

# **INDIA'S ECONOMY AND SOCIETY**



*Bibek Debroy*

# What do India's citizens want?

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If the general election of 2014 is anything to go by, development, governance, and corruption are the most important issues for Indian voters – though, in such a large and diverse country, there is huge variation. What India's citizens want therefore depends on where they happen to reside. Much of India remains outside the mainstream of growth and development. Out of its 676 districts, by any criterion, around 125 still remain deprived, and of 600,000 villages, around 100,000 remain deprived.

To understand this divide, the standard rural/urban lens is not sufficient. In the 2011 census, 72 percent of the population was classified as rural and 28 percent as urban. But this categorisation obscures the fact that, between 2001 and 2011, most urbanisation has occurred in what are known as “census towns” – that is, the part of India that is between rural and urban. These towns have transcended the rural governance structure of *panchayats* (village-level decision-making bodies), but are not yet municipalities.

Dividing India in terms of the neat administrative boundaries of states is also misleading for evaluating development or deprivation. Conventionally, some states have been regarded as backward – for instance, Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Rajasthan, Uttar Pradesh, and Uttarakhand – and others as relatively advanced. But, since 2000, faster growth has occurred in some of these historically backward states, though the base levels of development remain low. In other words, they have caught up. State boundaries can also be misleading because there are intra-state differences.

Since economic liberalisation reforms started in 1991, the economic geography story has been one of increasing integration of districts and villages, as the radius of development expands. Many term this “inclusive development”, which emphasises equality in distribution of outcomes, including patterns of income. (For the record, subject to some data problems, India’s Gini coefficient of inequality in distribution of income is not inordinately high, at around 0.4.)

Yet while inequality is a relative concept, poverty is often considered to be absolute. If there is growth and development, poverty declines. Also, both poverty and inequality are dynamic concepts: they change over time. If there is growth and poverty declines, and if one thinks that one’s offspring will have a better life, there is less resentment about inequality.

### *The need for decentralisation and reform*

More important is the question of why some people are poor. Mostly it is because they lack access to physical infrastructure (transport, water, electricity), social infrastructure (education, skills, health), financial products, natural resources, technology, information technology, the judicial system, and markets. Around 100,000 villages in India have a population of less than 500, and it is difficult to deliver goods and services there because the cost per unit of delivery is much higher.

For any government, the priority should be to deliver these goods and services. This is a shared responsibility of sub-national governments as well as the central government. India is a federal country (though, for technical reasons, the word “federal” isn’t used in the constitution). In May 2014, a new central, or union, government was formed in New Delhi. However, many changes can only be implemented by states (under the constitution, most factor markets are in the State or Concurrent Lists – i.e. the states have the power to legislate on them) and most public goods and services are delivered by local bodies (villages and municipalities). Historically, India has been too centralised. Decentralisation and devolution to the state level, including fiscal devolution, are desirable, and this has started. For instance, land and labour legislation will primarily be reformed at state level. To the extent that central-government legislation is involved, any reform has to wind its way through the democratic processes of parliament.

More importantly, these goods and services have to be financed. There is a clear need to eliminate exemptions and reform subsidies – both on consumption and production. India has a pending agenda of both direct and indirect tax reform. Tax simplification is impossible, in both cases, without the elimination of exemptions. With both central and state governments included, the tax/GDP ratio is around 18 percent. Subsidies, both explicit and implicit, amount to 14 percent of GDP. This can't be sustainable. In addition, total tax exemptions amount to more than 5 percent of GDP. A lot has been written on the Goods and Services Tax (GST), expected to come into force from 1 April 2017. This is only the beginning of a process to reform indirect taxes, which will take more than 10 years to complete. However, governments at all levels lack the administrative and governance capacity to make the necessary reforms.

India should therefore do three things. First, where there are no clear instances of market failure, governments (at all three levels) need to liberalise entry and allow markets to flourish. This doesn't imply an absence of regulation, but regulation should not be an excuse for excessive government control. This liberalisation can be interpreted as reducing the malign role of government. Some initiatives of the new central government can be seen in this light, though some areas also fall under states' remit, so it will be necessary to devise means of incentivising states to act. This doesn't mean liberalisation for foreign direct investment (FDI) alone. Yes, FDI is important. But it is only a means to make efficiency gains and not an end in itself. There is much more to the broad canvas of reforming the Indian economy. Nor is liberalisation something to benefit the corporate manufacturing sector alone. Poverty reduction and employment generation are also a function of the form of growth, and, for both, reform of the rural economy is exceedingly important.

Second, the government should cut subsidies. Resources spent on subsidies can't be spent on public goods and services. India is often described as a young society, though this window of demographic transition won't remain open much beyond 2035. Among the young, and especially among villages that have become integrated into the mainstream and in urban and semi-urban India, there is recognition of the "dole versus development" trade-off. Although one shouldn't oversimplify, and there are pockets where mindsets haven't changed, the preference for economic development over handouts was responsible for part of the electoral success of the Indian People's Party (Bharatiya Janata Party, BJP) in 2014.

Third, the government can also play a benign role, because in the interim some poor people, suitably identified, will still require subsidies.

India must also deal with five other issues. First, it cannot prosper until its eastern and north-eastern regions develop, and there is the related issue of India's economic integration with neighbouring countries and the need to build transport networks. Second, shortfalls in the workforce's skill base place a significant constraint not only on wages but also on entrepreneurship. Third, female work-participation rates, which are low for a host of reasons, need to increase. Fourth, development must occur without endangering the environment, and ensuring environmental protection is often a function of setting appropriate prices and decentralising public property rights. Fifth, corruption is a key issue, as noted at the beginning of this chapter, and has several dimensions. Some types of corruption can be reduced by eliminating shortages, limiting the scope for discretion by officials, and using information technology to oversee interactions.

### *Choice drives efficiency*

I have not mentioned the obvious indicators like growth or inflation, because higher growth and lower inflation will follow directly from some of the reforms mentioned here. Irrespective of whether one uses the new or old GDP calculation method, the growth record has improved. Irrespective of which indicator one uses, inflation rates have declined. Other indicators have improved too, but expectations are disproportionately high. Since the legacy of more than six decades is being questioned, the delivery won't happen in the space of a year alone – it will take more than ten.

This government has launched a plan to carry out individual identification of the poor without intermediate layers of administration, and to ensure their inclusion in the financial system by giving them access to bank accounts and transferring subsidies directly to these accounts. That is, even when subsidies are necessary, they can be given through government financing, rather than government performing a service provider role. These three strands form part of the new government's philosophy, sometimes explicitly stated, sometimes less so. The idea is that choice should drive efficiency. Why must healthcare be delivered through primary health centres that don't function well? Why can't the poor obtain subsidised and cashless medical treatment at an institution of their choice, including private hospitals?

However, one must remember that there are political and economic factors driving resistance and that change often takes place at state level. It is therefore going to be a long haul, not an overnight wave of the magic wand. But the silver lining is that much of young India wants what the New Delhi government wants.





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## Can Modi deliver good governance?

India's economic rise over the past decades has been a remarkable event, lifting tens of millions out of abject poverty and creating a solid middle class. But it is a story of private success and public failure. Prosperity has indeed been spreading across the country, but it has been doing so in the face of appalling governance. Indians despair over the state's inability to deliver the most basic public services – law and order, education, health, and clean water. India desperately needs honest police officers, diligent officials, judges who deliver swift justice, functioning schools, and effective primary healthcare centres. Where it is needed, the Indian state is near-absent; where it is not needed, it is hyperactive, tying people up in miles of red tape.

As I look back on our 68-year history as an independent nation, I can discern three great milestones: in August 1947, India won political freedom; in July 1991, it gained economic liberty; and with the election of Narendra Modi in May 2014, the emerging middle class attained dignity. The landslide victory of Modi, the self-made son of a *chaiwalla* (tea seller), invited us to broaden our conception of human dignity and question our prejudices. Modi's success affirmed, for the first time in India's history, the aspirations of millions who had pulled themselves up into the middle class through their own efforts in the post-reform decades after 1991. It forced us to challenge our bias against the petit bourgeois – *kiranawalla* (shopkeeper), *paanwalla* (betel-leaf maker), *auto-rickshawalla* (rickshaw driver) – and other occupants of the street. The idea that anyone can aspire to the middle class is the new master narrative of our society. It is also with this impatient class that the hope for governance reform lies.

## *India's bottom-up success*

I grew up in the idealistic days after independence when we passionately believed in Jawaharlal Nehru's dream of a modern, just India. We were all socialists then. But, as the years went by, we found that Nehru's "mixed economy" was leading to a dead end. Instead of socialism we had ended with statism, which we sardonically called the "licence raj". The reforms in 1991 finally ended that agony. Since then, India has risen relentlessly, enabled by two institutions of liberty – democracy and free markets. Nehru laid the foundations for our vibrant democracy, but prosperity only began to spread once Nehru's over-regulating state stepped out of the way.

No one quite understands how India's noisy, chaotic democracy of 1.25 billion people has become one of the world's fastest-growing economies. After all, some 60 countries implemented the same reforms as India did. Clearly, suppressed energy burst out after 1991. But no one imagined that Indian entrepreneurs would respond so well to the reforms, rapidly creating dozens of innovative, red-blooded firms that would compete brutally at home and rapidly stomp onto the global stage. The rise of India is also their story.

India is a "bottom-up" success. It has risen almost despite the state, unlike China's "top-down" triumph, orchestrated by the technocratic elite of an authoritarian state. The stubborn persistence of democracy over the past 68 years is even more bizarre. Time and again, India has shown itself to be resilient and enduring – giving the lie to the old prejudice that the poor are incapable of the kind of self-discipline and sobriety that make for self-government.

However, India's rise is still a work in progress. While it has become a middle-income economy, it will have to go beyond economic reform and fix its institutions of governance if it wants to truly become a "developed nation" and avoid what economists call the "middle-income trap". India will have to modernise its bureaucracy, police, and judiciary, and improve the quality of government services – in particular, it needs more diligent teachers and health workers – while creating a predictable and transparent environment for doing business.

Generally, leftists desire a large state and rightists a small one, but what India needs is an effective state, with a greater capacity to act. We seem to have forgotten that the state was created to act: it should not take eight years to build a road when it takes three elsewhere; it should not take 12 years to

get justice when it takes two elsewhere. At the centre, parliamentary gridlock prevails, and the courts routinely dictate action to the executive. An aggressive civil society and media have enhanced accountability, but at the expense of enfeebling an already feeble executive with limited capacity.

### *A weak state but a strong society*

However, it is a mistake to think that the Indian state was weakened in recent times by coalition politics, feckless leadership, and economic liberalisation. India historically had a weak state, though one counterbalanced by a strong society – the mirror image of China. India’s history is one of political disunity with constant struggles between kingdoms, unlike China’s history of strong empires. The type of despotic and intrusive governments that emerged in China and divested people of their property and their rights have never existed in India.

The king in Indian history was a distant figure and hardly touched the life of the ordinary person. The law, *dharma*, preceded the state and placed limits on the king’s power in pre-modern India. The king also did not interpret the law, unlike in China; the *Brahmin* of the priest-scholar class assumed that function. This division of powers may have contributed to a weak Indian state at birth, but it also prevented oppression.

The modern Indian state is a product of British rule, which, beginning in the mid-nineteenth century, imposed a rule of law with explicit codes and regulations. Though efficient, that state was not accountable to its citizens. That changed in 1947, as independent India took those institutions of governance and made them accountable by developing into a vibrant, if untidy, democracy. In the twenty-first century, true to its history, India is rising economically from the bottom up. But a modern liberal state must have a strong executive to get things done and a strong society to hold the state accountable.

### *Can Modi create a more effective state?*

Many Indians hope that, in Modi, they finally have someone who can enhance the state’s capacity to act. However, reforming state institutions is much tougher than reforming the economy. Modi recognised this problem when he promised “minimum government, maximum governance”.<sup>1</sup> He vowed to create an enabling environment that would allow people to do business without stifling red tape and the notorious “inspector raj”. So far, he has failed

1 Narendra Modi, “Minimum Government, Maximum Governance”, 14 May 2014, available at <http://www.narendramodi.in/minimum-government-maximum-governance-3162>.

to deliver on that pledge. His choice of incremental rather than radical change has disappointed many of his supporters. Continuing retrospective taxation, in particular, has undermined his image.

However, there has been some institutional change. Natural resources, such as mines and spectrum, are now being auctioned transparently online.<sup>2</sup> The campaign to improve the ease of doing business is reportedly slashing clearance times and creating healthy competition between the states. The process is being aided by digitising all data and posting it on public websites, making transparent which file is held where. The proposed official ranking of states on different aspects of doing business will soon expose the laggards. Modi has un-gummed the central bureaucracy and broken the paralysis at its core.

Reforming the institutions of governance is, however, a much tougher job – as Margaret Thatcher found while prime minister of Britain in the 1980s. More important than her market reforms was the institutional reform that made the British government more accountable. In India, both political will and savvy are needed to fight vested interests. The manner in which Modi quietly took control of his party suggests that he has the savvy. But he has not shown the willpower to rock the boat.

Since the demand for institutional reform is unlikely to come from within the state, the answer may lie with India's newly awakened middle class. This class now makes up almost a third of the Indian population; another quarter aspires to be a part of it – what Modi calls the “neo-middle class”. The latter will probably get there in the next decade once the economy gets back to an 8 percent growth trajectory. Clearly, India's centre of gravity is shifting and so is its politics. The anti-corruption movement (which spread across the country in 2011, led by activist Anna Hazare) showed that this class will no longer accept a civic life shaped by those who are powerful and corrupt, and it has demonstrated considerable ability to use social media to bring about change. In the event that Modi wins a second term, he may be able to mobilise middle-class anger against bad governance and reform institutions.

In the East, unlike the West, this is an age of rising expectations. Whether or not Modi succeeds in improving governance, the rise of India remains the defining event of my life. India's evolution into a middle-class nation is good not only for India but also for the rest of the world – including the West. At a time when the

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<sup>2</sup> “Spectrum” refers to the legal rights to broadcast signals over specifically defined ranges or bands of the electromagnetic spectrum.

West is filled with doubts about the capitalist system, a vast nation is rising in the East based on political and economic liberty. In doing so, it is proving once again that open societies, free trade, and multiplying connections to the global economy are pathways to lasting prosperity and national success.



In India, the poor and disadvantaged castes vote proportionally more than the rich and the upper castes, and often more than those in developed democracies. Similarly, voter turnout is generally higher in rural areas than in cities. Not all elected state governments have pro-poor policies, but the poor have higher expectations of the state than the rich. This faith of India's poor and marginalised in the democratic process stems from their expectations of the state, which is required by law to provide fair opportunities to every citizen irrespective of caste, creed, religion, and economic status, and to actively work to eliminate these barriers.

However, the state is also constrained both by the political process of governance and by economic and social institutions. Unlike political institutions, these reflect the existing inequalities and are dependent on the markets. The democratic system does imply some degree of equality in the form of universal franchise irrespective of economic position, giving the poor a space to make their voices heard. But this does not necessarily translate into a state committed to justice and equality. In fact, developing-country democracies do not have a good track record in reducing poverty, compared to non-democracies such as China.

Still, the nature of politics in India means that poverty alleviation is not just an economic imperative but a political necessity for elected politicians. To achieve this, the state needs to mediate between various institutions, ensure fair play through the efficient regulation of markets, and implement transfer and taxation policies to redistribute resources from rich to poor.

## *Poverty and inequality post-1991*

The economic policies India pursued after independence gave the state the role of allocating resources across sectors and federal states, and made it a major instrument of redistribution. However, since the onset of economic reforms in 1991 the state has been reduced to a merely political instrument, while the allocation of resources and even their redistribution are seen as the outcome of market-based policies. This withdrawal of the state from the essential function of shaping economic outcomes has eroded its role as an instrument of social inclusion. Recent years have seen a rise in allegations of crony capitalism, and the reduced role of the state in reducing barriers to equality of outcomes.

However, in the last decade, pro-poor democratic politics have been strengthened through the recognition of various rights, such as the right to education, to information, to food security (through the National Food Security Act), to employment (through the Mahatma Gandhi National Rural Employment Guarantee Act), and to land (through the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act).<sup>1</sup> While the legal recognition of these rights demonstrates that the government is responsive to the needs of the poor, these developments must be seen in the context of India's increasingly free-market economic policies.

The fact that the two trends – increasing inequality, and gains to the poor in terms of legal rights – have occurred during the same period is a reflection of the strength of India's democratic processes. As in other developing countries, India's citizens are not equal before the market. The unequal nature of endowments and opportunities available to citizens and the subordination of markets to existing social and political institutions perpetuates inequality. However, the public debate engendered by democracy means that the state has remained responsive to the demands for redistribution.

## *The rise of populism*

Governments that have adopted pro-poor policies have been increasingly successful in India in recent years. Parties referred to as “populist” have competed to provide basic amenities to the poorer sections of the population,

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<sup>1</sup> The Right to Information and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) were passed in 2005, immediately after the United Progressive Alliance (UPA) took over. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (2013), the Right to Education Act (2009), and the National Food Security Act (2013) were passed in the second term of the UPA.



not only in central but also in state governments. However, while this has brought more people into the economic mainstream, particularly the disadvantaged, it is a political response to the symptoms of inequality rather than a solution. The fundamental nature of India's economic system, which perpetuates rather than reduces inequality, has not been questioned either by the state or by the political parties.

Redistributive policies are not enough. While inequalities based on differences in initial endowments are certainly responsible for the way the poor participate in the economy, inequality of opportunity is also governed by political, social, and cultural institutions such as gender, caste, and religion, which marginalise the poor and exclude them from economic processes. Of particular importance are inequalities in access to education and nutrition, and how they are shaped by social structures.<sup>2</sup> The lack of social mobility of disadvantaged Scheduled Caste and Scheduled Tribe households, along with Muslims, continues to pose problems for their inclusion in society. To address this, the government has to regulate the markets but also make a political commitment to secularism, gender empowerment, and affirmative action in education as well as public sector employment.

But it is here that the engagement of the poor and marginalised communities with the political process is a double-edged sword. The ascent of caste- and religion-based politics has not only given rise to aspirations and demands for inclusion by disadvantaged castes but also has allowed the political processes to be hijacked by vested interests.<sup>3</sup> In particular, the rise of backward caste movements, and their increased representation in political institutions, has not changed the basic structures of caste and class oppression, nor altered the way economic production is organised. At the same time, the disjuncture between the process of political empowerment and the process of economic empowerment has led to a weakening of the state as mediator and regulator of economic institutions.

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2 For example, in 2011–2012, the highest level of poverty (43 percent) in rural areas was among Schedule Tribes (STs) followed by Scheduled Castes (SCs) (29 percent) against 22 percent for all classes. This is also the case for religious minorities, as is evident from the report of the Prime Minister's High Level Committee on Socio-Economic Conditions of Muslims in India (Sachar Committee, PMHLC, 2006). Similarly, under-five mortality is the highest among the STs (96 per 1,000), followed by the SCs (88 per 1,000), the Other Backward Castes (OBCs) (73 per 1,000), and "Others" (59 per 1,000) in that order. This applies to the boy-girl differential, too, with under-five mortality among girls at 79 per 1,000, compared to 69 per 1,000 for boys.

3 An interesting case has been the demand for inclusion in reserved categories by various caste groups such as the *Gujjars*, the *Jats*, and the *Patels*. The response of the previous UPA government was the decision to include them as part of the OBC groups, which was later struck down by the Supreme Court. But this has not stopped the state from using the reserved quota status as a political bargaining tool to deal with issues of disparity among caste groups.

An unfortunate outcome of this is that the process of economic empowerment is not only seen as anti-free market but is increasingly classified as “populist” – implying that it is based on political opportunism.<sup>4</sup> In recent years, economic indicators on growth and inequality clearly indicate the eroding authority of the state either as a facilitator of economic growth or as the primary instrument of redistribution. This is not only because issues such as redistribution are seen as secondary objectives for central government, but also because neoliberal ideologies limit the ability of the state to intervene to ensure better social outcomes. While a large part of this is due to changes in domestic policies, the nature of financial flows in a globalised world also plays a part.

### *Reclaiming the state*

In India, as in Europe, the ability of national governments to provide subsidies to the marginalised and excluded is increasingly being determined by the extent of fiscal discipline it has imposed on its budget. In Europe, national governments have cut down on basic social-sector expenditure in order to bail out profligate and irresponsible financial institutions. The Indian government has used similar logic to bail out irresponsible private-sector companies such as Satyam (2009), Kingfisher (2012), and others at the expense of the public exchequer, while attempting to justify cuts in public spending on health and education. However, in both cases, since governments are still accountable to the people, rising levels of inequality have created a pressure on the government for redistribution.

In India, this reaction to rising inequality has come in both democratic forms (for example, the nationwide protest movement against corruption in 2011) and violent forms (the Naxalite communist guerrilla movement, which is active in most states). In turn, governments at national and state level respond to these protests in various ways. The recent move by the Indian state to guarantee the legal right to basic entitlements such as food, education, livelihood, and health may help reduce the inequalities that threaten political stability and the sustainable growth of the economy.

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4 A good example of this is the National Food Security Act, which was opposed on the grounds that it distorts agricultural markets. Similarly, in the case of MGNREGA, the argument has been that such attempts to provide employment from public funds would distort the labour market and lead to inefficient outcomes. Recent opposition to reservations for disadvantaged caste groups has been criticised for sacrificing merit in the name of social justice. Although these criticisms have not been successful in diluting these interventions, they do create an impression of the interventions as inefficient and as examples of political opportunism.

However, there is a growing middle-class constituency that sees the enforcement of these rights as handouts, or “doles”, and therefore as unsustainable. This is largely because civil society and political parties continue to treat these demands as part of a redistributive agenda and not as an issue of changing the structure of the economy itself. An unfortunate result of this is the growing polarisation and fragmentation of the society across caste, class, and religious lines.

For the poor and the marginalised, democracy is not only about universal franchise and participation in the electoral process, but about reclaiming the state. Their increased participation has strengthened the democratic process itself in India, though it is too early to say whether this will be successful in reducing inequality and addressing the bias in economic and social institutions. For the poor and the marginalised, democracy is presented as a Hobson’s choice – there is no other option but to take it up.



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# The false debate on India's energy consumption

Despite having among the largest coal reserves in the world, India lags far behind in consumption, at less than a fifth of China's levels.<sup>1</sup> The average Indian's coal consumption is around 20 percent that of the average US citizen, and 34 percent that of the average OECD citizen. And yet, in international negotiations, India finds itself caught in a shrill and binary debate pitching growth against climate. This is a false debate, which stems from the inability of the current mercantilist system to grant all actors a fair share of the "carbon space" – the amount of carbon dioxide-equivalent emissions that can be released into the Earth's atmosphere without triggering dangerous climate change.

India's position in climate negotiations is based on the importance of access to energy for human development. This is supported by data, including the positive correlation between energy access and the Human Development Index (HDI).<sup>2</sup> Estimates vary on how much energy is needed to meet basic human needs (hereafter referred to as "lifeline energy"). The methodologies vary depending on whether these basic needs are considered through the prism of GDP growth targets, HDI levels, or calculations of the energy needed to meet a predetermined set of development goals.<sup>3</sup>

1 In 2014, China accounted for more than half the world's coal energy consumption, at around 3.9 billion tonnes of oil equivalent, while Organisation for Economic Cooperation and Development (OECD) countries consumed just over half this figure. China's target of capping coal consumption at 4.2 billion tonnes by 2020 was welcomed by OECD countries. See data from the BP Statistical Review of World Energy, June 2015, available at [http://www.bp.com/content/dam/bp-country/de\\_de/PDFs/brochures/bp-statistical-review-of-world-energy-2015-full-report.pdf](http://www.bp.com/content/dam/bp-country/de_de/PDFs/brochures/bp-statistical-review-of-world-energy-2015-full-report.pdf); "China seeks to cap coal use at 4.2 billion tonnes by 2020", *Agence France-Presse*, 19 November 2014, available at <http://economictimes.indiatimes.com/news/international/business/china-seeks-to-cap-coal-use-at-4-2-billion-tonnes-by-2020/articleshow/45205271.cms>.

2 UNDP, 2013; The World Bank, n.d.

3 Shripad Dharmadhikary and Rutuja Bhalerao, "How Much Energy Do We Need?", Prayas Energy Group, May 2015, available at <http://www.prayasgroup.org/peg/publications/item/298-how-much-energy-do-we-need-towards-end-use-based-estimation-for-decent-living.html> (hereafter, Dharmadhikary and Bhalerao, "How Much Energy Do We Need?")

This essay will argue that, if the climate debates have allowed even a nominally equitable level of coal consumption towards meeting lifeline energy needs, India currently has immense room for manoeuvre. The analysis relies on a benchmark metric: that 2,000 watts (W) per capita is a basic level of lifeline energy, covering housing, transport, food, consumption (of manufactured goods), and infrastructure. This is based on a study by Novatlantis, which demonstrates that this level of consumption could power daily life in Western Europe.<sup>4</sup> Therefore, lifeline energy is defined liberally in this study, as being high enough to cover the minimum lifestyle needs of citizens in developed countries.

### *Consumption after the financial crisis*

While developed countries such as OECD and EU member states have reduced per capita coal consumption since the financial crisis, developing countries such as India have increased consumption over the same period. This reduction by developed countries does not necessarily reflect a greater degree of climate “responsibility”, and, conversely, the increase in consumption by India does not reflect “irresponsibility”, as this analysis will demonstrate. Table 1 shows the total per capita consumption of key regions and countries that are shaping the climate change discourse.

**TABLE 1: TOTAL PER CAPITA COAL CONSUMPTION (W)**

Countries/Regions	2005	2009	2014
US	2,580.8	2,147.5	1,887.6
China	1,324.4	1,674.4	1,909.6
Germany	1,308.9	1,162.7	1,269.7
Japan	1,260.2	1,127.9	1,321.5
India	217.2	279.3	377.3
World	640.9	675.7	717.3
of which: OECD	1,316.0	1,143.0	1,100.6
Non-OECD	484.7	571.9	635.1
EU	846.8	705.6	704.8

Source: BP Statistical Review of World Energy, 2015; The World Bank; author’s calculations

<sup>4</sup> Novatlantis, “The 2,000-Watt Society”, 2007.

Taking a closer look at coal consumption before and after the financial crisis, it is apparent that the trends are nuanced. Two key sub-trends are visible in Table 2, which tracks coal consumption against total primary energy consumption. The first is that, while developed countries have been cutting total energy consumption, developing countries have been increasing it, albeit at a gradually declining pace since the crisis. Second, while developed countries have cut coal consumption faster than total primary energy consumption, developing countries have increased coal consumption faster than total primary energy consumption. Clearly, then, coal consumption is very much part of the lifeline consumption matrix for developing countries since they require base load generation for industrial-driven economic growth (which is a prerequisite in countries such as India for improving the HDI and generating employment).

**TABLE 2: CHANGE IN COAL CONSUMPTION VS. TOTAL PRIMARY ENERGY CONSUMPTION**

Regions	Category	2006	2009	2010	2011	2012	2013	2014
OECD	TOTAL	0%	-5%	3%	-2%	-1%	0%	-2%
	COAL	0%	-11%	6%	-2%	-5%	0%	-2%
Non-OECD	TOTAL	4%	0%	4%	4%	2%	1%	1%
	COAL	6%	2%	2%	6%	1%	1%	0%
EU	TOTAL	0%	-6%	4%	-4%	0%	-1%	-4%
	COAL	3%	-12%	5%	2%	3%	-3%	-7%

Source: BP Statistical Review of World Energy, 2015; The World Bank; author's calculations

Finally, Table 3 shows that the average citizen of the US and of China both consume nearly the entire 2,000W lifeline energy benchmark in the form of coal. Conversely, in India's case, only about 19 percent of the 2,000W benchmark is consumed in the form of coal. In fact, citizens of OECD countries get a much larger proportion of their energy needs from coal than citizens of non-OECD countries. This is also a function of the disparity in per capita energy consumption as a whole between developed and developing countries – while coal consumption as a percentage of lifeline energy in developed countries is decreasing, the gap between the per capita coal consumption of developing and developed countries remains vast.

**TABLE 3: PERCENTAGE OF LIFELINE ENERGY DELIVERED BY COAL, WITH A PER CAPITA NEED OF 2,000W**

Countries/Regions	2005	2009	2014
US	129%	107%	94%
China	67%	84%	95%
Germany	65%	58%	63%
Japan	63%	56%	66%
India	11%	14%	19%
World	32%	34%	36%
of which: OECD	66%	57%	55%
Non-OECD	24%	29%	32%
EU	42%	35%	35%

Source: BP Statistical Review of World Energy, 2015; The World Bank; author's calculations

### *India's twin imperatives*

The World Bank's Special Envoy on Climate Change recently stated that "clean energy is the solution to poverty, not coal".<sup>5</sup> This is a view that resonates within a number of development-financing institutions based in OECD countries. For instance, the US Export-Import Bank stopped funding greenfield coal power generation projects worldwide in 2013. The World Bank also seems to be moving in this direction, even though coal consumption has been increasing in developing countries and coal-based energy remains the most practical option at a large scale.<sup>6</sup> This narrative isolates economic growth from lifeline energy and skirts over the role of growth in development.

The preceding analysis attempts to address some myths related to coal consumption. First, in per capita terms, developed countries in fact consume much more coal than developing countries: The average OECD citizen consumes about double the coal of the average non-OECD citizen. China is a notable exception. And if Chinese per capita coal consumption is a benchmark, the debate on India's consumption is clearly redundant.

5 Rachel Kyte, "World Bank: clean energy is the solution to poverty, not coal", the *Guardian*, 10 August 2015, available at <http://www.theguardian.com/sustainable-business/2015/aug/07/world-bank-clean-energy-is-the-solution-to-poverty-not-coal>.

6 Sunjoy Joshi and Vivan Sharan (eds), "The Future of Energy", Observer Research Foundation, 2015, available at <https://www.economic-policy-forum.org/wp-content/uploads/2015/02/ORF-EPF-Final-Report-The-Future-of-Energy.pdf>.



The per capita trends show that India will supply a larger proportion of its 2,000W benchmark through clean(er) fuels than developed countries. There is enough room for India to increase its coal consumption while continuing to accelerate its renewable-energy thrust. India has set a target renewable-energy capacity of 175 gigawatts by 2022. This means that it will be among a handful of countries to source a large proportion of its lifeline energy needs from non-conventional sources. The average Indian already spends much more on renewable energy (as a proportion of income) than counterparts in China and the US.<sup>7</sup> To spend even more, purchasing power will need to grow, and so, in turn, will lifeline consumption.

This has clear implications for India, and for other similarly placed developing countries. Unlike developed countries, which have already seen peaks in their energy consumption, India must respond to two imperatives. First, to increase its lifeline energy as well as clean energy. This means that the country will have to ensure financial flows towards lifeline energy, make coal consumption more efficient, and engage with the international financial system to ensure that regulations do not make clean energy investments more costly than they already are. Second, and at the same time, lifestyle emissions need to start adhering to or approximating the Swiss model, which shows that “daily life in Western Europe could be powered by less than one-third of the energy consumed today”.<sup>8</sup> The estimated 20 million people at the top of India’s socio-economic pyramid, and large companies that consume as much energy as counterparts in developed countries, must be included within the paradigm of “climate responsibility”.

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7 Samir Saran and Vivan Sharan, “Indian leadership on climate change: Punching above its weight”, Planet Policy blog, The Brookings Institution, 6 May 2015, available at <http://www.brookings.edu/blogs/planetpolicy/posts/2015/05/05-indian-leadership-climate-change-saran-sharan>.

8 Dharmadhikary, Shripad and Bhalerao, Rutuja, “How Much Energy Do We Need?”, Prayas (Energy Group), May 2015.



*Mohit Sharma & Arunabha Ghosh*  
Imagining smart cities in  
India

9

Growth in the majority of India's cities has been inherently unsustainable. Most lack core infrastructure: for instance, 18 percent of households in Delhi have no drinking water supply, 30 percent discharge wastewater into open drains or have no drainage at all, and 17 percent do not have toilets. Rapid urbanisation has led to haphazard management of resources such as land and water, with utter disregard for the environment. Uncontrolled expansion in the form of unauthorised constructions, without land-pooling policies to ensure coordinated development,<sup>1</sup> has left little space for urban commons. This creates densely built-up areas with little or no green space, intensifying the urban heat island effect.

There are now 53 cities in India with a population of over a million, and 468 with a population of over 100,000. Though only 31 percent of India's population is classified as urban, 70 percent of these urban-dwellers live in "hundred thousand-plus" cities, and 43 percent in "million-plus" cities.

In June 2015, Prime Minister Narendra Modi launched two programmes to direct urban growth: the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), which covers 500 cities; and the Smart City Mission, which covers 100. This essay considers whether these schemes have the potential to create sustainable cities in India, and finds that they fall short on citizen participation and implementation mechanisms.

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<sup>1</sup> Under land-pooling schemes, multiple landowners pool their land and allow the government or another body to install infrastructure and services on it. This allows planned rather than haphazard development of new urban areas.

## *“Smart” planning*

The objective of the Smart City Mission is to harness technology and data to improve infrastructure and services in cities. It aims to create replicable models that can inspire other cities to become “smart”. The policies it promotes range from innovative ideas such as smart meters for energy and water, intelligent traffic-management systems, e-governance and citizen services, to more established solutions such as waste-to-compost or waste-to-energy, recycling, and reduction of waste.

Often, India’s cities fail to integrate environment and social sustainability into their planning and resource management. This is due in part to a lack of demand for environmentally friendly products and services, or a poor assessment of this demand on the part of the authorities. The Smart City Mission aims to bridge the gap by providing innovative (but as yet unspecified) means for increased interaction among citizens and local governments, among other groups. It calls for new greenfield projects around cities, for inclusive development, and for “area-based development”, which involves targeting specific areas of the city for transformation based on their specific needs, through redevelopment schemes or through retrofitting amenities that were not installed when the areas were first constructed.

Whereas the Smart City Mission seeks innovative means to enhance network efficiencies, the AMRUT mission is responsible for increasing penetration of city-wide services. Its focus is on water supply, sewage networks, storm-water drainage, transport, and green spaces. Previously, the Ministry of Urban Development (MoUD) had to give project-by-project approval to disburse funds, but now the MoUD approves State Annual Action Plans. This is intended to increase cooperation between the central government and the states. It remains to be seen whether bottom-up initiatives to enhance network efficiency will create conditions for better cooperation across departments and levels of government, or whether such cooperation is a prerequisite for enhancing these network efficiencies.

## *Poverty and participation*

Slum areas are a focal point for redevelopment plans, and greenfield projects feature inclusionary zoning, with a requirement for 15 percent of housing to be affordable. But urban poverty is complex. Many of the urban poor have migrated from rural areas and lack skills, often finding their way into menial

jobs. Smart cities will be judged for their ability to train and impart skills to the urban poor, as well as to provide affordable housing.

Municipal governments are required to prepare planning proposals in line with citizens' aspirations, the local context, and resource availability. However, it is not clear how area-based planning and development will overcome tensions between conflicting objectives – for example, aspirations for improved standards of living versus limited financial resources.

The Smart Cities Mission overplays the role of technology and underplays that of participatory governance. One of its goals is to increase the use of mobile or internet-based ways of connecting citizens to local government offices, eliminating the need to physically visit these offices. For instance, it proposes cyber-tours of worksites, which might increase transparency to some degree. But it does not specify how citizens can actively participate in decision-making as a continuous process. Citizen participation is as much about integrating citizens into decision-making processes as it is about including transparency in urban planning and management, and these systemic changes cannot be achieved through technology alone.

### *The limits of localised development*

Modi's urban development schemes fail to set out how the deep structural changes they call for would be introduced at city-level: who would be responsible, and through which institutions they would be implemented. Both AMRUT and the Smart City Mission focus on making cities more liveable by preserving open and green spaces, creating walkable communities, and encouraging non-motorised transport, as well as reducing average commuting times and recycling wastewater. These goals will require learning through experimentation and long-term research (with supporting data) – without this, localised, area-based development can only take cities so far. At best, this approach would expand the list of “islands of excellence” that sprout within India's otherwise unplanned urban spaces, rather than lifting cities as a whole.

### *Financial incentives*

State and municipal governments are equal partners in the Smart City Mission. This comes with financial responsibilities, and the creation of distinct legal entities, known as “special purpose vehicles” (SPV). The states and municipalities have an equal stake in these entities, which have to be financially sustainable. A central government grant of at least INR 1 billion (roughly €14 million) per city

per year for the initial five years forms part of the municipalities' share of equity capital, with an equal share coming from states. These grants are supposed to be leveraged by the SPV to attract funding through the state/municipality's own sources,<sup>2</sup> public-private partnerships, other central grants, and borrowing from financial institutions, including domestic and external sources.

The AMRUT mission aims to improve governance through incentives. Its budget is INR 500 million (roughly €7 million) for 500 cities over five years, so the budget per city per year is one-fifth that of the Smart City Mission. However, under the previous system, the release of project funds for subsequent phases was linked to performance; if targets were not met, disbursements would stop, and many projects were delayed. AMRUT has flipped this mechanism from penalties to incentives. If projects are completed on time and on specification, an additional 10 percent of the budget can be awarded to the city.

### *System-wide thinking: A new model*

Can India create cities that smartly manage their consumption without overburdening the environment? Cities are complex systems, which include ecosystems, physical infrastructure, and diverse social groups. Traditional approaches to planning and management of complex systems are based on reductionist methods of breaking down the system into smaller components using linear formulations of cause and effect. A system is considered as merely the sum of all individual elements.

This might be an appropriate way to model a simple system with low interconnectivity. But the patterns that emerge in a growing city over time are not just dependent on a central or top-down mechanism but are the result of interactions among different elements and sub-systems, which are highly interconnected, interdependent, and non-linear. For example, urban form,<sup>3</sup> which helps determine energy consumption in a city, is also a result of energy consumption through a trade-off between housing and transport costs. Cities are complex adaptive systems. Elements of urban ecosystems are capable of adapting their behaviour and can self-organise through interactions among themselves, eliminating the need for a central or top-down mechanism.<sup>4</sup>

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<sup>2</sup> These include the collection of user fees, beneficiary charges, impact fees, and land monetisation.

<sup>3</sup> The physical characteristics of an urban area, including the configuration, size, and shape of buildings, and their relationship to outdoor space.

<sup>4</sup> At the Council on Energy, Environment and Water (CEEW), we are studying how different agents of change may interact to induce shifting patterns of behaviour and participation, and transform cities. The CEEW (<http://ceew.in/>), based in New Delhi, is an independent, not-for-profit policy-research institution, and ranked as one of South Asia's leading think-tanks.

These new urban growth schemes are a step towards breaking this traditional paradigm through a more bottom-up approach (via area-based development and citizen participation). But more is needed in this direction, along with a better understanding of how local interactions could give rise to patterns that nudge a city to be more liveable and vibrant. We need to find the best mix of solutions for India's cities, where the competing goals of social and health benefits, economic growth, restoration of ecosystems, and minimisation of environmental degradation are met through a considered planning process.