



Special Issue

“(Global Partnership: India's Collaboration Initiatives for Economic and Social Growth)”

Sustainable developmental goals: review of Indian perspective

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Abstract

Environmental sustainability is the process of balancing the environmental resources, to use them and preserve to future generations to utilize. In international agreements to sustainable development goals were decided and from those India took a target of sustainable developmental goals to accomplish till 2030. Various sustainable developmental goals (SDGs) were aimed visually Clean Water and Sanitation, Affordable and Clean Energy, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water and Life on Land. To accomplish these goals various nationwide mission like swachh Bharat Abhiyaan, National Mission for Sustainable Agriculture, National Clean Air Program (NCAP) and many more were launched. Since the agreement there has been a continuous funding of these projects. In this article there is a brief compilation of challenges for goal attainment and efforts to combat the challenges.

Keywords: SDGs, climate, sustainability

Introduction

Sustainability is the process of maintaining balance of all the available resources be it social, economic or environmental so that future generations do not face depletion. Environmental sustainability not only works for protection of environment but also to improve its efficiencies. In other words, environmental sustainability is all about ecological balance. Since the day it is formed, we have been carbonizing the planet, which has contributed to global climate change. As we realize the negative impacts of climate change, various governments, organizations, and individuals are implementing and promoting environmental sustainability.

Among all efforts “The Paris Agreement” is a landmark in the multilateral climate change process because, for the first time, a binding agreement brings 196 nations together to combat climate change and adapt to its effects. Paris Accord on Climate Change necessitates the implementation of profound changes inside each nation. In the process governments, civil societies, commercial entities, and research institutions work in collaboration.

India has invested in research and innovation to advance agricultural methods, promote eco-friendly transport, and improve water resource management. In addition, multiple public awareness programs and educational campaigns has been launched to promote environmental sustainability. These efforts not only help raise awareness about environmental issues but also inculcates responsible behaviour among people. Thus, implementation of the 2030 Plan for Sustainable

Development in 2015, about Sustainable Development Goals (SDGs), has equipped India with an efficient workplan to pursue environmental sustainability.

Sustainable development goals

India has been enthusiastically involved in the chase of attaining the Green Sustainable Development Goals (SDGs) as established in the United Nations' 2030 plan for Sustainable Development. The practice towards attaining environmental sustainability in India consisted of a range of policy works, governmental programmes, and international obligations. This article is an effort to provide a brief insight of India's perspectives towards pursuing the Environmental Sustainable Development Goals (SDGs).

India has done many commitments at the global level by contracting many accords and conventions that concern to the promotion of environmental sustainability like “Convention on Biological Diversity” (CBD) and “United Nations Framework Convention on Climate Change” (UNFCCC). These commitments establish the foundation for India's involvement in sustainable development. India itself has established many action plans to effectively handle environmental concerns. The National Action Plan on Climate Change (NAPCC) formally began in the year 2008 and it served as a complete basis to present India's strategic approach towards both mitigating and adjusting to climate change.

Environmental SDG status in India

India's has pledged to a target of achieving net-zero carbon emissions by year 2070 and this reflects its establishment of the urgency of tackling climate change. The United Nations created 17 world development goals called the Sustainable Development Goals. India has picked 7 SDGs to full attainment till 2030. Various sustainable developmental goals (SDGs) were aimed (SDG 6) visually Clean Water and Sanitation (SDG 6), Affordable and Clean Energy (SDG 7), Sustainable Cities and Communities (SDG 11), Responsible Consumption and Production (SDG 12), Climate Action (SDG 13), Life Below Water (SDG 14) and Life on Land (SDG 15). Multiple missions targeted towards the aim of SDGs.

In the journey of attaining Environmental SDGs multiple stakeholders, civil society organizations, government agencies, and the private sectors are involved. Here a compilation of India's progress towards environmental SDGs is presented with the discussion of various important factors affecting sustainability.

Attainment of SDG 6: "Clean Water and Sanitation"

Sustainable developmental goal 6 implies the need of clean water and good sanitation facilities. India has made significant improvement in providing access to clean water sources, specifically in rural areas. Government has introduced Jal Jeevan Mission to provide piped water supply to rural houses and aim to cover all by 2024. Initiatives of Swachh Bharat Abhiyan included the construction of toilets and the support of hygienic sanitation facilities. National campaign was launched to stop open defecation and millions of toilets were constructed for the purpose. Campaign also included hygiene related education via various educational systems.

Despite so many efforts and considerable progress, India still face challenges regarding quality of drinking water the sustainability of sanitation facilities and differences in access between rural and urban areas. High pollution content of water resources is posing difficulty for water quality maintenance. There are some geographical and infrastructural constraints that limit the access to clean sanitation.

Attainment of SDG 7: "Affordable and Clean Energy"

SDG 7 says that everyone should have access to clean energy at affordable means. For the purpose India needs to expand sources of renewable energy and has established challenging objectives to increase the capacity of renewable energy. The National Solar Mission (Jawaharlal Nehru National Solar Mission) was taken up to increase solar power production to lower the rate of energy. In coastal areas wind power projects are also being developed. "The Pradhan Mantri Sahaj Bijli Har Ghar Yojana" (Saubhagya) was planned to supply electricity to rural houses. Perform, Achieve, and Trade (PAT) scheme was aimed to persuade energy-efficient methods in industries. For carbon Emissions Reduction government has set measures to reduce emission for transportation and industry. Despite the visible progress still India faces challenges the need for regular investment in infrastructure and energy balancing.

Attainment of SDG 11: "Sustainable Cities and Communities"

Sustainable Development Goal 11 focuses on creating sustainable cities and communities cities should be safe, more

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inclusive, resilient, and sustainable by 2030. India launched the Smart Cities Mission in 2015, which aimed to create 100 smart cities. The mission focused on promoting infrastructure, essential services, and sustainable urban development. The "Pradhan Mantri Awas Yojana" (PMAY) was an extensive programme to provide affordable accommodation for urban poor by 2022. Metro cities are expanding their metro networks bus rapid transit (BRT) system. Air quality maintenance is a challenge in many urban areas. measures like implementing precise emission standards for automobiles, promoting better fuels, and schemes to control dust pollution are being taken. Building resilience to natural disasters is a vital aspect of SDG 11. Disaster readiness, initial warning systems, and infrastructure that can resist natural calamities are undertaken. better rehabilitation for slum dwellers with the target of essential services and economic growth is also a concern. Despite these rapid urbanization, infrastructure deficit and related sustainability problem remain significant concern.

Attainment of SDG 12: "Responsible Consumption and Production"

Under Sustainable Development Goal (SDG) 12, India focuses on responsible consumption and production by 2030. Solar and wind energy currently contribute more than 50% of the total renewable capacity of the country. India is not only trying to improve resource efficiency but also to reduce need of energy, to increase recycling and reuse, and to lessen waste generation. The Swachh Bharat Abhiyan promotes waste segregation, recycling, and proper disposal. Waste management plant have been implemented in many cities. There has been a significant shift to renewable energy like solar and wind. Regulations have been implemented to ensure e Waste management and proper recycling and discarding of electronic products. Eco friendly packaging have been initialized to reduce environmental impacts. Consumer Awareness Initiatives have been in working like labelling products with appropriate information and promoting eco-friendly products.

Attainment of SDG 13: "Climate Action"

Sustainable Development Goal (SDG) 13 focuses on climate action. India has taken various steps to mitigate climate change and enhance its resilience (Table 1). India has set great targets for renewable energy arrangement and has invested in grid-connected and off-grid renewable energy programs like National Solar Mission is one of India's top programs to promote solar energy and reduce greenhouse gas effects. It includes various incentives and aids to promote the adoption of solar power. Under Green India Mission, Afforestation and plantation efforts are in practice to improve the resilience of ecosystems. The Perform, Achieve, and Trade (PAT) scheme and the Standards & Labeling program are focused on improving energy efficiency in productions and products, respectively. Initiatives like the National Mission for Sustainable Agriculture aim to improve adaptive capacity. Promoting electric vehicles (EVs) and investment in its infrastructure is a share of India's climate action plan. "The Faster Adoption and Manufacturing of Hybrid and Electric Vehicles" (FAME) scheme is one such inventiveness. Efforts have been made to educate public and raise awareness about climate change and its importance. Various Educational programs and campaigns have been launched at all levels.

Attainment of SDG 14: “Life Below Water”

Sustainable Development Goal (SDG) 14 focuses on “Life Below Water” and aims to use and conserve marine resources for sustainable development and India as a coastal nation and significant marine ecosystem, has been trying to address the goal. India has established several protected areas, including national parks and sanctuaries, to conserve its rich marine biodiversity. The Gulf of Mannar, Marine National Park and Kutch Marine National Park are notable examples. Efforts are being made to protect and conserve marine biodiversity which includes endangered species like sea turtles, dugongs, and dolphins. Various conservation projects have been implemented around the coasts to protect habitats and routes. India has been working fisheries management practices, like implementing guidelines to prevent excessive fishing. India particularly has been involved in mangrove conservation efforts, realizing their significance in providing habitat for sea life and shielding coastal areas from erosions. India has taken up programs to reduce plastic use and improve its management to control plastic pollution in the oceans. Investments are made for Marine Research and Monitoring programs to recognize and moderate the impacts of climate change, and pollution on marine ecosystems.

India is a member to international agreements such as the “Convention on Biological Diversity” (CBD) and the “Convention on International Trade in Endangered Species of Wild Fauna and Flora” (CITES), which contribute to protecting marine life. Blue economy opportunities are being explored. The Namami Gange (Clean Ganga) Mission aims to revitalise the Ganges River and its tributaries to improve river’s ecosystems, which are ultimately connected to marine life in the Bay of Bengal.

Attainment of SDG 15: “Life on Land”

Sustainable Development Goal (SDG) 15 focuses on “Life on Land” and aims to protect, restore, and promote the ecological practice of terrestrial ecosystems, sustainably manage forests, mitigate land degradation, combat desertification, and reduce biodiversity loss. India has executed various programs and policies for forest management like the Joint Forest Management (JFM) program, in which local communities were involved in sustaining and preserving forests through a programme.

The Green India Mission is a part of the National Action Plan on Climate Change and aims to increase forest and tree cover. India has established a number of wildlife sanctuaries and national parks to protect and preserve biodiversity and provide natural habitats to wildlife species. Initiatives like Project Tiger and Project Elephant were specific species conservation projects. The National Biodiversity Authority (NBA) handles conservation and sustainability by implementing the Biological Diversity Act. National Mission for Sustainable Agriculture” (NMSA) and the Soil Health Card program have been addressed the problem of land degradation and desertification to a considerable extent. Community-based conservation models have been implemented, like community reserves and village forest committees. India has passed laws and policies to face land-related issues, such as the Forest (Conservation) Act and the Wildlife Protection Act, to control activities distressing

forests and wildlife. Promoting agroforestry that associate agriculture and tree planting helps improve land productivity, boost biodiversity, and moderate climate change.

Indian initiatives and funding

- The funding for the National Mission for Green India has increased this financial year, up 24.72 percent over the previous allocation of Rs 290 crores.
- The Electric Vehicle programme at the Ministry of Heavy Industries has been greatly improved. Money allocated to the programme known as FAME-India (Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicle in India), increased from INR 800 crores in 2016–17 to INR 2671 crores in 2024-25.
- To motivate the extensive adoption of electric vehicles, the GST on such vehicles has been declined from 12% to 5% and the GST on EV chargers and EV charging places has been reduced from 18% to 5%.
- An additional 27.65%, has been added to the National Afforestation Programme's funds from the previous year's in 2023. The “Ministry of Environment, Forest, and Climate Change” (MoEFCC) has a total permitted budget of Rs 573 crores has been allocated specifically for pollution control in financial year 2023-24.
- India has great goals for the forthcoming renewable energy, and the “Ministry of New and Renewable Energy” (MNRE) has been provided with a total of Rs 10222 crores to help get these goals accomplished.
- The Namami Ganga Mission aims to protect, preserve, and reinstate the Ganga River Basin. The Government approved the mission in 2015 for a five-year duration (2015-2020) with a budget of 20,000 crores of rupees. The Ganges River is the centre of the Namami Gange Mission, which attempts to depollute and restore it. About Rs 22500 have been allocated for 2023-26 plan.
- India ranked third globally between 2010 and 2020 in terms of the average net increase in forest area each year. According to "India State of Forest Report 2020-21," the country's total forest cover in 2021 was increased by 3.14 percent from 2011.
- Indian Railways (IR) has set an objective of being the "net zero carbon emitter" and the world's major green railway by the year 2030 Using only renewable energy. Rooftop solar panels will be applied in Indian Railways to produce 500 MW of energy.
- In year 2022, the government of India funded Rs 1,500 crores to the Indian Renewable Energy Development Agency (IREDA), which offers funding for renewable energy projects.
- Rs 3,970 crores would be allocated towards the corridor programme, which is expected to cost Rs 12,031 crores. By 2030, the initiative will have helped increase renewable energy capacity by 450 GW.

Conclusion

It’s important to note that India is facing unique challenges in pursuing sustainable developmental goals. Maintaining economic growth and development with carbon reduction targets is a complicated assignment in itself. Additionally, addressing the impacts of climate change, such as water shortage and increased vulnerability to severe weather

outcomes, is also critical. Challenges related to marine conservation continue, including prohibited fishing, habitat deprivation, pollution, and climate change influences. Challenges of illegal deforestation is also appointed of concern which may cause, habitat loss, offensive species, and arguments between protection efforts. In overall preview balancing concerns of biodiversity conservation and economic development remains to be complex.

India is making continuous and positive efforts towards attaining sustainable developmental goals. With the support of population, education about sustainability and proper motivation towards the goal may help us to achieve the goal.

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