

Chapter: 02

NAVIGATING GOVERNANCE: EXPLORING CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT STRATEGIES IN THE CONTEXT OF G20 SUMMIT

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ABSTRACT

The paper examines India's impactful role during its G20 presidency in addressing climate change challenges and promoting sustainable development strategies. Focused on advocating for renewable energy adoption, climate resilience, and sustainable practices, India emphasized the urgency of transitioning to clean energy sources and highlighted the interdependence of sustainable development and climate action. Through discussions on green finance, knowledge-sharing, and public awareness initiatives, India's leadership aimed to mobilize global cooperation towards a more resilient and sustainable future. The analysis showcases India's pivotal contributions in steering the G20 community towards collective strategies that prioritize environmental conservation and inclusive growth.

Keywords: *Climate, Sustainable, Development, Initiatives, Global.*



1. INTRODUCTION

In India, the need for sustainability and the urgency to tackle climate change has never been more crucial. The country faces multifaceted challenges stemming from the effects of climate change, profoundly impacting various sectors. Agriculture, the backbone of India's economy, is increasingly vulnerable due to erratic weather patterns, with droughts, floods, and unpredictable monsoons disrupting crop cycles and threatening food security for millions of farmers. Moreover, the escalating water stress, worsened by climate change, poses a severe threat to communities as changing rainfall patterns and glacial melt strain water resources, leading to scarcity in many regions.

The issue of air pollution looms large over major cities, causing significant health hazards due to vehicular emissions, industrial activities, and agricultural burning. Climate change exacerbates these problems, amplifying health risks and pressing the need for sustainable solutions in transportation and industry. Moreover, India's vulnerability to extreme weather events like cyclones, floods, and heatwaves continues to escalate, wreaking havoc on infrastructure, displacing communities, and causing loss of lives. India's rapid energy needs underscore the necessity for an accelerated shift towards renewable energy sources. While strides have been made in adopting solar and wind power, the country must intensify efforts to transition away from fossil fuels to reduce greenhouse gas emissions and combat climate change effectively. Rapid urbanization brings its set of challenges, straining resources, increasing pollution, and demanding sustainable urban planning strategies to ensure climate-resilient cities.

Preserving India's rich biodiversity is also imperative in the face of climate change. The country's diverse ecosystems and species face threats due to habitat loss and alterations caused by shifting climate patterns. Conservation measures and sustainable land use practices are crucial to safeguarding this biodiversity. Equally significant is the need for policy implementation and enforcement, ensuring that climate considerations are integrated into development plans and regulatory frameworks. The social dimension of climate change cannot be overlooked, as marginalized communities bear a disproportionate burden of its impacts. Therefore, addressing climate challenges demands a concerted effort that considers social equity, ensuring the resilience and adaptation of vulnerable populations. India's commitment to global agreements and initiatives aimed at combating climate change is not just a responsibility but a necessity, given its significant contribution to global climate dynamics. Sustainable practices, investment in renewable energy, resilient infrastructure, policy reforms, and community engagement are critical for India to mitigate the effects of climate change and move towards a sustainable, climate-resilient future. These efforts must be comprehensive, inclusive, and driven by a collective sense of urgency and responsibility towards environmental stewardship.

India's assumption of the G20 presidency represented a pivotal moment in the global fight against climate change and the pursuit of sustainable development. With its vast population, economic prowess, and significant role in global emissions, India's leadership held immense potential to steer collective action towards mitigating climate change challenges. As it took the helm, India had the opportunity to champion strategies that prioritized climate resilience and sustainable development within the G20 framework. During its presidency, India leveraged its position to emphasize the urgency of scaling up renewable energy adoption. Highlighting successful national initiatives in solar, wind, and other renewable sectors inspired G20 nations to accelerate their transition away from fossil fuels. Encouraging investments in clean energy infrastructure and advocating for technology sharing catalyzed global efforts to reduce carbon footprints and achieve a more sustainable energy mix. Furthermore, India advocated for strategies focusing on climate adaptation and resilience, particularly in vulnerable regions. Promoting discussions on building climate-resilient infrastructure, implementing nature-based solutions, and sharing adaptation best practices significantly bolstered global efforts to tackle climate-induced challenges, such as extreme weather events and sea-level rise.

A crucial aspect India highlighted was the intersectionality of sustainable development and climate action. Highlighting the symbiotic relationship between economic growth and environmental stewardship, India underscores the importance of

a circular economy, efficient waste management, and sustainable agriculture practices. This perspective aligns with the theme explored in 'Shaping Tomorrow's Agriculture: The Impact of Artificial Intelligence in Smart Farming' by Rawat, N., & Kumar, V. (2023), which delves into the transformative impact of artificial intelligence on sustainable farming practices, contributing to the broader discourse on harmonizing technological advancements with ecological responsibility. Encouraging G20 nations to adopt policies supporting a shift towards sustainable consumption and production models paved the way for more inclusive and greener economic growth. India's G20 presidency also offered an opportunity to advocate for equitable and accessible green finance mechanisms. By facilitating discussions on mobilizing funds for climate-resilient projects and supporting developing nations in their transition to low-carbon economies, India reinforced the commitment to global climate goals while addressing the financing gap for climate adaptation and mitigation initiatives. Moreover, India stressed the significance of knowledge-sharing, capacity-building, and public awareness in driving sustainable development and climate action. Promoting education on climate change, technology dissemination, and fostering a sense of responsibility among citizens empowered individuals and communities to actively contribute to mitigating climate risks and fostering sustainability. In essence, India's G20 presidency presented a crucial juncture that galvanized global cooperation, advocated for robust climate policies, and spearheaded initiatives that prioritized sustainability. By championing inclusive strategies, technological innovation, and collaborative efforts among nations, India significantly contributed to steering the world towards a more resilient and sustainable future.

2. REVIEW OF RELATED STUDIES

Sharma, Debabrata & Dey, Sanjeeb. (2023) The G20 member states have made energy efficiency measures a higher priority, which has resulted in significant progress in the transportation, industrial, residential, and service sectors. This group's pledge acknowledges energy efficiency as the key to switching to greener energy sources and guaranteeing that everyone has access to inexpensive, clean energy. This study examines India's crucial position as the G20 Presidency and emphasizes how little acts may have a big impact on changes. G20 Energy Transitions Communiqués have always placed a strong emphasis on energy efficiency, highlighting its critical role in the shift to clean energy and ensuring that everyone has access to reasonably priced clean energy supplies. India has the potential to lead global efforts towards a more energy-efficient world by 2030 by leveraging its extensive experience in energy efficiency policies and strategies. The G20 holds a unique position to prioritize energy efficiency on the global

policy agenda, foster partnerships, and mobilize action. India will take on the G20 Presidency in 2023.

Yi-Lin Hsieh and S. Yeh (2023) Using a bibliometric analysis, this study attempts to investigate the research trends and patterns of key topics relating to the Sustainable Development Goals (SDGs) and climate change. According to the report, more and more policies and research are being conducted in different nations with the goal of developing and putting into practice solutions to the problems caused by climate change. China, India, the US, the UK, and Australia are the nations that have conducted the most research in this area; the most published area is Environmental Sciences & Ecology. Nineteen clusters have been found by the research that overlap with the SDGs and climate change. The top five clusters in terms of percentage are connected to agriculture and food systems, eco-systems, energy, economics, and water and soil resources. This analysis also shows how, every two to three years, research subjects that connect climate change and the SDGs vary in trend. A few of the important topics that have gained attention recently are renewable energy, ecosystem services protection, life cycle assessment, food security, agriculture in Africa, sustainable management, policy synergies, remote sensing technology, and desertification. These have been heightened by the recent COP26 and COP27 conferences, as well as the EU's advocacy for Net Zero and the Carbon Border Adjustment Mechanism. This demonstrates the widening spectrum of significant issues being explored in connection with climate change and sustainable development objectives.

Athira Raveendran and Boda Naik (2023) An alarming increase of climate-related calamities has struck the globe in recent years, upending economies, destroying communities, and taking countless lives. Given the speed at which this crisis is unfolding, the function of global governance—especially that of organizations like the G20—becomes more crucial. This article looks at the effects of the Delhi Declaration from the 2023 G20 Summit in India, as well as previous climate disasters. Aashriti Gautam. (2022) India, a growing state with a democratic polity that represents 1.30 billion people, will host the summit for the first time in the G20's history starting on December 1, 2022, and hold the G20 Leaders Summit in 2023. This illustrates the rising importance of developing economies like India in supporting multilateralism and guiding international development cooperation, symbolizing the shift in emphasis of the latter toward the Global South. The G20 is a leading platform for worldwide economic cooperation, representing two thirds of the world's population, 75% of international commerce, and 85% of the world's GDP. The India presidency in this exclusive international organization offers a fantastic chance to quicken sustainable progress both within India and in the developing economies. India's commitment for equitable

development, global cooperation, economic stability, and sustainable growth aligns with both its domestic objectives and the principles upheld by other G20 leaders. In light of this backdrop, the article examines India's primary G20 priorities and is limited to the following query: Given the current state of global unrest, what will India's G20 presidency center on? It ends by saying that the president of India has the ability to support states who are having a hard time recovering from the COVID-19 epidemic and to welcome different viewpoints on issues that are still important.

Suman, Vij. (2020) The subject of climate change is urgent and important. The changing temperature of the planet has become a topic of debate on global warming and climate change everywhere in the globe. We are aware that human activity has had a major impact on it because of changes in land use, emissions of greenhouse gases and aerosols, and an increase in world temperatures. An rise in storms, floods, droughts, and sea levels, as well as a reduction in ice sheets, sea ice, and glaciers, are just a few of the worldwide hazards that might result from rising temperatures. The Club of Rome stated in a 1970 study that the planet's finite resources cannot support unrestricted expansion. If renewable resources can't be swiftly turned, they will eventually run out. We are now utilizing 50% more resources than what is sustainable, roughly speaking. The 8 billion people expected by 2030 are twice as many as the 4 billion people the planet had to support in 1974. The pursuit of economic expansion is intensifying demand growth. The sustainability issue is becoming worse due to global warming as it may lead to a decline in agricultural output and bodily injury. The purpose of this article is to provide some education on the subject, which will include giving some background information, identifying some current and potential hazards, and discussing the potential financial and other effects that these risks may have. Shahab Shabbir. (2015) With the start of the post-industrial age and the technological revolution, there is an increasing threat of climate change, often known as global warming, which is harder to combat. It is presenting hitherto unheard-of difficulties for a growing nation like India, which is impeding its overall advancement. Since India is primarily an agricultural country, addressing the difficulties posed by climate change should take precedence over all other matters. The current policies are insufficient to address the problems caused by global warming, and a thorough review of the current policies is needed in order to improve their compatibility and bring them into compliance with international norms.

3. INDIA'S VISION FOR SUSTAINABLE LIFESTYLES: LEADING DURING ITS G20 PRESIDENCY

If they are pushed in the direction of feminism and just transition, the G20's next two years – which will first include Brazil and then India – might provide a potentially game-changing chance. At COP27, India not only led by example and supported the G77+China initiatives, but it also made a bold recommendation. The last COP27 in Sharm el-Sheikh, Egypt, demonstrated that despite efforts to drive a wedge between them, China and the G77 can cooperate to achieve a shared objective. The 134 poor nations successfully lobbied for the creation of a global loss and damage fund with this coordinated effort. Despite the historic significance of this agreement, much more work has to be done to guarantee that our financial obligations to combating climate change are met quickly and to cut emissions from fossil fuels. The proposal from India to phase out all fossil fuels, including gas and oil, sustainably and fairly, is seen by some as a negotiating ploy to counter persistent pressure from the Global South to phase out coal sooner than committed, but it actually represents a significant step towards preventing the global extinction of habitats and the destruction of livelihoods. It is certain that the bulk of working-age people and those who reside near coasts would be the most negatively affected by climate change. The continued use of fossil fuels puts the 1.5-degree objective in grave danger. India will be presenting on sustainable lifestyles at COP 27, as part of its fair and balanced approach to countering the wealthy's excessive spending.

The newly elected president of Brazil, Lula da Silva, was greeted with cheers when he arrived to the UN Climate Summit and boldly promised to take on climate criminals. In addition, he committed Brazil to ensuring that poor nations get what is "owed" to them in order to combat climate change, as well as to save the Amazon and indigenous peoples. The public's expectations have increased in response to Brazil's guarantees as the next G20 president and India's recent policy actions. The motto of India's G20 presidency, "One Earth, One Family, One Future" (Vasudhaiva Kutumbakam), is a powerful moral compass because it promotes ideas like valuing indigenous knowledge critically, granting legal rights to nature to communities that have harmed Mother Earth the least, and more. The Indian President, Smt. Droupadi Murmu, made a subtle reference to the legal rights of "rivers and oceans" on December 10, 2022, in honor of Human Rights Day. She said, "We should treat the entire living world and its habitat with respect, just as the idea of human rights exhorts society to see every human being as no different from ourselves." We must learn to value the natural world. The G20 has a lot on the line, but for the first time since gaining independence, we may finally choose our own priorities.

It accounts for more than 75 percent of global commerce, pollution, and economic activity. However, it is evident that the people of the Global North and South

are not on an equal footing when it comes to power and the need to reduce emissions. Therefore, the G20 members from the Global South—especially the present troika backing the G20 Presidency—must decide on a “fair” road ahead for everyone. For example, the G20 has not yet announced any concrete initiatives, even if they have made broad intentions to do so. The need for international climate talks under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) has grown as a result of the rising frequency of severe climatic events globally, as emphasized by G20 leaders at their yearly meetings. With their nations responsible for more than 80% of the world's greenhouse gas emissions, it is anticipated that these heads of state may reach a consensus that will contribute to the success of the COP27 Conference in Sharm el-Sheikh, Egypt. This concludes with the 17th G20 Leaders’ Conference, which took place in Bali, Indonesia, on November 15–16, 2022. India is currently leading the Group of Twenty and hosting the organization's 18th summit in 2023.

4. GLOBAL CLIMATE CHANGE CHALLENGES AND INDIA'S INITIATIVES FOR MITIGATION

If existing policies remain unchanged, the UNEP Emissions Gap Report (EGR) 2022 predicts a 2.8° C rise in temperature by the year 2100. This rise may be limited to 2.4–2.6 degrees by keeping existing commitments and taking into account the newly revised Nationally Determined Contributions (NDCs) under the 2015 COP21 Paris Agreement. Although it's a step up from the 4-degree prediction issued before to the Paris Accord, it's still well short of the 1.5–2 degree Paris Accord target and not that much better than the 2021 Report's prognosis (2.7 degrees). The current temperature is 1.1 degrees Celsius higher than pre-industrial levels, and a rise of more than 1.5 degrees might have disastrous effects.

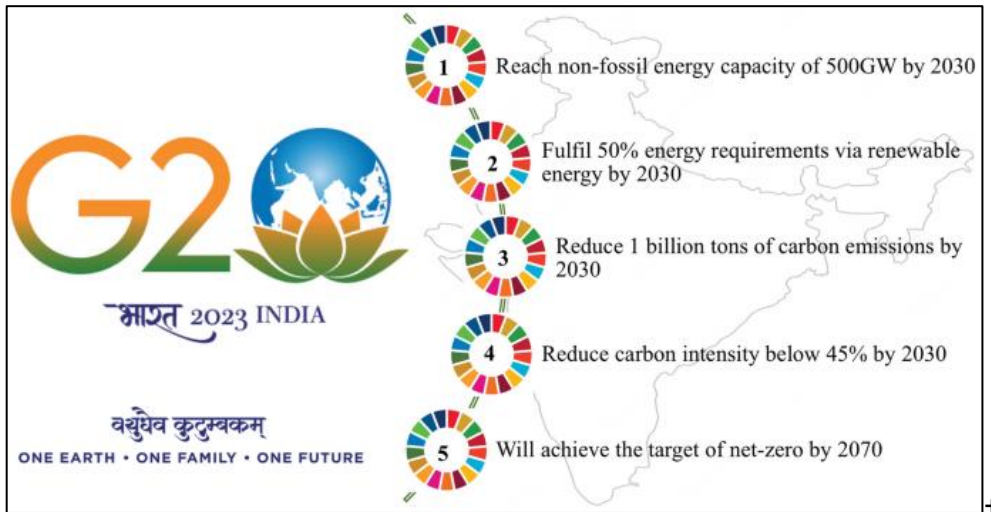


Figure 1: India's key agendas on sustainable development in G20 summit, 2023

The UNEP estimates that in order to attain the 1.5 percent objective and the 2-degree target, greenhouse gas emissions must be reduced by 45 percent and 30 percent, respectively, from their 2015 levels by 2030. India must figure out how to grow its economy and address the climate catastrophe at the same time. In his first Independence Day speech as prime minister, on August 15, 2014, nine years ago, Narendra Modi made a pointed allusion to the need to generate goods without harming the environment. He exhorted business owners in India to incorporate the maxim "zero fault, zero effect" into their offerings. Prime Minister Narendra Modi unveiled a bold, widely publicized five-point national agenda (Panchamrit) for environmental action during the COP26 Summit. Among these were the following: increasing the use of renewable energy sources, creating a National Solar Mission (the only major developing country to do so after China), and lowering the GDP's emission intensity by 45% (instead of the previously agreed upon 33-35%). He also demanded that a "clean energy projects fund" be established and that the richest countries in the world pledge to donate one percent of their GDP to supporting green projects in less developed countries at the G20 meeting in Rome.

Possible action items include working together to phase out internal combustion engines, increase the use of plant-based fuels like ethanol, expand carbon trading markets for emergency situations, plan the obsolescence of coal-based power plants, and set and meet short-term decarbonization targets. India has the chance to encourage G20

leaders to include some of these measures in the Leaders' Declaration and the New Delhi Action Plan as the host nation of the 18th G20 Summit. India has made significant progress toward its goal of severing the link between economic development and carbon emissions. Some of these actions include joining the International Solar Alliance (ISA), pledging to generate 450 GW of renewable energy domestically by 2030, implementing a comprehensive national hydrogen plan, and more.

The nation has produced one of the world's biggest marketplaces for renewable energy and provides electricity to almost every home. India has unveiled its Nationally Determined Contribution, including targets for forest cover and renewable energy in addition to a 33–35% decrease in the GDP's carbon intensity by 2030. According to the 2020 Climate Change Performance Index, big polluters like China and the United States fared significantly lower on the list than India, which is among the top 10 high performers.

Changes in the geopolitical landscape are evident in the way the international community is developing. China, the world's biggest emitter of greenhouse gases (GHGs) at 33rd place, is ahead of the United States, the greatest polluter in history, at the bottom of the list. Global ramifications have been seen, chiefly in the configuration of transnational trade coalitions and the energy sector in general. India, which will host the G20 meeting in 2023, has succeeded in advancing a number of important agenda items, such as more funding for mitigating climate change.

5. CONCLUSION

India's G20 presidency was a critical phase in the global conversation about the issues surrounding climate change and sustainable development. India made great progress in promoting important policies meant to tackle the urgent problems of climate change and promote sustainable practices among the G20 members thanks to its leadership. India's presidency served as a powerful tool to highlight how urgent it is to switch to renewable energy sources as the main weapon in the fight against climate change.

The G20 countries collectively moved away from fossil fuels as a result of the focus on encouraging clean energy projects and increasing the use of renewable energy, which helped to create a more sustainable energy picture globally. Furthermore, there was a strong resonance with India's commitment to promoting conversations on resilience and climate adaptation methods. India made a significant contribution to strengthening international efforts to address and mitigate the effects of climate-induced difficulties, especially in vulnerable areas, by emphasizing the value of nature-based

solutions, climate-resilient infrastructure, and sharing best practices. The connection between addressing climate change and sustainable development was made clear under India's administration. The G20 countries were urged to embrace more sustainable patterns of consumption and production as a result of the focus on a circular economy, sustainable agricultural practices, and effective waste management. These strategies highlighted the symbiotic link between economic development and environmental conservation.

Importantly, the promotion of knowledge-sharing and public awareness campaigns, together with India's support for fair green financing structures, were important foundations of its mandate. India cleared the route for inclusive, creative, and sustainable approaches to addressing climate change concerns by raising money for climate-resilient projects, encouraging the spread of technology, and cultivating a feeling of responsibility among residents. Essentially, India's G20 presidency advanced important ideas and policies that put sustainability first, acting as a beacon of cooperation and leadership. India made a substantial contribution to guiding the world community toward a more resilient, environmentally friendly, and sustainable future by its proactive participation and advocacy, creating a lasting impression on the global community's joint efforts to battle climate change and promote sustainable development.

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