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## Echoing need for climate justice in modern times

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### Abstract

Climate uncertainty is the greatest threat to humanity in the 21<sup>st</sup> century. The impact of climate change will not be borne equally or fairly between different sections of people. Indigenous and low-income communities will be the first to experience negative impacts. Moreover, climate change is causally intertwined with a variety of phenomena and it will be too artificial to treat it on its own. So, climate change should be viewed from an ethical perspective rather than from a purely environmental and political aspect. The distributive principles that are salient for other socio-economic problems are applicable to climate change as well.

**Keywords:** greenhouse effect, global warming, climate change, inequalities, climate justice

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### Introduction

In less than three decades from Rio summit of 1992 which brought about the first international agreement on climate change, related discussions has shifted from fringes to the centre of the world's geopolitical stage. Climate change has become a buzzword not only in multilateral forums but also among the educated intelligentsia. In fact humanity is now at a tip point beyond which the climate change becomes irreversible. It hence becomes essential to have a holistic understanding of the issue including its ethical perspective. Let's start with the concept of greenhouse effect and global warming which results in climatic variations.

### Greenhouse effect and Global warming

The term greenhouse effect owes its origin to greenhouses used in agriculture. Greenhouses are structures that are made of transparent materials, like glass, in which plants that require regulated climatic conditions are grown. During cold weather, the rays of the sun get trapped inside while travelling through the glass and thus raising temperature facilitates plant growth. In 1824, the French scientist Jean Baptiste Joseph Fourier observed a similar phenomenon happening in the earth's atmosphere. The presence of gases like CO<sub>2</sub>, methane, nitrous oxide and ozone-called 'greenhouse gases' that do the similar job of glass in a greenhouse- allows the inbound solar radiation to reach the earth's surface but traps the terrestrial radiation thereby raising the temperature. This natural greenhouse effect makes our planet suitable for life. Greenhouse effect achieved a negative connotation with the increasing concentration of greenhouse gases in the atmosphere. Greenhouse gases once emitted will persist in the atmosphere for decades and even centuries. This is clearly a case of stock pollutant. In 1901, it was Nils Gusta Ekholm who first used the term "greenhouse effect" to describe situation stemming out of the massive emissions of greenhouse gases.

"The possibility of an enhanced or man-made greenhouse effect was introduced by the Swedish scientist Svante Arrhenius in 1896. Arrhenius hypothesized that the increased burning of coal, which had paralleled the process of industrialization, would lead to an increased concentration of carbon dioxide in the atmosphere and warm the earth." (Fankhauser, 1995) <sup>[1]</sup>.

Global warming is a corollary to the increasing atmospheric greenhouse gas concentration. Global warming is a phenomenon of climate change characterized by a general increase in average temperatures of the Earth. According to an IPCC Special Report titled 'Global Warming of 1.5°C' (2019) , human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate. <sup>[2]</sup>

### Key Concerns

According to World Meteorological Organisation (2019), the greenhouse gas concentrations reached new highs: CO<sub>2</sub> is at 148%, methane is at 260% and nitrous oxide is at 123% of the pre-industrial levels. <sup>[3]</sup> Also, the average temperatures for the five year (2015-19) and ten year (2010-19) periods are the highest on record and 2019 was the hottest year on record. According to the UNEP's Emission Gap Report (EGR) 2020, total greenhouse gas emissions reached a new high of 59.1 gigatonnes of CO<sub>2</sub> equivalent in 2019. Insufficient global commitments to reduce emissions and a return to a high carbon society after the pandemic can push 2030 emissions even higher upto 60 gigatonnes of CO<sub>2</sub> equivalent <sup>[4]</sup>. Climate change has thus become a stark reality.

The spectrum of ill effects of climate change is immensely wide. It can tamper the cycles of plant reproduction and migratory cycles of several animal and bird species. According to the IPCC, a 1.5°C (34.7°F) average rise might put 20-30% of species at risk of extinction. If the planet warms by more than 2°C, most ecosystems will struggle. Due to rising temperature, the permafrost and polar ice are melting rapidly which result in a rise in the sea level. The oceanic acidification is another serious concern. Large amount of CO<sub>2</sub> captured by the oceans makes them acidic threatening the adaptability of corals and sea shell.

The social, health and geopolitical balance worldwide particularly of island nations are disturbed by climatic variations. Apart from other problems, it triggers desertification and drought, deforestation, land degradation, rising sea levels, floods, more frequent and more extreme storms, earthquakes, volcanoes, food insecurity and famine. If left unchecked, the number of climate refugees will become a major concern for the entire humanity. A 2018 report from the World Bank, which focused on three regions — Sub-Saharan Africa, South Asia and Latin America — found that without tangible climate action, more than 143 million people in just these three areas will be forced to change domicile to escape the aftermath of climate change by 2050.

### **Greenhouse gas emissions-An economic perspective**

Greenhouse gas emissions- the key driver of planetary warming - can be understood both as a case of negative environmental externality and also as a case of overuse of Common Property Resource. Earth's atmosphere is a global common property into which individuals and firms release lethal pollutants. Climate change is a 'Public bad'. Whosoever is polluting, the brunt of it is to be borne by the entire world.

Scanning through history, we can notice that the currently developed nations and high income oil rich countries are responsible for the lion share of emissions over the years. Added to this is the volume contributed by the development trajectories of third world nations. In relation to economic growth, Diffebaugh and Burke (2019) estimated a parabolic relationship between temperature and economic growth and opined that long term global warming will increase economic growth in cooler countries and decrease growth in warmer countries. For countries like Norway, global warming moves the country's mean average temperature closer to the empirical optimum resulting in cumulative economic benefits whereas for warm countries like India, global warming moves the country's mean average temperature further away from the optimum resulting in cumulative losses. Climate change retards the economic growth of countries in low latitudes where as it increases the economic growth in high latitude nations. Thus climate change accentuates the economic inequality between nations.<sup>5</sup>

### **Need for an ethical perspective**

Climate uncertainty is the greatest threat to humanity in the 21<sup>st</sup> century. The undesired byproducts of developmental efforts chokes the entire globe, the least resilient being the low lying agriculture dependent island nations. The impact of climate change will not be borne equally or fairly between different sections of people. Indigenous and low-income communities will be the first to experience negative impacts like heat death and illness, respiratory illness, infectious disease as well as economic and cultural displacement. The point of importance is the concentration of the world's poor and vulnerable section in the lower latitudes, mostly in the developing countries. In other words, the most severe impacts of climate change will fall on those who are least able to withstand them. So climate change should be viewed from an ethical perspective rather than from a purely environmental and political aspect. Consequently, there has been a growing focus on 'climate justice' which view climate crisis through a human rights lens.

According to United Nations Environment Programme, the costs of adapting to climate change in developing economies may range from \$56 billion to \$300 billion by 2030. Small and low income countries, particularly those in Pacific and Caribbean region tops the list of disaster prone nations. Natural disasters like droughts, floods and cyclones are tightening their clutches over these nations which are evident from the rising frequency and size of catastrophes over the past 20 years. Small nations can't bounce back from calamities swiftly. With major resources being diverted into recovery measures, the economies of these nations grow by one percent less each year than those of non-disaster prone countries. These nations are to be given special consideration while framing policies to address climate change as they are becoming the scape goats of actions taken by other nations. They are definitely entitled to climate justice. Investments for resilience are to be undertaken in these nations under the auspices of multilateral groupings.<sup>[6]</sup>

### **Approaches to Climate Justice**

There are two different ways to approach the issue of climate justice- Isolationism and Integrationism. According to the isolationist approach, the issues stemming out of climate change should be treated in isolation from other issues such as poverty, migration etc. The supporters of isolationist approach highlight it as a simplified approach as integration of other concerns would complicate the question and hence argue that it is better to bracket them out. Furthermore, due to diverse views regarding the notion of justice, integration of the duo will end up in a deadlock.

Integrationist approach, on the other hand, focuses on treating the ethical issues posed by climate change in the light of a general theory of justice in conjunction with other socio-economic issues. Integrationists opine that there is nothing special about climate change that warrants special treatment in isolation. The distributive principles that are salient for other socio-economic problems are applicable to climate change as well. For example, if an individual has human rights to meet their socio-economic needs, he has the same rights regarding

climate change as well. He has rights to combat climate change and share the responsibilities without putting the entire burden on the poor and the vulnerable.

Climate change is causally intertwined with a variety of phenomena like economic growth, poverty reduction, migration etc and it will be too artificial to treat it on its own. <sup>[7]</sup> Climate change is not a discrete problem; it is part and parcel of a larger process. Moreover the effects of climate change interact with existing inequalities and vulnerability, producing what Leichenko and O'Brien (2008) calls "double exposures" <sup>[8]</sup>. Furthermore, policies designed to tackle climate change affects a wide range of other phenomena. Looking at the climate justice issue through the lens of rationality, integrationist approach seems to be more relevant and realistic taking into account the complex nature and gravity of the issue.

### **How to realize climate justice?**

The Intergovernmental Panel on Climate Change (IPCC) in all its reports spoke of the alarming increase in the concentrations of greenhouse gases in the atmosphere owing to human activities since 1750. So stabilizing or freezing emissions is not a panacea to the problem. Apart from major reductions in the emission levels of stock pollutant, carbon sequestration should also be given due importance. Land based approaches and technological methods can be deployed to check carbon accumulation.

To realize the concept of climate justice, protecting and empowering vulnerable individuals and communities should be given major thrust. The transition from a fossil fuel based economy to a renewable energy based economy should be done in a just manner. The displaced workers and communities should be integrated into the new economic order via compensation for job loss, loss of tax base and other ill effects. It must be ensured that no group is called upon to shoulder all burden alone. So the best public policy that ensures climate justice will be one that incorporates the voice of all those who are affected. Community participation should be ensured in the formulation of policies to tackle climate change.

Climate change poses a systemic risk that can only be addressed globally. Ban Ki Moon, the former UN Secretary General rightly commented 'Climate change does not respect borders; it does not respect who we are-rich and poor, small and big'. Mitigation of climate change requires global solidarity and collaborative efforts to develop and implement effective policy measures. Climate action should bring all stakeholders including national governments, public institutions, private corporations and individual citizens under a single umbrella for achieving a common goal.

Today, the top three global emitters- China, United States and India - account for around 50% of global CO<sub>2</sub> emissions and the top 20 emitters account for 80%. However the total emission is not everything; a per capita view is worth more mention. Developed countries coupled with some high income oil producing developing ones owns the highest emissions per capita above the global average. Despite reduction of emission over the years, developed countries pollute more than the developing countries. So they should take the lead in the process of green transition. An effective and inclusive environmental governance should be built on the solid rocks of 'Common but Differentiated Responsibility'.

An important point to note here is that as developing countries make rapid strides along the path of economic growth, their per capita emissions will climb which coupled with population outbursts will aggravate the problem. UDCs instead of viewing the developed countries' per capita emissions as benchmarks should focus on curbing emissions and aid in the process of green transition. The argument that the emissions by developed countries were the price they had paid for achieving economic development and developing countries are also entitled to such rights and should be exempted from stringent reduction norms which form part of the global attempts to curb emission. It is high time to decouple economic prosperity from CO<sub>2</sub> emissions. Developed countries should accelerate the pace of emission reductions and at the same time take the moral responsibility to provide financial and technological assistance to the poor and developing nations to aid the green transition as they are the ones who are more vulnerable to the outcome of the historical vices.

Comprehensive energy sector reforms should be made. Reducing the dependence on fossil fuels and focusing more on green energy sources is vital. Measures to curb fossil fuel subsidies across the globe should be adopted. Fossil fuel subsidies results not only in the excessive consumption of fossil fuels but also reduce the incentive for investment in clean energy. At the same time, we must ensure that the poor do not bear excess burden. Targeted support measures should be ensured to aid the poor in the process of transition. Although replacing fossil fuels is merely a section in a thousand piece jigsaw, it is admittedly a larger one.

International carbon markets can play a key role in reducing emissions cost effectively. We must ensure that carbon emissions and sink markets are transparent and accountable. The development efforts should be redesigned along sustainable lines giving due importance to inter-generational equity. No amount of action later can revert today's inaction. The uncertainty stemming from climate change should be viewed with caution and precautions to meet climate emergencies and disaster relief should be taken.

### **Conclusion**

Ever since the tabling of Brundtland Commission report, the idea of Sustainable development became a key phrase in international policy arena. In principle the world leaders accepted the fact that the planet must be safeguarded for future generations as well. But in reality the future generations are not much more than mere words restricted to policy documents.

As climate scientists comment, we are on the verge of a mass extinction. It is high time to stop telling about money and fairy tales of eternal economic growth. Wheresoever we live- developed or developing country- we all have something to lose; we all have something to do as well. We have twin responsibilities of tackling the climate change and ensuring justice to those who are bearing the brunt of climate change. Low-carbon growth requires not only political commitment from all nations but also sustained structural economic change. Trade, investment and technology are critical in this regard. The world leaders should join hands to achieve this common goal keeping in mind the fact that emissions anywhere can threaten development everywhere. Our health and survival is intrinsically linked with the health of our natural environment. All nations must formulate and implement ambitious low-carbon policies. Apart from this, the governments must ensure cooperation and coordination of efforts for improving the effectiveness of these policies at a global level.

The poorest countries of the world, whose people leave only a tiny carbon footprint are at the frontline in facing the climate chaos. Along with stringent emission reduction measures, just treatment should be given to the vulnerable groups as well. Only then can we sail safely towards a more inclusive, equitable and sustainable world.

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