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# Mainstreaming India's water and climate concerns: Reflections before COP-21

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*India's INDC commitments show that it is serious about climate change but to effectively deal with the issue, all nations must actively engage in reducing their emissions.*

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INDCs will take centre stage at COP 21-UN Climate Change conference in Paris (Source: France Bleu)

*"Climate Change has taken on political dimensions, that's odd because I don't see people choosing sides over  $E=mc^2$  or other fundamental facts of science!" - Neil deGrasse Tyson, astrophysicist*

India is blessed with varied and abundant tapped and untapped natural resources on which a major portion of its economy is based. Be it the Himalayan and other mountainous regions, areas along the coastline, the Thar Desert, numerous wetlands, islands, and the intricate riverine system running all across the country, India's economic growth cannot be imagined without its natural resources. However, India faces a persistent water resources crisis owing to a growing imbalance of supply and demand.

### **Water problems everywhere**

The simultaneous effects of agricultural growth, industrialisation and urbanisation coupled with declining surface and groundwater quantity, intra and interstate water disputes and inefficiencies in water-use practices are some of the crucial problems faced by India's water sector. A population of more than 1.25 billion, an agricultural economy based on intensive irrigation, and fast developing large urban industrial centers have the potential to jeopardise the sustainability of available water resources in the country. Over the last two decades, water sources have depleted and pollution has increased. Groundwater levels are consistently dropping, and flow in major rivers has continued to decrease in the dry season. Shallow groundwater and surface water bodies have become severely polluted from agricultural pollution as well as untreated industrial and urban discharge.

Although India has a long coastline of over 7,500 km, a recent report

(<http://thewire.in/2015/11/09/climate-change-threatens-55-million-in-indias-coastal-areas-report-warns-15272/>) by Climate Central shows that nearly 55 million Indians residing on these coasts are under direct threat due to sea level rise. The recent floods in southern India due to unexpectedly heavy downpour, more frequent weather extremes and delayed seasons all point out that things have changed and if nothing is done to cap anthropogenic emissions, the worst is yet to come.

The dependence that the economy has on natural resources will be severely impacted if the worsening effects of climate change are not addressed. Still in its developing phase, India can't afford to forego even a part of its industrial development owing to ever increasing pressure from its growing population. But we also cannot go on developing without taking into account the emissions produced by these industries, which are major contributors of global warming due to the accumulation of more than necessary greenhouse gases in the atmosphere. After the United States and China, India, in fact, is the most carbon emitting country in the world [1 (<http://www3.epa.gov/climatechange/ghgemissions/global.html>)].

### **Global climate dialogue: COP-21**

The discourse with respect to global greenhouse gas emissions, which is also a view prescribed by developing nations, is the one which states that the historical responsibility of emissions lies with developed nations as they have been emitting them for more than 200 years since the start of the Industrial Revolution. In a few days time, over forty thousand delegates from nearly two hundred countries will meet in Paris at the much awaited Conference of the Parties (COP-21), the most important United Nations Climate Change Conference--after 1997's famed and unfortunately failed Kyoto Protocol--to discuss the steps to be taken after the Kyoto expires in 2020. Although, these COPs have largely been missed opportunities to reach to a consensus to cut global emissions by all countries, COP-21 is rather ambitious and at the same time more understanding in the way that it has asked all participating countries to submit their own plans as to how they will cut their emissions in the coming years.

Based on the principle of Common but Differentiated Responsibilities (CBDRs), these nation-determined plans, also called Intended Nationally Determined Contributions (INDCs), though not legally binding do show how serious every individual country is in its efforts to mitigate and adapt to climate change. Recent research points out that these INDCs won't be enough to cap the average global temperature rise under the scientifically agreed 2 degrees Celsius from pre-industrialised levels by the end of this century. An assessment by the European Commission's Joint Research Centre (JRC) shows that the INDCs submitted by 155 countries, which are responsible for around 90 percent of the global emissions, even if followed religiously by every single country would still increase the average global temperature by almost 3 degrees Celsius [2 (<http://www.ndtv.com/world-news/global-temperatures-to-rise-by-3-degrees-celsius-1237316>)].

### **India's INDCs**

Though these concerns need to be worked upon at the conference and beyond, India's INDC

commitments

(<http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO>) that it is serious about climate change as it is a nation that can be severely impacted by it. India has voluntarily declared a goal of reducing the emissions intensity of its GDP by 20-25 percent over 2005 levels by 2020. Despite the fact these goals are voluntary and have no legal binding under the United Nations Framework Convention on Climate Change (UNFCCC), India reported a reduction of 12 percent of its emissions intensity of GDP between 2005 and 2010 [3

(<http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%2>

Some might ask, and rightly so, how trustworthy such reports really are. The Emissions Gap Report 2014

([http://www.unep.org/publications/ebooks/emissionsgapreport2014/portals/50268/pdf/EGR2014\\_LO](http://www.unep.org/publications/ebooks/emissionsgapreport2014/portals/50268/pdf/EGR2014_LO)) by the United Nations Environment Programme (UNEP) has recognised India as one of the few countries that is achieving its voluntary reduction goals, something that gives India's INDCs some credibility.

The plans of action outlined in the INDCs on developing and promoting clean and efficient energy systems, making industries more energy-efficient, creating climate resilient urban centres and green transportation systems among others, are ambitious but achievable. They are ambitious not only from a governance and execution perspective but also from the availability of proper financing mechanisms for such mega-scale projects. Initiatives such as 'Make in India' to attract foreign companies to start manufacturing in India will generate a good amount of income from abroad. At the same time, it must be ensured that such manufacturers are emitting within the constraints of the carbon space.

An efficient Clean Development Mechanism (CDM) (<https://cdm.unfccc.int/about/index.html>) could benefit countries like India in many respects when it comes to emissions reductions. The CDM, provisioned by the UNFCCC under the Kyoto Protocol, lets industries incentivise their emissions reductions by generating Certified Emission Reduction (CER) units which can be further traded in various emissions trading schemes such as the European Union Emissions Trading Scheme (EU-ETS), the largest carbon market in the world. This allows industrialised countries to buy CERs and invest in emission reductions in any country where it is the cheapest. Thus, in a developing country like India where the costs of production are considerably lower than other places, such mechanisms can help other countries achieve their INDCs while at the same time generating funds for India to realise its own INDCs.

Many issues and apprehensions did crop up with the CDM since it was first started in 2001. The uncertainty of its future due to governments' reluctance to guarantee its existence, the low cost of carbon among many other technical, socio-economical and financial issues are some of the pressing concerns. This must be a topic of serious discourse at the upcoming COP in order to not defeat the overall purpose of this mechanism.

### **Miles to go**

India does need its carbon space for development and poverty alleviation [4

([http://www.huffingtonpost.in/2015/11/21/prakash-javadekar-intervi\\_n\\_8617864.html](http://www.huffingtonpost.in/2015/11/21/prakash-javadekar-intervi_n_8617864.html)]). The INDCs put forward are without doubt aggressive given India's per capita energy consumption, which is already well below the global average [5 ([https://www.google.co.in/publicdata/explore?ds=d5bnccppjof8f9\\_&met\\_y=eg\\_use\\_elec\\_kh\\_pc&idim=country:IND:PAK:BGD&hl=en&dl=en#!ctype=l&strail=false&](https://www.google.co.in/publicdata/explore?ds=d5bnccppjof8f9_&met_y=eg_use_elec_kh_pc&idim=country:IND:PAK:BGD&hl=en&dl=en#!ctype=l&strail=false&))] and put things in perspective, 6 percent of global emissions are attributed to India. India's historical responsibility for global warming has been calculated to be less than 3 percent. The corresponding numbers for the other two major emitters, China and the US, are 3 to 10 times higher [6 (<http://data.worldbank.org/indicator/EN.ATM.CO2E.PC>)].

Thus, in the endeavour to effectively deal with climate change, all nations must actively engage in their emissions reductions. International cooperation and recognition of challenges and constraints faced by the developing world must also be one of the outcomes of the COP-21. India, by all means, seems ready to play an important role in these multilateral deliberations.

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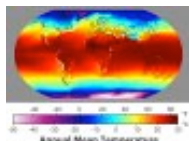
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