

CLIMATE CHANGE NEGOTIATIONS AND INDIA: DECONSTRUCTING INDIA'S RATIFICATION OF PARIS AGREEMENT ON CLIMATE CHANGE

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INTRODUCTION

Climate change is one of the most alarming and debated issue of 21st century. It is a cumulative result of manmade interventions into nature. Countries can be divided in physical boundaries but environment is indivisible. There are countries which may not have added to the cause of global warming but are victims of it. India is an active member of climate change negotiations since United Nations first conference on environment i.e. "UN Conference in Stockholm, 1972. India has participated in successive conferences on environment and has signed Paris agreement on Climate Change, 2015. Scientific studies reveal that rise in global average temperature beyond 2^oC will bring many adversaries like rising of sea level, rise in natural calamities, changes in cropping pattern and rise in number of diseases. This agreement aims to control the emissions of Green House Gases (GHGs) so that rise of global temperature can be kept below 2^oC. India ratified it on 2nd October 2016. The agreement can be implemented when countries accounting for 55 per cent of emissions ratify it. Before India 61 countries have ratified it accounting for 48 per cent of global emission. It means that with India's ratification the agreement can be implemented as India accounts for 7 per cent of global emissions. However, India is in a great flux because of climate change. On the one hand it needs to exploit fossil fuel, a cheap source of energy, to bring development on the other hand it has to promote green technology to control climate

change. Indira Gandhi, in Stockholm, has said that "poverty is the biggest polluter." Therefore, India believes that undeveloped India contribute more to the GHGs compare to a develop one. However, India needs to explore the less polluting path to development. With this background this paper deconstructs India's Intended Nationally Determined Contributions in Paris Agreement on Climate Change and analyse how India has planned its less polluting way of development.

CLIMATE CHANGE: A BRIEF ANALYSIS

Climate change is widely and deeply studied phenomenon. Its importance can be viewed from the fact that it is covered from primary school education to specialized global institutions like the United Nations. Climate change is not limited to one specific field of study rather it is studied in different academic field like environmental studies, economics, geography, politics, history, architecture, engineering and policy science. The problem of climate change is scientifically proven and coded in the reports of specialized agencies of United Nations, Non-Governmental Organisations (NGOs), State Government and Scientific Research Groups. Ministry of Environment and Forest of Government of India has published a report Climate Change and India in 2010. It is popularly known as 4X4 INCCA report. It concentrates on impact of Climate Change on four key sectors agriculture, forests, human health and water and four regions the Himalayan,

the Western Ghats, North Eastern region and the Coastal region of India. It has following important findings:

1. If man-made GHG emissions were completely halted today, sea-level will continue to rise to the end of this century.
2. The annual mean surface air temperature is projected to rise by 1.7°C and 2.0°C in 2030s. Seasons may be warmer by around 2°C towards the 2030s.
3. All the regions are projected to experience an increase in precipitation in 2030s with respect to 1970s and the increase is maximum in the Himalayan region and minimum increase in the North Eastern region.
4. Irrigated rice in all the regions are likely to gain in yields marginally due to warming as compared to the rainfed crop as the irrigated rice tends to benefit from CO₂ fertilization effect. Maize and sorghum are projected to have reduced yields in all the regions.
5. Water yield is projected to increase in the Himalayan region in 2030s by 5-20%, however, water yields are likely to be variable across the North Eastern region, Western Ghats, and Coastal region. In some places in these regions, it is projected to increase and in some places it is projected to decrease (MOEF 2010).ⁱ

Planning commission of India has also formed a sub group to study climate change in 12th five year plan. In this report the sub group has studied the vulnerability of various areas like agriculture, water resources, forest and eco system, coastal areas, health system and economic impacts. It has also deliberated upon National action plan on climate change, State action plan on climate change and financing of climate change (GOI 2011).ⁱⁱ

Intergovernmental Panel on climate Change (IPCC) has come out with its fifth assessment report in four volumes i.e. Climate Change 2013 the

Physical Science Basis; Climate Change 2014, Impact, Adaptation and Vulnerability; Climate Change 2014 Mitigation of Climate Change and Climate Change 2014: The Synthesis Report. The conclusions of the IPCC working groups open with a statement of Albert Einstein "Problems cannot be solved at the same level of awareness that created them." Its major findings are

1. The atmosphere and the oceans have warmed;
2. The amounts of snow and ice have diminished;
3. Sea level has risen;
4. The concentrations of GHGs have increased;
5. CO₂ concentrations have increased by 40% since preindustrial times from fossil fuel emissions;
6. The ocean has absorbed about 30% of the emitted anthropogenic carbon dioxide, causing ocean acidification;
7. Human influence on the climate system is clear;
8. There is high confidence that changes in total solar irradiance have not contributed to the increase in global mean surface temperature over the period 1986 to 2008 and
9. Continued emissions of GHGs will cause further warming and changes in the climate system (Pachauri 2013).ⁱⁱⁱ

This paper ends with a very influencing statement of Mahatma Gandhi read as "A technological society has two choices. First it can wait until catastrophic failures exposesystemic deficiencies, distortion and self-deceptions...Secondly, a culture can provide social checks and balances to correct for systemic distortion prior to catastrophic failures."

There are many other reports that put forward the fact that climate change is happening and it is not a myth created by few. Like in 2006 Vice president of the USA has come out with a documentary An Inconvenient Truth it speaks about

the dangers of climate change and its impacts on habitat and ecology of earth.^{iv} Recently in November 24, 2014 World Bank has come out with a Report “Turn down the Heat: Confronting the new Climate normal”. It talks about ill effects of climate heating of 4°C and how these ill effects can be controlled by keeping the rise of temperature within the level of 2°C. According to Rachel Kyte, World Bank Group Vice President and special envoy for Climate Change “urgent and substantial technological, economic, institutional and behavioral change is needed to reverse present trends. Economic development and climate protection can be complementary. We need the political will to make this happen (World Bank 2014).”^v There are many indigenous documentaries revealing the impacts of Climate Change on India. Vijay S. Jodha has directed a documentary “The Weeping Apple Tree” in 2005. It reveals that apple growing belts in India are moving towards higher altitude because of climate change.^{vi} Therefore there is a unanimous finding that climate change is taking place and there are numerous reports, documentaries and findings to support it.

There are limited options to resolve this challenge created and faced by our fossil fuel driven model of development. There is one technological option i.e. exploring renewable technology in such a manner that it can replace our massive dependence over fossil fuel. However, such a transformative technological revolution is not visible in near future. It is certain that our future relates with political will where multilateral political and a political actors can

facilitate a platform to different stakeholders so that states can control their emission and control the rise of temperature to address the problem of climate change.

INDIA’S INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDCS)

Before analyzing India’s INDCs it is important to know some basic facts about India. It caters around 17.5 percent of the world population while it has 2.4 percent of the world surface area. It garners the largest proportion of global poor around 30 percent^{vii} and around 24 percent of the global population without access to electricity i.e. 304 million people.^{viii} Besides, around 30 percent of its population relying on solid biomass for cooking along with 92 million without access to safe drinking water. Presently, India has a HDI of 0.609 and global rank of 130^{ix}, It needs to put a lot of efforts to provide an environment friendly and development inclusive life to its people.

Further, it is also necessary to examine India’s share in global emission. It is interesting to know that India’s contribution in carbon emission, gross as well as per capita, is very low. India produces 1.7 tons carbon per person on the other hand China and the USA are producing 6.2 and 17.6 respectively which is very high in comparison to India (World Bank 2013).^x

Country wise Annual Carbon Emission (Million Metric Tons)

China	USA	EU	India	Russia	Japan
8500	5400	3800	1900	1800	1300

Source:Trends in Global CO2 Emissions: 2013 Report (Available at http://edgar.jrc.ec.europa.eu/news_docs/pbl-2013-trends-in-global-co2-emissions-2013-report-1148.pdf)

India is the fourth largest emitter in the world. However, its emissions are around 25 per cent of China, about 33 per cent of the USA, and about 50 per cent of the EU. Second, they are roughly equal to those of Russia and not a lot higher than those of Japan. China, the USA and EU if clubbed together produce more than half of the global emission on the other hand, India though it rank fourth but emits only 6 percent of the world's greenhouse gases. Therefore, India is not such a big polluter as it is projected.^{xi} Therefore, India has a strong claim for her development and can go for moderate reductions in her emissions. India has tried to maintain a fine balance between its contributions for climate change and economic development. India has taken significant steps to show its commitment for climate change. India, in Copenhagen climate talk 2009 COP-15, has committed herself to reduce her GDP emission intensity by 20-25 per cent by 2020 compared to 2005 levels.^{xii} India has a younger population and India has a potential for demographic dividend (MoF 2015).^{xiii} This potential of demographic dividend will require more development which developed countries including China have accrued. However, in its submission to Intended Nationally Determined Contributions (INDCs) to UNFCCC India has revised its emission reduction and committed to cut emission intensity of GDP by 30-35 per cent by 2030 to 2005 level^{xiv}. India has also committed for increasing her capacity for renewable energy. India has already distributed 16.52 crore LED bulbs besides, battery run Rickshaws are becoming popular mode of commutation in its cities like Delhi, Chandigarh, Bangalore, Mumbai, and Lucknow and many other cities. In addition electric cars are also introduced in Indian cities to reduce greenhouse gas emission per units. India, in its INDCs, has also committed that by 2030 India will generate 40 per cent of its electricity by non-fossil fuel. India, in Copenhagen itself, announced to install 20 GW of solar energy with 19 \$ billion investment. Recently, India has announced a fivefold increase in solar energy i.e from 20 GW to 100 GW with require 100\$ billion investment. Further, in her INDC's India has committed to increase its renewable energy

upto 175 GW in till 2020.^{xv} India has set up a target of 100 GW electricity generations by solar and 60 GW by Wind till 2022. Presently, India has 8,500 MW total installed solar capacity and 27,6000 MW of Wind energy. India is providing incentives to individual as well as the entrepreneurs for production and use of solar as well wind energy. India has also maintained, in her INDCs, that it will create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030. Presently, India has 24 per cent of forest cover and to achieve the given target India needs to increase its forest cover up to 33 per cent. While India has so ambitious plans for climate change however, it has a development agenda as well. The average annual energy consumption in India in 2011 was only 0.6 tonnes of oil equivalent (toe) per capita as compared to global average of 1.88 toe per capita. India requires cheap fuel for accelerating her development therefore, India has announced that it will double its coal production which currently is 1 billion tonne per annum. Thus, India on the one hand is responsive to the cause of climate change on the other hand it doesn't want to hamper its development and attempting a balance in its action of climate change and desire for development.

BEYOND INDCS

India, in addition to INDCs, initiated policies, acts and schemes that address climate change.

Its National Environment Policy (NEP) 2006, encourages an eco-centric approach that equally takes care of ecological rights along with homo-centric development. Besides, it also blends ecological sustainability with social justice. NEP recognizes the need to protect environment and India's requirement of development. The National Action Plan on Climate Change (NAPCC) was introduced in 2008 and is a comprehensive plan to that addresses climate change in India. It composed of eight larger plans namely National Solar Mission, National Mission for Enhanced Energy Efficiency,

National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, Green India Mission, National Mission for Sustainable Agriculture and National Mission on Strategic Knowledge for Climate Change. NAPCC mandates that ministries responsible for their respective plans are required to draw objective and make strategies and action plans to achieve them and finally submit the implementation report to the Prime ministers Council on Climate Change. Besides the Union government 32 States and Union Territories have charted out their State Action Plan on Climate Change and already working on it. Energy Conservation Act was enacted in 2001. Its objective is twofold one the efficient utilization of energy and second conserve and protects energy from wastage. Bureau of Energy Efficiency (BEE), an agency under government of India, has been created in 2002. It used to develop programs that conserve energy and promotes efficient use of energy in India. BEE has introduced many programs like star ratings to appliances according to their efficiency of electricity consumption, programs on national radio and television and so on.

National Electricity Policy 2005 has been formulated under Electricity Act 2003. The primary objective of the policy is universal access to electricity to people of India. However, policy also encourages the efforts to produce electricity from renewable resources. In the long run hydro, solar and wind based energy generation is emphasised as per the policy guidelines. National policy for Farmers 2007 acknowledges the possible climate change led changes in agriculture. It draws plan which focuses adaptations in agriculture so that productions as well as the income of farmers don't suffer.

On the one hand India introduced policies, acts and schemes to promote renewable energy, adaptations and sustainable development on the other hand it also introduced schemes and regulatory bodies to impose economic cost, demotivate activities that cause pollution in the environment. Coal cess was introduced to increase the economic cost of coal exploration. It was introduced with Rs 50 per tonne 2010 later on it was

increased to Rs 100 per tonne and in last budget 2016-17 it is doubled i.e. Rs 200 per tonne. India in its 2015 budget has also set up a National Adaptation Fund with an initial corpus of Rs 100 Crore. This fund will help India to face climate change in sectors like agriculture, water and forestry.^{xvi} Diesel and petrol are major sources of CO² emission therefore; higher taxes are imposed on both. Besides, subsidies on fossil fuel items are reduced or completely withdrawn. The fund raised by coal cess and other environmental taxes is deposited in National Clean Energy Fund (NCEF) which funds the clean energy projects in India.^{xvii} In addition to it there are other schemes like Renewable Purchase Obligation (RPO) and Renewable Energy Certificates (REC) provide legal targets for promotion of renewable energy. RPO is a collective outcome of different regime of police and acts. Electricity Act 2003 provides "promotion of cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee."(EA 2003). Besides, National Tariff Policy 2006 provides that "the appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impacts on retail tariffs." (NTP, 2006) Therefore, India is having a vast environmental regime that not only promotes the use of renewable energy but also control the disincentives the emissions of GHGs.

Conclusion

While speaking of climate change it needs to understand that it is a result of industrialization led development. In this race of growth while some (developed countries) have moved forward others (developing countries) are left behind. Presently, while developing countries like India are demanding their right to development. It is contested on the ground of climate change. It is in this background

that India put its argument that while it is not the cause of the problem i.e. global warming lead climate change it is one of the active participant engaged for its solution. India also argues that poverty is the biggest polluter and right to development cannot be denied to its people. Secondly, India strongly believes that development can be attained without damaging the environment. Indians, since ages, have pro-nature life-styles. It has sects like Bishnoi which is completely devoted to the worship and protection of nature. It has a history of people like Amrita Devi who sacrificed her life for trees and Sunderlal Bahuguna who led the chipko movement to save trees from the clutches of capitalist goonies. From the perspective of per capita GHGs emissions in the world India ranks tenth in the world. It indicates environment friendly life styles of Indians. In modern times Gandhi ji's principle of trusteeship is suitable example to define Indian philosophy of environment. This principle indicates that we are the custodian of all resources and not their owner. In other words India has eco-centric

approach that trusts that like people trees and animals also have right to existence and in the name of homo-centric development environmental rights cannot be ignored. India has a sustainable way of living and this is the primary reason that despite India has 1.3 billion population its GHGs emissions are very low. India constantly argues that while discussing climate change climate justice never be ignored. India, like other countries, has right to development and it is balancing its development with efforts of climate change. India's efforts for climate change are not only subjected to INDCs even apart from this target India has developed a web of environmental governance that include renewable sources of energy, cess and surcharges on polluting agencies and activities and utilization of funds for clean energy and so on. Therefore, India's INDCs are a part of its efforts towards climate change and India's efforts for climate change are a beautiful blend of its commitment towards climate change and gist for development.

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ⁱOnline available at <http://www.moef.nic.in/downloads/public-information/fin-rpt-incca.pdf>

ⁱⁱ Climate Change & 12th Five Year Plan, *Report of Sub Group on Climate Change*, Govt of India, New Delhi, Oct 2011.

ⁱⁱⁱPachauri, R.K *Conclusions of the IPCC Working Group I Fifth Assessment Report*, AR4, SREX and SRREN. Warsaw, Poland. 11 Nov 2013.

^{iv}Online available at <https://www.youtube.com/watch?v=OcLG-tcMvyg>

^vOnline available at <http://www.worldbank.org/en/news/press-release/2014/11/23/new-climate-normal-poses-severe-risks>

^{vi} Online available at www.downtoearth.org.in/node/8289

^{vii} Online available at <http://povertydata.worldbank.org/poverty/country/IND>

^{viii} Online available at <http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS>

^{ix} Human Development Index Report, online available at <http://hdr.undp.org/en/composite/HDI> viewed on 16 Jan 2017.

^xOnline available at <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC>

^{xi}Online available at www.huffingtonpost.com/2014/11/14/us-china-climate-pact

^{xii} Online available at http://unfccc.int/meetings/copenhagen_dec_2009/meeting/6295/php/view/decisions.php

^{xiii} Ministry of Finance. *Economic Survey 2014-15*. New Delhi, Government of India, pp. 129-130.

^{xiv} “*India’s Intended Nationally Determined Contribution: Working towards Climate Justice*” submitted to UNFCCC on 1 October, 2015. Text online available at www4.unfccc.int/submissions/INDC/.../INDIA%20TO%20UN

^{xv}Ibid. pp 9-10.

^{xvi}Online Available at <https://www.adaptation-fund.org/wp-content/uploads/2016/08/National-Adaptation-Fund-for-Climate-Change-India.pdf>

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