

The Paris Agreement on Climate Change and India

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Introduction

The World Meteorological Organization's (WMO) Statement on 'the status of the climate in 2015' suggests that the average temperature of the Earth has already risen by 0.76°C as compared to 1961-1990 average.¹ This proof of rise in temperature is a wakeup call for everyone to leave behind the prejudices or skepticisms about the scientific realities of climate change. There is a need to internalize the human value of cooperation in order to mitigate the adverse impacts of climate change and adapt to the changing scenario.

The Paris Agreement on Climate Change shows the strong commitment of the international community to address the issue of Climate Change. The seed of the Paris Agreement (hereafter referred to as the Agreement) was sown at the 17th Conference of Parties (COP) Decisions held in Durban in 2011.² Subsequently, in the 19th COP Decision, the State Parties were invited to initiate or intensify domestic preparations for their Intended Nationally Determined Contributions (INDC) in the context of adopting a legally binding instrument under the United Nations Framework Convention on Climate Change (UNFCCC).³ States were requested

¹ WMO Report: 2015 shattered temperature records, State of the Climate: Record Heat and Weather Extremes, 'World Meteorological Day: Hotter, Drier, Wetter. Face the Future' available at <http://www.un.org/sustainabledevelopment/blog/2016/03/wmo-report-2015-shattered-temperature-records/> Accessed 30 May 2016.

² 'The mandate of the Working Group established, by decision 1/CP.17, is to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties (also referred to as the 2015 agreement), which shall be adopted at the twenty-first session of the COP, in 2015, for it to come into effect and be implemented from 2020.' Available at <http://unfccc.int/bodies/body/6645.php> Accessed 30 May 2016
Also see, the Preamble to the Paris Agreement 2015

'Pursuant to the Durban Platform for Enhanced Action established by decision 1/CP.17 of the Conference of the Parties to the Convention at its seventeenth session' Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf Accessed 28 May 2016

³ Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013 Decision 1/CP.19

To invite all Parties to initiate or intensify domestic preparations for their intended nationally determined contributions, without prejudice to the legal nature of the contributions, in the context of adopting a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties towards achieving the objective of the Convention as set out in its Article 2 and to communicate them well in advance of the twenty-first session of the Conference of the Parties (by the first quarter of 2015 by those Parties ready to do so) in a manner that facilitates the clarity, transparency and understanding of the intended contributions, without prejudice to the legal nature of the contributions;

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to make submissions by the first quarter of 2015 i.e. before the 21st session of the Conference of Parties.⁴ Following which, the Agreement was adopted at the COP 21 on December 12, 2015 by decision 1/CP.21.⁵ The Agreement provides for the final settlement to the future course of action on climate change to be followed beyond the second commitment period of the Kyoto Protocol that shall end in 2020.⁶

As of 8th December 2016, the Agreement has been ratified by 116 Parties out of 197 Parties to the UN Framework Convention on Climate Change. India ratified the Agreement on 2nd October 2016. As the threshold for entry into force of the Paris Agreement was achieved on 5th October 2016, the Agreement entered into force on 4th November 2016. This is a great leap for environmental governance.

This article evaluates to what extent the Paris Agreement could serve as a future roadmap for dealing

with climate change and how India's efforts can fulfill its obligations as a responsible global player.

The Paris Agreement, 2015

The Paris Agreement is indeed a progressive document in terms of its capability to address the urgent threat posed by the issue of Climate Change. The Agreement is guided by the principle of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC) in its pursuit to attain the objectives enshrined in the UNFCCC.⁷ The agreement in the broader context of sustainable development and eradication of poverty aims at holding the increase in the global average temperature below 2°C above pre-industrial levels and the international community also undertook the obligation to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.⁸ The latter part of the goal i.e. to make efforts to

Para 2: Decides, in the context of its determination to adopt a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties at its twenty-first session (December 2015) and for it to come into effect and be implemented from 2020.

(a) To invite all Parties to initiate or intensify domestic preparations for their intended nationally determined contributions, without prejudice to the legal nature of the contributions, in the context of adopting a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties towards achieving the objective of the Convention as set out in its Article 2 and to communicate them well in advance of the twenty-first session of the Conference of the Parties (by the first quarter of 2015 by those Parties ready to do so) in a manner that facilitates the clarity, transparency and understanding of the intended contributions, without prejudice to the legal nature of the contributions;

Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf#page=3> Accessed 28 May 2016

⁴ *ibid*

⁵ 'The Paris Agreement: Next Steps' Available at http://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_-_next_steps_post_adoption.pdf Accessed 28 May 2016

⁶ *Supra* note 2,

Also see, Centre for Climate and Energy Solutions, 'Outcomes of the U.N. Climate Change Conference in Paris' Available at <http://www.c2es.org/international/negotiations/cop21-paris/summary> Accessed 28 May 2016

'The Doha Amendment establishes the second commitment period of the Kyoto Protocol, which began on 1 January 2013 and will end on 31 December 2020'

For details see, 'frequently asked questions relating to the Doha Amendment to the Kyoto Protocol' Available at http://unfccc.int/files/kyoto_protocol/doha_amendment/application/pdf/frequently_asked_questions_doha_amendment_to_the_kp.pdf Accessed 28 May 2016

⁷ The Paris Agreement 'Preamble' Para 3

'In pursuit of the objective of the Convention, and being guided by its principles, including the principle of equity and common but differentiated responsibilities and respective capabilities, in the light of different national circumstances,' Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf Accessed 24 May 2016

⁸ *Ibid* Article 2 (1) (a)

This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

limit the increase in temperature below 1.5°C shows the seriousness with which the international community is taking up the matter and also indicates that the concern is real.

The Agreement, unlike the previous Kyoto Protocol, does not provide for specific emission reduction targets for a particular set of countries.⁹ Instead, it is far more inclusive in the sense that it sets a broader aim for all the State Parties making it obligatory on them to design, communicate and undertake measures through their nationally determined contributions in furtherance of the purpose of the Agreement.¹⁰

Another major achievement of this Agreement lies in the fact that it has been able to bring onboard major carbon-emitting economies of the world, i.e. the U.S.¹¹

and China¹² that did not have binding commitment to reduce carbon emissions under the existing framework of the Kyoto Protocol.¹³ Both these countries are signatories to the Agreement and ratified it.¹⁴

The Agreement moves forward with a bottom-up approach¹⁵ wherein the national policies occupy the driving force and the international climate change regime acts as the moving/accelerating force providing for every necessary push on the way. In legal terms, it signifies that the countries are obligated to frame their national policies to achieve the quantified objectives laid under the Agreement. It also requires the Parties to review and provide for nationally determined contributions (NDCs) every five years that should be progressive in comparison to earlier contributions.¹⁶ In

⁹ The Kyoto Protocol, Article 3 ‘The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.’ Available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf> Accessed 24 May 2016

¹⁰ The Paris Agreement, Article 3, ‘As nationally determined contributions to the global response to climate change, *all Parties* are to undertake and communicate ambitious efforts as defined in Articles 4, 7, 9, 10, 11 and 13 with the view to achieving the purpose of this Agreement as set out in Article 2. The efforts of all Parties will represent a progression over time while recognizing the need to support developing country Parties for the effective implementation of this Agreement.’ Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf Accessed 24 May 2016

¹¹ Green House Gas emission of U.S. accounts for 6,235.10 MtCO₂e making it the second largest emitter of Carbon following China. For details see, CAIT - Historical Emissions Data (Countries, U.S. States, UNFCCC) CAIT Climate Data Explorer

Available at <http://www.wri.org/resources/data-sets/cait-historical-emissions-data-countries-us-states-unfccc> Accessed 24 May 2016, China is a non-Annex I Party to the Framework Convention without binding targets under the Kyoto Protocol. Available at http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php Accessed 24 May 2016

¹² China is the largest emitter of GHGs with its Total GHG Emissions Excluding Land-Use Change and Forestry – 2012 amounting to 10,975.50 MtCO₂e, For details see, CAIT - Historical Emissions Data (Countries, U.S. States, UNFCCC) CAIT Climate Data Explorer

Available at <http://www.wri.org/resources/data-sets/cait-historical-emissions-data-countries-us-states-unfccc> Accessed 24 May 2016

¹³ The U.S.A. is an Annex I Party to the Framework Convention but did not have binding commitments under the Kyoto Protocol, as it did not ratify it. For details see, List of Annex I Parties to the Convention, Available at http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php Accessed 24 May 2016

Also see, ‘Status of ratification of the Kyoto Protocol’ Available at http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php Accessed 24 May 2016

And, China is a non-Annex I Party to the Framework Convention without binding targets under the Kyoto Protocol. For details see, List of Annex I Parties to the Convention, Available at http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php Accessed 24 May 2016

¹⁴ Both China and the United States ratified the Agreement on 3 September 2016

¹⁵ Daniel Bodansky, The Paris Climate Change Agreement: A New Hope? (May 17, 2016). *American Journal of International Law*, vol. 110 (Forthcoming). Available at SSRN: <http://ssrn.com/abstract=2773895>

¹⁶ The Paris Agreement, Article 4 para 3 ‘Each Party’s successive nationally determined contribution will represent a progression beyond the Party’s then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.’ Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf Accessed 22 May 2016

addition to this, the Agreement establishes an enhanced transparency framework for effective implementation of the Agreement.¹⁷

For the first time in the history of climate change negotiations, all the countries collectively undertook to make efforts towards addressing the global issue of climate change. This is in cognition of their common responsibility. Yet, keeping in mind the difference in the national circumstances of each and every nation, the Agreement requires the Parties to act in accordance with their respective capacities and capabilities. This is clearly evident from the language of the Agreement. It provides that all the Parties have to undertake efforts towards achieving the purpose of the Agreement by determining and pursuing their nationally determined contributions.¹⁸ At the same time, it lays down certain specific obligations on a particular set of countries; for instance, it provides that the developed countries should continue to take the lead by undertaking absolute emission reduction targets and developing countries should continue enhancing their mitigation efforts and it encourages them to move towards economy-wide reduction targets.¹⁹ The Agreement also provides that in order to assist developing countries in their mitigation and adaptation efforts, the developed country Parties shall provide capacity building support to them.²⁰ This approach incorporated in the Agreement brings in the concept of differentiated responsibility and thereby provides the principle of CBDR its real meaning.

In the light of the above-discussed features of the Paris Agreement, the next section of the paper shall examine the nationally determined contributions of

India and the ways in which it endeavours to fulfill these ambitions.

India's INDCs: A Way Forward for Developing Countries

India's commitment to address climate change did not emerge from the coming up of the UNFCCC or the Paris Agreement. The age-old traditions and customs of this country have made it inherent for the people to grow and prosper along with nature and to respect and appreciate it for all that it gives. Therefore, India despite having no binding mitigation obligations as per the Convention, declared a voluntary goal of reducing the emission intensity of its GDP by 20-25% over 2005 levels, by 2020.²¹ Through various administrative, regulatory and policy measures adopted by the government, it has been able to reduce its emission intensity of its GDP by 12% between 2005 and 2010.²² In view of this, the United Nations Environment Programme (UNEP) in its Emission Gap Report 2014 has recognized India as one of the countries that is working very well on its course to achieving its voluntary goals to mitigate climate change.²³

India's well-designed policy on climate change has been the backbone of its strong commitments and actions towards the mitigation of and adaptation to climate change at the international level.

(a) Existing Framework of Law and Policy for Climate Change in India

Given its geographical location and the diversity of natural ecosystems available, India is highly vulnerable

¹⁷ Ibid at Article 13 Para 1 'In order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, with built-in flexibility which takes into account Parties' different capacities and builds upon collective experience is hereby established.' Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf Accessed 22 May 2016

¹⁸ Supra note 10

¹⁹ The Paris Agreement, Article 4 Para 4 'Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances.' Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf Accessed 22 May 2016

²⁰ Ibid at Article 9 Para 1 'Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention' and Article 11 'All Parties should cooperate to enhance the capacity of developing country Parties to implement this Agreement. Developed country Parties should enhance support for capacity-building actions in developing country Parties.'

²¹ India's Intended Nationally Determined Contribution: Working Towards Climate Justice P 8 <http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf> accessed 29 May 2016

²² Ibid P 8

²³ Ibid

to adverse effects of climate change. India has laid out national laws, rules, plans and policy instruments to address environmental issues. To begin with, the Constitution of India sets out a mandate for the state “to protect and improve the environment and to safeguard the forests and wildlife of the country” as part of the Directive Principles of State Policy.²⁴ The Constitution also states that it shall be the fundamental duty of each and every citizen of the country to protect and improve the environment.²⁵

The Environment (Protection) Act, 1986 is the comprehensive legislation on the protection and improvement of the environment in the country.²⁶ In addition to this law, the Air (Prevention and Control of Pollution) Act, 1981 provides for prevention, control and abatement of air pollution.²⁷ Directed towards the larger objective of mitigation and adaptation to climate change, the Energy Conservation Act, 2001 lays out a clear road map for efficient energy use and energy conservation by enforcing energy consumption norms for industries, energy labelling and standards for electrical goods as well as energy efficient building codes through the Bureau of Energy Efficiency. The 2010 amendment to the Energy Conservation Act introduced energy saving certificates to encourage low level of energy consumption.²⁸

Further, the National Environment Policy, 2006 promotes sustainable development options and

intends to mainstream environmental concerns in all developmental initiatives undertaken in the country.²⁹ The National Action Plan on Climate Change (NAPCC), 2008 and various state action plans on climate change are formulated with an aim to contribute towards mitigation of greenhouse gas emissions, application of appropriate technologies for adaptation as well as mitigation, promotion of new and innovative forms of market and voluntary mechanisms.

These environmental laws and policy frameworks enable the country to work towards the fulfilment of its INDC. The following section analyses the scope and reach of India’s ambitious INDC.

(b) India’s INDC

India’s INDC aims at establishing an effective, cooperative and equitable global architecture based on climate justice and the principles of equity, CBDR and respective capabilities enshrined under the UNFCCC.³⁰ The two suggestions made by India at the Paris COP 21 negotiations—the concept of climate justice and the need for promoting sustainable lifestyle and sustainable patterns of consumption and production amongst people—were made part of the final text of the Paris Agreement.³¹

The country has communicated that it would reduce the emission intensity of its GDP by 33 to 35% by 2030 from 2005 levels.³² This is indeed a remarkable

²⁴ The Constitution of India Article 48-A ‘The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.’ Available at <http://lawmin.nic.in/coi/coiason29july08.pdf> Accessed 22 May 2016

²⁵ Ibid at Article 51A It shall be the duty of every citizen of India—

(g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures

²⁶ The Environment Protection Act, 1986. This law was enacted in furtherance of the decision taken at the United Nations Conference on the Human Environment held in Stockholm in 1972. For details see, the Environment (Protection) Act, 1986 Available at <http://envfor.nic.in/legis/env/env1.html> Accessed 12 May 2016

²⁷ The Air (Prevention and Control of Pollution) Act, 1981, ‘Preamble’ Available at <http://www.envfor.nic.in/legis/air/air1.html> Accessed 12 May 2016

²⁸ For details see, The Energy Conservation (Amendment) Act, 2010. Available at <http://www.delhisldc.org/Resources%5CAmended%20EC%20Act.pdf> Accessed 12 May 2016

²⁹ The National Environment Policy, 2006, Available at <http://www.moef.gov.in/sites/default/files/introduction-nep2006e.pdf> Accessed 12 May 2016

³⁰ Supra note 22 P 3

³¹ Supra note 10 ‘Preamble’ P 1

‘Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth, and noting the importance for some of the concept of “climate justice”, when taking action to address climate change’ and P 2

‘Also recognizing that sustainable lifestyles and sustainable patterns of consumption and production, with developed country Parties taking the lead, play an important role in addressing climate change’;

Supra note 22 P 3 and 33

³² Ibid P 29

initiative for a developing country that has to look after the developmental needs of a huge population; most of them are struggling with social and economic problems of poverty, malnutrition, illiteracy and unemployment. In addition to this, the country has promised to create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.³³ India also aims to generate 40 percent of cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030 with the help of technology transfer, and international financing.³⁴ The National Policy on Biofuels aims at blending of 20 percent biofuels with bio-diesel and bio-ethanol. In order to enhance carbon sequestration of 100 million tonnes of CO₂ equivalent annually, the Green India Mission Programme of the country promises planned afforestation to increase five million hectares of forest or tree cover and to improve another five million hectares

of forest or non-forest lands coupled with livelihood support.³⁵ Two funding mechanisms at the national level, such as the National Clean Environment Fund and National Adaptation Fund have been created to support mitigation and adaptation programmes.³⁶

India acknowledges the fact that with proper policies and strategies in place, environmental and developmental concerns could be addressed simultaneously and the country should follow a new model of growth based on equitable, inclusive and sustainable development.³⁷ The country has already started working on its contribution goals. The various schemes and plans of the government aim at building climate resilient technologies and moving the economy from being coal based to a more efficient and renewable energy economy.³⁸ The country's development initiatives do not merely focus on usual ways of development but truly integrate its developmental goals to ensure sustainability.³⁹ It is quite

³³ Ibid

³⁴ Ibid

³⁵ National Mission for a Green India, 'Mission Goals' Available at <http://www.envfor.nic.in/major-initiatives/national-mission-green-india-gim> Accessed 12 May 2016

³⁶ Supra note 22 P 27

³⁷ Supra note 22, P 6

³⁸ (a) The National Action Plan on Climate Change, 2008

The Plan includes eight National Missions including National Mission on Enhanced Energy Efficiency

Available at <http://www.moef.nic.in/downloads/others/Mission-SAPCC-NMEEE.pdf> accessed 29 May 2016 Accessed 10 May 2016;

(b) The Jawahar Lal Nehru National Solar Mission, its objective is to establish India as a global leader in solar energy. The Mission targets to create an enabling policy framework for the deployment of 20,000 MW of solar power by 2022.

Available at <http://www.mnre.gov.in/solar-mission/jnnsr/resolution-2/> Accessed 29 May 2016

(c) Formulation of Green Highways (Plantation & Maintenance) Policy; The Government took the decision to develop all of existing National Highways and 40,000 kms of additional roads in the next few years as Green Highways. On successful implementation of the policy the country shall become 'Nation with Natural Highways'.

Available at <http://pib.nic.in/newsite/mbErel.aspx?relid=126427> Accessed 29 May 2016

(d) National Mission for a Green India is one of the eight missions enshrined under the National Action Plan on Climate Change. It aims at increasing forest cover to the extent of five million hectares (mha) and improves quality of tree/forest cover on another five mha of forest/non-forest land.

Available at <http://www.envfor.nic.in/major-initiatives/national-mission-green-india-gim> Accessed 29 May 2016

This is by no way an exhaustive list. The Government is running several other programmes to address the global issue of climate change.

³⁹ The schemes of development under various sectors are deliberately designed in a manner consistent with environmental considerations as India believes and works towards sustainable development.

(a) National Innovations on Climate Resilient Agriculture (NICRA)

The aim of this project is to build up climate resilient technologies to address climate change and climate vulnerability which agricultural sector of the country faces.

Available at <http://www.nicra-icar.in/nicrarevised/> Accessed 29 May 2016

(b) National Water Mission (NWM)

The project aims at "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management."

Available at <http://wrmin.nic.in/forms/list.aspx?lid=267> Accessed 29 May 2016

India is currently focussing on enhancing public transportation systems in its endeavour to become a low carbon economy. The project on Dedicated Freight Corridors is projected to reduce 457 million ton CO₂ over a 30-year period.

evident from the governmental initiatives that the value given to environmental considerations in the policy measures has increased. Environmental well-being is increasingly being imbibed in the national planning and its developmental designs.

The concern of India towards climate change is well reflected in all its national level and state level developmental plans and schemes irrespective of the sectors to which they are focussed.

The latest Economic Survey highlights that as on 4 January 2016, out of 7685 projects registered under Clean Development Mechanism (CDM) of UNFCCC, India has registered 1593 projects that make the second highest number of projects registered under CDM. This further shows India's strong commitment to fighting climate change.⁴⁰

Again, the National innovation on Climate Resilient Agriculture plan aims at the development of climate resilient technologies that could be adopted to enhance crop production in the agricultural sector. The emphasis is both on the increase in production as well as protection of the environment.⁴¹ This policy brings the concept of sustainable development nearer to its realization at the grass-root levels.

The National Policy on Biofuels aims at blending of 20 percent bio-fuels with bio-diesel and bio-ethanol.⁴² In order to enhance carbon sequestration of 100 million tonnes of CO₂ equivalent annually, the Green India Mission Programme of the country which is one of the plans under the National Action Plan on Climate Change promises planned afforestation to increase five million hectares of forest or tree cover and to improve another five million hectares of forest or non-forest lands coupled with livelihood support.⁴³

The National Water Mission (NWM) plans to develop water resources in the country and their efficient management both within and across the states. It is an initiative towards conservation of water and minimizing its wastage.⁴⁴ Another major project under the water sector is the National Mission on Clean Ganga that aims at rejuvenation of the river Ganga through abatement of pollution and inter-sectoral cooperation and coordination. This would, in turn, ensure maintenance of minimum ecological flow and conservation of biodiversity in the river Ganga.⁴⁵

Similarly, in the transportation sector, the government has carved out various plans and projects for the larger purpose of mitigation and adaptation to climate change.

For details see, Supra note 22 P 14

(c) Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

The scheme's focus is on ensuring basic infrastructure services by adopting climate resilient and energy efficient policies and regulations.

For details see, Supra note 22 P 13

(d) National Mission for Clean Ganga

The project aims at:

1. To ensure effective abatement of pollution and rejuvenation of the river Ganga by adopting a river basin approach to promote inter-sectoral co-ordination for comprehensive planning and management and
2. To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

Available at http://nmcg.nic.in/aims_obj.aspx Accessed 29 May 2016

This is by no means an exhaustive list.

⁴⁰ 2015 - Landmark Year for India in Climate Change Initiatives: Economic Survey 2015-16; Press Information Bureau, Government of India, Ministry of Finance. 26th Feb. 2016.

⁴¹ National Innovations on Climate Resilient Agriculture (NICRA)

Available at <http://www.nicra-icar.in/nicrarevised/> Accessed 29 May 2016

⁴² Supra note 22 P 16

⁴³ National Mission for a Green India is one of the eight missions enshrined under the National Action Plan on Climate Change. It aims at increasing forest cover to the extent of five million hectares (mha) and improves quality of tree/forest cover on another five mha of forest/non-forest land.

Available at <http://www.envfor.nic.in/major-initiatives/national-mission-green-india-gim> Accessed 29 May 2016

⁴⁴ National Water Mission (NWM)

Available at <http://wrmin.nic.in/forms/list.aspx?lid=267> Accessed 29 May 2016

⁴⁵ National Mission for Clean Ganga

Available at http://nmcg.nic.in/aims_obj.aspx Accessed 29 May 2016

The project on dedicated freight corridors is projected to reduce 457 million ton CO₂ over a period of 30 years.⁴⁶ Similarly, in order to compensate the tree felling due to constructions of roads, the government has undertaken the task of development of all the existing National Highways and 40,000 km of additional roads as Green Highways wherein plants and trees shall be planted alongside the highways as part of India's contribution towards addressing climate change. It is estimated that with the successful implementation of this project India shall become a 'Nation with Natural Highways'.⁴⁷

While working towards ensuring proper housing and shelter for its people, the government by no way ignores the issue of climate change. It is evident that governmental experts have carved out housing plans keeping in mind the larger aim of sustainable development. For instance, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) focuses on providing basic infrastructure services for the people by adopting climate resilient and energy efficient policies and regulations.⁴⁸

Taking advantage of India's geographical location in the tropical region the potential to tap solar energy has to be harnessed for various industrial and domestic purposes. In this direction, India's Jawaharlal Nehru National Solar Mission aims to establish India as a global leader in solar energy and targets to create an enabling policy framework for the deployment of 20,000 MW of solar power by 2022.⁴⁹

These schemes and plans are by no means exhaustive. In fact, these are the important governmental initiatives that portray the value that is attached to environmental considerations and sustainable development in India.

Apart from acknowledging its responsibilities towards mitigation of and adaptation to climate change, India attaches the same level of value to the need

of collaboration amongst developed and developing countries for the transfer of climate resilient technologies and financial resources and aid in capacity building in order to tackle climate change issues more effectively.⁵⁰ The recent Indo-U.S. partnership on construction of a nuclear energy reactor in India shall make it capable of meeting its increasing energy demands without relying much on fossil fuels.⁵¹ Similarly, the Joint Declaration between the EU and India on a Clean Energy and Climate Partnership and the Indo-European Water Partnership aims at enhancing cooperation and collaborations between India and the E.U. towards addressing the climate change issues effectively.⁵²

With this pace and such climate resilient strategies, India is bound to achieve its nationally determined contributions towards addressing climate change and set an example for the world.

Suggestions

In addition to energy efficiency measures, the following suggestions shall be useful in ensuring efficient implementation of various governmental policies and schemes directed towards mitigation and adaptation of climate change and pave the way for India to emerge as a global leader on climate change issues among the developing countries.

- (a) *Encouraging Environmental Education for Behavioural Change:* Environmental and climate change education must be imparted at all levels (primary/secondary/graduate and post-graduate) of educational institutions in an adequate manner. In order to address the issues of climate change, the youth of the country needs to be involved as they are going to be the future climate leaders.

⁴⁶ Supra note 22, P 14

⁴⁷ The Green Highways (Plantation & Maintenance) Policy
Available at <http://pib.nic.in/newsite/mbErel.aspx?relid=126427> Accessed 29 May 2016

⁴⁸ Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
For details see, Supra note 22 P 13

⁴⁹ Government of India, Ministry of New and Renewable Energy, 'Resolution' Available at <http://www.mnre.gov.in/solar-mission/jnnsr/resolution-2/> Accessed 29 May 2016

⁵⁰ Supra note 22, P 28

⁵¹ 'Joint Statement: The United States and India: Enduring Global Partners in the 21st Century' Available at <https://www.whitehouse.gov/the-press-office/2016/06/07/joint-statement-united-states-and-india-enduring-global-partners-21st> Accessed 12 May 2016

⁵² European Commission, Press Release
EU-India Summit: A new momentum for the EU-India Strategic Partnership
Available at http://europa.eu/rapid/press-release_IP-16-1142_en.htm Accessed 12 May 2016

Elementary education based on environmental and climate change innovation projects on the lines of the National Children Science Congress must be encouraged throughout the nation. In addition to promoting basic environmental education and awareness, such programmes should be designed as behavioural change communications that lead to action.

- (b) *Utilizing Traditional Knowledge:* The rich traditional knowledge and practices of people of India regarding adaptation and mitigation of climate change should be documented, spread and applied in every corner of the nation. An important initiative in this regard is the release of '*Parampara: A Book on India's Climate Friendly and Resilient Practices*' which was released by the Prime Minister of India at the COP 21st session in Paris last year.⁵³ There is an urgent need to take up such initiatives and revive the traditional lifestyle amongst people of the country.
- (c) *Grass-root Level Actions:* People at the grass-root levels should be made aware of the adverse consequences of climate change and must be encouraged to adopt traditional ways of living which are climate resilient. In order to ensure implementation of climate change related programmes at the local levels, village *panchayats* (rural local bodies) and *nagarpalikas* (urban local bodies) should be involved directly to implement national and state level climate change programmes. Various environmental laws could be explained to the public at large through simplified user manuals distributed by village *panchayats* and the *nagarpalikas* at the local levels to involve them in mitigation and adaptation measures in a meaningful way. It is not only rural people who need to understand the implications of climate change. In fact, people living in metropolitan cities should also be made aware and encouraged to adopt sustainable lifestyles through governmental advertisements and other print and electronic media.
- (d) *Climate Resilient Technology Transfers and Access to Renewable Energy Sources:* Under the broad framework of the Paris Convention, bilateral

agreements and understandings on climate change with various countries should be taken up by the national governments in order to ensure climate resilient and green technology transfers and access to renewable energy sources in various parts of the world. The recently signed TAPI Pipeline project amongst four Asian nations including India is one such illustration in this context where these nations have agreed to construct a natural gas pipeline from Turkmenistan to India in order to provide access to natural gas reserves of Turkmenistan to other three countries.⁵⁴ Similar initiatives must be taken in future to secure India's rising energy demands. Simultaneously, the government must also allocate financial resources towards scientific research in order to develop indigenous green technologies to become self-sufficient which could later on be shared or transferred to least developed countries.

- (e) *Bottom-up Approach:* The issue of climate change could be best addressed through a bottom up approach. The case in point is the Albuquerque sustainable city plan in the United States. The governments and regional and local bodies must draw inspiration from the implementation of the Albuquerque sustainable city plan wherein the city has been recognized as a leading city in the United States in addressing sustainability issues.⁵⁵ The city government of Albuquerque took early efforts to inculcate sustainability practices amongst people in whatever possible manner. Such plans must be studied at the governmental level and implemented in the country with necessary modification in order to adapt to Indian situations. In addition to this, National Policy implementation methods must be designed to achieve the last mile connectivity in order to make known every person that the climate risk is affecting their domains and that it requires innovative solutions to mitigate climate change with an integrated approach. Innovative projects along with capacity building programmes and assistance must be implemented in a manner that it reaches people at grass-root levels.
- (f) *Establishing Compliance and Monitoring Units:* Efficient implementation of laws and policies

⁵³ *The Hindu* (December 1, 2015) 'India will fulfill commitments on climate change, says Modi' Available at <http://www.thehindu.com/news/international/world/cop-21-live-updates/article7933275.ece#> Accessed 12 May 2016

⁵⁴ *The Hindu*, 'Peace in the pipeline' (December 16, 2015) Available at <http://www.thehindu.com/opinion/editorial/tapi-project-peace-in-the-pipeline/article7992806.ece> Accessed 12 May 2016

⁵⁵ City of Albuquerque Climate Action Plan [Aug. 09], Climate Action Task Force Recommendations to Mayor Martin J. Chávez Available at <https://www.cabq.gov/cap/CAPREV11forWEB.pdf> Accessed 12 May 2016.

directed towards mitigation and adaptation of Climate Change could be ensured through proper compliance and monitoring measures. Country requires national level Climate Change Monitoring Cell (CCMC) and State/UT requires the SCCMC and if possible District level CCMC could be established for monitoring the entire programme (in the integrated approach) for the carbon emission and reduction to do the carbon audit. Every single activity should be calculated sector-wise and should be added in the aggregated emission reduction.

- (g) *The Need for a Special Law for Climate Change:* In addition to the policies and plans, a specific law to check climate change will surely enhance the efforts of India in its contribution towards mitigation of climate change. If a separate law is not feasible to enact quickly, it is possible to issue a notification or rules under the Environment (Protection) Act to regulate different activities that adversely affect the climate.

Conclusion

With the advent of the Paris Agreement and the INDCs submitted by the state parties, a well-framed international legal framework, and adequate national commitments are now in place to address the global issue of climate change. The only essential aspect left is ensuring proper and efficient implementation of these commitments. In the light of these developments, climate-smart approaches have to be adopted by all states to mainstream the developmental policies creating enough sectoral and cross-sectoral linkages.

The problem shall not be resolved by the action of a few states alone. The Paris Agreement rightly recognizes this point and calls for cooperation of all states and peoples of the world irrespective of their level of development. Still, the global community has to leap

one step further in terms of realizing the responsibilities. The idea of CBDR, besides being viewed in the cross-country context, should be understood and implemented at an 'individual level' too. A new idea of common but differentiated responsibilities and respective capabilities of an individual irrespective of his/her nationality, race or gender needs to be envisioned and propagated to the world at large. After all, each individual needs to contribute and perform his/her part of obligation towards addressing this global issue. It is to be realised that educated, aware and well-to-do citizens share more responsibility as against those who are vulnerable as they are at risk for no fault of theirs. Understanding the urgency of the problem and attitudinal change of individuals are the key factors that will ensure a safe life for present and future generations.

As a developing country, no doubt, India has an excuse to pursue its developmental march based on conventional energy sources. However, the challenge of climate change and the Paris Agreement provide an opportunity for India to revisit its energy options and redesign its developmental path. The kindness of nature is evident from the fact that solution to this anthropogenic problem lies with nature itself. The abundant natural sources of energy i.e. the Sun, the wind, and the water are the answers to the issue of climate change. Developmental activities in harmony with nature will prevent harm resulting to the atmosphere and provide a healthy progress. India should promote innovative projects to tap alternative sources of energy. It should also build the capacity of different stakeholders at the national and local levels to deal with climate risk. India should set up Climate Change Monitoring Cells (CCMC) at the national, state and district levels for monitoring all the programmes for involving the local expertise and to monitor the level of carbon emission and reduction.