of Uttarakhand) focused on training military personnel for counterterrorism operations, which could be encountered during UN peacekeeping missions. Both American and Indian troops are trained to use state-of-the-art equipment and are prepared for tactical scenarios that are critical for the security of each nation in a heavily forested area at

altitudes of up to 8,000 feet, all within 100 kilometers of India's border with China.<sup>8</sup> On January 11, 2017, India's Computer Emergency Response Team under the Ministry of Electronics and Information Technology signed an agreement with the U.S. Department of Defense in order to renew cooperation in the field of cyber security. This strategic partnership will enable a closer exchange of information, help to establish rules and regulations regarding cyber security in both nations, and set international benchmarks for cyber policy.<sup>9</sup>

### Business and Trade: Frustration and Opportunity

Unfortunately, bilateral economic and business challenges, particularly trade, can be a major frustration in the relationship. American businesses have been deeply agitated for several years over issues concerning intellectual property, the drag of bureaucracy, endemic corruption, and the difficulty of establishing mutual agreements on trade.<sup>10</sup> As of 2016, goods from the U.S. exported to India faced an average applied tariff rate of over 13%, a rate 6 times higher than U.S. duties on Indian goods.<sup>11</sup> In the World Bank's ease of "Doing Business" ranking, India had progressed in the ranks from 2015 to 2016, falling from 142 to 130, but that progress stalled in 2017.<sup>12</sup> These challenges, to name a few, have slowed and muddled a substantial economic relationship that maintains incredible potential. Bilateral trade between India and the U.S. currently tops \$100 billion, but has the potential to be worth at least two or three times this amount if both countries can resolve some of the basic problems.<sup>13</sup> Given Mr. Trump's and Mr. Modi's business backgrounds, fixing some of these difficulties on trade should be at the top of both leaders' agendas. The new Administration's approach to trade policy may even mirror Prime Minister Modi's in that it might utilize economic diplomacy as an agent of state

<sup>6</sup> R. Jagannathan, "Five Reasons Why India Should Not Fear an Unpredictable Trump Presidency," *Swarajya*, January 12, 2017, <http://swarajyamag.com/world/five-reasons-why-india-should-not-fear-an-unpredictable-trump-presidency>.

<sup>7</sup> Tanvi Madan, "Experts Ki Rai: Tanvi Madan On US-India Defense Partnership," *South Asian Voices*, June 27, 2016, <https://southasianvoices.org/experts-ki-rai-tanvi-madan-on-us-india-defense-partnership/>

<sup>8</sup> Franz-Stefan Gady, "India and US Hold Joint Military Exercise near Chinese Border," *The Diplomat*, September 16, 2016, <http://thediplomat.com/2016/09/india-and-us-hold-joint-military-exercise-near-chinese-border/>.

<sup>9</sup> ET Bureau, "India, US Renew Agreement for Cyber Security Cooperation," *The Economic Times*, January 11, 2017, <http://economictimes.indiatimes.com/news/defence/india-us-renew-agreement-for-cyber-security-coordination/articleshow/56484102.cms>.

<sup>10</sup> Vicki Needham, "Frustration with India Mounts," *The Hill*, May 3, 2016, <http://thehill.com/policy/finance/278452-frustration-with-india-mounts>.

<sup>11</sup> Vicki Needham, "Frustration with India Mounts," *The Hill*, May 3, 2016, <http://thehill.com/policy/finance/278452-frustration-with-india-mounts>.

<sup>12</sup> Doug Bandow, "Economic Reforms Lag, But Narendra Modi Still Has Time to Transform India," *Forbes*, December 27, 2016, [Page #], accessed January 12, 2017, <http://www.forbes.com/sites/dougbandow/2016/12/27/economic-reforms-lag-but-narendra-modi-still-has-time-to-transform-india/2/#6ccd71cc2f8d>.

<sup>13</sup> U.S. State Department, *U.S.-India Commercial, Trade, and Economic Cooperation*, September 22, 2015, <https://www.state.gov/r/pa/prs/ps/2015/09/247174.htm>.

power to drive growth.<sup>14</sup> With Trump's position on "fair trade", he could even prioritize India as the paradigm for his new trade policy, insisting on a "win-win scenario" and making progress on sector-specific or a state-to-state model.

## Regional Foreign Policy Interests

Regional relationships in Asia continue to be challenging for both the United States and India. India and the United States have identified several areas of mutual interest and have cooperated in Afghanistan. Both nations have effectively partnered together to encourage more Indian participation in economic and commercial development in Afghanistan, as well as promoting some limited security initiatives. India played a critical role in maintaining regional stability by committing over \$2 billion in infrastructure, power, agriculture, health, and education to Afghanistan.<sup>15</sup> By contributing money and manpower on everything from building the \$90 million Afghan parliament building, advancing women's empowerment issues, and providing training in security concerns, India has invested as a critical partner in promoting the stabilization of Afghanistan and the region as a whole.<sup>16</sup> In fact, despite not having any direct borders with Afghanistan, India is the second largest destination for Afghan exports.<sup>17</sup> One specific example of U.S.-Indian cooperation in Afghanistan is the jointly operated "Afghan Women's Empowerment Program", which includes India's Self-Employed Women's Association (SEWA).<sup>18</sup> Through the program, over 3,000 women in Afghanistan have been trained in vocational and marketing skills to give them the tools to be independent economically.<sup>19</sup> A peaceful, prosperous, and stable Afghanistan is in the strategic interests of both India and the United States.

Pakistan also continues to be a delicate and difficult challenge for both India and the U.S. Terrorists continue to incite violence in the Kashmir region, killing Indian soldiers and increasingly straining relations between India and Pakistan. On January 9, 2017, three civilians were killed in a militant attack near the border in Kashmir. Cross-border attacks have escalated in recent months, wounding and killing civilians on both sides.<sup>20</sup> For the U.S., as the relationship with India has expanded and deepened, American ties with Pakistan have conversely focused and narrowed. The defense relationship between the U.S. and Pakistan has been limited and tense. Pakistan, by practicing strategic depth, has presented very difficult challenges for the U.S. in Afghanistan with the Taliban. Similarly, it has supported groups that have threatened India, such as the horrific 2008 Mumbai attacks that killed over 160 people and left more than 300 wounded.<sup>21</sup> Most recently, Pakistan's successful test-launch of a nuclear-capable cruise missile from a submarine, a first for the nation, has shown that this tension is likely to continue.<sup>22</sup>

This delicate relationship only becomes more complicated when considering the role China has played with regard to Pakistan. China has increasingly asserted itself into a myriad of issues facing Pakistan, ranging from nuclear energy to defense concerns and building sensitive new "security" infrastructure. China has been investing heavily in Pakistani infrastructure and committed nearly \$50 billion to the China-Pakistan Economic Corridor.<sup>23</sup> The development of the Gwadar port, a critical component of the China-Pakistani partnership, grants China strategic access to the Indian Ocean and Arabian Sea in a move that strengthens China's position both militarily and economically.<sup>24</sup> China has also sided openly with

<sup>14</sup> Daniel Twining, "Daniel Twining: Why Trump May Be A Net Gain For Asia," *Nikkei Asian Review*, January 19, 2016, <http://asia.nikkei.com/magazine/20170119/On-the-Cover/Daniel-Twining-Why-Trump-may-be-a-net-gain-for-Asia?page=1>

<sup>15</sup> Manik Suri, "U.S.-India Cooperation in Afghanistan," *Truman Center*, <http://trumancenter.org/doctrine-blog/u-s-india-cooperation-in-afghanistan-is-indias-strategic-autonomy-sustainable/>.

<sup>16</sup> "6 things to know about the India-Afghanistan relationship," *Business Standard*, January 4, 2016, [http://www.business-standard.com/article/economy-policy/5-things-to-know-about-the-india-afghanistan-relationship-116010400230\\_1.html](http://www.business-standard.com/article/economy-policy/5-things-to-know-about-the-india-afghanistan-relationship-116010400230_1.html).

<sup>17</sup> "6 things to know about the India-Afghanistan relationship," *Business Standard*, January 4, 2016, [http://www.business-standard.com/article/economy-policy/5-things-to-know-about-the-india-afghanistan-relationship-116010400230\\_1.html](http://www.business-standard.com/article/economy-policy/5-things-to-know-about-the-india-afghanistan-relationship-116010400230_1.html).

<sup>18</sup> USAID/India, *Gender Equality*, January 11, 2017, <https://www.usaid.gov/india/gender-equality>.

<sup>19</sup> USAID/India, *Gender Equality*, January 11, 2017, <https://www.usaid.gov/india/gender-equality>.

<sup>20</sup> Tommy Wilkes, "Militants Attack Construction Workers in Indian Kashmir, Kill Three," *Reuters*, January 9, 2017, <http://www.reuters.com/article/us-india-kashmir-idUSKBN14TODQ>.

<sup>21</sup> "Mumbai Terror Attacks Fast Facts," *CNN*, November 24, 2016, <http://www.cnn.com/2013/09/18/world/asia/mumbai-terror-attacks/>.

<sup>22</sup> Vasudevan Sridharan, "Pakistan Test-Fires Submarine-Launched Cruise Missile," *International Business Times*, January 10, 2017, <http://www.ibtimes.co.uk/pakistan-test-fires-submarine-launched-cruise-missile-1600166>.

<sup>23</sup> Abdur Rehman Shah, "Is China-Pakistan Economic Corridor a 21st Century East India Company," *The Diplomat*, November 11, 2016, <http://thediplomat.com/2016/11/is-the-china-pakistan-economic-corridor-a-21st-century-east-india-company/>.

<sup>24</sup> RSIS, "China's Strategic Access to Gwadar Port: Pivotal Position in Belt and Road – Analysis," *Eurasia Review*, January 6, 2017, <http://www.eurasiareview.com/06012017-chinas-strategic-access-to-gwadar-port-pivotal-position-in-belt-and-road-analysis/>.

Pakistan regarding the Kashmir border.<sup>25</sup> As India faces growing concerns about a China-Pakistan alliance, the U.S.-India security relationship has grown closer on a bilateral basis and on several worldwide issues.<sup>26</sup> Indian writer C. Raja Mohan summed up the relationship: “Washington says it wants to see India emerge as a great power; China seems to block India’s rise on the world stage.”<sup>27</sup>

### **Transnational Politics: Food, Water, Climate Security**

Internally, India continues to address challenges and seek solutions to a broad set of difficult issues. Namely, New Delhi must figure out how to consistently provide food security, sufficient energy, and stable job opportunities for an expanding population, which is rising at a rate of 1.2% and will overtake China by 2025.<sup>28</sup> India’s successes in the area of food security stem from its commitment to applying innovative and efficient solutions to agricultural challenges, including creative and cost-effective soil and water management techniques. The U.S. Agency for International Development (USAID) partners with the Indian Ministry of Agriculture to expand these innovations worldwide. Currently, more than 760,444 farmers in Africa and Asia are benefiting from the improved technologies and techniques introduced by USAID and India’s joint efforts.<sup>29</sup> By continuing to work together on this global front, the United States and India can improve food security not only within India itself, but worldwide.<sup>30</sup>

When addressing these regional challenges, it is important to underscore a critical geopolitical tenet: When India succeeds, the U.S. succeeds, and vice versa. As the most established pluralist democracy in the region, emphasizing the value of diversity, the independence of a free press, and the importance of

human rights, India’s success is of paramount importance to the U.S. and free people throughout Asia. India is a shining beacon of democracy to several nations in Asia. Both nations have recognized this fact, and have already been cooperating on many pressing policies to encourage freedom and prosperity.

Regarding the critical issue of climate change, the U.S. and India have more recently collaborated on methods to provide sustainable energy and create jobs for a growing population while preserving and protecting the environment. India has been a strong partner in the Clean Energy Ministerial, working to spearhead the transition to clean energy across the globe. India’s own domestic lighting program that included deploying over 100 million efficient LEDs was the inspiration for the CEM’s Global Lighting Challenge. In 2014, President Obama and Prime Minister Modi committed to a strategic partnership on energy security, clean energy, and combatting climate change. Both nations have taken serious steps towards expanding nuclear energy and accelerating the development of renewable energy sources.<sup>31</sup> Throughout his time in office, President Obama, with enthusiastic cooperation from Prime Minister Modi, expanded clean energy cooperation with India more than any prior American administration.<sup>32</sup> Together, the two nations recently agreed on the Paris climate accord where India displayed bold world leadership. India need not follow the U.S. climate model, or China’s for that matter, but should develop its own model, which combines steady job creation and growth with stewardship for protecting its sacred water and air.

India and the U.S. have agreed to a historic defense pact spanning ten years,<sup>33</sup> consistent homeland security dialogues,<sup>34</sup> and an open dialogue on the security of the Indian Ocean,<sup>35</sup> commonly supported

<sup>25</sup> Harsh V. Pant, "Rekindled Sino-Indian Tensions Roil Geopolitics in Asia," *Yale Global Online*, January 12, 2017, <http://yaleglobal.yale.edu/content/rekindled-sino-indian-tensions-roil-geopolitics-asia>.

<sup>26</sup> Panos Mourdoukoutas, "Pakistan Beats India, Again," *Forbes*, January 9, 2017, <http://www.forbes.com/sites/panosmourdoukoutas/2017/01/09/pakistan-beats-india-again/#72490137c1a9>.

<sup>27</sup> C. Raja Mohan, "Expand partnership with US, limit rifts with China," *The Indian Express*, January 2, 2017, <http://indianexpress.com/article/opinion/columns/expand-partnership-with-us-limit-rifts-with-china-4454936/>

<sup>28</sup> Worldometers, comp., *India Population*, <http://www.worldometers.info/world-population/india-population/>.

<sup>29</sup> USAID, *Our Work*, January 11, 2017, <https://www.usaid.gov/india/our-work>.

<sup>30</sup> USAID/India, *Food Security and Agriculture*, January 11, 2017, <https://www.usaid.gov/india/agriculture-and-food-security>.

<sup>31</sup> Office of the Press Secretary, The White House, *FACT SHEET: The United States and India – Moving Forward Together on Climate Change, Clean Energy, Energy Security, and the Environment*, June 7, 2016, <https://www.whitehouse.gov/the-press-office/2016/06/07/fact-sheet-united-states-and-india-%E2%80%93-moving-forward-together-climate>.

<sup>32</sup> Alyssa Ayres, "This Will Be Obama’s Legacy to U.S.-India Relations," *Fortune*, June 8, 2016, <http://fortune.com/2016/06/09/narendra-modi-visit-to-us/>

<sup>33</sup> Jim Garamone, "U.S., India Sign 10-Year Defense Framework Agreement," *U.S. DOD News*, June 4, 2015, <https://www.defense.gov/News/Article/Article/604775>.

<sup>34</sup> Office of the Spokesman, U.S. Department of State, *Joint Statement on the Second India-U.S. Strategic and Commercial Dialogue*, August 31, 2016, <https://www.state.gov/r/pa/prs/ps/2016/08/261405.htm>.

<sup>35</sup> Sanjeev Miglani, "Wary of China’s Indian Ocean activities, U.S., India discuss anti-submarine warfare," *Reuters*, May 2, 2016, <http://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>.

by general security interests and mutually recognized threats. Although Russia was the dominant defense supplier in the Cold War era, it has steadily lost market share to Western suppliers, with the United States superseding Russia as India's top weapons supplier by 2014. The United States now fluctuates between being India's first and second-largest supplier of defense equipment, with the value of U.S. deals exceeding \$4.4 billion over the last three years, dramatically increasing from a mere \$200 million before 2008.<sup>36</sup>

In the vitally important health sector, the United States and India have made great progress together. Through joint cooperation with USAID, the Government of India's Call to Action for a TB-Free India campaign has succeeded in boosting treatment success rates of tuberculosis to 87%. The Grand Challenges in TB Control Initiative, launched in part by the Bill and Melinda Gates Foundation, have presented awards to Indian innovators for their creative solutions to this epidemic.<sup>37</sup> Bilateral efforts by USAID and the Government of India have also succeeded in reducing the rate of new AIDS infections in the country by 32% since 2007.<sup>38</sup>

The U.S. and India have also made joint progress on the critical issues of access to potable water, quality health care, and affordable drugs. Prime Minister Modi has made access to clean drinking water a top priority in India, and USAID has been able to support this initiative by sharing best practices and working to establish efficient infrastructure.<sup>39</sup> USAID also works closely with state and local partners to improve standards of living and access to health services across the country, specifically targeting maternal and child health. Despite these impressive advancements, there is room for even greater success. Working directly at the village, city and state levels has been an important part of this progress.

### **New Initiatives in Health, Education and Smart Cities**

Cooperation between the two countries on education has also yielded significant successes. The

U.S. and India signed a bilateral agreement on education in 1950 that concentrated on cultural exchange.<sup>40</sup> In 2010, America and India agreed to the seminal Obama/Singh education initiative, fostering collaboration at the higher education level and with community colleges. Thanks to increased collaboration between Indian and American institutions, India ranks second among the countries sending the most students to study at American universities, with over 160,000 Indian students studying in the U.S. last year. This figure increased at an expedited pace during the Obama Administration, rising from 104,800 students during the 2008-2009 academic year.<sup>41</sup> These students bring their expertise to the U.S. and then take American ingenuity back to India when they return home.<sup>42</sup> India and the U.S. have since expanded on their joint education initiatives to address other challenges to improving education, including the development of vocational schools and training educators. The Government of India has worked with U.S. programs, including USAID, to increase financing for higher education in the country, improve literacy rates, advance opportunities for children with special needs, and provide teachers and administrators with skills training.<sup>43</sup>

Indian-American cooperation on infrastructure has led to crucial developments, particularly on Smart Cities. Originally established as part of the U.S.-India Strategic and Commercial Dialogue, the joint focus on Smart Cities is a critical example of how U.S. and Indian interests align when it comes to key priorities that push the world forward. The Government of India and the U.S. Commerce Department have worked together to develop urban infrastructure with regards to renewable and efficient energy use. India itself has proposed a program to build 100 Smart Cities nationwide—each equipped with the basic infrastructure needed to provide a high quality of life. U.S. companies are highly involved in the planning and technical development stages of these cutting-edge projects. The Smart Cities initiative therefore provides an opportunity for cooperation on all fronts and creates

<sup>36</sup> Franz-Stefan Gady, "Russia Remains India's Largest Arms Supplier (For Now)," *The Diplomat*, March 1, 2016, <http://thediplomat.com/2016/03/russia-remains-indias-largest-arms-supplier-for-now/>.

<sup>37</sup> USAID, *Tuberculosis in India*, December 16, 2016, <https://www.usaid.gov/what-we-do/global-health/tuberculosis/technical-areas/tuberculosis-india>.

<sup>38</sup> USAID, *Health*, January 11, 2017, <https://www.usaid.gov/india/health>.

<sup>39</sup> USAID, *Water and Sanitation*, January 11, 2017, <https://www.usaid.gov/india/water-and-sanitation>.

<sup>40</sup> Ministry of Human Resources Development, Government of India, "United States Educational Foundation in India," Government of India, last modified April 19, 2016, <http://mhrd.gov.in/international-cooperation-cell-8>.

<sup>41</sup> Institute of International Education, *Project Atlas*, 2016, <http://www.iie.org/Services/Project-Atlas/United-States/International-Students-In-US#.W1ePZIMrKpo>

<sup>42</sup> Shamika Ravi, "Strengthening India-US Relations through Higher Education," *Brookings*, January 20, 2015 <https://www.brookings.edu/opinions/strengthening-india-u-s-relations-through-higher-education-2/>.

<sup>43</sup> USAID, *Education*, January 11, 2017, <https://www.usaid.gov/india/education>.

a foundation for a sustainable future, not only for India, but for the world.<sup>44</sup>

### Targets of Opportunity

There are four areas where both sides could immediately work to find common ground and build on past success. First, defense and security cooperation has significantly increased at the bilateral level and could be expanded to trilateral and multilateral relationships with Australia, Singapore, Japan, and Malaysia. Second, the Indians should be included on more efforts worldwide to combat ISIS and international terrorism. Third, economic and trade issues need attention and solutions, and new sector or state-to-state agreements (the U.S. and India both have federalism systems) are worth exploring. Finally, education and health initiatives are driven by government agreements, but also people-to-people ties, social entrepreneurship, and philanthropic organizations. Our respective democracies can be even better aligned in these crucial areas.

While both Indian and American elections are subject to cycles of upheaval and transition, there are fundamental values that sustain this crucial bilateral relationship. These issues of defense, intelligence cooperation and counterterrorism have become deeply embedded in both American and Indian interests, and will only continue to grow in importance in this unpredictable world. People-to-people ties and student exchange programs will grow. Similarly, in a time of extreme climate change that will be defined by increasingly volatile weather events, cooperation on energy and food security will continue to bring both countries closer. These seminal challenges will ensure the continued cooperation of India and the United States moving forward in this time of electoral change and transition, securing shared values and common strategic interests. The rebalance to Asia begun by President Obama should not radically change under the new Administration, and will inevitably bring these two countries closer and closer together for the 21<sup>st</sup> century.

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<sup>44</sup> Arun M. Kumar, "India's Smart Cities Presents U.S. with a Unique Opportunity," *U.S. Commerce Department*, February 22, 2016, <https://www.commerce.gov/news/blog/2016/02/indias-smart-cities-presents-us-unique-opportunity>.

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# Polio's Eradication in India: A Remarkable Success Story with Global Implications

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## Overview:

India has not eradicated Polio. Not yet. Transmission of Wild Polio Virus has, however, not been reported for the last six years. The last case of Polio caused by Wild Polio virus had her onset on January 13, 2011. (See Box 1). Simply stated, eradication of polio will only happen when transmission of wild polio virus is stopped in each and every country and public health measures like vaccination against polio virus will no more be required; as in the case of Small Pox, which was eradicated in the late 1970s. In case of Polio, active transmission of Wild Polio virus continues in India's neighboring nations of Pakistan and Afghanistan.

Baby Rukhsar, resident of Howrah district of West Bengal, was the last polio case in India. She was 18 months old when she was paralyzed by polio on 13th January 2011. Although her two siblings received polio vaccinations, Rukhsar was often sick with diarrhea and despite encouragement from local health workers her parents had thought it was safer for her to avoid the vaccine.

The lessons from India's polio eradication initiative are still being studied--a dedicated workforce at every level of operation, massive community mobilization, respectful adherence to science, mid-course program correction, strong partnerships-- the list goes on. However, three elements have been unanimously accepted as game-changing in India's battle against the polio program. These three elements – Data, Innovations and Ownership – interestingly result in an acronym DIO or the District Immunization Officer – who was accountable for and steered the polio eradication program in the 680+ districts of the country.

One question that has often been asked is on the “mantra” that rallied a billion plus people to a common goal of Polio eradication in a country as large as India with unique diversities in terrain, culture and faith. Broadly there are four key factors that worked in bringing the nation to work towards one common cause. These are:

- 1) A strong sense of Nationalism
- 2) Partners Coordination
- 3) Social Mobilization
- 4) Program Management

Large number of Indians looked at Polio eradication as a goal of national pride. Average citizens volunteered to walk with health workers to every house to ensure that parents participated in the program. Local clubs and non-governmental organizations volunteered to spread awareness in the community on dates and venues of vaccination.

This was a program of the Government of India and not only of the Ministry of Health & Family Welfare. Various departments such as the Ministry of Education, Transport and Women & Child Development acted in seamless coordination at the lowest administrative unit, a block, to ensure that the program was conducted seamlessly.

UNICEF, with Rotary International and a multitude of local NGOs, conducted massive drives in communities for awareness and social mobilization. In addition to hired social mobilizers and field volunteers who received a small remuneration for their work, local youths acted as volunteers and applied innovative methods of communication that were suited to the local culture and faith. Temples and mosques used loudspeakers to rally communities for larger participation in the immunization program. A very critical intervention was made by roping in celebrities like Amitabh Bachchan, the Bollywood movie star who is a household name in India. Mr. Bachchan appealed to the community through mass media urging citizens to vaccinate every child for a Polio-free India.

The program assigned accountabilities. Workers were punished and rewarded for their actions at local levels. A plan that enabled a health worker to reach the remotest house in a village was prepared by the assigned health worker. The wisdom of the matured and learned blended well with the vitality and enthusiasm of the young to plan and execute the polio immunization drives.

The hallmark of India's immunization program is the rich partnership that the Ministry of Health and Family Welfare has with a range of agencies. These include UN agencies such as WHO, UNICEF; donors like Gavi (the Global Alliance for Vaccines and Immunizations); international agencies; and local institutions such as Public Health Foundation of India (PHFI) and the Indian Council of Medical Research (ICMR). India will, however, graduate from Gavi financing by end of 2021. Gavi's current support to India is on immunization systems strengthening and new vaccine introduction. India will have to allocate internal resources to meet the gap. A rough ball park estimate of resources for India's immunization program with current vaccines in 2017 is around \$17.7 million.

With success in stopping Polio transmission, India's public health program received a major boost with public celebration of the victory, international recognition of India's capacity and the "can do" attitude transforming overnight to a "will do" resolution. In 2014, the Prime Minister of India announced the launch of four new vaccines including the much awaited Rota vaccine, which was launched in 2016. The year also saw the launch of Inactivated Polio vaccine and Japanese Encephalitis vaccine for adults. Two new vaccines are planned for launch in 2017: Pneumococcal Conjugate Vaccine and Measles-Rubella vaccine.

With new vaccines the focus also needed to shift to coverage and equity. The Ministry of Health & Family Welfare has set a target of full immunization coverage of more than 90% of its annual birth cohort by 2020. The Ministry has also launched the world's largest routine immunization campaign program. This program, Mission Indradhanush (Mission Rainbow), targets all eligible children who have either been left out of the program or missed full immunization schedule.

Under the Global Measles and Rubella elimination plan, India is now actively pursuing the elimination of Measles by 2020.

This paper briefly touches only on program operations that led to stopping the transmission of Wild Polio Virus in the country. It is also worth mentioning that this paper does not do justice to the diversity and magnitude of innovation in product and technology that facilitated the battle against Wild Polio Virus in a large way.

## **A Summary of Major Events in Polio Eradication Efforts in India:**

### **1988: Call to Polio Eradication**

Following global eradication of Small Pox and after much deliberation in 1988 on the next target disease for eradication, World Health Assembly set a target of Polio eradication by 2000. India soon committed to the goal of Polio eradication.

### **1995: Pulse Polio Program**

Sporadic State initiatives for special immunization drives of children with polio vaccine took place in states such as Tamil Nadu, Kerala and Delhi in 1993-94. The first massive mass vaccination drive targeting all children in the country up to five years of age was taken in 1995. Two dates were identified in successive months for vaccinating all children in the target age group of birth to five years of age irrespective of their past history of vaccination with Oral Polio vaccine (OPV). This created a massive reservoir of vaccinated children. This was popularly called the “Pulse Polio” program; with meticulous planning, massive logistics arrangement, intense social mobilization and direct supervision at every level. The Pulse Polio program gained huge popularity rapidly and became a household name. About 170 million children are vaccinated every year in this ongoing program. It remains the largest public health campaign in the globe.

### **1996: Vaccine Vial Monitors**

The key to the massive campaign’s success was high coverage with high quality vaccine. This called for massive arrangements in cold chain - supply chain, community awareness and monitoring of the program. Vaccines need to be kept in a narrow temperature range from the point of manufacture to their use in an immunization session. This is called the “cold chain” which is crucial to vaccine supply chains. From the point of delivery of Oral Polio Vaccines in the community by a health worker, to the health worker and volunteer who carried the vaccine a specially designed carrier (Vaccine Carrier) with four frozen Ice Packs was used. One of the earliest technological interventions launched to test the cold chain status of the vaccine during transport and use was placing of Vaccine Vial Monitors<sup>i</sup> (VVM) to the label of each vaccine vial. Vaccinators were able to identify the cold chain status of each vial before and during its use by reading color changes in the marker on the vial. This empowered the vaccinator to decide on using or discarding the vaccine at any stage of its use. VVM was put in use in 1996.

### **1997: National Polio Surveillance Project**

In 1997, the Ministry of Health & Family Welfare and the Government of India in technical partnership with WHO launched the National Polio Surveillance Project (NPSP). In its first year, 50 NPSP units were set up across India to facilitate investigation of all cases of acute flaccid paralysis<sup>ii</sup> (AFP) that resembled polio in children below 15 years of age. Surveillance Medical Officers (SMO) worked jointly with District Immunization Officers to investigate all cases, collect and transport stool samples to designated laboratories and based on laboratory results help classify the cases as polio or non-polio AFP. Over the years, the number of NPSP units was rapidly increased to intensify surveillance. Today there are 279 NPSP units across the country.

With the identification of every case of AFP, a special immunization drive called, the Outbreak Response Immunization was launched to cover all eligible children in or near geographical proximity (a few villages encircling the village of the case) of the identified case. This was done within 72 hours of investigation of the case as a preemptive measure to prevent any possible transmission of the virus in the community.

### 1999: Last case of Wild Polio Virus Type 2

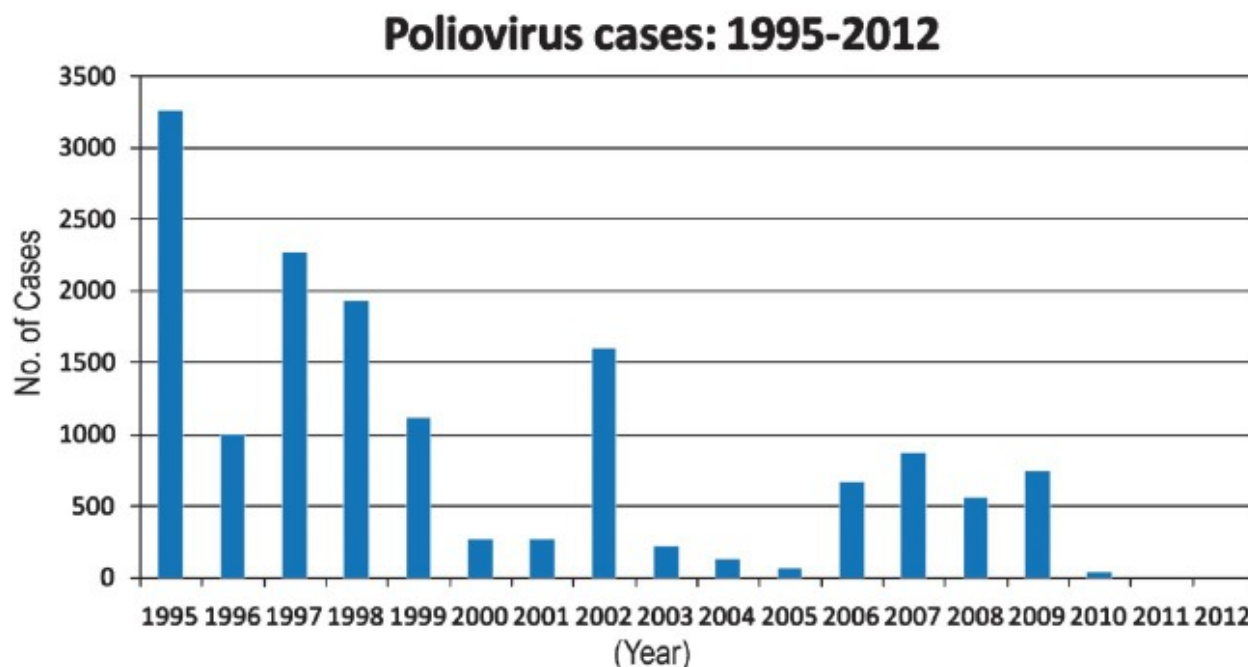
The first success of these strategic drives was obtained in stopping the transmission of Wild Polio Virus type 2 (WPV2). The last case of WPV2 was reported from Aligarh district of Uttar Pradesh in 1999.

### 1999-2002: Strategic interventions to improve the Pulse Polio program

The key to a successful Pulse Polio program was high coverage. In order to intensify the coverage, a house to house search for vaccinating any missed children was launched following the first day of the Pulse Polio program in 1999. This helped identify a large number of hitherto unvaccinated children who were either missed or whose parents had refused to vaccinate their child.

With steady gains being made in reducing the number of Wild Polio Virus cases in the face of massive immunization campaigns and an intensified surveillance, there was optimism in the air at the turn of the twenty-first century. However, in 2002, there was a sudden spike in the number of cases that called for review of program strategies.

Based on the above findings of a lack of information and misinformation about the polio vaccination drives in the community, UNICEF, in partnership with Rotary International, local non-governmental agencies, professional bodies such as the Indian Academy of Pediatricians, religious institutions and leaders and grass root level entities launched a massive social mobilization drive. A network of social mobilizers who were trained in the art of community engagement were deployed in the field to address concerns of the community and families and spread immunization information to the community. The Social Mobilization network was launched in 2002.



### 2003 -2011: Countdown to the last case of Wild Polio Virus case in India

With the last case of WPV2 recorded in 1999, it was necessary to focus more intensively on the remaining two strains WPV 1 and WPV 3. This resulted in use of bivalent Oral Polio Vaccine (consisting of type 1 and type 3) and monovalent OPV (consisting of type 1 or type 3) in the program. India first used monovalent OPV in April, 2005.

A key indicator to the impact of vaccination drives is the intensity of Wild Polio Virus transmission. With robust AFP surveillance reaching to every village in the country there was a high chance that every new case presenting with clinical symptoms and signs of polio would be detected. However, this did not mean that transmission of Wild Polio Virus had stopped. One of the most sensitive ways to detect Wild Polio Virus is to test samples of sewage collected randomly.

### Public Health Strategies for Polio Eradication

The Polio eradication program in India began with **four strategies** as outlined by the Global Polio Eradication Initiative:

1. High coverage of OPV in Routine Immunization (Universal Immunization Program);
2. Mass vaccination with OPV for all children up to 5 years of age (National Immunization Days/ Pulse Polio Immunization);
3. Acute Flaccid Paralysis Surveillance;
4. Mopping Up with OPV (end-game strategy when circulation of Wild Polio Virus would be limited to specific geographical areas).

The program relied on:

- 1) its sensitivity to rapidly identify any possible WPV circulation in the community;
- 2) its preparedness to immediately respond by mass vaccination with OPV to rapidly raise the immunity level of the vulnerable population and also flush out the possible WPV circulation with a wave (pulse) of attenuated vaccine virus. This latter strategy was known as “Outbreak Response Immunization – ORI;”
- 3) its ability to predict outcomes by rigorous monitoring and supervision of program activities and results.

While adhering to these core four public health strategies for polio eradication, it was soon realized by the Ministry and its partners that additional interventional strategies must be developed for better implementation of the program. This was based on the public health principle of having good data as evidence, leading to good decisions as public health policy, which would facilitate a good delivery (program).

### A) Good Data:

Good data for polio eradication had four attributes:

- (i) speed (from generation to delivery);
- (ii) accuracy (completeness and truthfulness of the information);
- (iii) interpretability (for public health action);
- (iv) scalability (for adaptation in multiple health settings across public and private sectors; varied state health systems).

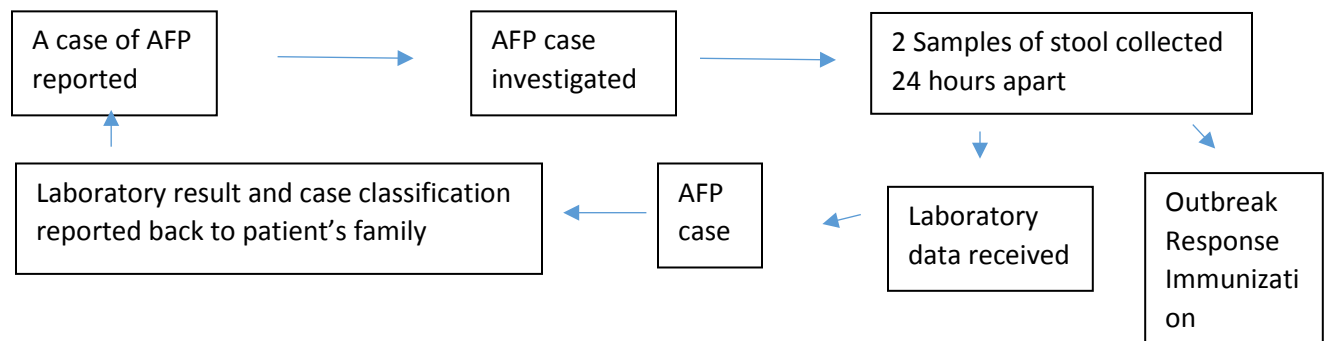


National Polio Surveillance Project (NPSP) – India addressed these above issues by putting in place multiple processes. Some of these are as below:

- (i) Posting Surveillance Medical Officers (SMOs) trained in global standard surveillance

- and public health programs across India to cover each and every district of the country to generate high quality data with speed from the remotest locations;
- (ii) Developing highly specific and sensitive indicators to capture speed and accuracy of the data;
  - (iii) Establishing a wide linked network of partners involving formal, semi-formal and informal sectors and building their capacity in reporting and investigating AFP cases;
  - (iv) Setting up accredited laboratories for isolation of WPV from stool samples of AFP cases;
  - (v) Establishing a robust monitoring and evaluation system for measuring progress;
  - (vi) Periodic field review of AFP surveillance program.

**Illustration of A Typical NPSP Unit Investigation of a Case of Acute Flaccid Paralysis (Illustration of good data flow):**



Quality of activity of a particular unit was assessed by indicators that were preset for each of the above activities. These indicators captured the speed (measured in hours), the accuracy (volume of stool collected; condition of ice packs in cold boxes as received by the laboratory) and the interpretability for action (case location; case classification).

**B) Good Decision:**

Good decision for Polio eradication had two attributes:

- (i) Evidence based;
- (ii) Action centric: interpretable for and followed up for action.

Initially a National body was set up at the Ministry of Health and Family Welfare to guide the program across the country. The unit was supported by technical partners such as WHO, UNICEF, CDC and Rotary International. Soon it was realized that in certain States such as Tamil Nadu and Kerala, with an advanced health system, local innovations had to be guided by State ownership. These States set up their own technical bodies at the State level, which with support of data recommended policies that could be adapted better locally.

The game changer, however, was setting up District Task Force (DTF) units in every district. The DTFs would take local decisions based on local data, allot resources for executing the decision and finally follow up actions rigorously.

A DTF was chaired by the District magistrate (DM) who was the senior most bureaucrat, convened by the Chief Medical Officer of Health and members included representatives of all government departments, partner agencies, professional associations and selected NGOs.

The advantage of having a DTF over the National and State level policy recommending units were:

- (i) **Accessibility:** The Chair of the DTF and the Convener were readily accessible by the agencies and implementers for support and guidance;
- (ii) **Flexibility:** While the DTFs had a mandate for achieving zero polio status in their respective districts by following National guidelines, it had the flexibility to meet and discuss any topic that would accelerate the activities;
- (iii) **Action oriented:** The Chair of the DTF was the highest administrative authority in the district. In addition, the DM also had the administrative power to allocate/ repurpose man, material and money resources across programs. (S)he had the authority to reward and punish departments and individuals for their action. The Chair also followed up on actions that were decided in the last meeting.
- (iv) **Ownership:** With the creation of the DTFs, the onus shifted towards the Districts to reach and maintain their zero-polio status. This local ownership fast -tracked action, monitoring and created urgency. The battle against Wild Polio Virus was no more being fought in a remote National or State capital but in every village of the district.

### C) Good Delivery:

Polio immunization programs were executed with support of good data. There are five hallmarks to polio vaccination campaigns (Pulse Polio Programs or National Immunization Days).

- (i) **Microplanning:** Detail planning down to every house in the remotest corners were mapped in hand drawn maps by health workers. These houses with the number of children eligible for vaccination were identified by a survey where the front line worker walked through the village plotting dwellings across walkable paths. In addition, this included route maps for physical delivery of vaccines and other logistics.
- (ii) **Accountability and Ownership:** The accountability of the program staff from national program managers to the front line workers was very high. With accountability came ownership. At the DTFs, problems were resolved locally and key individuals across multiple departments were made accountable for execution. For example, the director of the school education department was asked to ensure that teachers informed students about dates of National (and Sub-) Immunization Days (“NID”) for awareness and to bring their siblings at home and other eligible children in their neighborhood for vaccination.
- (iii) **Social Mobilization:** An army of field volunteers who spoke local dialect, were aware of local customs and practices were trained in delivering key messages to the community for improved participation in the program. The key tasks assigned to these community volunteers were for awareness and reminders for NID dates, active participation of community members in addressing challenges of left outs and resistant families; and confidence and trust building by frequent interactions. This initiative led to breaking resistance towards the vaccine owing to multiple causes ranging from compliance to multiple doses to fear of adverse events.
- (iv) **Monitoring:** One of the key interventions that led to success of the program was intense monitoring and mid-term corrections at every level based on the monitoring feedback. This ranged from poor quality of ice packs in the field, to absent staff to larger issues like vaccines that were no longer usable because of their long exposure to heat and light.
- (v) **Innovation:** The Polio Eradication program saw one of the finest innovations that were impromptu as well as well researched tools and processes. Crude and impromptu examples of innovations were made by front line workers to deliver vaccines to the farthest corners of the country, places where no health workers had ever set their feet before. These programmatic innovations were in means of transport, local adaptations of carriers of vaccines and in addressing resistant communities. But one of the most significant innovations was house marking that helped track left out children and houses. The finger nail markings on every child who had received a dose of the vaccine to alphabets marked on dwellings to identify the

status of vaccination of children living in the dwelling. As the program matured, the markings also reflected the cause of the failure to vaccinate children in the dwelling.

**P** – a house where all the eligible children have been vaccinated or there are no eligible children

**X** – house with some children who are not vaccinated

1. XS-sick,
2. XR-refusal,
3. XH-out of house and will return within campaign period,
4. XV- out of house but will return after the campaign period,
5. XL-house is locked

### **Sustaining the Polio-Free State in India:**

India continues to maintain a deep focus on its goal to maintain a polio free status. The country has adopted bivalent Oral Polio Vaccine (bOPV) in its routine immunization schedule and mass vaccination campaigns. In addition, a dose of injectable Inactivated Polio vaccine has been introduced in the national Immunization schedule at 14 weeks of age. These immunization programs will be sustained until global polio eradication is reached.

The network and sensitivity of AFP surveillance has been further enhanced to capture any form of polio virus transmission. India has also adopted policies for vaccinating travelers to and from polio endemic regions.

The Government of India has offered and extended its support to help stop transmission of polio virus in remaining endemic countries. SMOs have travelled to Africa and other places to help local program staff in their polio eradication initiative.

The country today is gearing up for an exciting journey in a polio free world. A journey that will drive towards measles elimination, introduction of new and critical vaccines and finally transition of the current polio assets to enrich India's public health systems.

<sup>i</sup> VVM – A vaccine vial monitor (VVM) is a label containing a heat sensitive material which is placed on a vaccine vial to register cumulative heat exposure over time.

<sup>ii</sup> AFP – Acute Flaccid Paralysis. Acute flaccid paralysis is defined as sudden onset of weakness and floppiness in any part of the body in a child < 15 years of age or paralysis in a person of any age in whom polio is suspected.



# From Estranged to Engaged Democracies: India and the United States in South Asia

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Until the 1950s, the United States was one of the greatest supporters of Indian independence and of its strategic importance in Asia. Clashing geopolitical alignments after the late 1960s determined an estrangement that led to occasional conflict and confrontation. While the world's oldest and largest democracies always shared a commitment to political freedom and saw their open societies and political systems as a long-term advantage to domestic stability and economic growth, they gradually drifted apart and became estranged. The 2000s opened a new era of engagement, in which the language of democratic values resurfaced as a key driver of their relationship. As "natural allies," Washington and New Delhi have thus initiated a frank conversation on strategic developments in South Asia, whether on Nepal, Sri Lanka or Myanmar/Burma. As the region witnesses an unprecedented wave of democratization, such a dialogue has often focused on the implications of greater political freedom to their security and economic interests. This paper argues that India is now more open than ever to consult and cooperate with the United States on delivering democracy assistance to third countries in the region. It begins by putting India's traditional reluctance to promote democracy abroad in context, then proceeds to explain why New Delhi is more open to do so today, and finalizes with recommendations on four areas in which the United States and India can work together to support democratization across South Asia.

## India as a Proud, Weak and Isolated Democracy

Just a few decades ago, many Westerners dismissed India as another failed state or questioned the sustainability of its future existence. Scholarly debates then centered not on *how* or *why*, but *whether* India would be able to succeed at all: Would its democratic system succumb to authoritarianism, military rule, or ethnic fragmentation and political chaos? Would it be able to sustain its moderate "Hindu rate of growth," wavering around 3%, despite economic isolationism and autarky, and still avoid mass famines? Would it be able to defend itself externally against Pakistan and China, and internally against insurgent secessionism or Communism?

After the 1990s, as India embraced economic reforms, such gloom quickly morphed into the opposite extreme of glorification: India was suddenly surging as a "superpower," seemingly ready to conquer the world, and thus drawing new interest from Western scholars, strategists, and entrepreneurs. An extraordinary amount of hopes and demands have, since then, been deposited on India. As a "rising power," it is constantly beckoned to play the role of a more "responsible stakeholder" in the liberal order.<sup>1</sup> India is now asked to build and protect "public goods," whether by stabilizing Afghanistan, combating climate change, negotiating multilateral frameworks, or protecting freedom of navigation and other "global commons."<sup>2</sup>

Between the lines of such great expectations lies the suggestion that India has been freeriding on this open system and that it must start investing in it to

<sup>1</sup> The phrase was first used by U.S. Deputy Secretary of State, R. Zoellick, in 2005, referring to China.

<sup>2</sup> For example, on climate change, see Stewart Patrick, "Irresponsible Stakeholders? The Difficulty of Integrating Rising Powers," *Foreign Affairs* 89, no. 6 (2010).

earn the due returns. India “can”, “must”, and “should:” this is how many Western policy briefs begin, generally setting out a list of tasks for the country’s foreign policy to embrace its “global responsibility.” Such demands have been particularly prevalent in the United States’ and European liberal internationalist agenda since the end of the Cold War, whether on promoting democracy, applying sanctions on authoritarian regimes, or the humanitarian principle of the Responsibility to Protect (R2P).

After the 1990s, as they suddenly discovered India as a liberal democracy and “natural ally” in Asia, Americans and Europeans thus often expected India to automatically jump on the moral bandwagon of human rights and democracy promotion worldwide.<sup>3</sup> When New Delhi either repeatedly excused itself from joining, or in some cases also actively opposed such initiatives—whether on Iraq, Afghanistan, Iran, Burma, Cuba, Libya or Syria—Washington was often left puzzled or fuming: how could a liberal democracy refuse to join such benign initiatives? What was “wrong” with India? Whether driven by geopolitical interests or by genuine liberal sentiments, such great hopes, expectations and demands deposited on India will continue to face disappointment until they recognize the country’s particular history, capacity and location.

First, in terms of its history and culture, India is at least as democratic as its Western peers, but its democracy is a *colonial* legacy and it is *Indian*. Since 1947, this democratic experience has survived a variety of challenges, including Indira Gandhi’s emergency rule in the 1970s, chronic under-development, complex coalition politics, massive political mobilization of the lower castes, cyclical bursts of communal violence, and a myriad of separatist and other insurgencies. India is now the world’s largest democracy: 814 million voters enrolled during its last general election, in 2014, with an average voter turnout that is above most Western peers. India is also the largest democracy in

the world, with almost as many registered votes as those in all of its peers taken together.

Not surprisingly, India’s state identity is therefore also profoundly exceptionalist, based on the perception that it offers a democratic model for other post-colonial, non-Western, and developing countries. In a recent overview, scholar Perry Andersen offered a summary of this exceptionalism: former Prime Minister M. Singh notes that India’s struggle for independence has “no parallel in history,” culminating in a constitution that is “the boldest statement ever of social democracy” and economist Amartya Sen calls India “especially fortunate” in its millennial traditions of “public arguments, with toleration of intellectual heterodoxy.”<sup>4</sup>

Second, despite rapid growth rates since 1991, in terms of state capacity and as a developing economy India, however, still lags far behind its democratic peers. Political economist Milan Vaishnav has shown, for example, how India has been consistently outperformed by most (sometimes even all) of its peers, both democratic and undemocratic, on indicators such as per capita public sector employment, total tax revenue as percentage of Gross Domestic Product (GDP), judicial enforcement of contracts, per capita police officers, or healthcare worker density.<sup>5</sup>

Among more than one hundred low-income developing countries, India will rank comparatively well, just below the median. But rather than comparing it to the 15 worst countries in terms of state capability, including Myanmar and Afghanistan, India’s limitations are only exposed when pitted against its geopolitical peers, especially other powers with regional or global ambitions. In this perspective, at the current pace, it would require India 63 and 116 years, respectively, to reach Singapore’s present levels of government effectiveness and resource efficiency.<sup>6</sup> On the *State Fragility Index* over the last twenty years, except for

<sup>3</sup> Robert Blackwill, “Why is India America’s Natural Ally?,” *The National Interest* (2005).

<sup>4</sup> Quotes from P. Anderson, “Gandhi Centre Stage,” *London Review of Books* 34, no. 13 (2012).

<sup>5</sup> Milan Vaishnav, “Five Truths about India,” *Carnegie Endowment for International Peace*, Nov. 2, 2012: <http://www.carnegieendowment.org/2012/11/02/five-truths-about-india/>.

<sup>6</sup> L. Pritchett et al., “Capability traps? The mechanisms of persistent implementation failure,” *Center for Global Development Working Paper*, no. 234 (2010): 17.

Nigeria, the Indian state's fragility is exceptional among democratic peers, including Indonesia and Mexico.<sup>7</sup>

Third, at the geographic level, India's geographic environment is marked by a high concentration of illiberal regimes and a formidable set of security challenges. India is an isolated democracy situated in a volatile context marked by high levels of internal and external conflict. In 2013, according to the *Freedom House Index*, India was the only "free" state in South Asia and exclusively surrounded by "partially free" or "unfree" states. New Delhi's geographically closest free capitals were Ulan Bator (Mongolia), Jakarta (Indonesia) and Tel Aviv (Israel).<sup>8</sup> Only in 2015, for the first time since its independence, could India afford the liberal luxury of facing democratically elected governments in all of its neighboring countries.

Besides isolation, democratic India is also located in one of the world's most unstable and insecure regions, with a variety of internal and inter-state conflicts. According to the *Global Peace Index* for 2012, for example, Southern Asia was the world's third least peaceful region.<sup>9</sup> And in the 2011 *State Fragility Index*, only three extremely or highly fragile states were located outside Africa and the Middle East, all of which are India's neighboring states (Afghanistan, Pakistan, Myanmar).<sup>10</sup> South Asia today remains one of the world's most conflict-torn regions.<sup>11</sup>

### **India's New Exceptionalism and Democratic Confidence**

The three caveats above explain why despite being a proud democracy, India has not always supported U.S. efforts to promote democracy and political or economic freedoms abroad. The historical legacy of colonialism, limited state capacity, and a profoundly illiberal, unstable and often also hostile regional security environment in South Asia have, for many decades, hindered the

Indian government's capacity to openly associate with, and pursue a foreign policy agenda that promoted democracy, human rights, and freedom.

While the importance of democracy always informed Indian thinking, there are indications, however, that it has grown stronger with time as its political system survived and thrived. Indian leaders have thus made increasingly bold statements in favor of liberal democracy, human rights and political freedom. In 2006, for example, former Prime Minister M. Singh emphasized:

*When we look at our extended neighbourhood we cannot but be struck by the fact that India is the only open pluralistic democratic society and rapidly modernizing market economy between the Mediterranean and the Pacific. This places a special responsibility upon us not only in the defence of our values but also in the search for a peaceful periphery.<sup>12</sup>*

India's quasi-federal and parliamentary democracy is thus seen as the best—and often also the only feasible—state-building strategy to peacefully govern a large population marked by extraordinary diversity.<sup>13</sup> Beyond formal, institutional, legal or procedural criteria, Indian officials further tend to emphasize the substantive and liberal dimension of Indian democracy, in that it seeks to integrate minorities through the politics of inclusion and, conversely, reject the politics of majoritarian exclusion—whether based on ethnicity, language, class, caste, ideology, religion or any other differentiating denominator. India's principled defense of democracy abroad is therefore anchored in its own experience, underlining the causal benefits of a liberal regime as the most effective political system to address the specific challenges faced by South Asia's developing, diverse and post-colonial countries.

<sup>7</sup> *Center for Systemic Peace*: <http://www.systemicpeace.org/SFI/matrix2011c.pdf>.

<sup>8</sup> See the full index for 2013 at <http://www.freedomhouse.org/regions/asia-pacific>.

<sup>9</sup> Data compiled from the Global Peace Index for South Asia: <http://www.visionofhumanity.org/gpi-data/>.

<sup>10</sup> <http://www.systemicpeace.org/SFI/matrix2011c.pdf>.

<sup>11</sup> See <http://www.systemicpeace.org/conflict.htm#regcon>.

<sup>12</sup> Oct. 18 at the Combined Commanders' Conference, quoted in Baru, *Accidental PM*, 169.

<sup>13</sup> See Kohli, *The success of India's democracy*.

The rising confidence with which Indian leaders now express their support for liberal democracy abroad is anchored in their recognition that India survived and thrived not in spite of, but because of this regime type. Particularly following the collapse of the Soviet Union, Indian leaders therefore started to boldly characterize liberal democracy as an inevitable system for all countries, as reflected in Prime Minister A. B. Vajpayee's speech on the occasion of the celebration of the Indian parliament's golden jubilee, in 2003:

*Just as the international community has cherished India's successes along the path of democratic development since our Independence, we too have greatly valued the victorious march of democracy around the globe. The closing decades of the last century have seen totalitarian systems collapse. The dogmas that sustained dictatorships of various stripes, and advertised their superiority over democracy in development and human welfare, have crumbled. Coups, bloody power struggles and military take-overs have come to be seen as anathema to the ethos of our times.*<sup>14</sup>

India was now seen to have led the way in the "victorious march of democracy" worldwide. Reflecting such rising self-confidence and driven by a geopolitical rapprochement with the United States, India in the 2000s joined a variety of multilateral initiatives.

In February 1999, the U.S. government-funded National Endowment for Democracy organized an international conference on "Building a Worldwide Movement for Democracy," in New Delhi, leading to the foundation of the "World Movement for Democracy," which was attended by the Prime Minister A. B. Vajpayee. In June 2000, India along with the United States became one of eight co-founders of the Community of Democracies, later also joining its Democracy Caucus. Finally, in July

2005, a joint proposal from India and the United States led to the creation of the United Nations Democracy Fund, of which New Delhi became a top contributor in subsequent years.

Similarly, the Indian government also began to shape its foreign policy to promote greater international dialogue on specific issues such as multi-party parliamentary procedures, managing free electoral systems, or decentralization through competitive federalism.<sup>15</sup> No longer seeing their democratic system as a burden or anomaly, Indian leaders began to refer to it as a superior and inevitable form of government for all countries.

In 2005, for example, Prime Minister M. Singh thus noted that "liberal democracy is the natural order of political organization in today's world" and that "all alternate systems, authoritarian and majoritarian in varying degrees, are an aberration."<sup>16</sup> One year later, while addressing Parliament, he further emphasized that "all nations of the world ... will one day function on these very principles of liberal and pluralistic democracy."<sup>17</sup>

Similarly, such rising self-confidence is facilitating the development of new strategic narratives, as testified by the current Prime Minister N. Modi's unprecedented emphasis on India's contribution to the two world wars "for the ideals of freedom and democracy."<sup>18</sup> Modi was also the first Indian Prime Minister to visit a World War I memorial, in France (2015), and the Arlington National Cemetery, in the United States (2016).

### **India and the United States in South Asia: From Confrontation towards Cooperation**

After the late 1960s, as India began to pivot towards the Soviet Union and the United States normalized with China, the world's oldest and largest democracies became estranged. Over the next twenty years, and sometimes well into the 1990s, this led to a conflicted relationship, which was most

<sup>14</sup> Jan. 22, 2003: <http://archivepmo.nic.in/abv/speech-details.php?nodeid=9009>.

<sup>15</sup> E.g. in 2007, the Indian government hosted the 4<sup>th</sup> international conference on federalism, for the first time in Asia, and in 2011 its Electoral Commission instituted the India International Institute of Democracy and Election Management: [http://eci.nic.in/eci\\_main1/current/IIIDEM\\_Project\\_Document.pdf](http://eci.nic.in/eci_main1/current/IIIDEM_Project_Document.pdf).

<sup>16</sup> Feb. 25, 2005: [http://archivepmo.nic.in/drmanmohansingh/content\\_print.php?nodeid=73&nodetype=2](http://archivepmo.nic.in/drmanmohansingh/content_print.php?nodeid=73&nodetype=2).

<sup>17</sup> May, 12, 2006: quoted in Baru, *Accidental PM*, 172.

<sup>18</sup> <http://pib.nic.in/newsite/PrintRelease.aspx?relid=146076>.

apparent in South Asia, where Washington remained neutral in word, but aligned with Pakistan in deed.

Beyond the Indo-Pakistani dispute, New Delhi also saw any type of American presence in its regional neighborhood with suspicion. Often attributed to ideological factors, such Indian mistrust was, in practice, driven by geostrategic and security considerations. As New Delhi tried to preserve its role as a predominant regional power inherited from the British colonial government, the *Raj*. As South Asia's hegemon, India thus often adopted a policy of confrontation, seeking to exclude or limit the diplomatic, economic or military influence of the United States. These objectives were akin to the United States' Monroe doctrine, in the 19<sup>th</sup> century.

In Nepal, for example, in the mid-1950s, Prime Minister Nehru therefore objected to the opening of an American diplomatic mission and pressured the Nepalese government not to accept American development assistance. And in Sri Lanka, in the 1980s, Indian decision-makers opposed any type of American involvement and security assistance to President J. R. Jayewardene's attempts to modernize the armed forces and launch a military offensive against the Tamil secessionist insurgency.

As the United States and India engaged in a bold strategic rapprochement, after 2005, which culminated in the civil nuclear cooperation agreement of 2008, a new phase of Indo-American conversation on the region began. For decades, American and Indian diplomats had learned to avoid discussing the internal affairs of India's neighboring states, Washington implicitly acknowledging that they were under India's exclusive or preponderant sphere of influence. The normalization of the 2000s, however, brought unprecedented change, as American and Indian officials began an open and frank conversation about Nepal, Sri Lanka, or Myanmar (Burma), among other countries in the region. Such dialogue did not always lead to common positions but, for the first time, Washington and New Delhi exchanged views and assessments on South Asia.

In Nepal, for example, the United States and India were both on the same page—and regularly consulted each other—on the importance of re-establishing multi-party democracy even while they disagreed on whether the Maoist insurgents could be

trusted to disarm and peacefully reform to join the electoral process. In Sri Lanka, on the other hand, India and the United States were closely in touch since the early 2000s, both during the peace process—which eventually failed—and during the final military offensive that defeated the Tamil insurgents. Finally, in Myanmar, while the long-term views of both New Delhi and Washington converged around the need to reform the military regime to ensure domestic stability and reduce Chinese leverage, they disagreed on the effectiveness of sanctions and other forms of external pressure.

Over the last few years, as a result of several years of such frank conversations and pragmatic agreements to disagree when positions were irreconcilable, there have been growing indications of a third phase, in which Washington and New Delhi have also coordinated their respective policies. Beyond just sharing assessments, especially on China's rising economic and strategic influence across South Asia, American and Indian officials have occasionally aligned their positions in order to increase their leverage over some governments in the region.

This is the case of the Maldives, where the U.S. has taken a more proactive stance to denounce human rights abuses and creeping authoritarianism, in tandem with New Delhi's wait-and-see approach privileging engagement. Similarly, on the operations level, Washington has often emphasized the importance of letting India "take the lead" in terms of crisis response or humanitarian disaster relief, as during the Nepal earthquake of 2015. Such coordination has dramatically reduced the scope for conflict and mutual recrimination, so frequent before the 2000s, when the Indian government often overreacted to America's lingering "foreign hand" in the region and, on the other hand, the U.S. neglected India's regional security concerns in order to play its global game.

From confrontation to conversation and coordination, the India-United States relationship in South Asia is now ripe to move onwards to practical cooperation. In the 21<sup>st</sup> century of complex economic interdependence and new communication technologies, there are no longer zones of exclusive geopolitical influence, as the U.S. enjoyed across much of the American continent and India across much of its South Asian subcontinent. If

Washington and New Delhi are serious about minimizing China's massive inroads into the neighborhood and about strengthening democratic peace, stability and growth in the region, they will have to start pooling efforts and work together to achieve common objectives. To move towards greater cooperation in South Asia, the U.S. and India must now emphasize the importance of democratic governance and political freedom to promote regional security and stability, to mitigate ethnic conflicts, to pre-empt radicalization and extremism, and to sustain economic growth.

First, the U.S. and India must cooperate to set up strong sectoral dialogues to discuss how best to promote democratic governance and evaluate its impact across South Asia. Beyond just promoting "human rights" as an article of faith, how can democratic governments foster a rules-based order to protect their citizen's privacy, to integrate minorities and refugees, or to mediate religious and ethnic conflict? Similarly, at the external level, can democratic governments work more closely on promoting a liberal and institutional order that respects existing legal mechanisms, for example on freedom of navigation, and that designs new mechanisms to better regulate global commons such as the cyber, space or nuclear domains?

For this to work, Washington will have to be less prescriptive and New Delhi more receptive. More importantly, rather than fighting it out on a human rights resolution at the United Nations in Geneva, the U.S. and India will have to build on existing multilateral mechanisms such as the UN Democracy Fund or the Community of Democracies. Washington and New Delhi should also develop more trilateral initiatives with "like-minded" countries on these issues, including the European Union, Japan, and Australia, and develop joint projects in countries of the region.

Second, Washington and New Delhi can cooperate on democracy assistance, pooling their resources and expertise on supporting democracies in the region that are going through complex transitions. Such institutional support is crucial in South Asia at this time. Afghanistan is still struggling with basic challenges to expand its state capacity and offer a democratic alternative to Taliban extremism. Nepal's new federal constitution is witnessing a protracted and conflicted

implementation phase, facing opposition from various minorities. Sri Lanka is in the process of designing a new constitution and developing conflict resolution mechanisms to heal the wounds of thirty years of civil war. The Maldives is undergoing rapid socio-economic change and witnessing a volatile political situation rooted in deep constitutional and legal disputes. Bangladesh's current political stability, in turn, hides a creeping constitutional crisis and rising extremism that may plunge the country into crisis during its next elections, in 2018-19. Finally, Myanmar is embracing an uncertain process of political reform and requires all possible assistance to return to the democratic rule it last enjoyed more than half a century ago.

India's experience in conducting elections, in managing parliamentary procedures, and in developing legal and institutional frameworks to regulate a free media and civil society, is of great value to some of its neighbors. While still hesitant to "promote democracy" abroad under Western pressure, New Delhi can expand on its rich experience in supporting its neighboring democracies and political liberalization across South Asia. Similarly, the U.S. has an unmatched pool of resources and institutions specialized in international democracy assistance.

Cooperation between the U.S. and India in this domain would allow them to achieve their shared interests more effectively across the region. Beyond the institutional and operational dimensions, such cooperation should also extend on countering terrorism at its source. By promoting inclusive development and moderating violent practices of ideology and religion, the U.S. and India will increase incentives for South Asia's burgeoning young population to stay away from extremism. More than countering radicalization, such a strategy should emphasize pre-emption and build on India's extraordinary experience in preserving its unity and internal peace through a non-violent, democratic and inclusive accommodation of diversity.

Third, to cooperate more closely and promote democratic governments across the region, the U.S. and India will have to expand on consultative mechanisms and coordinate their diplomatic strategies. Small states in the region are welcoming China's massive inroad to play a sophisticated balancing game and they are also learning how to pit

India against the U.S., and vice-versa. Unlike in the past, when the U.S., Western countries or India put up effective pressure on democratic reforms, South Asian leaders now have an option in Beijing, which has readily shielded them in exchange for economic and security leverage. This explains why, for example, Sri Lanka under President M. Rajapaksa tilted towards China, after 2005, and the country's current levels of indebtedness towards Beijing.

In order to reduce such hedging behavior that favors China, the U.S. and India must cooperate more closely to align strategies and balance their respective policies of pressure and engagement. By calibrating incentives and disincentives, Washington and New Delhi will have to deploy their sticks and carrots more intelligently to achieve their shared objectives of promoting democratic governance and preserving strategic interests in various South Asian countries. India's geographic location and security interests will facilitate a natural division of labor, in which New Delhi will tend to play "good cop"

focusing on pragmatic engagement, and Washington "bad cop" privileging diplomatic and other forms of external pressure.

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Together, these three avenues for greater cooperation between the world's oldest and largest democracies indicate a tremendous potential to promote democracy, security and stability across South Asia. The U.S. and India have come a long way from confrontational estrangement to cooperative engagement in the region. The time has come to move the relationship beyond the shortsighted focus on Pakistan and narrow security issues and, instead, focus on the long-term strategic benefits of working together to promote democratic governance in a region that hosts almost one third of the world's total population. It is no longer in the West, but in South Asia that the future of democracy is now being played out.





# India's Emergence and Development Challenges: Policy Implications for the U.S.

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New Delhi and Hyderabad, India

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# India's Emergence and Development Challenges: Policy Implications for the U.S.

February 18-26, 2017  
New Delhi and Hyderabad, India

## **SATURDAY, February 18**

American participants travel to India

## **SUNDAY, February 19**

All participants arrive in New Delhi

Working Dinner

Seating is arranged to expose participants to a diverse range of views and provide opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily.

## **MONDAY, February 20**

### **Introduction and Framework of the Conference**

*Dan Glickman, Executive Director, Aspen Institute Congressional Program*

### **INDIA'S POVERTY, INEQUALITY, FOOD & POPULATION CHALLENGES: THEIR GLOBAL IMPACT AND CONSEQUENCES**

With 1.3 billion people, population growth puts enormous pressures on the country's resources. Nearly one-third of India's population are urban dwellers, which puts considerable strain on water resources and sanitation, with dire consequences for health. Despite great progress on some health issues, India accounts for 22 percent of child deaths worldwide. One in 17 children die before the age of five and 43 percent of children under age five are underweight. This session will discuss the progress India has made in reducing poverty rates and improving health conditions and will examine the challenges that remain.

- What is the scope of U.S. aid to India and does it adequately support U.S. foreign policy objectives? What other forms of economic cooperation characterize U.S.-India relations?
- Many people point to developments in agriculture and health as examples of success in foreign aid programs to India. To what do we attribute this success and can it be replicated elsewhere?
- India's growing economy provides it with resources to help alleviate poverty in which a large number of Indians live. To what extent does U.S. aid policy take India's wealth into account?
- Violence against women in India has received a lot of publicity. To what extent is it a factor in meeting these challenges?

*Hari Menon, India Director for Poverty Alleviation,  
Bill & Melinda Gates Foundation, New Delhi  
Anurhada Gupta, Deputy CEO, GAVI*

**INDIA'S RISING ECONOMIC CLOUT AND GLOBAL ROLE:  
THE NEXUS OF GROWTH AND POVERTY AND ITS RELEVANCE TO U.S. POLICY**

India has been described as two countries – one with growing economic vitality and global influence and one with incredible rates of poverty and development challenges. India's Gross Domestic Product is nearly \$2 trillion but per capita income is just \$1,500. More than 21 percent of its population lives in extreme poverty. This session will explore the economic and political implications of India's growing importance for its own development and that of South Asia.

- How does the dichotomy between India as a rising economic power and India with its significant development challenges manifest itself in terms of governance, budgets, and social and economic policies?
- With its growing population, a significant proportion of which is in extreme poverty, how will India be able to sustain its economic growth and address its development challenges?
- The United States has begun helping countries reform their tax systems in order to free up more domestic funding for development. How will the new Goods and Services Tax (GST) imposed on commercial transactions affect India's revenues? To what extent can India's reformed tax system be used to support its own development? What role does the proposed Corporate Social Responsibility Tax play? (*The new CSR self-administered tax requires Indian and foreign companies meeting certain profit thresholds to spend no less than 2 percent of their net profits toward remediating social problems, such as hunger, poverty, public health, education, gender inequality, environment, and cultural initiatives and the arts.*)

*Sachin Chaturvedi, Director General, Research &  
Information System for Developing Countries, New Delhi*

*Daniel Twining, Counselor, Asia Director, German Marshall Fund, USA*

**Working Luncheon**

Discussion continues between Members of Congress and scholars on the challenges for U.S. policy regarding India's poverty, inequality, food and population challenges.

**Working Dinner**

Members of the Indian Parliament will join Members of Congress for a reception and dinner. Seating is arranged to expose participants to a diverse range of views and provide opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily.

**TUESDAY, February 21**

**THE U.S.-INDIA RELATIONSHIP: BOLSTERING U.S. GLOBAL INTERESTS**

- U.S. and Indian relations have fluctuated over the years. To what does one attribute this current period of stronger ties and cooperation? What do both countries need to do to sustain this alliance?
- What are the prospects for increased commerce between the U.S. and India?
- The United States and India have an existing security agreement. What are its terms and implications for security cooperation, particularly around terrorist activities?
- What are the implications for the U.S. and India of potential changes in U.S. immigration that could impact issuance of H-1B visas?
- What is the role of development assistance in the U.S.-India relationship?
- To what extent are public-private partnerships a factor in furthering development goals?

*MaryKay Loss Carlson, Deputy Chief of Mission, U.S. Embassy, New Delhi*  
*Idris Diaz, Acting USAID Mission Director, U.S. Embassy, New Delhi*

## **INDIA'S FUTURE OUTLOOK**

The scale of India's poverty and potential prosperity have global implications. Its population is expected to exceed that of China's making it the most populous nation on earth in just over a decade, with commensurate pressures on food security and regional resources. The U.S. relationship with India has grown considerably in the last 15 years, and India is now described as one of its most important bilateral partners. The two countries have found themselves collaborating more often on a full range of issues and trade flows have increased markedly. Despite improved relations, a number of frustrations remain with regard to trade issues and relations with Pakistan and Afghanistan.

- What are the greatest political and economic challenges India faces?
- To what extent does discord with Pakistan affect the region's economic growth?
- What are the implications for the United States if relations between India and Pakistan continue to deteriorate?

*Tim Roemer, former U.S. Ambassador to India and former Member of Congress*

Meeting with India's Prime Minister

## **RELATIONS BETWEEN THE U.S. AND INDIA**

*Narendra Modi, Prime Minister*

Working Luncheon

Discussion continues between Members of Congress and scholars on the challenges for U.S. policy regarding India's energy challenges and future outlook.

## **INDIA'S ENERGY NEEDS IN THE CONTEXT OF CLIMATE CHANGE & DEVELOPMENT**

With over 300 million Indians lacking access to electricity, the demand of India's population for energy and its status as the world's third largest carbon emitter (after China and the U.S.) have implications for the country's development. India's National Action Plan on Climate Change commits that by 2030 it will reduce the carbon intensity of its economy by 30 to 35 percent and that 40 percent of its electricity will come from non-fossil fuels, such as wind and solar. At the same time, nuclear power is the fourth leading source of electricity. Air pollution in India has recently spiked to seriously unsafe levels; accenting the degree of energy production's contribution to this health crisis. This session will explore how India can address its energy needs and climate change commitments and their effects on economic growth.

- How will India's growing demand for power and its recent commitments in the Paris agreement on climate change affect its economy? What are the implications for India if the new U.S. administration backs away from the global climate agreement?
- Will India's adoption of wind, solar, and nuclear energy options (most of which will be supplied by American sources) be sufficient to address its needs?
- How will India deal with displacing coal as an energy source?
- In some areas of the world, farmers are recognizing the effects of climate change and using adaptation approaches. To what extent is climate change affecting Indian agriculture?
- What are the implications of the proposed natural gas pipeline from Iran to India? Does it have any relevance to the United States?

*Brahma Chellaney, Centre for Policy Research, New Delhi*  
*Tanvi Madan, Director, The India Project, The Brookings Institution*

## **A CONTEMPORARY PERSPECTIVE ON INDIA**

Young Indian leaders will explain their perspectives on India, its potential, its role in the world, and its relationship with the U.S.

*Sumeeta Banerji, Director, Democratic Governance Program,  
UN Development Program*

*Arunabha Ghosh, CEO, Council on Energy, Environment and Water*

*Sathya Raghu Mokkalapati, Co-Founder, Cosmos Green, Hyderabad*

*Aditya Natraj, Founder and Director, Kaivalya Education Foundation*

*Gunjan Shah, Partner, Shardul Amarchand Mangaldas & Co.*

Working Dinner

Scholars and Members of Congress will explore covered topics. Seating is arranged to expose participants to a diverse range of views and provide opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily.

**WEDNESDAY, February 22**

### **POLIO'S ERADICATION IN INDIA:**

#### **A REMARKABLE SUCCESS STORY WITH GLOBAL IMPLICATIONS**

In the 1980s there were approximately 350,000 cases of polio worldwide, and nearly half of those were in India. A remarkable campaign was undertaken to vaccinate 172 million children twice a year and community organizers spread the news about the virtues of hand-washing, greater hygiene, sanitation and breastfeeding, along with routine, vigorous immunization practices. Dr. Ghosh will explain the details of the multilateral efforts involved in this successful campaign and its global relevance.

- How did India eradicate polio? What was the scope of the investment, over what period of time?
- Does it require continued vigilance?
- What lessons can be learned from India's eradication of polio that can be applied to combatting other vaccine-preventable diseases?

*Rajshankar Ghosh, India Director for Vaccines and  
Infectious Diseases, Bill & Melinda Gates Foundation*

### **INDIA'S ROLE IN THE REGION AND GLOBALLY:**

#### **THE CHALLENGES OF TERRORISM, EXTREMISM, AND NUCLEAR NONPROLIFERATION**

The United States and India increasingly cooperate on military, security and counterterrorism issues. At home, India has suffered from its own terrorist attacks. Its growing military might make it a strategic partner in South Asian geopolitical stability. India's stability and regional economic influence affect the ability of its neighbors to reach some of their own development goals and are seen as a hedge against China's growing influence. India plans to spend billions over the next decade to upgrade its mostly Soviet-era arsenal, which raises the profile of U.S. arms sales.

- India's volatile relationship with Pakistan has been a long-term problem. Both countries devote significant resources to their militaries and intelligence services. To what extent does this conflict hold both countries back in terms of economic growth?
- What is the nature of the U.S. role working with India on security and nuclear issues?
- How would you describe U.S.-India cooperation on these issues? Where are the challenges and how can they be overcome?

- What is the China factor in India and the region?
- What are the causes and consequences of the conflict in Kashmir, and what are the likely outcomes?

*Alyssa Ayres, Council on Foreign Relations*

*Constantino Xavier, Fellow, Carnegie India, New Delhi*

### **INDIA'S DEVELOPMENT CHALLENGES AND THEIR RELEVANCE TO THE U.S.**

India's strong economic growth has moved more than 100 million people since 2001 from the ranks of extreme poverty into low income status. Yet, many development challenges remain particularly with regard to health, water, sanitation, and energy.

- What are the prospects for increasing the standard of living for India's poorest?
- How dependent is India on foreign assistance, particularly from the U.S., to further its development goals?
- Do girls and women have equal access to educational opportunities?
- What factor is the average nutritional intake in the overall health of India's people?
- How does the national identification number help combat poverty? (*The Unique Identification Authority of India began issuing a unique identification number, similar to a U.S. Social Security Number, to all citizens and residents of India in 2010. The project gives each Indian citizen a unique 12 digit identification number, along with recording their biometrics such as iris scan and fingerprints on a database.*)

*Baijayant Panda, Member of the Indian Parliament*

*Shashi Tharoor, Chairman of the Foreign Affairs Committee, Indian Parliament*

Setting the Stage for the Afternoon Site Visit

*Anand Rudra, Senior Water & Sanitation Advisor, USAID, New Delhi*

Working Luncheon

Discussion continues between Members of Congress and scholars on the challenges for U.S. policy regarding India's poverty, inequality, food and population challenges.

Educational Site Visit

### **TACKLING SANITATION CHALLENGES IN A NEW DELHI SLUM**

We will visit an urban slum and see firsthand how USAID is assisting the government of India to address the challenges of sanitation. USAID is providing technical expertise at a level of \$20 million and sharing global best practices with India's Ministry of Urban Development, which has committed \$100 million. This partnership supports India's aspiration to provide clean water and sanitation services to all of India's low income populations through the Swachh Bharat Mission (Clean India Campaign). USAID support targets behavior changes such as hand washing, providing appropriate treatment for children with diarrhea, and/or reducing open defecation (which is a public health problem that India's Prime Minister Modi has identified as a national priority). USAID supports the Center for Urban and Regional Excellence (CURE) to connect unserved urban areas to water and sanitation infrastructure. CURE plans to reach out to over 40,000 households in approximately 60 slums, setup 4,000 individual toilets, and provide safe drinking water to 10,000 households.

We will arrive at an inner city slum in Delhi—which serves a population of 2,500 in a densely populated area. The visit will include an overview of the program, conducted by CURE. The group will walk through the crowded slum and see community toilets and shower facilities and discuss with residents the challenges they face and the improvements these facilities have made in their lives. Community leaders

and recipients will field questions. This site will require splitting the overall delegation into at least 2-3 groups and having each group visiting a separate slum.

- What evidence is there that programs like this one can be scaled up across India?
- To what extent do India's sanitation problems have regional or global impact?
- What types of behavior change are necessary for this program to be successful?
- Do sanitation programs like these prevent illnesses and help young children and adolescents from missing time in school?

*Alok Das Gupta, Team Leader, USAID Urban WASH Alliance Partner*  
*Anand Rudra, Senior Water & Sanitation Advisor, USAID India*

#### Working Dinner

Scholars and Members of Congress will explore covered topics. Seating is arranged to expose participants to a diverse range of views and provide opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily.

### **THURSDAY, February 23**

Travel from New Delhi to Hyderabad

Educational Site Visits

#### **POTABLE WATER ACCESS ASSISTED WITH USAID-FUNDED PROJECT**

Access to clean drinking water throughout India is a major problem. Traditional solutions to provide potable water such as boreholes and water delivered by tanker trucks are viable options for water access, but they can easily become compromised and are not long-term solutions. *WaterHealth*, a USAID-supported initiative, enables the delivery of affordable clean water to tens of thousands of households in some of India's most vulnerable settlements. Each *WaterHealth* dispensary costs approximately \$37,000 and 400 of these are now in operation throughout India, with plans to expand to 1,000 more in the next three years.

We will travel to see a *WaterHealth* Center, a clean water dispersal system, where customers purchase 20 liters of water at a time at a cost of roughly 30 cents. The average family generally accesses this service every other day. *WaterHealth* Centers deliver a scalable and sustainable solution to purify any source of water to international-quality drinking water standards. Representatives will be on site from *WaterHealth* and USAID to discuss their strategy and how they are addressing the need of providing clean drinking water to people in India. We will also have a chance to speak with users about the importance of having quick and reliable access to clean drinking water.

- What is the extent of USAID and Indian support for this program?
- How long have these centers existed, and what are the outcomes, particularly with regard to health?
- Is this a market-driven approach which can be sustainable without outside support?
- What types of health benefits do programs like these offer families, especially those with young children?
- Are individuals able to re-sale the water and make a profit on their own?
- Is the cost an impediment to access? How are the prices set?
- Given the scale of the challenge, is this a realistic way to serve the need?

*Nandini Dasgupta, Director, WaterHealth India*



## Working Dinner

Scholars and Members of Congress will explore covered topics. Seating is arranged to expose participants to a diverse range of views and provide opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily.

## FRIDAY, February 24

### Setting the Stage for the Morning Site Visits

*Christoph Benn, External Affairs Director, The Global Fund*  
*Alwin de Greeff, Disease Fund Manager, The Global Fund*  
*Anna Sarkissian, Senior Program Officer, The Global Fund*

### Educational Site Visits

#### **COMBATTING THE GLOBAL CHALLENGE OF HIV/AIDS ON INDIA'S FRONTLINE**

The delegation will divide into two groups and spend time with two separate Global Fund to Fight AIDS, Tuberculosis, and Malaria recipients: Alliance India and SAATHI (Solidarity and Action Against the HIV Infection in India.) One group will visit the Fernandez Maternal Hospital and a second group will go to a community site where social support services are provided to pregnant, HIV positive women. The Global Fund is a multilateral organization that receives U.S. support. The United States contributed \$9 billion from 2002 to 2013 and has pledged an additional \$4 billion through 2016. The Global Fund's mission is to accelerate the end of AIDS, tuberculosis and malaria as epidemics. Founded in 2002, it is a partnership between governments, civil society, the private sector and people affected by the diseases. The Global Fund raises and invests nearly \$4 billion per year to support programs run by local experts in countries and communities most in need. It is attributed with saving millions of lives and providing prevention, treatment and care services to hundreds of millions of people. With an estimated 2.4 million individuals living with HIV/AIDS, India ranks third, next to South Africa and Nigeria, in number of HIV cases. The HIV epidemic in India is concentrated with a high prevalence among most at-risk populations including sex workers, intravenous drug users, homosexuals, and male-to-female transgender people.

The first group will visit a community center and meet with people living with HIV. We will hear individuals tell their stories and better understand what role these care and support programs play in helping people who live with HIV/AIDS. We will also talk with community outreach workers, who will demonstrate how they track the medical records of up to 300 patients on an electronic tablet, which allows them an efficient way to track daily dosages and ensure adherence to the HIV medication regime. Prevention of Mother To Child Transmission of HIV (PMTCT) is an important focus.

The second group will visit the Fernandez Maternity Hospital and talk with hospital staff about the role of PMTCT and its effectiveness. We will also have the opportunity to speak with HIV positive mothers and their HIV negative babies and hear their stories. We will hear how the Global Fund is helping to ensure that women who are HIV positive do not pass the disease along to their babies before, during and after childbirth. We will talk with hospital administrators and hear from mothers and pregnant women who have successfully been through the PMTCT program. In India, less than 30 percent of the estimated 43,000 HIV positive pregnant women receive PMTCT services. SAATHI, working in partnership with the Indian government, is implementing the country's largest preventive care program since 2002.

- What are India's policies with regard to social services for HIV positive women?

- How is India addressing its very high prevalence rate among sex workers, drug users, and LGBT communities?
- What is the difference between programs supported by the Global Fund and those supported by the President's Emergency Plan for AIDS Relief (PEPFAR)? How do the Global Fund and PEPFAR work together?
- What type of stigma still exists in India regarding those who suffer from HIV/AIDS? Is there a difference in stigma between the urban and rural areas? Do women feel compelled to conceal HIV/AIDS from their husbands and families?
- How has the Global Fund helped strengthen health systems in India?
- Through PMTCT, can India completely eliminate children being born with HIV?

*Sonal Mehta, Director for Policy and Programs, India HIV/AIDS Alliance*  
*Joson Meloot, Program Director,*  
*Solidarity and Action Against the HIV Infection in India*

Luncheon Discussion

### **HIGH TECH WORKFORCE OPPORTUNITIES FOR INDIAN WOMEN**

India has a low female workforce participation rate of 24 percent, comparable to levels in the Middle East and North Africa. If India could increase this percentage, it would help raise the country's Gross Domestic Product, as well as enrich the lives of countless Indian women. Girls in Tech is a San Francisco based organization whose purpose is to promote the advancement of women in technology. Their India operation opened just over one year ago, based in Hyderabad, which is home to some of the major American high-tech firms such as Google and Microsoft. India Director Sree Divya Vadlapudi will give an overview of the prospects for women in technology in India and draw broader implications for the country and society.

- What are the most significant challenges facing young women in India?
- What are the limitations for women in India's workforce?
- What can be done to address the inequality of opportunities, and does the U.S. have a role?
- To what extent to U.S. companies provide high-skilled job opportunities for women in India?
- How does improving the gender gap in India's tech workforce impact local communities and families?

*Sree Divya Vadlapudi, Managing Director, Girls in Tech, India*

*Setting the Stage for the Afternoon Site Visit*

*Vinay Chawla, Director, Abraaj Capital, Dubai*

*Educational Site Visit*

### **INDIA'S HEALTH CARE SUCCESS AND CHALLENGES**

We will visit a CARE hospital to learn about a new private initiative funded in part by the U.S.-supported Overseas Private Investment Corporation (OPIC). The CARE Hospitals Group is a multispecialty healthcare provider, with 15 hospitals serving seven cities across six states of India. The regional leader in tertiary care in South/Central India and among the top four pan-Indian hospital chains, CARE Hospitals deliver comprehensive care in more than 30 specialties in tertiary care settings. The group will have a briefing from the CARE Hospitals team and have the opportunity to tour various parts of the hospital. Along the way, there will be interactions with staff, key administrators and patients. CARE charges patients according to their income—the affluent pay more, which subsidizes the poor. No one is turned away who seeks medical help.

This CARE hospital is an alternative development model arranged by a private equity firm, Abraaj, based in Dubai, which sees health care delivery in India as a profit-making venture. The hospital and clinic in Hyderabad are part of the firm's \$1 billion healthcare fund focused on building hospitals, clinics, and diagnostic labs in specific cities across Africa and South Asia to increase access and affordability of healthcare. The fund is one of the largest pools of 'impact capital' in the world – with investors including governments, foundations, corporations, institutional investors, and private individuals. This model is an example of several key trends: the shift India is making from a developing nation to an emerging economy; the growing transition from foreign assistance to hybrid investment-driven models to tackle development challenges; and the increasing collaboration between diverse stakeholders – government, nonprofit, businesses, and financial firms in delivering outcomes.

- OPIC has provided \$150 million in financing to support Abraaj's initiatives in South Asia and sub-Saharan Africa. How does Abraaj support the work of these CARE facilities in Hyderabad? Are there any U.S. companies involved?
- What makes this model unique and what is the chance it can be replicated?
- Does its success depend on U.S. taxpayer investment? Are U.S. funds at risk? Will this be a self-sustaining profitable model?
- Given India's severe challenges with regard to maternal and child health issues, how are CARE hospitals better positioned to improve basic health conditions?
- What is the overall impact to the workforce and economy in providing world-class access to healthcare in India? How large can examples such as CARE scale-up to address needs throughout India?

*Dr. Gopi Krishna, Medical Superintendent, CARE Hospitals  
Raajiv Singhal, Director, Healthcare Operations, The Abraaj Group*

Working Dinner

Scholars and Members of Congress will explore covered topics. Seating is arranged to expose participants to a diverse range of views and provide opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily.

## **SATURDAY, February 25**

Educational Site Visit

### **THE ROLE OF AGRICULTURAL RESEARCH IN MEETING GLOBAL FOOD SECURITY CHALLENGES**

ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) receives annual support of \$15.3 million from the US, which is one-fourth of its annual budget. ICRISAT is an international nonprofit organization that undertakes scientific research for agricultural development. It has projects with several American universities including UC/Davis, the University of Georgia, and Kansas State University. It is a member of the CGIAR\* consortium, a global agricultural research partnership whose goal is to maximize funding coordination. ICRISAT uses an "Inclusive Market Oriented Development" approach. Inclusive includes all farmers (including women and youth as well) in developing solutions. Market Oriented Development focuses research and development efforts on making farming profitable, helping move farmers from subsistence to commercial operators. With a focus on the drylands, ICRISAT specializes on six crops that survive in these harsh climates: chickpea, pigeonpea, groundnut, sorghum, pearl millet, and finger millet. For these mandated crops, ICRISAT builds special expertise across the whole value chain – conserving, analyzing, breeding, understanding farm management practices,

processing and agribusiness opportunities. \* The CGIAR (formerly known as the Consultative Group for International Agricultural Research) System Organization and its members form the largest international agricultural research network in the world, uniting research organizations for a food-secure future. With an annual operating budget of over \$1 billion per year and funding provided by 34 countries, multilateral institutions and foundations, and over 10,000 staff of its 15 Centers operating in more than 70 countries, CGIAR is a complex organization that offers opportunities for large scale economies.

India has two percent of the world's arable land and serves an astonishing 17-20 percent of the world's population. Agriculture contributes nearly 13 percent to India's \$2 trillion economy and employs about two-thirds of its 1.2 billion people. ICRISAT's Senior Manager Murli Sharma will explain how the results of the Green Revolution decades ago and improved agriculture yields "saved India, and how the United States is a big part of that story."

The delegation will have a briefing on ICRISAT and its role in agriculture development in India and Africa and tour adjacent research fields, facilities and laboratories, where questions can be fielded throughout. There will be a lunch with further discussion with researchers. The delegation will drive 30 minutes to a rural village setting and meet with small-holder farmers who are benefiting from ICRISAT's training and agriculture expertise.

- India's role on the cutting edge of the Green Revolution's scientific advances greatly improved its ability to feed itself. Yet, there are some quarters of Indian society that reject current scientific approaches in the form of genetic engineering. How does ICRISAT cope with this dichotomy?
- After two years of severe drought, India has started to import food again. When will India reach a sustainable basis of food production given India's projected population growth and the challenges facing global agriculture?
- How applicable are lessons learned here in Hyderabad to global food security challenges?
- Is genetic engineering a factor in ICRISAT's success?
- How essential is U.S. support for this multilateral initiative?

*Dr. David Bergvinson, Director General, ICRISAT  
Murli Sharma, Senior Manager, ICRISAT*

## **SUNDAY, February 26**

American participants return to the U.S.