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ADVANCING GREEN GROWTH: ANALYSING INDIA'S SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL POLICY FRAMEWORKS

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Abstract: India faces the dual challenge of sustaining economic growth while ensuring environmental sustainability. This paper delves into the intricate interplay between India's sustainable development goals and its environmental policies. The paper assesses the effectiveness of sustainable development programs. Challenges such as regulatory enforcement, financial constraints, and the need for technological innovation are also discussed. The research underscores the importance of integrating traditional knowledge with modern practices to achieve a holistic approach to sustainability. Through a comprehensive analysis of policies and their outcomes, this paper provides insights into the successes and areas for improvement in India's journey towards sustainable development. The findings aim to inform policymakers, stakeholders, and researchers about the critical pathways for harmonizing development objectives with environmental stewardship in the context of a developing economy.

Index Terms - Sustaining economy, environmental sustainability, sustainable development, policies, holistic approach.

Introduction

India's commitment to environmental protection and sustainable development, has gained significant attention, especially following the Stockholm conference, a milestone event. In fact, India, under the leadership of Prime Minister Indira Gandhi, stood out as the pioneering nation in articulating a comprehensive framework for survival in the 21st century – widely recognized as the minimum requirements for progress. Prime Minister Modi, continuing this charge, passionately conveyed these objectives in a momentous speech, which later became the blueprint for action. This speech not only steered India towards sustainable development but also played a pivotal role in shaping global environmental discourse in recent years. Consequently, Prime Minister Modi seamlessly integrated these objectives into India's national policies, further reinforcing the nation's dedication to environmental preservation and sustainable progress.

According to these views, the goals of economic and development have to be determined in terms of sustainability in the long run. The concept of sustainable development has its roots in the concept of sustainable yield, which says that replacement should not be less than the current stock. The 20th century has seen environmental damage at the cost of development with the fallacy of assuming that there can be a trade-off between ecology and economic development. This was indeed a false trade-off as damage to the environment has caused irreversible losses. For instance, lost species are lost forever. So, there cannot be a compromise either on the quality of the environment or the availability of resources for future generations. There should be top priority to fulfil the needs of the poor people of the society and

It is thought that the environment's capacity to satisfy current as well as potential requirements is limited by a combination of technology and the framework of society.

This brings into picture the debate between sustainable development and economic growth. Sustainable development was first defined in 1987 in the Brundtland Commission's report "Our Common Future," where it was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

India is a rapidly developing country seeking economic growth. The majority of its population resides in rural areas and depends on agriculture for their livelihood. Growth in the agricultural sector and economic development heavily relies on the utilization of natural resources.

Background

India with an experience of colonial development history and over fifty years of planned development, continuously since the 1950s by using varied development strategies. The country has achieved remarkable progress in social and economic fields and is moving towards a higher growth path. The problem of poverty has been a long-standing issue in the development discourse in India. The wide disparities in the levels of education, health, child survival, access to potable water, and basic sanitation are also important facets of high incidence of poverty. Another important dimension of poverty is deprivation in social participation and in people having a sense of powerlessness, vulnerability, and voice lessness. High levels of poverty and deprivation prevailing in the country are an important motivation for development planning in India. The strategies of development have undergone a change from time to time. In the beginning of planning, the focus of development was on the development of heavy industry, with the expectation that it will have a trickle-down effect on the rest of the economy. But it was felt that the pattern of growth is not yielding the intended results. Successive five-year plans have hence emphasized different strategies for the removal of poverty and regional imbalances. The eighties and the nineties have seen a change in the orientation of development with economic reforms being initiated in the industrial, trade, financial, and other sectors and emphasis on the role of markets for efficient resource allocations in all the sectors of the economy. In the context of varied development experiences of the last fifty years, the planning process and the prevailing poverty have been an important focus in the development economics analysis concerning India.

Objectives

Understand India’s energy goals and its implications for climate change mitigation. India’s Intended Nationally Determined Contribution (INDC) has led to an assessment of the effects of government actions in achieving the stated renewable energy and climate goals. As part of the INDC, India has pledged to reduce the emissions intensity of its GDP by 33-35% by 2030 below 2005 levels, and to increase the share of non-fossil-based power capacity to 40% of installed electric power capacity. The government’s actions and policies to achieve such objectives have the potential to lock India into a carbon-intensive infrastructure pathway or put the country on a more sustainable and resilient development route. We aim to evaluate and understand the implications of Indian energy policies and actions on climate change mitigation and to clarify the consistency between these actions and India’s INDC. From such analysis we can provide useful information to policymakers on whether coordinated actions across various government sector plans are moving India closer to its INDC targets and whether such policy actions are consistent with its climate goals. Our analysis of India’s energy goals is spread across various governmental sectors and hence it is an ideal time to undertake such analysis in an integrated framework.

Scope of Analysis

The scope of the analysis is limited to Sustainable Development Goals (SDGs) and the environmental policies. India has significantly worked for its environmental protection and promotion. India has a history in global environmental politics, first as a critic of global environmentalism and then as an active participant in various international environmental negotiations. As the Indian government has been willingly supportive of the SDGs, it will be significant to assess how these goals connect with ongoing programs of environmental policy. These policies generally have been aimed at a gradual integration of environmental concerns into sectoral policies. This is significant since Indian support for the SDGs assumes that they won't conflict with the primary goal of economic development. If it can be shown that the goals are contradictory or infeasible with the policies, it is more probable that the government will pass up the chance to enact them into national policy and law. So, then the assessment of SDGs from environmental goals to impacts can give valuable inputs on how these global commitments can be integrated into Indian policy. An assessment of how the SDGs connect to current and upcoming policies will help to decide the potential trade-offs between economic pattern and environmental sustainability. This trended analysis of policy-SDG interactions is something that has not been done by any other country in the world. Finally, a look at the global context of Indian environmental policy enables an assessment of how Indian action in support of the SDGs will be in flux with global environmental

commitments. So, our analysis will provide insights and recommendations for both Indian action on the goals and for the development of the goals and indicators themselves in a global context. This is something that would be greatly beneficial to policymakers, NGOs, various other organizations, and the academic community on both national and global levels. This will be the primary audience of this extensive analysis. Overall, the assessment of SDGs in the context of existing and upcoming environmental policy has a high potential to create a constructive impact on Indian action for sustainable development and for the global development of the goals themselves.

Sustainable Developmental Goals (SDGs)

As far as India is concerned, accommodating the principled imperatives of sustainable and comprehensive development is identified with its own world vision which is given expression in the thoughts spread out by Mahatma Gandhi. India is focused on figuring out the reality ramifications of the Agenda in the context of national policies, needs, and institutional arrangements. We are doing so by recognizing a comprehensive plan of action which is inclusive and one which tries to "leave nobody behind". This is reflected in the assurance to work in collaboration with different nations, regional and international organizations, and UN agencies to create a new era of partnership among all development partners. It is also reflected in our strong commitment to the multilateral system and international organizations.

India supports the request to adapt the means of implementation to the requirements and national policy of each nation. It has effectively tried to align its local plans, programs, and works with the goals of international agreements. The new policies and programs have been launched in the context of measurable indicators in order to determine the levels of consistency or inconsistency between the national level action and the goal of “leaving no one behind”. Steps have also been taken to enhance the partnership between government and non-governmental knowledge and action.

Overview of SDGs

According to the 2030 Agenda for Sustainable Development, the Sustainable Development Goals (SDGs) are a universal call for action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity. India is committed to achieving the 17 SDGs within the timeframe, as well as the 169 associated targets. India becomes one of the 194 signatory countries to adopt this ambitious agenda. A national-level execution plan for SDGs would be made, considering the current development context and experiences. These would be comprehensive in concept, involving all citizens, and would act in the spirit of ‘leaving no one behind’. The aim would be to translate the spirit of Sabka Saath, Sabka Vikaas, Sabka Vishwas into implementation, and the SDGs would be a guiding light and help in improving the lives of the people of India. The realization of the goals is directly related to India's own national priorities as it aims to eliminate poverty, extensive inequalities, and the poor developmental status of many nook and corners of the nation. India's developmental schemes for achieving the SDGs are in line with its own objectives. The SDGs are an intergovernmental commitment that recognizes the challenges that the world today is facing with the intention to reform and improve conditions that have arisen due to globalization. The agenda addresses a number of issues that are of dire concern for the nation and the world, including social inclusion, environmental preservation, and regional imbalances.

Importance of SDGs for India

SDGs imply system thinking oriented to understanding complexity, and SDGs are relevant for India to address its developmental challenges. Complexity of SDGs provides a constructive policy framework to address the development deficits that have acted as binding constraints on accelerating India's growth over the next few decades. They are consistent with India's own development objectives in several ways. India has a long tradition of examining the components of human well-being in holistic terms. Whether in ancient times identifying a citizen's respect and later "sarvodaya", or more recent articulations of development encapsulated in the notion of "antyodaya", there has never been a time when India has not contemplated a better life for its masses. India's Constitution, framed in the immediate aftermath of independence, has a number of directive principles laid down for policy makers, that if achieved would significantly translate to the SDG of ‘leaving no one behind’, be it through social inclusion, promotion of rural livelihoods or equal treatment before the law. India has been implementing an ambitious rights-based development strategy with programmes such as the National Rural Employment Guarantee Scheme. SDGs offer an opportunity for the country to brandish its global leadership and establishment of a developmental arc in the region map the economic growth and poverty reduction path it has successfully walked.

However, India's biggest vested interest lies in the unambiguous fact that success of the SDGs is at the core of its own national interests, something that is an important prerequisite for meaningful commitment to a global partnership for Sustainable Development. There is a symbiotic relationship between the fortunes of India and the fate of the SDGs. A more secure, prosperous and sustainable world is in India's interests.

Conversely, global success of the SDGs will help buffer emerging threats to India's own development and in a world of increasing multi-polarity provide a international environment conducive to India's rise to greater global eminence.

In essence, India stands to gain much from the SDGs that resonate closely with its historic and contemporary development. Success will not only enhance the material well-being of the people and provide a cleaner and safer environment but also fill a deep-seated psychological need of a better world for this and future generations. Given the increasing trend of fragmentation and specialization in development discourse and practice, there is perhaps no other development initiative in the history of development thinking that has been more inclusive and comprehensive in consultation and vision. SDGs represent a significant opportunity for development synergies across diverse action areas.

Progress and Challenges in Achieving SDGs

By the end of 2017, the Indian government had not come up with any specific indicators or plans on paper to gauge the extent of their progress towards achieving the SDGs. However, a keynote address by Shri. A. Marthanda Pillai revealed that even before the goals were agreed upon by member states, India had already put several provisions in place to work towards the targets. For example, making provisions for food security and enhanced nutrition for pregnant women and children, universalization of the ICDS which aims to improve the health, nutrition, and education status of preschool children, and the empowerment of women, among others. During the years between 2005-2006 and 2015-2016, there have been reductions in undernourished children, anaemia among children and women, and an increase in women having institutional deliveries. This can be considered as indirect progress towards SDG targets, though they may not be maintained throughout the years. The results of these provisions have yet to be analyzed, but they will provide the base point to judge the extent of planned progress over time. SDGs will provide an opportunity to work in these areas and improve the conditions. On the contrary, the last National Family Health Survey (NFHS-4) 2015-16 shows that there are a few health and education indicators for which the situation has not changed or has been to the detriment. For example, there has been an increase in incidences of overweight children or children with Type 2 Diabetes (SDG 2), and the learning levels in children have not improved over the years, and have declined in some cases. Such disparities in the change in status of indicators are due to the fact that several states in India are at different levels of development and have varying demographic and economic situations. The progress in better indicators has been slow, and if at all it has been unequal between the states and the different income groups. High economic disparities in society have led to a situation where the better indicators have mainly improved for the majority middle/high-income groups, and this has at times been to the detriment of the poorer populations.

Environmental Policies in India

India's record of environmental policy is one of articulated goals without effective implementation. The principal environmental problems are those that affect the infrastructure of the country, which in turn affect the modern day-to-day life of the population. Water pollution, unavailability of drinking water, air pollution, and land degradation are the major environment-related problems. India is the world's largest consumer of fuelwood, agricultural waste, and biomass for energy purposes. Traditional fuel (biomass and coal) is still widely used in rural and urban India for domestic energy purposes. In India, simple stoves using biomass cakes have been designed to provide a smokeless way of burning the biomass. The excess of biomass use is the cause of around 80% of Indian deforestation. In March 2002, the Central Pollution Control Board (CPCB) of India released the National Water Policy, which is a statement of the government's objectives regarding the use of water. The policy is under review and expected to be updated. Although much of the policy is vague in terms of the method of implementation, the CPCB is working to develop information and action plans to address the goals set forth in the policy.

Key Environmental Policies

Environmental policy aims to regulate human interactions with the environment and shape public expectations to prevent damage to natural resources and ecosystems. The early environmental laws concentrated on pollution prevention, control, and abatement while protecting water, air, and land. The scope broadened to include general environmental protection, regulation of forests, the safeguarding of wildlife and habitats, and the conservation of natural resources. Economic liberalization, which aimed to promote economic growth and development, had a negative impact on environmental protection, resulting in the extraction of resources, increasing pollution, and loss of species. This led to the government of India reassessing its environmental policy and examining its sustainable development pathway. In line with developments in global environmental governance at the Rio Earth Summit, India introduced its National Environment Policy (NEP) in 2006. This policy aimed to further integrate environmental issues into India's economic and social development processes, recognizing the need for a high level of economic growth to provide for poverty

alleviation, which must be sustainable in the long run. The NEP seeks to reconcile this by ensuring the state of environmental resources and the ecosystems they support, which provide the basis for livelihoods for many people, are maintained and enhanced in the long term. This should translate to the policy seeking to internalize the environmental costs of developmental activity and ensure that the poor and future generations also stand to gain from India's development process. The policy identified the following critical issues and concerns which require immediate action: 1) The nature of governance and the need for incorporating environmental issues into all aspects of governance. 2) The detrimental developmental activity taking place in fragile ecosystems such as deforestation, mining, and the related impacts on rural communities. 3) Urban and industrial pollution. The policy then outlines a strategy in which the identified issues can be addressed and resolved in the medium to long term. Although there has been progress in incorporating environmental issues into the government, there have been shortcomings in the area of policy and plan implementation and coordination between various ministries. This is primarily due to the lack of awareness on environmental issues and the economic trade-offs between the environment and development. An important part of NEP is the need to change the objectives of economic development to be in line with the sustainable use and management of environmental resources and the need to identify and develop means of valuing and conserving the country's natural capital.

Implementation and Impact of Environmental Policies

In the same year, the Government enacted the Water (Prevention and Control of Pollution) Act. The Act provides for the prevention and control of water pollution and maintains the water quality. The Act was amended in 1988 to include more stringent provisions and also provides for the establishment of Central and State Boards with the same powers as stipulated under the Environmental Protection Act. The Boards established under the Air and Water Acts are to coordinate in planning and executing strategies for the prevention and control of pollution.

The Air (Prevention and Control of Pollution) Act came into effect in 1981. It provides for the prevention, control and abatement of air pollution. The Act was amended in 1987 to include ozone layer protection.

The Environmental Protection Act, 1986 is one of the most important laws that provides a framework for pollution control. This law has paved the way for the formation of Central and State Pollution Control Boards, which in turn prepare rules to regulate various activities that result in environmental pollution. The Boards are empowered to advise the government on any matter concerning prevention and control of pollution. The Act also provides for penalties to be levied in case of non-compliance.

Role of Stakeholders in Environmental Policy Making

Indian environmental policy has seen a wide range of different success and failures. The ability to apply stakeholder theory has been a major determinant as to the outcome of any particular policy. Early environmental policy was seen to largely embody the attitudes of environmentalists with strict laws which had poor implementation and results. Due to the fact that industrial stakeholders were not consulted in the policy process, it was an easy decision for them to ignore the laws, knowing that there would be little retribution. An example of this is the implementation of the polluter pays principle and the water and air acts. These laws were widely disregarded because industry knew that the government agencies responsible did not have the capacity to monitor and implement them. Not including stakeholders in the formulation of policies has been identified as a major reason for the lack of success in environmental policy in India. In the case involving the hazardous waste rules that were introduced in the 1980s, it was revealed that the stakeholders affected had no knowledge of the rules' existence. This was largely due to poor information provision from the government to these stakeholders. An interview with a Central Pollution Control Board (CPCB) representative stated that they themselves were not aware of the rules until the 1990s.

The role of stakeholders in environmental policy is paramount to the success or failure of any specific policy initiative. This is primarily due to the fact that policy implementation involves a change of behaviour on the part of those who are being regulated. In the case of environmental policy, this often involves changes for industry or public practices, which have associated costs. In the instance where policy is being imposed on a particular industry, stakeholder power becomes particularly vital. Industries which have a lot to lose from a change in policy are likely to employ various tactics to ensure that the policy is lenient, or not imposed at all. Industry has been identified as being one of the most important factors in explaining environmental degradation.

Future Directions and Recommendations

By learning from the past mistakes, it is essential to move forward and improve on the current environmental situation in India. There is a great need in increasing awareness about the environment at all levels and involve the public more in environmental policy making and its implementation. This will help put pressure on the industries and the government to act more responsibly toward the environment and the common people. A more open and proactive judicial system with public interest litigation can also put pressure on polluting industries and help in environmental policy implementation. Periodical review and modification of policy is an essential tool to check the effectiveness of the policies put in place. It is also necessary to develop more eco-friendly technology for sustainable development. This can be achieved by offering more incentives and subsidies to industries to use cleaner technology. The education system across all levels also needs to incorporate environmental education in its curriculum.

To achieve sustainable development in India, it is of great importance that environmental policy and development are given much more importance. Ignoring or putting this issue on the back burner will only lead to further destruction of the environment and more costs incurred in the future. Preventive measures if taken now will help decrease the future costs in development and help in maintaining a clean environment and a healthy living.

Analysis and Conclusion

India has very rightfully looked at addressing sustainable development dilemmas. There have been numerous policies, strategies, and targets that have been endeavored to meet the dire needs of people, the presence and dissemination of various resources, and the prospects beyond our generation. The scope of sustainable development in India is quite varied and extensive. The dire needs of today concern the eradication of poverty, safeguarding the environment, checking the unsustainable patterns of economic development, conservation of natural resources, and bringing about changes in the iniquitous distribution of resources. Developed countries, being the major contributors to the current environmental problems, need to take a major role in solving these problems. Even then, their problem-solving methods need to strongly consider the goals and needs of the developing nations in order for their help to be effective in the long run. One major aspect of the goal is that when the benefits of development are supposed to reach the targeted poor and marginalized people, at that time benefits should not get converted into an increased flow of resources and environment from poor to rich or from rural to urban or to the people not in the targeted group. Considering this, India has to put forward the special needs and problems of environmental conservation and sustainable development in order to measure how much it will accept help from other countries and international resources to solve the current problems. Provided with the specific needs and problems, the strategy shall explain the extent to which global environment benefits are linked to the national environment goals and how the former can be integrated with the latter.

Assessment of India's Sustainable Developmental Goals and Environmental Policies

In order to access the Sustainable Development Report 2019, India's progress towards the Sustainable Development Goals and through the implementation of its environmental policies should be considered. It is important to identify the importance of environmental sustainability in its current developmental pathway. The first policy assessment measures the extent to which India's current developmental policy considers environmental sustainability. This is characterized by a strong commitment to climate change mitigation, considered in the area of energy and the considerable effort invested in meeting the energy needs of the country from non-fossil fuel sources. This is exemplified by the decision to increase renewable energy capacity to 40% of total energy capacity and the ambitious renewable energy target of 175GW. This is closely linked to the energy sustainable development goal and has the potential to result in positive spill overs for the climate change goal. The notable increase in renewable energy investment can also be seen as a means to implement industrial (policy 4) and energy policy on sustainable terms. However, there is a need for stronger consideration of the environmental impact of policy decisions in all areas of development. This is particularly important in infrastructure development which, through its huge demand on resources and irreversible changes to land, can have extremely damaging consequences for the environment. The goal of doubling the rate of infrastructure development and significant urbanization pose a serious threat to India's environment if not carried out in sustainable terms. This will require a policy overhaul which considers means of achieving infrastructure and urbanization goals on sustainable terms and a redirection of funds towards rural development where India's environmental impact is less severe.

Implications and Way Forward

A major part of interpreting the difference between "good" and "bad" change in environmental and health issues lies in the fact that many of the health-related issues can have long-term effects which may be subtle, biological, or cumulative. The environment accounts for a significant factor of health and studies have

indicated that small changes in the environment or "dirtying up stream" can result in high costs to health. This is a cost which can only be avoided if the environment is considered in the developing process, rather than being repaired or mitigated at a later date. The poor are most likely to be affected by environmental changes because their livelihoods often depend on natural resources and they have little capacity to move to better living or working locations. With this in mind, India must aim to satisfy the health-related targets of the SDGs. An example of a health-related issue with potential for good change is the high rates of severe acute respiratory infections (SARI) in India. Analysis of data showed that clearer household cooking fuels were associated with significantly reduced risk of SARI and these findings support the goal to reduce air pollution both outside and inside. In seeking to make changes best for health, a healthy environment, and implementation of sustainable living practices, poverty issues must also be considered in all environment themes.

A comprehensive analysis of India's environmental policies and sustainable developmental goals (SDGs) was conducted with particular emphasis on three major environment/SDGs inter-linking themes. It was noticed that these issues are not mutually exclusive and measures to undertake one theme are likely to influence the results of other themes. The three themes comprise of health (reduce pollution), water quality and quantity, and poverty. Assessment of India's present environmental situation and drawing on case studies, it was possible to give an overview of changes and measures necessary to work towards achieving the goals set out in each theme.

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