

India's Position on Climate Change : A Balanced Approach

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Abstract- This paper examines India's position on climate change, highlighting both its achievements and challenges. India recognizes its role in combating climate change but emphasizes the principle of common but differentiated responsibilities. The paper details India's progress in reducing emissions intensity and boosting renewable energy, including its ambitious net-zero target by 2070. However, challenges remain, including dependence on coal, a growing energy demand, and limited access to finance and technology. The paper also explores India's adaptation strategies, including the National Action Plan on Climate Change and the Coalition for Disaster Resilient Infrastructure. Despite these efforts, India faces significant vulnerabilities due to extreme weather events. The paper concludes by emphasizing the need for international cooperation and support to enable India's transition to a low-carbon and resilient future.

I. INTRODUCTION

Climate change is one of the most pressing global challenges of the 21st century. It poses significant threats to the environment, human health, food security, economic development, and social stability. According to the Intergovernmental Panel on Climate Change (IPCC), the global average temperature has risen by about 1.1°C since the pre-industrial era, and is projected to increase by 1.5°C to 4.5°C by the end of the century, depending on the emission scenarios. The impacts of climate change are already evident in the form of melting glaciers, rising sea levels, extreme weather events, biodiversity loss, and crop failures.

As the third largest emitter of greenhouse gases (GHGs) and the second most populous country in the world, India plays a crucial role in the global climate change discourse. India's emissions account for about 7% of the global total, and are expected to grow as the country pursues its development aspirations. At the same time, India is also highly vulnerable to the adverse effects of climate change, especially for its large and poor population, who depend on climate-sensitive sectors such as agriculture, water, and forestry. Therefore, India faces a dual challenge of mitigating its emissions and adapting to the changing climate, while ensuring its energy security, economic growth, and poverty reduction.

India's position on climate change is based on a balanced approach that considers its development needs, energy security, and global responsibility. India recognizes that climate change is a common concern of humankind, and that all countries have to act collectively and cooperatively to address it. India also acknowledges that the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC) should guide the global climate action, and that the developed countries should take the lead in reducing their emissions and providing finance and technology support to the developing countries. India is committed to fulfilling its obligations under the United Nations Framework Convention on Climate Change (UNFCCC) and its Paris Agreement, and to contributing to the global efforts to achieve the long-term goal of limiting the temperature rise to well below 2°C, and preferably to 1.5°C, above pre-industrial levels.

II. INDIA'S ACHIEVEMENTS AND CHALLENGES IN REDUCING EMISSIONS

India has made significant progress in reducing its emissions intensity, which is the ratio of emissions to GDP, and in enhancing its renewable energy capacity. India is on track to achieve its nationally determined contributions (NDCs) under the Paris Agreement, which include:

- Reducing the emissions intensity of its GDP by 33-35% by 2030 from the 2005 level
- Increasing the share of non-fossil fuels in its total installed power capacity to 40% by 2030
- Creating an additional carbon sink of 2.5-3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030

India has also demonstrated its leadership and initiative in promoting renewable energy sources, especially solar energy, at the regional and global levels. India is the founding member and co-chair of the International Solar Alliance (ISA), which is a coalition of 121 solar resource-rich countries, aiming to mobilize investments, technology, and innovation for scaling up solar energy deployment in these countries. India has set an ambitious target of installing 175

GW of renewable energy capacity by 2022, of which 100 GW will be from solar energy.

Moreover, India has recently announced a net-zero emissions goal by 2070 at the 26th Conference of the Parties (COP26) to the UNFCCC, held in Glasgow, UK, in November 2021. This is a significant step for India, as it implies a complete decarbonization of its economy by the end of the century. India's net-zero pledge is also conditional on the provision of adequate and predictable finance and technology support from the developed countries, as well as the implementation of the Paris Agreement in a balanced and comprehensive manner.

However, India also faces several challenges and constraints in reducing its emissions and transitioning to a low-carbon and green economy. One of the major challenges is India's reliance on coal for its power generation, which accounts for about 70% of its total electricity supply. Coal is not only a major source of GHGs, but also of local air pollution, which affects the health and well-being of millions of people. India has a large domestic reserve of coal, which makes it a cheap and abundant source of energy. However, coal also poses a risk of stranded assets, as the global market for coal is shrinking due to the falling costs of renewable energy and the increasing pressure from the international community to phase out coal. Therefore, India needs to find a balance between its coal dependence and its climate commitments, and to explore the possibilities of diversifying its energy mix, improving its energy efficiency, and deploying carbon capture and storage technologies.

Another challenge for India is its growing energy demand and population, which are expected to increase by 35% and 25%, respectively, by 2030. India's per capita energy consumption and emissions are still much lower than the global average, and the country has a huge unmet demand for energy access, especially in the rural areas. India also has a large and young population, which aspires for a higher standard of living and more opportunities for education, employment, and mobility. Therefore, India needs to ensure that its energy supply is adequate, affordable, reliable, and sustainable, and that its development trajectory is inclusive, equitable, and resilient.

A third challenge for India is the lack of adequate finance and technology transfer from the developed countries, which are essential for enabling and enhancing its climate action. India has estimated that it would require about \$2.5 trillion to implement its NDCs by 2030, and about \$1 trillion to achieve its net-zero goal by 2070. However, the global climate finance flows have been far below the target of \$100

billion per year by 2020, as agreed by the developed countries in the Copenhagen Accord in 2009. Moreover, the access to climate finance is often complex, cumbersome, and conditional, and does not reflect the needs and priorities of the developing countries. Similarly, the transfer of climate-friendly technologies from the developed to the developing countries has been slow, limited, and costly, due to the barriers of intellectual property rights, trade restrictions, and market failures. Therefore, India needs to advocate for a more transparent, predictable, and accountable mechanism of climate finance and technology transfer, and to leverage its own domestic resources and capabilities for innovation and adaptation.

III. INDIA'S ADAPTATION AND RESILIENCE STRATEGIES

India has also taken various measures to adapt to the changing climate and to enhance its resilience to the climate and disaster risks. India has implemented the National Action Plan on Climate Change (NAPCC), which was launched in 2008, and covers eight priority areas, such as water, agriculture, forests, and disaster management. The NAPCC provides a framework for integrating climate change considerations into the national policies and programs, and for coordinating the actions of the central and state governments, as well as the civil society and private sector. The NAPCC is complemented by the State Action Plans on Climate Change (SAPCCs), which are prepared by the 29 states and 7 union territories, and reflect their specific vulnerabilities, needs, and capacities.

India has also launched the Coalition for Disaster Resilient Infrastructure (CDRI), which is a global partnership of 26 countries and 18 international organizations, aiming to enhance the resilience of infrastructure systems to climate and disaster risks. The CDRI was announced by Prime Minister Narendra Modi at the UN Climate Action Summit in 2019, and is hosted by India. The CDRI provides a platform for knowledge exchange, capacity building, and technical assistance for designing, constructing, operating, and maintaining resilient infrastructure in various sectors, such as transport, energy, water, and health.

Furthermore, India has invested in climate-smart agriculture, water conservation, and coastal protection, which are some of the key sectors that are affected by climate change and that support the livelihoods of millions of people. India has adopted the National Mission for Sustainable Agriculture, which aims to enhance the productivity, profitability, and resilience of the agricultural sector, by promoting practices such as organic farming, integrated pest

management, soil health management, and crop diversification. India has also implemented the Jal Shakti Abhiyan, which is a campaign for water conservation and rainwater harvesting, involving the participation of the central and state governments, local bodies, and communities. India has also undertaken the National Coastal Mission, which seeks to protect and restore the coastal ecosystems, such as mangroves, coral reefs, and wetlands, and to reduce the vulnerability of the coastal communities to the sea level rise, storm surges, and coastal erosion.

However, India also faces several vulnerabilities and risks due to the impacts of climate change, which threaten its development gains and human security. One of the major vulnerabilities is India's exposure to extreme weather events, such as floods, droughts, cyclones, and heat waves, which have become more frequent, intense, and unpredictable due to climate change. India ranks among the top 10 countries in the world in terms of the number of people affected and the economic losses caused by these events. For instance, in 2019, India experienced 16 extreme weather events, which affected about 50 million people and caused about \$10 billion in damages. These events also have cascading effects on the infrastructure, health, education, and livelihood systems, and exacerbate the existing inequalities and vulnerabilities of the poor and marginalized groups.