

Climate Change and Evolution of Climate Conferences

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Opinion

The world economies have been alerted during the last four decades about the surfacing problem of climate change that has tiptoed to their doorsteps along with their development pursuits. Climate change refers to long term changes in average weather conditions in terms of rise in temperature, changes in precipitation pattern, heat waves, severe storms, flash flood etc. This can be said to be a sequel to worldwide spread in consumerist culture, rampant industrialisation, extension of agricultural activities, expansion of transport facilities, interstate conflict etc. all of which require use of huge amount of electricity. But generation of electricity is still mostly dependent on use of extensive use of non-renewable resources like oil, coal and natural gas. The burning of these resources produces huge amount of CO₂ and N₂O which tend to make the climate warmer due to greenhouse effect. The greenhouse effect indicates the process by which heat is entrapped near the earth's surface by substances called as greenhouse gases(GHGs). These gases play a crucial role in keeping such a level of temperature in our planet as is suitable to maintain human, animal and plant life. In the absence of natural greenhouse effect, the heat released by earth's surface would gradually pass upwards into space leaving the earth reeling in an average temperature of about -20°C. However present dimension of human activities has tended to release huge amount of GHGs much larger than what is needed to maintain the natural greenhouse effect and hence giving rise to various untoward natural incidents that are inimical to sustaining life on the earth. Apart from CO₂ and N₂O there are some other forms of GHGs like water vapour, methane(CH₄), CFC, ozone(O₃), Hydrofluorocarbons, Perfluorocarbons and Sulphur Hexafluoride (SF₆). While Stratospheric ozone is good as it shields life from sun's ultraviolet radiation, ground level (Tropospheric) ozone is considered as bad, and it is dubbed as the third most significant greenhouse gas after CO₂ and N₂O. It sucks up infrared radiation (heat) emanating from the surface of the earth and thus reduces the extent of radiation that escapes into space. It can cause several health problems particularly for the children and the elderly and people of all ages having lung diseases. Further massive level of agricultural activities and livestock rearing give rise to emission of huge amount of methane. Methane emission leads to formation of ground level ozone which is a very harmful air pollutant and GHG. It accounts for around 30% of global warming since preindustrial period and is proliferating very fast because of rising agriculture and livestock breeding activity. Again refrigerators, air conditioners, fire extinguishers, different types of sprays and paints release CFC into the atmosphere. Apart from these GHGs there are some pollutants in the form of coarser particulate matters (PM_{2.5} and PM₁₀) in the form of dust particles which have a warming impact on atmosphere. The present level of activities has resulted in release of huge amount of such GHGs causing climate change that is detrimental to human wellbeing and threatening to sustain life on earth. Climate change problems are manifest in the form of acid rain, ozone layer depletion, forest ecosystem degeneration, desertification, land degradation, aquatic ecosystem degradation, polar ice cap depletion, frequent storms, floods and heatwaves etc.

Seven climate change indicators have over the years displayed an increase: These are tropospheric temperature, temperature over ocean, temperature over land, sea surface temperature, ocean heat content, sea level and humidity. Precipitation level has displayed an unpredictable change in pattern. Three indicators have recorded decrease, these are sea- ice, glacier and snow cover. In the absence of sincere human efforts to reverse this process, global climate is projected to be warmer by about 1.5 °C by 2050 and further rise by 2-4° C by the end of the century. The first ever concern for climate change issue emerged in a section pertaining to identification and control of pollutants in the 1972 conference at Stockholm. The govts were alerted to be careful about the activities that might lead to unprecedented problems due to climate change and assess its likelihood. As a sequel to continued worry about the possible climate change problems, the first world conference was held in Geneva in 1979, under the sponsorship of WMO (World Meteorological Organisation). It happened to be first major international event on climate change problems and issued a document stating that world govts should remain apprehensive about the possible dangers of climate change and so preclude potential manmade changes in climate that might be detrimental to human wellbeing. Further it approved a plan to form a world climate programme under the aegis of WMO, UNEP (United Nations Environment Programme) and ICSU(International Council for Scientific Union). Subsequent to this, the late 1980s and early 1990s experienced a number of intergovernmental conferences related to climate change. The participants comprised policy makers, environmentalists and scientists and focus were put on policy oriented scientific climate related actions. Among the major such conferences were Villach conference (1985), Ottawa conference (1989), the Hague conference (1989), the Noordwijk conference(1989) and Bergen conference(1990). The Villach conference was a small gathering of climate scientists who deliberated on the first international assessment of the likely events due to climate change. The combined efforts of three agencies like UNEP, WMO and ICSU searching for an international policy agenda, culminated in the Villach meeting which illuminated the world governments about the evils of climate change. The goal of Noordwijk conference was set at ministerial level across 68 countries. Although an accord about the reduction of emission of CO₂ was on the verge of success, it finally ended with fiasco as USA, Japan , U.K and Soviet Union did not agree to curtail the emission and initial goal remained afar. The Hague declaration appealed to all states to take part in the building of a framework convention on climate change. A new approach was advocated based on novel principles of international law incorporating effective decision making and enforcement mechanism process to combat climate change. However, the declaration did not represent the mood of world community as some major countries were not invited. The Bergen conference dominated by the environmental ministers of 34 countries discussed on the issue of sustainable development and climate change. It succeeded in eliciting the willingness of major countries in ECE(Economic Commission for Europe) of North America and Europe to reduce GHG emission. Although a majority of industrialised states reached an agreement to stabilise the emission of GHGs at 1990 level by the year 2000,

no commitment about precise targets could be reached due to opposition of USA and some other countries.

In between these conferences, an important convention was held at Vienna in 1985. Its goal was to promote international cooperation for exchanging information on the damaging effect of ozone layer depletion and adoption of preventive measures. The goal of the convention was to protect human health and preserve the environment from depletion of ozone layer which triggers entry of increased UV radiation into earth's atmosphere causing skin cancer, cataracts and blighted immune system. As an upshot of Vienna convention, a global treaty was signed in Montreal (1987) across 197 countries to shield the stratospheric ozone layer by phasing out the production, consumption and import of ozone depleting substances(ODS). It was a landmark agreement first to achieve universal ratification and aimed at regulating the production and consumption of 100 ODS. The treaty revolved round quite a few groups of halogenated hydrocarbon that contained either chlorine and/or bromine. The treaty allowed a specific timetable for each group of ODS, by which the manufacturing of those substances should be reduced and ultimately eliminated. A 10-year time limit for phasing out such substances, was granted for developing countries. The agreement was signed in 1987 and enforced in 1989. The ban imposed on further production and use of CFC eradicated a major contributor to climate change. Effective burden sharing arrangements across signatory countries and solution proposal for mitigating regional clash of interest are considered to have lent success to this treaty. In order to undertake an all-out worldwide effort towards reduction of emission of GHGs in the pursuit of the goal of quashing the evils of dangerous anthropogenic intervention with earth's climate system, the United Nations Framework Convention on Climate Change(UNFCCC) was established as one convention at the RIO earth summit, 1992. The UNFCCC was based on five principles including common but differentiated responsibility of all signatories, reduction of overall climate impact, dissemination for climate action, promotion of sustainable and responsible consumption and stress on collection of data and communication for climate action. In joining the convention, the parties recognised the reality of the threat of climate change and pledged to launch efforts to reverse it. The convention itself had not set any targets but was supposed to act as a catalyst for presenting a framework for future policies and dealing an accord. The IPCC (Intergovernmental Panel on Climate Change) set up in 1988 by the WMO and the UNEP, was meant to serve the purpose of providing scientific, technical and socio-economic information on climate change to the UNFCCC.

Subsequent to the establishment of UNFCCC, a number of conferences began to be held every year with different provisions to tackle the worldwide climate change issue. COP (Conference of Parties) was to serve as the main decision-making body of the convention and all states which stood out as parties to the convention were supposed to undertake execution of institutional and administrative measures embedded in it. The key task of the annual meetings of COP was to assess the impact of measures taken by the parties, review the progress towards achieving the

primary objective and introduce new institutional mechanisms as felt necessary. The First COP conference was held in Berlin in 1995. Subsequently 27 more such conferences have been held at Geneva(COP2), Kyoto(COP3), Buenos Aires(COP4), Bonn(COP5), The Hague(COP6), Marakech(COP7), New Delhi(COP8), Milan(COP9), Buenos Aires (COP10), Montreal(COP11), Nairobi(COP12), Bali (COP13), Poznan(COP14), Copenhagen(COP15), Cancun (COP16), Durban(COP17), Doha(COP18), Warsaw(COP19), Lima(COP20), Paris(COP21), Marrakech(COP22), Bonn(COP23), Katowice(COP24), Madrid(COP25), Glasgow(COP26), Sharm-el-Sheikh(COP27) and Dubai(COP28). The 29th COP conference is supposed to be held at Baku in 2024. The Kyoto Protocol (COP3) has great significance as it clinched first extensive agreement across 39 industrialised nations for reducing GHG emission. It acknowledged the need to segregate the responsibility, accountability and ability to mitigate GHGs of developing countries from that of developed industrialised nations. The conference identified 5GHGs and the developed countries were supposed to pursue the goals set to cut down GHG emission. Targets varied across countries but on an average, it was around 5% reduction during the period 1990 to 2012. There was however no binding agreement set for developing nations. It led to launching of low carbon policies and corresponding mechanisms. The protocol is well known for its support for flexible mechanisms. The mechanisms included emission trading arrangements, carbon banking, joint implementation and clean development mechanism.

The Copenhagen Summit (COP15) could not reach any agreement but on the last day USA, Brazil, India, South Africa and China negotiated the Copenhagen accord which was a non-binding agreement. However, it included certain important elements that have found way in subsequent agreements specially reaching the 2 °C warming limit with an allusion to 1.5 °C goal along with mitigation, adaptation strategies, introduction of REDD+, and implementation of financial provision for a green climate fund and a technology mechanism. The achievement of Cancun accord (COP16) involved formalisation of Copenhagen agreement. It incorporated the establishment of financial and technical mechanism for lending support to developing nations in achieving their development and emission targets. Paris treaty agreement (COP21) signed across 196 countries was supposed to be a legally binding agreement on climate change. Its main goal was to achieve average global temperature well below 2 °C above pre-industrial levels and if possible, limit the increase to 1.5 °C over preindustrial level by the turn of the century. It is advocated that in order to reach the limit of global warming to 1.5 °C, GHG emission has to attain the apex latest by 2025 and reduce 43% by 2030. Implementation of the treaty is conditioned by social and economic transformation triggered by best available scientific strategies. As per the stipulations, the countries have to follow a five-year cycle of sincere climate related action. Further they are to submit national climate action plans known as nationally determined contributions(NDCs) whereby they are supposed to reduce GHG emission and build resilience. It also reiterates the provision of financial assistance from developed countries to developing ones, stressing the need of climate finance

for adaptation and mitigation strategies. But the treaty is not without criticism. Nowhere in the treaty focus was put on the restriction on cumulative emission which climate science demands if the target of 1.5°C is to be achieved. Further with progression of the conference it was clear that USA was in no mood to accept the legally binding agreement about the quantum of emissions curtailment on the part of developed countries. This was not in tune with the requirements of a tangible emission reduction coherent for avoiding a catastrophic setback to the world. The Glasgow conference (COP26) is notable for making the commitment to phase down the use of coal and phase out fossil fuel subsidies. The global methane pledge was also heralded this time. Goals were set for doubling the corpus of adaptation finance by 2025. Further specific focus was put on conservation of nature, with countries committing to reverse forest depletion and land degradation. In COP27, held at Sharm-El Sheikh, the main upshot included the setting up of a loss and damage fund for providing added financial support to developing economies susceptible to the harms of climate change. Further the adaptation agenda in the conference pledged to raise about \$300 billion a year from private and public investors in order to assuage the disastrous impact of climate change among the poorest countries of the world. The COP28, held at Dubai was so far the biggest in its dimension with about 85000 participants including 150 heads of state/Govt officials and delegations from civil society, indigenous people, business as well as international organisations. It was significant as it was the first ever global stocktake of world's endeavour to deal with climate change. The COP participants were at one with fact that global climate action suffered from a shortfall in almost all areas covering reduction of GHG emission, raising the resilience to climate change, creation of adequate provision for technological and financial support to nations exposed to climate change. To accelerate action in these areas by 2030, countries responded with a decision to speed up the switch over from fossil fuel to renewable energy such as wind and solar power. However, the statement of the COP 28 President Al Jaber, indicating the absence of any science behind the phase out of fossil fuel necessary for reaching the global heating target to 1.5 °C, marred the gravity of the conference. Since he was the CEO of UAE state oil company, it is not difficult to surmise that he used the COP 28 platform for setting ground to clinch oil deal with major oil companies in the world for business purposes. Already support is provided by more than 100 countries towards phase out of fossil fuel but the most fought out issues in the conference was whether a stronger or weaker language be used in the final agreement towards cut of fossil fuel, when the host country herself evinced lackadaisical attitude towards the issue. Hence the hope of the world to reach 1.5 °C by the turn of the century remains probably dangling in the air, when the major oil producers do not seem inclined to budge out of their oil extraction agenda that best serve their business interest. While one scientist called this situation as a tragedy for the planet and our future, another stated that it was a dream outcome for the fossil fuel industry.

It is now quite visibly manifest that there is no sound unanimity across world economies to undertake drastic reduction of the production and use of fossil fuel, the main culprit behind the GHGs.

The developed countries and specially the oil rich countries are not in favour of cutting down the extraction of oil rapidly, as it is the major factor behind their development activities /export earnings. When a substantial part of developed economies reveals only half-hearted attitude towards control of GHGs, the objective of reaching 1.5 °C in global warming by the stipulated period, may remain eluded for a longer time. Hence it is early to say whether the climate change related problems can be avoided to a substantial extent by the end of the century. The countries should in the short run, better

concentrate more soundly on adaptation and mitigation strategies along with their all-out efforts to phase out fossil fuel [1-3].

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