*Indian Foreign Affairs Journal* Vol. 8, No. 2, April–June 2013, 204-212

# *Emerging Dynamics of Climate Change: Post-Doha Climate Gateway*

Dinoj K Upadhyay and Manoranjan Mishra*

Amid the current Euro-zone crisis, economic slowdown in the United States (US) and increasing level in greenhouse gas (GHG) emissions in the rapidly growing economies, particularly in China and India, climate change negotiations seem to have now entered into an uncertain phase. After prolonged discussions on the mechanisms to deal with the emerging threats of climate change, the international community agreed to reduce the GHG emissions at the 18th round of climate negotiations in Doha that was held from November 27 to December 09, 2012. The Doha conference was considered crucial for shaping the future of the new climate regime after 2020 and for formulating effective international mechanism for global cooperation, particularly cooperation for implementing the Bali Action Plan 2008. The Doha meeting did result in some kind of an agreement on a climate regime for GHG reduction. The Kyoto Protocol, however, has entered into the second phase of climate negotiations without adequately addressing the issues of financing, technology transfer and higher emission caps. Access to finance and clean technology is crucial for climate change adaptation and mitigation.

India, one of the most vulnerable countries to the projected impacts of climate change, is a major stakeholder in the climate change negotiation process. The outcomes of climate change negotiation can severely affect Indian economy and society. This paper, in this context, is an attempt to analyse the Doha (2012) climate negotiations and the mechanisms to deal with increasing GHG emissions. It also discusses India's climate change policy and suggests the way India should respond to the changing climate dynamics.

## Recent Trends in GHG Emissions and Global Warming

The prospects for stabilising $CO_2$ emissions seem to be gradually fading. Scientists fear that absence of new carbon cuts would lead to a likely increase

***The authors** are Research Fellows, at the Indian Council of World Affairs (ICWA), and, at the Center for the Study of Regional Development, JNU, New Delhi, respectively.

in global temperature by 3°C to 4°C during the 21st century.[1] Global emission pattern of GHG, for example, indicates that the emission of $CO_2$, which is the main cause of global warming, reached an all-time high of 34 billion tonnes in 2011.[2] With a decrease in emissions in 2008 and a five per cent surge in 2010, the past decade saw an average annual emission increase of 2.7 per cent. Although the developed world is the major emitter, the emerging Asian economies are also substantial contributors. China, for instance, has become the largest emitter of $CO_2$ with 29 per cent global share in 2011, followed by the United States at 16 per cent, European Union 11 per cent and India 6 per cent. The Russian and Japanese shares are 5 and 4 per cent respectively.[3] The existing scientific literature suggests that limiting the average global temperature rise to 2°C above pre-industrial levels, which was internationally adopted in the UN climate negotiations, is possible only if a substantial 80 per cent emission is cut by the developed countries to reach below 1990 levels, by 2050.[4]

Thus, the scientific community predicts that there is a possibility that global warming would cross the threshold of 2°C and the world is likely to experience a temperature rise of 3-4 °C.[5] According to Rojeli et al., there is "virtually no chance of limiting warming to 2°C above pre-industrial temperatures"[6] as this is predicated upon developed nations substantially reducing their GHG. Further, in the absence of adequate infrastructure, resources and technologies to cope with rapid and significant changes in the global climate, scientists worry that more than 2°C temperature rise would have "dangerous, irreversible and hardly controllable consequences for nature and human society".[7] The World Development Report 2010 notes, for instance, that even 2°C warming above the pre-industrial temperature is the minimum the world is likely to experience and it could result in permanent reductions in four to five per cent of the Gross Domestic Product (GDP) in Africa and South Asia.[8]

## Doha Climate Change Conference: Key Issues

After prolonged discussions on the emerging climate threats and the mechanisms to deal with them at the Doha Conference, all countries once again reiterated their commitment to limit GHG emissions.[9] The Doha meet was considered crucial for shaping the future of the Kyoto Protocol, the new climate regime after 2020 and for formulating an effective international mechanism for global cooperation, particularly cooperation for implementation of the Bali Action Plan 2008.[10] Although climate change consists of multifarious issues, a global climate regime for effective cut in emissions, based on the

principle of equity, financing and technology transfer etc. are critical for determining future climate discourse.

## Global Climate Change Regime

International negotiations have been plagued by differences between developing and developed countries over emission cuts. Establishing a global regime based on the principle of equity and Common but Differentiated Responsibility (CBDR) is thus essential for reducing GHG emissions to limit environmental damage by restricting global warming to below 2°C. The Doha Conference witnessed a marginal step forward in the emission reduction targets. Although the Kyoto Protocol entered its second phase beginning from 2013 to 2020, its significance is little in quantitative terms.[11]

The Protocol provides for the industrialised countries to take on legally-binding emission reduction targets. Only 37 countries signed the second commitment period. The EU has made commitment to reduce emissions by 20 per cent from the 1990 levels in 2013-2020[12]; and Australia has also declared to reduce its emissions to 5 per cent below to 2000 levels by 2020.[13] However, several industrialised countries, such as Japan, Russia, Canada and New Zealand have refused to sign on the second commitment period of the Kyoto Protocol. The US has already refused to enter into the climate change regime. China, the largest emitter, is also out of the regime.[14] Consequently, the climate regime would not cover 85 per cent $CO_2$ emissions. The EU and Australia are the only prominent countries that have taken on reduction targets for the 2013-2020 period.[15]

Although the group of major developing countries – BASIC (Brazil, South Africa, India and China) – welcomed the outcomes of the Doha Conference, they noted the low level of mitigation steps pledged under the second commitment period of the Kyoto Protocol and argued that their own mitigation efforts are rather greater in quantum than those of the developed countries.[16] The Joint Statement issued at the Conclusion of the 14$^{th}$ BASIC Ministerial Meeting on Climate Change maintains that developing countries including the BASIC countries have voluntarily taken appropriate mitigation actions to reduce the GHG emissions.[17] The BASIC countries lay stress on a pragmatic approach to implement the mitigation and adaptation actions in developing countries. Thus, they argued that adequate financial and clean technology support should be provided to the developing countries. The Joint Statement re-emphasised on providing US$100 billion per year by 2020, as committed by the developed countries.[18]

## Climate Change Finance and Technology Transfer

It has always been an uphill task to strike a balance between developed and developing countries during Climate Change negotiations. Additional resources and access to advanced technologies, essential for coping with climate change threats and promoting sustainable development, particularly in energy or transportation are of greater interest to developing countries.

Finance and technology transfer are *sine qua non* for mitigation and adaptation to climate change. At the Conference, there was visible progress in generating sufficient climate fund commitments and meaningful transfer of clean technologies to developing nations. Financing and clean technology would be helpful in enabling developing countries to better manage vulnerabilities to the vagaries of climate change. A reading of the Conference documents shows that climate change financing, both for the interim period up to 2020 and for the long-term post-2020 period, has not been properly addressed. The 'Doha Climate Platform' merely encourages the industrialised countries to keep up the level of US $ 10 billion a year assistance that had been pledged as fast-start finance between 2010 and 2012.

According to Fuhr (2012), very limited progress was made in the Doha Conference about concrete financing commitments and the targets between 2012 and 2020. There was little progress made in scaling up climate finance;[19] the estimated cost of climate adaptation varying from $200 to 300 billion.[20] Considering the economic downturn in the EU and the US, there was limited scope for getting more finance from these nations. The economic crisis is also undermining the political will to deal with climate issues amongst the industrialised nations and to go for meaningful higher emissions cuts.

Most of the issues of the Bali Action Plan, particularly implementation of the Long-term Cooperative Action (LCA), including technology transfer have now been included in the agendas of other technical bodies of the United Nations Framework Convention on Climate Change (UNFCCC).[21] It is now evident that developed countries do not intend to provide clean technologies to developing countries for free; or, even at an affordable cost.

## India's Responses for Addressing Climate Change

The impact of climate change will exponentially increase the existing challenges already posed by the tropical geography – a heavy dependence on agriculture, rapid population growth, poverty, and limited capacity to cope with an

uncertain climate. Although all regions of the world would be affected by the projected climate catastrophes, developing countries would be more vulnerable to them because of the presence of sizable underprivileged population.[22]

India is the second largest populous country of the world with around 833 million rural population (according to the 2011 census) directly dependent on climate-sensitive sectors such as agriculture, forests and fisheries and natural resources for their livelihoods and subsistence.[23] Environmental hazards thus may affect the hydrological cycle and the severity of droughts may increase. Global warming would have negative impact on crop productivity due to reduced harvesting durations. Agriculture and allied activities are crucial to India for ensuring income and employment generation for majority of population in rural areas. An increase in frequency of tropical cyclones in the Bay of Bengal and similar natural calamities in different parts of the country are inevitable. New regions may be affected by malaria and the duration of the malaria transmission windows is likely to widen in northern and western states and shorten in southern states. Desertification of lands is another possibility of climate change.[24] Increased temperature and changed precipitation might reduce agricultural and natural resources that would be detrimental to the economic growth and poverty reduction efforts. The poor are more at risk from the impacts because of their limited capacity to cope with existing climate variability and future change.

Successful adaptation, coupled with mitigation, therefore, holds the key for economic growth and inclusive development in India. India's policy has to necessarily reflect both its domestic priorities and global obligations for limiting climate damage and attain a sustainable path for development. Prime Minister Manmohan Singh has already announced that per capita emission levels will not exceed levels of those of developed countries. India also aims to reduce emission intensity of its GDP by 20-25 per cent of the 2005 level by 2020. India has adopted the National Action Plan on Climate Change (NAPCC) which includes both mitigation and adaptation measures. The NAPCC is a comprehensive policy document that includes eight thematic missions covering areas such as solar energy, energy efficiency, sustainable agriculture and strategic knowledge. While mentioning the challenges thematically, the missions under the NAPCC provide a policy framework for sustainable development.

Recognising the importance of clean energy, the National Solar Mission and Mission for Enhanced Energy Efficiency lays down the goals of harnessing solar energy and improving energy efficiency. The National Solar Mission notes that as a tropical country India has immense potential for solar energy.[25] The mission aims to tap solar power potential and envisions methods like

solar thermal and solar photovoltaic to convert solar radiation into heat and electricity. The Mission aims to ramp up the capacity of grid-connected solar power generation to 20,000 MW and off-grid applications to 2000 MW by 2022. The government of India is providing various incentives to promote solar and wind energy. The National Mission for Enhanced Energy Efficiency is also relevant here as it has the mandate to adopt a market-based mechanism to enhance cost effectiveness and improvement of large energy-intensive industries. This will result in accelerating the shift to energy efficiency appliances to make them more affordable, provide an energy efficient financing platform and develop fiscal instruments to promote energy efficiency.[26] The Mission aims to save about 23 million tonnes of oil-equivalent of fossil fuels per year by 2014-2015. It also encourages energy efficient buildings.[27]

The National Mission on Sustainable Habitat, on the other hand, intends to improve energy efficiency in buildings and bring about a modal shift to public transport. The Green India Mission aims to expand the area under forest and tree cover to 33 per cent (10 million hectares over the next decade). This will help to improve ecosystem services including biodiversity, hydrological services, and carbon sequestration.[28]

Considering the pattern of emissions and development concerns, India's policy should be geared to support an environmental regime that incorporates environmental and development concerns of its own as well as those of other developing countries. Due to its economic size and increasing share of GHG patterns, developed nations have been trying to pressurise India to accept more responsibilities in emission reduction.[29] With a large population below poverty-line and huge challenges for unemployment, infrastructure and services, it will not be prudent for India to agree on any environmental measure that has the potential to stifle its economic growth. It is also a fact that India is among the world's lowest per capita emissions countries. The per capita $CO_2$ emission was 1.3 tonnes in 2008 which is one third of the global average, a fourteenth of the US and a sixth of the EU.[30]

Further, the national adaptation project under these global funds should target long-term plans like food security, access to drinking and irrigation water, sound public health, coastal infrastructure, and other basic needs with an overall objective of climate-friendly development. These funds also present an opportunity for India to gain requisite experience for future accessing adaptation funds and to mobilise more resources.

The outcomes of the Doha Conference have both positive and negative connotations for India. New Delhi had expected a more meaningful and comprehensive outcome from Doha. However, several key concerns of India

have been implicitly incorporated in the discussions at the Doha meeting. India successfully brought the Intellectual Property Rights matter into the climate negotiations.[31] Though the second commitment for emissions reduction under the Kyoto Protocol is elusive, developing countries, including India have no binding obligation to reduce emissions by 2020 as often demanded. India is of the view that clean technology should be declared as 'global public goods'[32], and argues for an international agreement for the availability and purchase of these technologies.[33] However, the Doha Climate Platform launched at the Doha Conference offers neither hope for adequate financing nor technology transfer mechanisms. India also advocated that the principle of equity is the mainstay of global climate regime and categorically stated that any tinkering with the term 'equity' would not be acceptable.

## Conclusion

India has taken a number of initiatives to reduce its GHG emissions. But there is a need for comprehensive and coordinated efforts at the global level, though several key concerns of India have been incorporated in the discussions at Doha meet. As a prominent actor in climate change negotiations, India appears determined to push forward the issues that are important for its development as well as those of other developing countries. The climate change underpins almost all aspects of economy and society and is intrinsically connected to global trade, security, technology transfer and energy. Thus, India should enhance its diplomatic activities with countries that share common climate concerns, while mainstreaming such concerns in its foreign policy.

## Notes

1 Panda, Architesh. 2012. 'The World Beyond Two Degrees: Where Do We Stand?' Current Science, Vol. 103, No. 8, October, p. 895.

2 Olivier, Jos G.J., et al. 2012. Trends in global $CO_2$ Emissions 2012 Report. The Hague: PBL Netherlands Environmental Assessment Agency, http://edgar.jrc.ec.europa.eu/CO2REPORT2012.pdf. p.6.

3 Ibid, pp.6-7.

4 Panda, Architesh. 2012, p. 895.

5 Olivier, Jos G.J., et al. 2012, p.7.

6 Rogelj, Joeri et al. 'Halfway to Copenhagen, No Way to 2 °C', Nature Climate Change, 2009, p. 57.

7 German Advisory Council on Global Change (WBGU). 2011. World in Transition: A

Social Contract for Sustainability, Berlin: WBGU, p. 33.

[8] The World Bank. 2010. The World Development Report 2010: Development and Climate Change, Washington: The World Bank.

[9] Goswami, Urmi A. 'For A Global Climate Change Regime', The Economic Times, 20 December 2012.

[10] International Institute for Sustainable Development (IISD). 2012. 'Earth Negotiations Bulletin' http://www.iisd.ca/climate/cop18/enb/, p.3.

[11] Narain, Sunita, 'Doha: Inaction in the Face of Urgency', Down to Earth, 31 December 2012.

[12] European Commission. Climate Action: Greenhouse Gas Emissions and Targets. http://ec.europa.eu/clima/policies/g-gas/index_en.htm

[13] Australian Government, Department of Industry, Innovation, Climate Change, Science, Research and Tertiary. Australia Joins Kyoto Protocol Second Commitment as World on Track to 2015 Climate Change Agreement. http://www.climatechange.gov.au/ministers/hon-greg-combet-am-mp/media-release/australia-joins-kyoto-protocol-second-commitment-world

[14] International Institute for Sustainable Development (IISD).

[15] Goswami, Urmi A, 'On Road to a Warmer World', The Economic Times, December 13, 2012.

[16] Joint Statement issued at the Conclusion of the 14th BASIC Ministerial Meeting on Climate Change Chennai, India, Feb 16, 2013, http://moef.nic.in/assets/ XIV_BASIC_ Joint__ Statement_FINAL.pdf

[17] Ibid.

[18] Ibid.

[19] Fuhr, L. 2012. The 'Doha Climate Gateway': Will the Camel Go through the Eye of the Needle?, Heinrich Böll Foundation.

[20] Dasgupta, Dipak. 'Climate Change Financing', Ministry of Finance, Government of India, http://finmin.nic.in/the_ministry/dept_eco_affairs/economic_div/PEA_message.pdf; and International Institute for Sustainable Development (IISD).

[21] Goswami, Urmi A. 'On Road to a Warmer World', The Economic Times, December 13, 2012.

[22] Stern, Nicolas. 2010. 'Implications of Climate Change for Development', in Benedicte Bull and Morten Boas. eds., International Development, Volume III, New Delhi: Sage Publications India Pvt. Ltd, p. 239.

[23] Sathaye, Jayant et al. 'Climate Change, Sustainable Development and India: Global and National Concerns', Current Science, Vol. 90, No. 3, http://www.ssvk.org/climate_change_sustainable_development.pdf, p. 318.

[24] Sathaye, Jayant et al. 'Climate Change, Sustainable Development and India: Global and National Concerns', Current Science, Vol. 90, No. 3, http://www.ssvk.org/climate_change_sustain able_development.pdf, pp. 318-9; and INCCA: Indian Network for Climate Change Assessment. 2010. Climate Change and India: A 4X4 Assessment, A Sectoral and Regional Analysis for 2030S, htttp://www.ssvk.org/climate_change_ sustainable_ development.pdf.

[25] Jawaharlal Nehru National Solar Mission: Towards Building Solar India. http://india.gov.in/allimpfrm s/alldocs/15657.pdf, p. 1.

[26] Garnaik, S P. 'National Mission for Enhanced Energy Efficiency', Bureau of Energy Efficiency, Government of India, http://moef.nic.in/downloads/others/Mission-SAPCC-NMEEE.pdf; and Dhar, Aarti. 'National Mission on Enhanced Energy Efficiency Approved', The Hindu, August 25, 2009.

[27] Parikh, Kirit and Nicolas Stern. 'India's Low-Carbon Growth Strategy', The Indian Express, June 8, 2012.

[28] Government of India, Prime Minister's Council on Climate Change, National Action Plan on Climate Change, http://pmindia.gov.in/climate_change_english.pdf.

[29] Andrew Hurrell and Sandeep Sengupta (2012). Emerging Powers, North-South Relations and Global Climate Politics, International Affairs, 88:3, pp-463-64.

[30] Parikh, Kirit and Nicolas Stern. 'India's Low-Carbon Growth Strategy', The Indian Express, June 8, 2012.

[31] Chauhan, Chetan. 2012. "Doha Talks: India Needs to Re-think Climate Change Strategy", The Hindustan Times, December 11, 2012.

[32] World Watch Institute. "India Summit Strives for Global Access to Climate-Friendly Technologies",http://www.worldwatch.org/node/6302

[33] Ibid.

✶ ✶ ✶