CLIMATE ACTION FOR SUSTAINABLE DEVELOPMENT: A STUDY

Dr. Jayashree Khandare* Asst. Prof. Jay Kumar Bhongale

1. Introduction

“The world has enough for everyone's needs, but not everyone's greed.”

The COVID-19 pandemic has affected nearly the entire world population, and even the strongest superpowers of the world have fallen to their knees before this force majeure. Whereas the exact origins of the corona virus are still not known and many allege China’s role in it, the pandemic has made it clear to us all that in the rat race of growth and development, the environment must not be taken for granted any more. Effective measures must be taken to bring about development in a manner that is in sync with the environment, not in lieu of the environment. This precise idea lies at the heart of the concept of “sustainable development”, something the United Nations and countries around the world have been propagating for the longest period of time now.

The term “sustainable development” has been defined in different ways by different people from around the world. The most common definition, however, comes from Our Common Future, also known as the Brundtland Report, and is as follows,

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

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* Assistant Professor and Research Guide, New Law College, Bharati Vidyapeeth (Deemed to be University), Pune.
* Assistant Professor, New Law College, Bharati Vidyapeeth (Deemed to be University), Pune.

1 Mohandas Karamchand Gandhi.
In simpler terms, the definition provides that the resources of the world should be put to use for developmental purposes in such a manner that enough is also left for the generations to come. The concept provides that instead of exhausting all resources available at the behest of the user, only so much as is truly necessary must be put to use. It further entails that the world community must endeavour to use renewable resources over non-renewable resources. The need for such development was felt owing to the perils of uncontrolled usage and/or wastage of resources. Since time immemorial, the “must-have, must-buy” approach has led the present world population to face tremendous environment issues, and should we allow the same to continue, our children, our biggest assets will suffer equally as much or more.

Realising the dire need for promoting a sustainable form of development, the United Nations, took action on it and adopted 17 Sustainable Development Goals (“SDGs”) in the year 2015. Also called the Global Goals, the SDGs are a collection of 17 interlinked goals designed to be a "blueprint to achieve a better and more sustainable future for all". The SDGs which are set in the year 2015 by UNGA are intended to be achieved by the year 2030, and make for a part of a UN Resolution, known as the "2030 Agenda".

The focus of the present research paper will be the Goal No. 13 mentioned above, i.e., “Climate Action”. The official language of the same is to "Take urgent action to combat climate change.

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change and its impacts”. Accordingly, climate action implies taking the right “action” or “steps” to battle the climate change the world is witnessing today. The Goal, like the other SDGs, includes targets meant to be achieved by the year 2030. The progress of the same is measured by way of various indicators. Prior to setting forth our discussions on how this SDG No. 13 has been performing in various countries, let us try and understand why Climate Action is needed in the first place, and accordingly, why the present research is needed as well.

2. Overview of the Research Problem

Even if the President (outgoing) of the most powerful country, the United States chooses to deny it, climate change is real, and poses a large number of dangers that are today latent but will lay bare in time to come. In accordance with the figures released by the UNDP, Greenhouse gas emissions are well more than 50 percent higher in the world today as compared to 1990. The menace of Global warming is already causing long-lasting changes to our climate system, which threatens irreversible consequences should we choose not to act. Notable it is to mention that the year 2019 was the second warmest year ever. \(^7\) Not just this, the decade between 2010 and 2019 was in fact the warmest in history. Furthermore, in the existing scheme of things, global temperatures are expected to rise by no less than 3.2°C at the end of the century.

The aforesaid figures paint a scary picture. In addition to them, the annual average economic losses from climate-related disasters are in the hundreds of billions of dollars. This is not to mention the human impact of geo-physical disasters, which are


91 percent climate-related. Such disaster skilled 1.3 million people and left 4.4 billion injured between 1998 and 2017.

Keeping in view the colossal impacts of climate change, The Paris Agreement, built upon the United Nations Framework Convention on Climate Change (UNFCCC), was adopted at the 2015 United Nations Climate Change Conference (COP 21) in Paris, on December 2015 by member states. The accord brought all nations to a common cause to fight climate change and adapt to its effects to keep the temperature rise this century below 2°C.

In May 2015, it was concluded in a report that a very ambitious climate deal in Paris in 2015 alone could enable countries to reach sustainable development goals and targets set therein under. The report further went on to state that tackling climate change will only be possible if the SDGs are met. It is also pertinent to mention that “economic development” and “climate change” are linked very closely, particularly around poverty, gender equality, and energy. The UN encourages public sector to take initiatives in this effort to minimize negative impacts on the environment.

In 2018, a special report "Global Warming of 1.5°C” was published by the Intergovernmental Panel on Climate Change (IPCC). It outlined the impacts of a 1.5 °C global temperature rise above pre-industrial levels and related global greenhouse gas emission pathways, and highlighted the possibility of avoiding a number of such impacts by limiting global warming to 1.5 °C compared to 2 °C, or more.8

The said report further mentioned that this in turn would require global net human-caused emissions CO2 to reduce by about 45% from 2010 levels by 2030, reaching "net zero" around 2050, through “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities.9

However, with a change in the government at the United States, the USA withdrew from the agreement marking the exit of a major superpower from probably the most significant step taken in the direction of Climate Action, as the aforementioned reports also highlight.

The ever worsening state of climate change, the declining commitment of international superpowers towards reducing the impact of climate change and the need to emerge out of them to battle climate change with new and effective measures marks the research problem of the current study.

3. Climate Action and interconnections with other fields

Climate Change, as a matter of fact, affects people from all walks of life. Accordingly, the SDG 13, Climate Action, affects individuals from all walks of life too. In fact, it will be appropriate to say that Climate Action is linked with the other SDGs in an intrinsic manner, as shall be seen herein below.

One of the most crucial interdisciplinary function of Climate Action, and thereby the current study, is its impact on the alleviation of poverty from countries of the world. SDG 13, in this regard, is inextricably linked to SDG 1, which calls for “no poverty”. Steps taken to achieve sustainable development through Climate Action would entail the development that leaves for everyone- enough resources to be utilised. It shall ensure a world that is not devoid of adequate healthcare for all, adequate food for all and adequate living conditions for all. In

9Id.
such regard, moving a step further, SDG 13 is also interlinked with SDG 10, which talks about alleviating inequality from the world. The full title is: "Reduce inequality within and among countries".

Another most significant interconnection is with SDG 17 that deals with "partnerships for the goals." One of the 17 Sustainable Development Goals established by the United Nations in 2015, the official wording is: "Strengthen the means of implementation and revitalize the global partnership for sustainable development". The Goal has 17 targets to be achieved by 2030, broken down into five categories: finance, technology, capacity building, trade and systemic issues. Progress towards targets will be measured by 25 indicators.

Sustainable Development Goal 7 is another SDG established by the UNGA in 2015. It aims to "Ensure access to affordable, reliable, sustainable and modern energy for all." The SDG 13 is interlinked to this goal as well.

Apropos the aforesaid, it is clear how climate action is set to redefine other related disciplines of social and economic nature, making the instant study all the more relevant to our times.

4. Review of Research and Development on the subject

The SDG 13 sets out the following targets to be achieved:

"13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.2 Integrate climate change measures into national policies, strategies and planning

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
13. **A** Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.\(^\text{10}\)

13. **B** Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.”\(^\text{11}\)

Different countries around the world have taken different measures toward the achievement of these aforesaid targets. Having set out the aforesaid, we can now view the international and national status of research and development in this area.

a. **International Status**

Most research work with regard to these aforesaid targets has been institutionalised. Internationally, inter-governmental organisations from around the world have carried out valuable research in this area; something the researcher shall derive valuable insights from in the present study as well. Organisations within the United Nations have been active in conducting most of these researches, such as the Open Working Proposal for Sustainable Development Goals, various programmes by the United Nations Development Programme, etc. Other significant researches do come in from universities.

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\(^{10}\) *Sustainable Development Goals*, United Nations, (Oct 19, 2020, 05:00 AM); [https://www.un.org/sustainabledevelopment/climate-change/](https://www.un.org/sustainabledevelopment/climate-change/)

\(^{11}\) *Sustainable Development Goals*, United Nations, (Oct 19, 2020, 05:00 AM); [https://www.un.org/sustainabledevelopment/climate-change/](https://www.un.org/sustainabledevelopment/climate-change/)
of repute in the west, which shall well be explored through the course of the current research.

b. National Status

Research focussed on India too has been institutionalised. The United Nations has done commendable work in ascertaining the progress of countries vis-a-vis the achievement of targets set in SDG 13. Other institutionalised research includes work done by the Government, analyses of the NITI Ayog\textsuperscript{12}, and those by the Environment Ministry. Notable is the work done by individual scholars too with regard to specific targets mentioned above, although scarce.

5. Objectives of the study

The objectives of the study are enumerated herein below:

a. To ascertain the progress made in targets set by SDG 13 nationally through initiatives taken by the Indian Government.

b. To ascertain the progress made in targets set by SDG 13 internationally by different countries, and whether India can take a cue from them or vice versa.

6. Methodology

The tentative methodology of the present study can be summarised as follows. Firstly, the researcher carried out extensive doctrinal research to ascertain the present position in countries around the world vis-a-vis steps taken to achieve targets set by SDG 13. The same formulates the basis or the foundation of the present study. In this regard, the researcher took stock of policy measures, legislations and other collaborative steps taken by different Governments of the world. Owing to the unique nature of functioning of different

\textsuperscript{12} Mayank Agarwal, Protect India’s forests and urban green spaces, says India’s climate change report, MONGABAY, (Nov.13, 2020, 7:05 PM) https://india.mongabay.com/2020/06/protect-indias-forests-and-urban-green-spaces-says-indias-climate-change-report/.
countries, the researcher focussed not only on the central or federal governments, but also on the governments at provincial levels.

It is on the basis of such primary formulation that the researcher will juxtapose with the objectives of the present study. Such foundational analyses will help the researcher understand and ascertain the present position vis-a-vis the achievement of SDG 13 as well as steps that are mandatory to be taken in the future, near and far.

7. Analysis

The following section is aimed at presenting the efforts made domestically and globally to tackle the menace of Climate change. The section considers the developments which have taken place in India post the advent of International Solar Alliance (ISA) in 2015. Having done the same the study shall also consider policies across Europe and Asia which have had a remarkable impact on tackling climate change.

a. Climate Action and Steps taken in India

Being one of the most ecologically diverse nations, has not turned out to be a blessing for India, rather a recently submitted report suggests that if the current trends continue, the nation might witness an annual temperature rise of 4.4 degree Celsius by the end of 2100.13 The report indicated that this is expected to have a severe impact on the agricultural sector and has warned that produces on which a majority of Indians depend such as rice, maize, wheat etc. might even go down by 7 to 10%, which if true might push India towards a food crisis and a rising population all at once. However, the phenomenon is not

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new to the subcontinent, which has witnessed a steady rise in water levels since 1960s, coupled with a steady retreat of the Himalayan glaciers during at the same time. While there has been some developments in order to counter the enormous challenge which continues to be a step ahead of all such measures, local bodies have called for a holistic approach which focuses not just on carbon emissions but protecting sources of water, agricultural produces etc. This section shall walk us though the developments which have than place post the International Solar Alliance.

**Investment in Solar Energy**

Ever since the Paris Agreement, 2015 India has been the epicentre of a global solar revolution and avenues have come forward with the prospect of relying on solar power by the end of the target year, 2022. A historic step in furtherance of a much-required shift from fossil-fuel to a clean-green energy source, the solar power drive has had its own share of success and impediments. Though there has been significant rise in the investments in solar energy, it is still way behind at 81 GW, as compared to fossil-fuel generated energy which is roughly about 300 GW.

**State-Level Developments**

However, as ambitious India’s commitment is, it appears that India might cross its expected target by the end of 2022. Though numerous solar plants have come across Western and Southern regions in India, the recently set up solar powered grid in Rajasthan with a basic capacity of 25 GW, is also expected to tough its potential of 50 GW by the end of 2021,

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which roughly amounts to one-third of the 2022 target. In addition to that several plants with a potential between 2.5 to 5 GW, which is expected to take the state’s tally up to 70 GW.

However, governments across other states have rightly identified the menace of thermal power plants, which has led them to adopt a two-pronged approach viz, expanding the reach of solar or clean energy stations and at reducing fossil-fuel based plants at the same time. In furtherance of this approach, the government of Gujarat has decided to end the entire system of granting fresh license to powerplants which have been generating energy based on fossil-fuels. This is expected to lead to a contraction of 7 to 12% in power generation but at the same time, alternative power sources by way of hydro-electricity and solar powered electricity is expected to produce 13-17% of the total state consumption, thereby leaving surplus power for the state for monetisation purposes.

Similar developments have unfolded in southern regions of India at a good place, if not better, as the environment is considered more suitable for solar energy. One of the most significant developments has taken place in the state of Tamil Nadu where a Public-Private partnership venture has paved the way for one of the largest solar plant in India. Apart from its potential, the plant is expected to be one with the lowest required maintenance. Furthermore, with an expected supply for roughly 125,000 households in the district, the plant is

16 Id.
18 Id.
believed to replace fossil-fuel based energy completely within the next few years.\textsuperscript{19}

**Initiatives by the Union Government**

On the brink of crossing the 10 GW mark, India is just the third country to do so in a short span of time, when compared to its predecessors USA and China. However, the ongoing pandemic has halted the work by 4 to 6 months, before it could be resumed at a relatively lesser capacity. However, recent efforts with collaboration with private sectors and various states has resulted in a 10\% reduction in greenhouse gas emissions.\textsuperscript{20} The union government has expedited the green energy drive by offering incentives by way of returns and subsidies to private players who are willing to set up solar power houses and provide jobs to people belonging to that region.\textsuperscript{21}

Though current projections have indicated India is expected to surpass the targeted energy generation through renewable resources by mid 2022, delay caused due to the pandemic has pushed India’s projection of lower emissions to the end of 2030. Furthermore, the projections indicate a 65\% dependence on solar power and another 5\% on other unconventional methods such as windmill energy, hydro-electric power plants, mechanical apparatuses which is currently being employed by small farmers etc. Though the figures shows a positive growth, the areas which the governments have overlooked involve setting up surveillance panels in areas prone to earthquake, floods etc. A possible measure for the same can be appointing officials dedicated to identifying areas which might be prone to soil erosion and has a good chance of facing earthquakes.

\textsuperscript{20} Country Summary: India, Climate Change Tracker, (Nov. 13, 2020, 10:10 AM) https://climateactiontracker.org/countries/india/.
\textsuperscript{21} Id.
Furthermore, observatories which are used in dams across the nation would be a viable option to move forward for monitoring rising sea levels, especially for flood prone areas of Tamil Nadu, Odisha and West-Bengal.

b. Climate Action and Steps taken in other countries

The International Solar Alliance is a relatively newer organisation but countries across Asia and Europe have been taking steps to counter climate change even before the organisation came into being in 2015. This section is dedicated to an overview of climate change program of New Zealand, USA and France.

New Zealand

New Zealand’s climate change policy has been identified as one of the most pragmatic policies and has been endorsed by environmentalists from New Zealand, Europe. One of the principal commitments of the policy is to reduce their emissions by 30%, which is not only in consonance with the Paris Agreement, 2015 but also envisions 2025 as the target year, unlike the policy which has set it at 2030. In addition to a string of policies, the national cabinet has also amended the Climate Change Act, 2019 which aims to reduce emissions from industrial and agricultural sectors. Furthermore the said amendment proposes a realistic review process, in order to promote workable goals by the end of the targeted year 20150, which envisions a zero carbon economy.

France

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23 Climate Change Response (Zero Carbon) Amendment Act, 2019  
24 Id.
The International Solar Alliance, initially an Indo-French brainchild gave high hopes to the European council about France being the epicentre of Green-energy, at least in Europe. However the French authorities have been repeatedly slowed down owing to several factors, both internal and external. In another development which has put France in bad light across Europe suggests that the French authorities have allowed sanctioning of projects which directly contribute to a higher carbon emission.²⁵ Though France uses relatively lesser coal to meet the energy requirements of its economy, their report on emissions suggest that the target set for the year 2018-19 was not met, which has further widened the gap between expectations and the situation on ground.²⁶ Moreover, an ambitious but hastily implemented decision, which requires taxing of motor vehicles running on carbon fuels, was rather met with widespread protests across the streets of Paris, which have made things worse. This must be met with a holistic policy, which allows subsidies to those willing to switch from carbon run vehicles to electronic vehicles.

**USA**

One of the most looked upon nations for almost any global policy decision, the actions of the outgoing head of state; President Trump has been disappointing for world leaders, especially third world countries who are dependent on the US for loans in order to fund such clean-energy projects.²⁷

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series of declarations made by the press secretary the only consolation was a target 19% reduction in emissions by 2025, which was equivalent to nothing under the guidelines of the Paris agreement. However, as things stand now President-elect Joe Biden is expected to re-enter the Paris Agreement, 2015 followed by a series of change with respect to their policy towards climate change.

8. Conclusion

Having analysed the ambitious policy in brief in Asia and the performance of the biggest economies in Europe and North America respectively, the only thing which can be said at the moment is they need to do better, in order to make their neighbours follow suit. India on the other hand, in spite of being an economy engulfed with numerous challenges has managed to done better not just on the investment level, but also with regards to public participation and awareness. Though air quality has been severe in the national capital and several other prominent cities across India, people’s awareness towards the same and significant reduction in firecrackers has contributed towards a relatively better air quality on days following Diwali. However, climate change policies in India and abroad should not be restricted to the domain of clean energy as the focus needs to shift towards rising sea levels. This needs a series of changes to their policies with respect to water in a way to use the increasing water levels for drought prone areas.

28. Mohana Basu, Morning after Diwali, Delhi’s air quality, ‘severe’ but better than last year’s; relief likely, The Print (Nov. 16, 2020, 12:15 PM) https://theprint.in/environment/morning-after-diwali-delhi-air-quality-severe-but-better-than-last-years-relief-likely/544876/.

29. FE Online, What is GalMobile: How Israeli Technology and Netanyahu’s fascinating jeep can solve water woes in Modi’s India, Financial Times (Nov. 15, 2020, 12:22 PM),

www.turkjphysiotherrehabil.org
number of drought prone and dry regions where drinking water has become a scarcity and the Israeli filters might be an immediate solution for people of these areas. Though expensive, considering India’s investments in the domain, these water filters have the ability to turn brackish water into potable water and a potential partnership can bring some respite in both these countries. With respect to green energy, after a couple of years of planning and implementation, India seems to be doing better than lot of G7 and G20 countries and can lead the way forward by monetising its plan which will serve a dual purpose of serving the ailing economy as well as reaching the goals envisioned under the International Solar Alliance.