

Significance of India's INDC and climate justice: an appraisal

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Subsequent to the Conference of Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) held in Warsaw in November 2013 and subsequently in Lima in December 2014, all Parties initiated the process of formulating their own 'Intended Nationally Determined Contributions (INDC)' towards achieving the objective of the Convention well in advance of the 21st session of the COP held in Paris recently. INDC would outline the post-2020 climate actions that each Party would intend to take under a new international agreement thus considered strategic for climate justice. India has developed an ambitious INDC that envisages reducing the country's emissions intensity of its GDP by 33–35% by 2030 from the 2005 level, which is 75% higher than the target set earlier; generating 40% of electric power installed capacity from non-fossil fuel by 2030, which exhibits a jump of 33% over non-fossil fuel capacity of 2015, and creating an additional carbon sink of 2.5–3 billion tonnes of CO₂ equivalent through additional forest and tree cover, an increase of about 680–817 million tonnes of carbon stock¹. Besides it has put forward an extensive adaptation plan to mitigate negative climate impacts in identified key sectors/ecosystems. Being the second most populous country in the world, India faces huge challenges to fulfil basic needs of its growing population as well as to meet global commitments to reduce greenhouse gases (GHGs) emission; therefore its INDC has enormous worldwide implications. While there could be different views on India's INDC, here we provide a critical assessment as to how the country is working for climate justice in view of its diverse developmental challenges.

Global emission level

The historical record shows that since 1880 the emissions have resulted in a rise in global temperature by 0.85°C (ref. 2). As far as carbon space is concerned, the contribution of various countries differs, and as recorded in 2009 (1850 as base year), USA contributes 29% while

other developed countries contribute 45%. Among developing countries, China contributes 10%, other emerging economies 9% and India 3% (ref. 2). India is keen to undertake a low-carbon emission conduit along with moving on its developmental pathway.

Major challenges

India is the seventh largest country in the world. It has over 1.28 billion people (2015), contributing to about 17.5% of the world population with 2.4% of world land area. It houses 30% global poor, 30% global population totally dependent on solid biomass as the main source of energy and 7% without access to safe drinking water. The country has 304 million people without access to electricity, while 48% rural households lack basic facilities and can be considered as 'deprived'¹. The per capita electricity consumption in India is one-tenth of the developed world. With regard to human development index (0.586), the country ranks 135 in the world. It is, therefore, a gigantic task to meet the challenges of poverty eradication, food and nutritional security, access to education and health, gender equality and women empowerment, water and sanitation, employment, sustainable urbanization and new human settlements as well as to meet global commitments to reduce GHG emissions. India's INDC has been prepared after extensive stakeholder consultations and is based on the projected GHG emissions on the decadal interval till 2050.

Key issues of INDC

Focus on renewable energy

To attain sustained economic growth, India pledges for more renewable energy sources. Therefore, the country is running one of the largest renewable capacity expansion programmes in the world. As there is a gap in demand and supply of power in the country, it asks for more sincere efforts to generate additional power³. It is switching on to clean and renewable energy, enhancing energy

efficiency, developing climate-resilient urban centres and sustainable green transportation network. Achieving a target of 40% non-fossil-based power capacity by 2030 would result in at least 200 GW of new renewable power capacity by then. Already the country's share of renewable grid capacity has increased over six times, from 2% (3.9 GW) in 2002 to around 13% (36 GW) in 2015, from a mix of sources including wind, small hydro, biomass, waste and solar powers³. Such efforts have achieved an emission abatement of 84.92 million tonnes CO₂ equivalent/year. For 2022 its target is 175 GW, which is highly ambitious as the world's entire installed solar power capacity was 181 GW in 2014. Through zero effect and zero defect scheme, the efficiency of over 1 million medium and small enterprises is being improved for pollution control and waste management. Through mass rapid transit systems more metro-ways are being developed in major cities, which will reduce about 0.57 million tonnes of CO₂ equivalent annually. It has also set a massive programme to improve fuel standards. The country has 900 GW of estimated renewable energy potential from commercially exploitable sources. Thus renewable energy sources are of strategic national importance for the country, which can be achieved through favourable economic and policy support, and would put India on the path to a cleaner environment, energy independence and a stronger economy. At the same time it would help reduce reliance on fossil fuels, curb global warming, add jobs to the economy and protect environmental values such as habitat and water quality.

Increasing carbon sink

Forests have the potential to provide diverse ecosystem goods and services; also, they are well-recognized carbon sinks as well as the net source of carbon. India ranks tenth in the list of most forested nations in the world with 24% of its geographical area under forest cover. In the recent past its forest cover has significantly improved, acting as a net sink

of CO₂. During 1995–2013, its forest carbon store has been estimated as 6245 and 6941 million tonnes respectively⁴, which is considerable; it has registered an annual increment of 38.7 million tonnes of carbon (i.e. 140.5 million tonnes of CO₂ equivalent)⁵. Implementation of Green India Mission, Green Highways Policy, Incentive for Forests, Plantation along Rivers, and Compensatory Afforestation Fund Management programmes is expected to further improve the forest cover of the country. It has devised a formula to incentivize green growth and up to US\$ 6.9 billion is being transferred to states based on their forest cover. This investment is projected to increase up to US\$ 12 billion by 2019–20. Creating an additional carbon sink of 2.5–3.0 billion tonnes of CO₂ equivalent through additional forest and tree cover (increase of about 680–817 million tonnes of carbon stock) by 2030, for which 5 million hectares will be brought under forest cover, will enhance carbon sequestration by about 100 million tonnes CO₂ equivalent annually³. Green India Mission is expected to deliver 50–60% of it⁶. There is a need to provide further details on how the country plans to achieve the rest along with financial provision for it.

Adaptation strategy

For adaptation measures the country is focusing on key sectors, such as developing sustainable habitats, optimizing water-use efficiency, creating ecologically sustainable climate-resilient agricultural production systems, safeguarding the Himalayan glaciers and mountain ecosystem, and enhancing carbon sinks in sustainably managed forests. Currently India spends 3% of its GDP on adaptation. To implement national climate plans, it requires US\$ 2.5 trillion between 2015 and 2030. It has already created a National Adaptation Fund with an initial allocation of US\$ 55.6 million to combat

the adaptation needs in key sectors, which will assist national and state-level activities to meet the cost of adaptation measures. As it aims to lift around 360 million people out of poverty and elevate the living standards of even greater number of people, technology is the only powerful solution that can simultaneously address climate change and development needs. Technology development, transfer and capacity building are vital for ensuring development and deployment of clean technologies. The enhanced investment in these activities will require additional support through domestic and international funds. If the developing economies support in new technologies, the target could be achieved as desired.

Looking ahead

Urgent efforts are required to reduce GHG emissions, which should be seen against the backdrop of growing demand in each country. India fully understands its global commitments for climate change mitigation as well as its national obligations of poverty eradication, ensuring housing, electricity, good health and food security to all. Despite the fact that the Convention has not given any binding mitigation obligations to India, the country's INDC commitment appears virtuous. The United Nations Environment Program in its Emission Gap Report 2014 has recognized India as one of the countries on course to achieving its voluntary goal⁵. Aiming for an entirely renewable energy future may be achievable with ever-diminishing costs of solar energy and wind power⁷. Besides, it would slowly replace its coal power stations. There is a need to divulge more details on each of the activities along with the monitorable targets.

It is expected that during COP 21 in Paris a broader understanding will emerge on mitigation, adaptation, technology, finance and capacity of all coun-

tries, which would help streamline emission strategies at the international level⁸. It is also hoped that new bonding will emerge between developed and developing countries along with ways and means for technology development and transfer to take up the global cause of climate justice according to the principles and provisions of the Convention.

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