Climate Change and Politics

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Abstract Climate change is becoming prominent in mainstream politics. Liberal governments have generally learnt into the narratives of climate action, claiming it as a priority, while consistently failing to make significant progress towards just transition, adaptation, and associated economic transformations. Eco-fascism is said to be looking, but actually existing far-right. Governments have tended towards a more steadfast solidarity with fossil capital. They have not demonstrated a willingness to break with capitalist economies which produce the climate crisis. Within liberal democracies, left-wing and socialist parties have demonstrated the strongest commitment to programs of economic transformation, most commensurate with the scale and nature of the climate crisis. Whether Bernie Sanders' Presidential campaign in the US, Jeremy Corbyn's election campaigns as leader of the UK Labour Party, or Jean-Luc Mélenchon's campaign for President with La France Insoumise, these climate justice socialists have rarely taken state power. While China's geopolitical rise may pose a challenge to the US' geopolitical hegemony, possibly even including its brand of capitalism, there is little evidence that China's rise will be any better for the climate in the coming decades. At the same time as investing in renewable technologies at home, China is financing new coal power and mines across Asia and Africa. Where other political formations have neglected climate change, Green parties around the world have sought to establish themselves as the electoral vehicles for environmentalism. Like their ideological orientation, their success has been inconsistent. Lacking strong ideological commitments, Greens have often allied with neoliberal or even far-right governments in exchange for proximity to state power.

Keywords Climate politics · Neoliberals · Green ideologies · Green slogans · Eco-feminism · Environmentalism

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S. A. Bandh (ed.), *Climate Change*, https://doi.org/10.1007/978-3-030-86290-9_18

1 Introduction

Climate Change is considered as the mother of all problems. It is a crucial issue of contemporary times with population growth on one side and fulfilling its needs on the other hand. With the rising temperatures, apocalyptic events will unfold in future and that will be a phase of human race where there will be no returning to the earlier world. United Nations points out the severity of global warming through its report which reads, "quantities of greenhouse gases in atmosphere have risen to record levels not seen in three million years. As populations, economies and living standards grow, so does the cumulative level of GHG (greenhouse gas) emissions". In the planet's climate there is a clear correlation between the carbon dioxide, methane and nitrous oxide level and the "greenhouse effect" which is gradually warming the mean temperature of the globe (Irwin 2008a). Human fingerprints on climate indicate that the environment is severely strained by the pollution from modern industrial processes and the lifestyle of consumerism. With the start-up of 1750's Industrial Revolution, levels of carbon dioxide started rising steadily from the "natural background" levels of less than 280 ppmv to over 370 ppmv and the same sudden jump can be seen for methane and nitrous oxide (Irwin 2008b).

The complex politics of global warming results from dependence of economic activities on fossil fuels (responsible for Carbon dioxide) and agriculture and land-use change (responsible for methane and nitrous oxide). The primary mechanism of tackling this global warming is through Paris Agreement that replaced Kyoto Protocol in the year 2020, both established under United Nations Framework Convention on Climate Change (UNFCCC). Although Paris Agreement focuses on all countries to tackle climate change unlike that of Kyoto Protocol which applied top-down approach and targeted only historical emitters. But it again leaves space for emerging economies to continue emitting until they feel of having done enough. Once a country formally joins the agreement there are no specific requirements about how and how much countries should cut the emissions. Consequently, national plans also vary critically in their aspiration, mainly reflecting each country's capabilities, their level of development and contribution to emissions over time. China for example committed to levelling off its carbon emissions no later than 2030 and reducing carbon emissions per unit of gross domestic product (GDP) by 60–65% from 2005 levels by 2030. India set its vision on cutting down the emissions intensity by 33–35% below 2005 levels and producing 40% of its electricity from non-fossil fuel sources by 2030 (Denchak 2018).

These gases have a strong detrimental impact on global ecosystem, more importantly in developing and least developing nations. On a larger canvas, these countries have many internal and external challenges. Internal in the sense to reduce poverty, provide employment to their people, to increase living standards and external challenges like meeting out trade targets with other nations. Consequently, such demands put a lot of pressure on natural resources and adoption of technologies which are not environment friendly and thereby increase greenhouse gas emissions. The other reason is that with the start of globalization a homogenous global culture has taken

place. People with traditional heritage revolving round the environmental preservation, they carried for generations got diminished by culture of consumerism. This new culture of consumerism has generated artificial demand of goods and consequently pressure on natural resources and unforeseeable impact on climate.

Looking at Syrian conflict from the angle of climate change, analysts admit that there were multiple causes of Syrian civil war that began in 2014. Marwa Daoudy, while writing on Climate Change and Human Security mentions that Syria has suffered devastating consequences of climate change, but these consequences and the seeds of their discontent are not solely due to climate stress. They can be found in a quagmire of political, economic, social and environmental vulnerabilities that impacted Syria's most vulnerable population for decades before the 2011 uprisings (Daoudy 2020). The data gathered by scientists shows that severe water shortages in Syria, Iraq and Turkey killed livestock, shooting up of food prices, and sickened children resulting in a mass migration of 1.5 million rural residents to Syria's densely packed cities at precisely the same time as that country was exploding with immigrants from Iraq (Simon et al. 2019).

Climate change is a potential risk to human security and unfortunately the international community has not anticipated its associated risk to peace and security, e.g., neither UNFCCC nor the Kyoto Protocol contains any reference to human security. However, the impact of climate change on peace and security has only been deliberated in a few instances at UN Security level, that held its first-ever debate in 2007 vis-à-vis the impacts of climate change on peace and security (UN Press Release 2007). This debate was initiated by United Kingdom and supported by small island states. However, many developing countries like India and China felt that the Security Council was not an appropriate platform to discuss the issue (The Guardian, April 8, 2007). On the other occasion in 2011, Ban Ki-moon (the then Secretary-General of UN) stated in the security council session that "climate change not only aggravates threats to peace and security, but is actually a threat to the peace and security" (UN press release 2011). However, this session leads to the conclusion that the UNFCCC is the primary forum for addressing and discussing climate change, but also noted that "conflict analysis" on the "possible security implications of climate change" is vital once climate problems drive conflicts, challenge implementation of Security Council mandates or endanger peace processes (UN Press release 2011). If we look at politics of arms race, there is a huge arms industry and a huge arms procurement, particularly by developing countries. Due to this mad rat race for arms procurement the climate issues always become the secondary concerns. Climate induced conflicts can be avoided if big powers and their arms industries show some inclination towards addressing developmental and climate concerns of developing and least developing countries.

It is understood that climate change will overstress many societies adaptive capacities within the coming decades. This may result in violence and destabilization, consequently, jeopardizing national and international security. Nevertheless, there is a hope that climate change could unite the international community, if nation-states recognize climate change as a threat to humankind and soon set a dynamic and globally coordinated climate policy to avoid its devastating impacts. If it fails to do so,

climate change will draw ever-deeper lines of division and conflict in international relations (German Advisory Council on Global Change, World in Transition).

2 Climate Problem and Politics of Global Economy

The Human Development Report of 2013, highlights that economic growth alone does not automatically translate into human development progress. The pressing challenges before humanity are the issues like poverty eradication, climate change and peace and security and the report stresses on a coordinated action to meet out these challenges (Human Development Report 2013). However, the challenge before us is that the ideology of neoliberalism (often bracketed under the heading of the "Washington Consensus) with its emphasis upon the role of free trade and markets and restructuring of the state (Wilkin 2001). This ideology has now become a challenge, as the changes it brought with it are inconsistent with human security. Industrialized countries were mostly benefited by this ideology as they employed it to gain their economic interests at the cost of the developing world. Today in the global politics territorial expansion is a risky job, rather economic development and trade are now given preferences by industrialized and developed nations. This new mechanism through the ideology of Neoliberalism has helped industrialized countries in exploiting the resources of developing countries thus bringing in more gaps between the rich and poor nations, and putting a huge pressure on the resources of poor and developing nations.

Third world countries are at the bottom of the global economic hierarchy because of the multiple problems like poverty, hunger, healthcare, broken infrastructure, lack of money, resources and, access to information. Keeping in view the despicable situation of these countries, the Neo-Marxists argued that the global capitalist economy controlled by wealthy capitalist states is used to impoverish the world's poor countries. These theorists argued that free trade and international market relations occur in framework of uneven relations between developed and underdeveloped countries and work to reinforce and reproduce these relations.

Capitalists, however have a different perspective, as they saw in the philosophy of neoliberalism an opportunity to free themselves from regulations and taxes. Francis Fukuyama, a traditionalist, strongly criticizes the neoliberal policies imposed by the United States on less developed countries, particularly in Africa. He showed, how such policies failed states (Bresser 2009). This neoliberal ideology helped rich countries to take control over week states that allowed national economies of week states to become a playing field for large corporations, their top executives and financial agents to obtain all kinds of rents—in lieu of moderate interest rates, fair business profits and professional wages, of the economic elites (Ibid). International financial institutions such as IMF and World Bank appear to have strengthened the interests of MNCs (multinational corporations) and international financial capital, rather than a long-term commitment to democracy and prosperity in the developing countries. For example, India's external debt crisis of 1991 brought the country close

to default in meeting its international payment obligations and under such challenging situations India also adopted neoliberal or in other words "market-friendly" economic policies (Siddiqui 2010). In India on embracing the ideology of neoliberalism was accompanied by a change in the position of big bourgeoisie. The Indian bourgeoisie since 1991 economic liberalization got increasingly integrated with the international financial capital and pursued strategic alliances with western capital (Wolf 2006). The paradox is that on the one hand corporate "friendly" government policies have provided tax concessions of around $75 million between 2015 and 2016 (Peoples voice 2015), but on the other hand, thousands of farmers are trapped in the cycle of debt and poverty and are thus taking their lives. What is more shocking is that 3 lac plus farmers have committed suicide between 1995 and 2015 as per records of India's National Crime Records Bureau (Salam 2018). But in the whole scenario, where their deaths can be related to poverty or unfriendly government policies, the climate change footprints can also not be ruled out. Research points out that India has already become third largest emitter of greenhouse gases after China and United States (Sen 2020). It emitted around 2,299 million tonnes of carbon dioxide in 2018, as per the reports of the International Energy Agency, accounting for 7% of the global greenhouse gas emissions (Ibid).

The United States is the leading producer of carbon dioxide, and China is quickly catching up. Many nations in the developing world are also expanding their output considerably and these dynamics present a twin problem. First, the high-producers have economies that heavily depend on fossil-fuel consumption. Next, the developing nations resent pressures placed on them by the developed nations to restrict carbon emissions, in full recognition that these older economies were built and enriched by burning petroleum, coal and other fossil fuels (Haas and Hired 2013). In developing world population growth is in tandem with their rising economies. The consumer lifestyle of the middle class of these countries like India and China is akin to those of developed countries like USA. Thus, twin impacts of rising populations and growing economies produce a stronger incentive to continue to produce greenhouse gases. These are the powerful incentives to overcome, and international institutions lack the enforcement capabilities to compel behavioural changes. The challenge with respect to developing nations is to dissociate economic growth from emissions and to encourage developing nations to adopt cleaner and new green technologies. (Ibid).

3 Universal Initiatives on Climate Change

To ensure universal participation in controlling climate change, a number of initiatives have been taken and among them some important ones are Stockholm Conference, Rio Summits, Kyoto Protocol and Paris Agreement. Mitigation of adverse impacts of climate change started with the 1972 Stockholm Conference popularly known as United Nations Conference on Human Environment (UNCHE). This was

the first step in which linkages between economic growth and environmental consequences were accepted. The recommendations of the conference were disregarded by industrialized nations, but it made sufficient impact in motivating United Nations to establish the United Nations Environment Programme (Maikasuwa 2013).

It took another 20 years to the international community for convening United Nations Conference on Environment and Development at Rio de Janeiro in 1992, the outcome of which gave us the United Nations Framework Convention on Climate Change (UNFCCC). The objective of UNFCCC was to stabilize greenhouse gas concentrations into the atmosphere. But it has not been effective enough in catalysing mitigation action to match the below 2-degree trajectory as its historical focus on emission targets has been too narrow. Kyoto Protocol as the first extension to UNFCCC was signed in 1997 but entered into force in 2005 with ratification of 55 states of Annex 1 signatories that together accounted for at least 55% of total carbon emission at 1990 level. The Protocol committed its signatories to develop national plans to reduce greenhouse gas emissions. As the Protocol is based on the principle of common but differentiated responsibilities recognising the different capabilities of individual countries it puts more responsibilities on developed nations to take a lead in cutting down the emissions. Under the Protocol, Clean Development Mechanism (CDM) was established which aimed at reduction of GHGs to support sustainable development. In CDM developed countries were to invest in low cost abatement opportunities in developing countries and also gave incentives to private sector to invest in GHG-reducing projects (Zhang and Maruyama 2001). However, global emissions had risen during Kyoto Period as United States and China were major contributors of GHGs to erase all reductions made by other countries with exceptions of some countries and EU who were on track by 2011 to meet and exceed their Kyoto goals (The Guardian, 11 March 2011). The succeeding summits were Earth Summit II (2002) popularly known as Rio + 10, which discussed sustainable development and reaffirmation of commitment by world leaders to work towards sustainable development. The subsequent Johannesburg summit was tall on setting new targets but again there was little or no success in reduction of GHGs (O'brien and Willians 2007). Rio + 20 convened in 2012, to further assess the progress made in sustainable development called for a wide range of actions for attaining sustainable development which are (i) how green economies can act as the tools to achieve sustainable development (ii) developing strategy for sustainable development financing (iii) adopting framework for sustainable production and consumption and (iv) focusing on gender equity as well as incorporating science into policy and involving civil society in mitigating consequences of climate change. However, what is apparent, that nothing concrete has been done to change the existing framework that weakens the capacities of developing countries to put in place policies for sustainable development of their societies (Maikasuwa 2013). These summits were again superseded by Paris Agreement of 2015, which entered into force in 2016. This was the landmark agreement aimed to combat climate change and accelerate all efforts for low carbon future. The central concern of Paris Agreement was to strengthen global response to the common threat

of climate change by bringing all nations into common cause to undertake ambitious efforts to combat climate change. It calls upon all nations to keep the global temperature rise of this century 2 degree centigrade below the pre-industrial levels. As of year, 2019, there were 189 countries that ratified the Paris Agreement with the exception of only few major emitting countries like Russia, Turkey, and Iran. The United States of America ratified the agreement in 2019, but within a short span of time in same year took a decision to withdraw from the Agreement effective from 4th November 2020 in accordance to article 28 (1) and (2) of the Agreement (Paris Agreement-status of ratification UNFCCC).

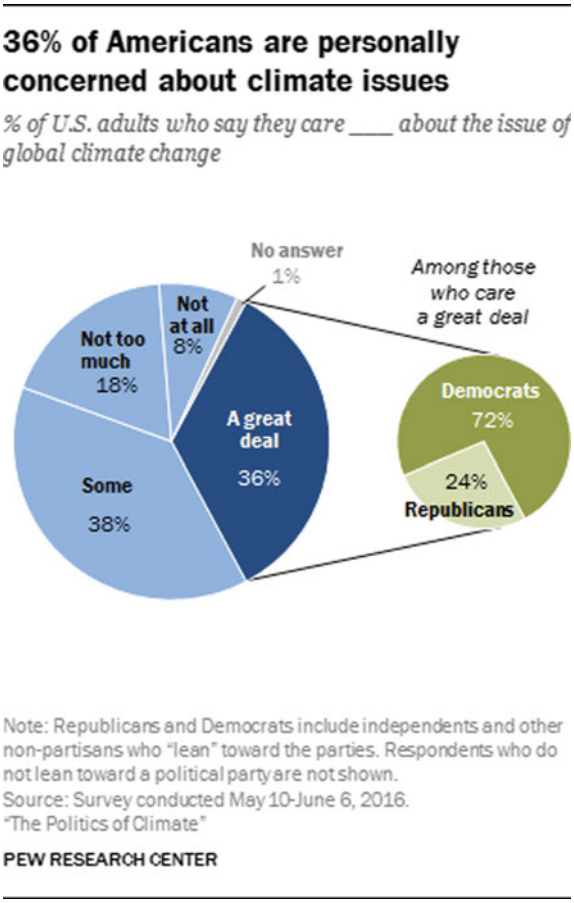
4 Challenges to Universal Participation

In achieving the goal of global participation there were certain hiccups particularly the U.S. position has remained quite paradoxical on climate change negotiations from 1985 to the present. In the late 1980s, United States advocated for universal participation but latter rejected it by withdrawing from the Kyoto agreement in 2001. That Kyoto agreement has been repudiated by President Bush, who has called it "fatally flawed," saying it places too much of the clean-up burden on industrial countries and would be too costly to the American economy (New York Times, 24 July 2001).

In the cold war era, under the Bush Administration, the American Federal Government refused to engage with the scientific data about climate warming or the global political pressure to reduce their greenhouse gas emissions. The lack of commitment from leadership from a historically powerful State has given room to other nations to publicly or quietly fail to enforce the Kyoto objectives for reducing greenhouse gas emissions to the levels of 1990 or preferably lower (Irwin 2008a, b). Under Obama administration, USA again entered into Paris Agreement in 2016; however, Donald Trump on 1 June 2017 made an announcement of ceasing all participation in Paris Agreement, with a condition that we are willing to enter into any agreement only "on terms that are fair to the United States, its businesses, its workers, its people, its taxpayers" (Chakraborty 2017). His statement was based on America First Policy and he was of the opinion that this climate agreement will undermine economic interests of USA and will put America at a permanent disadvantage (BBC News, June 1, 2017).

According to Pew Research Center which is a nonpartisan fact tank that informs the public about the issues, attitudes and trends shaping the world, observe that Liberal Democrats and Conservative Republicans see climate-related matters through vastly different lenses. Their observation is that Liberal Democrats are more inclined to environmental issues like Obama's entry into Paris Agreement and now President Joe's intention to re-enter into Paris Climate Agreement. The Pew Centre finds that Republicans are more sceptical about research findings of climate Scientists' and their

information and understanding on climate change (Pew Research 2016). This observation gives us a very disturbing impression of inconsistent public policy of USA towards Climate change as we usually have alternative governments in American elections.



Lastly, the literature on environmental politics, global governance, and international relations has paid less attention to questions of participation. If we want to search for issues of global warming and climate change, we usually find them in last chapters of books written on international relations and global politics. Indian novelist, Amitav Ghosh in an interesting book entitled "The Great Derangement: Climate Change and the Unthinkable," writes that climate change is even more absent in the world of fiction than it is in nonfiction.

5 Developed Versus Developing Nations

Intergovernmental Panel on Climate Change (IPCC) highlights that poorer nations are extremely vulnerable to disasters and hence to the effects of climate change for a number of reasons. First, the ability to adapt and cope with weather hazards depends on economic resources, infrastructure, technology and social safety nets. (IPCC 1995). Developing countries often do not have the resources and are thus ill-prepared in terms of coastal protection, early warning, disaster response systems and victim relief and recovery assistance (GEF 2001). Secondly, many developing countries are already under pressure from population growth, rapid urbanization and resource depletion, making them further vulnerable when these challenges are coupled with the problem of climate change (IPCC 2001; Jepma et al. 1996).

There is too much apprehension among the developing countries who are lagging in the technological advancement and most importantly if they have the resolve to work for climate change, their economies don't allow them to do so. The bone of contention between developed and developing countries is that who is going to pay for reducing greenhouse gas emissions. It is recognized under UNFCCC that implementation of commitments by developing countries will depend on financial and technical assistance from the rich nations (Winkler 2005). The concern of developing countries is historical in nature, "In Madrid Climate change Conference, the key polluting countries accountable for 80% of the world's greenhouse gas emissions stood mute, while smaller countries announced that they will work to drive down harmful emissions in the coming years," Natural Resources Defense Council-a US based climate action advocacy group observed that "World leaders dithered instead of taking stronger, critical action soon to reduce the global climate threat. They ignored dire scientific reports, worsening evidence of climate destruction and demands from millions of young people to protect their future" (Dettmer 2019).

Climate change is a staggering problem for all countries that need costly regulations and taxes to lower emissions and move economies away from dependency on fossil fuels. In meeting these challenges there is a risk of backlash to governments, largely from lower-income workers and pensioners who cannot afford to bear the brunt if governments take any measures to control GHGs. Squaring the circle between those who demand fast-track climate-friendly measures and those who want to slow down and mitigate the impact of moving towards a low-carbon future isn't going to be easy, say analysts. In Europe, Central European governments sense the acute political danger to them and have been resisting a European Union plan to join Britain in earmarking 2050 as the year the block has to be net zero" (Dettmer 2019).

6 Indian Perspective

India was influenced by central planning model until the economic reforms of the 1990s. This economic model acted as straggler in its economic growth but was good for environmental perspective with around 1.2 tonnes of CO_2 emissions per head in 1994. This amounted to 3% of global emissions on that date. But after economic liberalization that started in 1990s that resulted in economic growth on one hand but figure of emissions also went up around 3.5 tonnes per person by 2006 and its contribution to total emissions rose 50% as compared to 10 years earlier (Giddens 2009). World Health Organization (WHO) places Delhi as the most polluted city in the world in terms of suspended particulate matter (SPM) (Hindustan Times 2018) as a result of population pressure and haphazard and unplanned Industrial development. Another factor is that emission standards particularly those of motorcycles and scooters numbering around 6,648,730 are a big environmental concern as these vehicles are considered major air polluters due to poor emission standards (Hindustan Times 2018).

(a) Politics of CNG Fuel

Environmentalists recommend fuel switching from liquid fuels to natural gas as a strong measure to protect environment. Compressed Natural Gas (CNG) is a lead-free fuel with no sulphur and particulate emissions and 1/10th level of carbon monoxide emissions as compared to petrol. It is thus a highly environment-friendly motor fuel for improving ambient air quality. It also produces much lower carbon dioxide as compared to petrol and diesel oil thereby helping in mitigating global warming (Hilal, 2005). In view of increasing pollution levels in Delhi's atmosphere by diesel-run automobiles, two-wheelers and autorickshaws powered by two-stroke petrol engines, number of directions were issued by the Supreme Court of India from time to time (M.C. Mehta V. Union of India, Writ Petition (C) No. 13029 of 1985). On 28th July 1998, some more directions were issued fixing a time schedule after taking note of the recommendations made by the Bhure Lal Committee. This Committee was constituted on the orders of the Supreme Court under Environmental Protection Act, 1986. The Bhure Lal Committee stressed on the importance of the use of CNG as a fuel and noted that it was imperative to have increased use of CNG as a fuel in Delhi. However, the court in its order on 26th March 2001 observed that neither the government authorities nor private bus operators acted seriously on such directions (Yousuf 2020). The Supreme Court of India made an interesting observation that though CNG at present is available as a clean fuel but entire process of controlling vehicular pollution has been confused whether to opt for CNG as a fuel or not on the pretext of Good CNG or Bad CNG. (M.C. Mehta vs. Union of India, 28 September 2001). All this was under discussion and delay tactics were involved to introduce CNG as fuel in Delhi on safety pretext and other concerns without taking into consideration its useability and efficacy. In Pakistan, the government introduced CNG as fuel in 1992 and large number of buses were running on CNG fuel (Khan and Yasmin 2014).

(b) **Coal as Noxious Fuel**

Lately, some opportune decisions taken by Government of India shows some seriousness towards issue of climate change. Among G20 nations, India is hailed as a country that has come close to meeting its 2015 Paris Agreement goals. Spending a huge sum of nearly Rs 2,000 crore on its solar energy plan gives an impression that the government seems to be keeping up with its pledge of generating 40 per cent of power from renewable sources (Soni 2020). According to Climate Change Performance Index's (CCPI) report India ranked among the top 10 countries that have adopted substantial measures to curb climate change (CCPI 2021), but there are some forthcoming challenges as well. Although the present government's vision to make India a 5 trillion economy by 2024, environmentalist here has a concern that more than half of the GDP dependents on coal. It being most polluting and responsible for over nine million deaths globally with 50 per cent of such deaths coming from India. Despite this, the central government endures to substantially subsidise the coal mining industry, pumping in nearly Rs 60,000 crore annually. In 2015 the government also introduced the Coal Mines Special Provision Act, which opened the sector to commercial mining by private companies (Paroma, 2020). Public sector Coal India Limited, established in 1975, still contributes 80% of domestic production, of which 80% goes to thermal power plants.

Another challenge to climate change is a recent move by Government of India aiming to create more jobs through the development of existing and new coal blocks in central India. The central government wants India (with the world's fourth-largest coal reserves), to be a net coal exporter (The Economic Times 2020a). Coal Minister is of the opinion that auctioning of 19 coal blocks for commercial mining can generate total revenues of around rupees 7,000 crore per annum and create more than 69,000 jobs once they are operationalized (The Hindu 2020a). This move is not well taken by environmental organizations, even former Environment Minister Jayaram Ramesh has raised his concern on auctioning of coal mines to private sector The Congress leader underlined that what sort of commitment is this towards fighting global warming if coal blocks in very dense forest areas are being opened up for mining. Secondly, the mining and transportation of coal will impose very heavy environmental costs, in terms of loss of dense forests and consequently loss of a valuable carbon sink (The Economic Times 2020b).

The above such initiatives hint us that development has been carried out at the cost of sustainability and may be because India is a developing nation and its first preference is to generate employment opportunities for its people. That is the reason, India's political system is not designed to hold political parties accountable for climate issues, because it is not an electoral priority. Ramachandran Guha, a noted historian of India is of the opinion that it is especially business community and generally middle class who are quite unmindful of the ecological footprints of their lifestyles and issue of urban environmental planning in both internal and external dimension is seriously neglected in media and political circles (Guha 2010). How to address environmental

issues in India? Guha suggests that we need to harness scientific and social scientific expertise to develop and promote eco-friendly technologies. Scientific innovations need to be complemented by legislative changes as well as by changes in social behaviour. For this, we need new ideas, new innovations, new institutions and perhaps, a more imaginative and less short-sighted political leadership (Guha 2010).

(c) **Adoption of Electric Vehicles**

Off late in 2013, Government of India started an ambitious National Electric Mobility Mission Plan (NEMMP) 2020 for achieving national fuel security by promoting electric and hybrid vehicles. As part of NEMMP a scheme namely Faster Adoption and Manufacturing of hybrid and electric vehicles in India (FAME) was adopted in the year 2015 with an objective to replace conventional vehicles with hybrid and electric vehicles. In order to boost demand-pull of such vehicles, the government has plans to incentivise buyers by offering monetary support for purchasing such vehicles. Under the scheme, producer of such vehicles will reduce the prices and that will be compensated by the same reimbursement from government side (PIB, NEMMP). In India, top Electric automakers are Mahindra Electric, Tata Motors, Hyundai and Ashok Leyland with Tesla an American company as the new entrant. However, the challenge to electric automakers is that Indian Electric vehicles market is still in a nascent stage. As per Economic Survey of 2019–20 sales of such vehicles till November 2019 was 280,000 units, but most of these vehicles were three-wheelers that run on lead-acid batteries which is again an environmental concern and government has decided to stop offering subsidies to such vehicles unless they switch over to lithium-ion batteries (Hindustan Times, 3 February 2020). The major impediment for adoption of electric mobility in country is high cost of lithium-ison batteries, inadequate charging facilities, electrification of roads and most importantly affordability is impeded by financing procedure of banks and financial institutions who while offering loan look into buyer's paying capacity in case of conventional vehicles but in case of electric vehicles they look into vehicle longevity, battery life, resale value, etc. (Bhat and Agrawal 2021). An independent study of Centre for Energy and Finance (CEEW-CEF) estimates that there is an investment need of 180 billion dollars until 2030 to meet India's electric vehicles ambition programme (The Hindu, 8 December 2020b).

7 Chinese Perspective

Heavy industry was the main focus of socialist economies like former USSR as well of China. In China, however, the initial stage economic growth was propelled by smaller manufacturing plants and the latter stage by heavy industries. Though they brought boom in economy but also resulted in environmental deterioration. State-owned banks of China flushed with capital from overall China's economic success offered their coffers to the state-owned manufacturers. This process began to stagnate in late 2008, as credit around the world became scarce (The Economist 2008).

By this time Pollution from industries has already risen to crucial levels and China realized that the solution to pollution lies in restructuring energy consumption and eliminating production of highly polluting industries. Since 2013, the country took the challenge of pollution seriously and introduced tough anti-pollution measures such as the national action plan on air pollution. The country was divided into provinces for imposing nationwide cap on coal use, for instance Beijing had to reduce coal consumption by 50% between 2013 and 2018. Furthering its efforts, China announced closure or cancellation of 103 coal-fired power plants in March 2017, which were capable of producing more than 50 gigawatts of power (Gardiner 2017). These measures gave hopeful sign of flattening the curve of CO_2 emissions, However, CO_2 emissions from China continued to rise until 2019 even as much of the world began to shift away from fossil fuels (McGrath 2020). Latest Climate Change Performance Index of 2020 places China at 33rd rank (CCPI 2021) and it appears that China has rolled back its policies of restriction on coal plants. In 2020 more coal plants were allowed than in 2018 and 2019 combined. China now possesses roughly half of the world's coal power capacity and coal-fired power plants, which indicates going against the global commitments (Climate action tracker).

Surprisingly, very recently in September 2020 President Xi Jinping made a bold statement that China will strengthen its 2030 climate target (NDC), peak emissions before 2030 and aim to achieve carbon neutrality before 2060. "By playing the climate card a little differently, Xi has not only injected much needed momentum to global climate politics, but presented an intriguing geopolitical question in front of the world: on a global common issue, China has moved ahead regardless of the US. Will Washington follow?" (McGrath 2020).

8 European Perspective

The EU is at the forefront in setting out a trend by committing itself to significant cuts in greenhouse gas emissions to limit global warming. European Union as community of nations gives a hope when it comes to initiatives in controlling greenhouse gas emissions, be it Kyoto Protocol or latest Paris Climate Agreement. Climate finance which is a long-term demand of developing countries is getting their lead support from the European Union in tackling climate change (European Commission). Under Kyoto Protocol different targets were negotiated for cutting of greenhouse gas emissions, like USA was supposed to cut it by 7% and for European Union (EU) it was 8%. This was to be attained by multiple steps like emission trading for which EU setup its own system in 2005 and by Joint Implementation and the Clean Development Mechanism (CDM). By 2012, the only major signatory committed to the Protocol and its extension was EU (Baylis et al. 2017).

EU not only played an instrumental role for the Paris Climate Agreement (2015) but also formally ratified the agreement in 2016. European Union feels privileged in achieving its 2020 emission target reduction as in 2018, its GHG emissions were lower than in 1990 (European Commission). Forwarding its commitments for

reducing emissions it established net zero goal along with scenario for how to achieve it. Its focus is now on revising integrating national energy and climate plans for target of 2030 climate and energy framework (Bazilian and Gielen 2020). Under its 2030 target, EU's nationally determined contribution (NDC) is to reduce emissions by 40% as compared to 1990 and for achieving this all key EU legislation was adopted by closing 2018 (European Commission). For net zero emission targets of 2050, the European Commission is working under "Green Deal" initiative published in 2019. This initiative was endorsed by leaders of European Council in December 2019, however, Poland refused to commit to its implementation. The objection of Poland stems from fulfilling its energy needs which are directly dependent on coal. Economic activities of many towns of Poland and more than a quarter-million Polish jobs are related to the fossil fuel industry. "You can't expect Poland to leap to zero carbon in 30 years," stated by Marchin Nowak, a coal industry executive (Dettmer 2019). Green Deal is a package of measures for cutting GHGs through investment in cutting-edge research and innovation. Under the Deal, EU wants to have a European Climate Law by incorporating 2050 climate-neutrality goals in it. Another ambitious goal of the Deal is European Climate Pact with the aim of engaging citizens and all parts of society in climate action. In 2018 Climate Action Network Europe has published a report titled "Off target Ranking of EU countries" to assess the progress European Member States have achieved in fighting climate change under Paris Agreement like progress in reduction of carbon emissions and promotion of renewable energy and energy efficiency at home. In its ranking all EU countries were placed on off-target place. The report illustrates that Belgium, Denmark, Germany and the UK are no longer at the forefront of the fight against climate change and aim rather low despite their relative wealth (Off target Ranking of EU countries, June 2018).

9 The Climate Change Performance Index 2021

The Climate Change Performance Index is developed by collective efforts of non-profit organizations German Watch, New Climate Institute (Germany) and Climate Action Network (CAN International). The objective of this Index is to assess the progress made by 57 countries and the European Union, who are collectively responsible for 90% global greenhouse gas emissions in the four categories namely GHG emissions (40%), Renewable energy (20%), Energy use (20%) and Climate Policy (20%). The Index prepared so enhances transparency in climate politics at international level and enables comparison of climate protection measures and progress made by individual countries.

Top 10 nations on the Climate Change Performance Index 2021

Climate Change Performance Index 2021		
Rank	**Country**	**Score**
1	(None achieved 1-3 rank)	
2		
3		
4	Sweden	74.42
5	United Kingdom	69.66
6	Denmark	69.42
7	Morocco	67.59
8	Norway	64.45
9	Chile	64.05
10	India	63.98

Source www.ccip.org

CCPI-2021 places European Union (EU) climate action in two different shades. One for Scandinavian EU countries, Portugal and the EU ranking high on the index with relatively good indicators, and the other within the block as laggards like Hungary, Poland and the Czech Republic. In overall performance, EU has been placed at 16th place which is a quantum jump from its previous year's 22nd place. The report mentions that it is because of better climate policy of EU that has improved its climate performance index. The EU has the capability to become a role model for other countries by setting desirous climate target for 2030 in line with the 1.5 °C limit and further development of its Green Deal. The report also cautions that it can stumble badly if it pursues greenwashing instead of green recovery and implements inadequate targets and instruments in the European Green Deal (CCPI 2021).

10 Conclusion

Development of a sense of belongingness to this planet as our common home starting from self, home, society and nation-state to reduce the use of all those utilities which are causing global warming is the need of the hour. Inculcating climate friendly values in present and coming generations will produce a voice that will be heard and

respected in future. Governments will be held accountable by voting and electing those who work for climate friendly initiatives. The scientific community with political support must develop new low-emissions technologies that may answer supply push factors like targeted low-cost credit accessibility and demand-pull factors. Special attention and cooperation should be paid to those countries who excel in Climate Performance Index by UN and Intergovernmental Organizations, which will be a motivation for other countries to perform for the cause. Climate finance, capacity building and technology transfer is another area which needs attention of national governments and world community. These initiatives shall not remain limited to seminars, conferences and global summits but should be legally binding actions at the local, national and global levels.

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