

A Flawed Climate Road Map

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India submitted its Intended Nationally Determined Contribution on 1 October. The policy document on climate change has received laurels from diverse quarters. INDC justifies the projected rise in India's emissions by emphasising the country's development imperatives. This obscures the fact that the well-off will stamp their ecological footprint and the country will justify the rise in its emissions by hiding behind the poor.

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On 1 October 2015, the Indian government submitted India's Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC). It has been received to surprisingly wide acclaim, in the media, by large non-governmental organisations (NGOs) and policy experts.

Climate change policy documents have become developmental road maps. In presenting either mitigation of carbon emissions or adaptation measures, the 38-page INDC touches upon existing and planned policies in the areas of urbanisation/smart cities (p 13), transport (p 14), agriculture (p 20), water (p 21), public health (p 22) and coastal regions (p 23). Preliminary estimates, it says, suggest India needs \$2.5 trillion to meet its stated climate change obligations between

now and 2030. India is clearly expecting "low-cost international finance." The rightness of the principle notwithstanding, it is doubtful whether international funding on any meaningful scale will actually be received.

Some aspects of the INDC are indeed welcome: a huge expansion of grid-connected rooftop photovoltaic has been planned (p 9). It lists a number of energy efficiency measures, including standards issued to 478 industrial plants in eight energy-intensive sectors, and improved standards in appliances, lighting and buildings (p 11). The expansion of mass rapid transit systems (MRTS) of over a thousand kilometres in a number of cities has been proposed (p 15). However, India's INDC is deeply problematic at its core.

Hiding behind the Poor

Central to the INDC are two proclamations: "to reduce the emissions intensity of its GDP [gross domestic product] by 33% to 35% by 2030 from 2005 levels," and to generate "about 40% cumulative electric power installed capacity from

non-fossil fuel based energy resources by 2030" (p 29).

Emissions intensity refers to the amount of carbon dioxide (CO₂) and other gases emitted per unit of GDP. A reduced intensity implies a slower rise. But working through the numbers reveals that it will result in a massive rise in India's total emissions. Given the worsening economic crisis worldwide, let us conservatively assume that India will have an annual GDP growth rate of 5% over the period 2005–30. This would imply, after accounting for the reduced emissions intensity of 33%–35%, India's emissions in 2030 would be 2.5 times what they were in 2005. According to an Indian Network on Climate Change Assessment (INCCA)/Ministry of Environment and Forests report, India's gross emissions in 2007 were 1,904 million tonnes of CO₂ equivalent, CO₂-eq (INCCA 2010: i). (CO₂-eq includes other greenhouse gases, GHGs, as well, such as methane and nitrous oxide, measured in terms of their capacity to trap heat relative to CO₂.) So in 2030, India's emissions would be equivalent to about 5 billion tonnes of CO₂, very likely more. This is staggeringly high, and would form a significant part of straining the Earth's capacity to absorb GHGs.

This large rise in emissions is justified, by government and several independent observers, in terms of a "development deficit." Since India needs to still develop, it is only reasonable, they say, that our emissions will grow significantly. In this is an implicit assumption that future emissions will be to everybody's benefit. This has little basis in reality: despite electricity generation capacity more than doubling, from 1,12,700 MW in 2004 to 2,34,600 MW in 2014, 304 million people in India still have no access to electricity (INDC: 5). Or take energy/fossil fuel use: in rural areas, 87% of Scheduled Tribe and 70% of Scheduled Caste households still use firewood for cooking (Rukmini 2015). Consider poverty: incorporating multiple indicators to measure poverty beyond just calorie intake, such as hygiene, clothing, education and health, one study found that "69% of India is below the poverty line ...the rural situation is much worse at 84%" (quoted in Shetty

2008: 13). Or take the nature of employment, a key factor in persistent, rising inequality: while there has been an increase in jobs in recent years, almost the entire increase has been in the unorganised sector (Shetty 2008). Crucially, real wages for factory workers in 2012 were lower than they were in 1996.

There is no denying the justified, huge demand for electricity among the common people. There is also no denial of the huge benefits of electricity on people's lives. But there is no basis to assume that their lot is going to improve magically due to a pathway that would treble India's emissions by 2030. Nor is the future direction promising, given the recent attacks by the National Democratic Alliance (NDA) government on rights of organised workers and forest communities, its attempt (aborted so far) to amend land acquisition laws and its regular criticisms of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and the Forests Rights Act.

What is even worse, the underclasses in whose name India's sharp rise in emissions is being legitimised, tend to be the worst victims of climate change impacts, as seen during the Uttarakhand disaster (2013), the Mumbai floods (2005) and in the Sunderbans. The gains for the poor from much higher emissions are small, the adverse impacts huge.

Meanwhile, the better-off are growing. According to Kotak Wealth Management, the number of households with a minimum net worth of Rs 250 million has been rising steadily: 62,000 households in 2010, 81,000 in 2011, 1,00,900 in 2012, 1,17,000 in 2013–14. So when the Indian government states in the INDC that India's per capita emissions are only 1.56 metric tonnes (p 2), it is shamefully hiding behind the poor. It has the temerity to say "this is because Indians believe in nature friendly lifestyle and practices." This ignores the lifestyles of the 1,75,000 households with assets of one million dollars or more (RUPE 2014: 41), whose per capita carbon emissions are much higher than the average European and even American. The ecological footprint of the richest 1% of Indians is over 17 times that of the poorest 40% (Shrivastava and Kothari 2012). India's

valid position regarding differentiated responsibilities and historically unequal emissions between countries is not reflected in similar scrutiny of inequality between the rich and the poor *within* India itself.

This lack also pervades the INDC's proposals regarding climate change adaptation. Reducing risk and improving the capacity of people to adapt to climate change is linked to effective poverty eradication, improving food security through sustainable farming, promoting greater biodiversity, improving public health, and strengthening community resilience. These linkages have simply not been made explicit.

Indiscriminate Expansion

This rise in wealth of and consequently higher consumption by the better-off has resulted in a huge and indiscriminate planned expansion of electricity generation, which the INDC reflects.

First, the INDC uses the term "non-fossil fuels" rather than "renewables." This allows the government to include nuclear power. It sets a target of 63 gigawatts (GW) by 2032, a huge expansion from the current and under-construction installed capacity of 10 GW. It calls this power "a safe, environmentally benign and economically viable source!" After Chernobyl and Fukushima, to call nuclear power "safe" is delusional. And if one looks at the impacts of nuclear fuel mining, and the still-unsolved problem of safe disposal of nuclear waste, calling it "environmentally benign" is plain dishonesty. Nor is it economically viable, partly because "every reactor constructed by the Department of Atomic Energy has experienced cost overruns" and "importing 10,000 MW of foreign reactors would cost trillions of rupees" (Ramana 2012: 189). All these reasons make nuclear power the least suitable form of generating electricity in a climate crisis.

Second, within "renewable," the INDC includes "a vast potential of more than 100 GW" of hydropower. Of India's 46 GW of currently installed hydroelectric capacity, an overwhelming 42 GW comprises large hydro. Since there is no mention of priority to micro-hydel, the

INDC clearly implies a further expansion of large hydroelectric projects. Dozens of such projects are under construction or being planned, especially across the fragile Himalayan ecosystem. The enormous displacement, ecological damage to rivers and riverine ecosystems, submergence of forests, impacts on agriculture and people downstream, and methane emissions from reservoirs will all intensify with the expansion of large hydro, which cannot by any stretch of imagination be designated as “clean energy.”

Third, the INDC also slips in “clean coal” as “clean energy.” Coal of any quality has to be mined from mostly forested and inhabited areas, so its expansion will mean massive deforestation and displacement. The INDC says “coal will dominate power generation in future,” which hardly seems like a vision of an environmentally and socially sustainable future. The Modi government has recently drastically cut down the list of forested areas in which coal mining would not be allowed. Coal combustion and fly ash cause mercury poisoning; exposure to other heavy metals, such as arsenic and lead, even to premature deaths. And as the climate scientist James Hansen has pointed out, a single large coal thermal project causes the extermination of innumerable species as a consequence of CO₂ emissions over its lifetime. We appreciate that coal mining in particular is a huge source of employment, however hazardous, for lakhs of workers. Discussions about the possibilities of transitioning from coal and other fossil fuels to clean energy, and how “green” employment could be part of this are therefore urgent. Some union federations and other collectives in India have been engaging with these questions, but the INDC and the government in general are silent.

We are not against all forms of electricity generation. But an indiscriminate expansion of power generation which the INDC proposes will have huge adverse impacts on communities everywhere. Even climatically benign large solar parks and wind farms have social and environmental hazards, such as grabbing land from farmers and pastoralists,

and damaging ecosystems. Rooftop solar aside, we are concerned about the ultra mega solar power projects and 25 solar parks mentioned (INDC: 9), with several private corporations making blistering profits.

Hence, it would have been heartening had the INDC stated instead that much of the 40% generation from non-fossil fuels would be decentralised renewable energy (DRE, including solar, wind, hydro, biomass). DRE is not only ecologically less damaging but also more easily managed (and even set up) by communities, and therefore more able to provide quick energy access to the poor. Large-scale electricity production goes into centralised grids, from where access to the underprivileged has been poor. This issue of energy *justice* is mirrored by the issue of energy *democracy*: who decides about energy source, distribution and price? With DRE, decision-making can much more easily be with communities who need the energy.

A Sinking Feeling

Another important area is potentially harmful. The INDC says India will create by 2030 an additional carbon sink of 2.5 to 3 billion tonnes of CO₂-equivalent. India will enhance carbon sequestration by 100 million tonnes of CO₂-equivalent per year, by afforesting 5 million hectares (mha) and improving forest cover over another 5 mha (pp 16, 29).

It is hypocritical to talk of new areas under forests when existing forests, some of it millions of years old, are being axed in the name of development. Forestland diversion for mining, irrigation, power, industry, expressways and urbanisation is intensifying, with over 6 lakh hectares of forestland diverted since 1992 (CSE 2012). Compensatory afforestation of a few species can never replace this loss. Now funded under compensatory afforestation schemes, afforestation also takes over lands from communities dependent on them, often in violation of their rights. What is more, the NDA government proposes to hand over 40% of “degraded” forests to private capital. This will entail the further enclosure of commons lands. All of this has harmful implications for all forest communities,

so it is not clear exactly what “increasing the forest/tree cover” would imply.

Beyond Tipping Points

We also need to situate India’s INDC within a larger frame. By now, all the major carbon emitters and 148 countries overall have submitted their INDCs. What do their proposals imply for the planet?

The US says it will reduce its absolute emissions by 26%–28% below 2005 levels by 2025. It has shifted its baseline year from 1990, which it was in the Kyoto Protocol, to 2005. With a 1990 baseline, the US’s reduction target is a mere 13%–15%, much less than needed. Its emissions in 2013 were actually 7.4% *higher* than its 1990 levels (Narain and Bhushan 2015). China proposes to lower its carbon emissions intensity by 60%–65% from 2005 levels. It has also said it will try to peak its emissions before 2030, but has mentioned no target, and its emissions by then should be in the range of 13–15 billion tonnes. If one adds India’s 5 billion tonnes of CO₂-eq, and the US figure, then just the big three will have taken emissions well beyond what the planet can absorb.

Include the emissions of all the other big emitters, and we have a recipe for massive disaster. The Delhi-based research and advocacy organisation, Centre for Science and Environment, says the carbon budget is being overshot:

INDCs submitted by all major emitters indicate that cumulative emissions between 2012 and 2030 would be in the range of 700–800 billion tonnes of CO₂...the world is not on a path to the 2 degrees C target. This would be disastrous for poor people across the world (CSE 2015).

It would be even more disastrous for innumerable species, with a staggering proportion of all species worldwide committed to extinction.

Completely missing from India’s and all these INDCs is a sense of urgency. Last year was the hottest year in recorded history. July 2015 was the hottest month in 1,627 months, since monthly records began in January 1880. Several feedbacks in the climate system (ecosystem responses that cause further warming) such as melting Arctic ice, methane escaping from thawing permafrost, more

water vapour in the atmosphere, etc, have already kicked in. They will soon begin to feed on each other on a scale that will make it impossible for us to intervene. The INDCs and negotiating positions that India, China, the us and other major emitters bring to the table at the COP21 in Paris in December would need to be far more ambitious and qualitatively different if the planet is

to avoid crossing dangerous levels of global warming.

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