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POVERTY, INEQUALITY AND SUSTAINABLE DEVELOPMENT GOALS (SDG'S): AN INDIAN PERSPECTIVE

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An Analysis of Relation between CO_2 Emission, Poverty Eradication, and Income Inequality in India

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Abstract

This study delves into the intricate nexus between income inequality Poverty, and CO_2 emissions within India, examining consumption patterns, access to clean energy, and policy dynamics. Through analysis, it elucidates how income inequality exacerbates emissions and explores avenues for concurrent mitigation. By addressing this nexus, the study offers insights for policymakers, researchers, and stakeholders to develop equitable and sustainable strategies.

Keywords: Income Inequality, CO_2 Emissions, Policy Dynamics, India, Sustainability

Introduction

The nexus between poverty eradication (PE), income inequality (IE), and CO_2 emissions in India is a complicated and diverse topic that has attracted a lot of interest in recent years. As one of the world's fastest-growing economies; India faces the dual challenge of lifting millions out of poverty while simultaneously mitigating the adverse effects of climate change. India, with its vast population and diverse socio-economic landscape, provides a rich tapestry for understanding the intricate dynamics between poverty eradication, income inequality, and CO_2 emissions. In this nation, it is widely accepted that a person should only be considered impoverished if they are unable to meet a specific minimal consumption criterion. At the heart of this analysis lies the recognition that these factors are deeply interrelated, often forming a

complex feedback loop that shapes the country's development trajectory. There is a complex and varied relationship that varies depending on the socioeconomic, political, and environmental circumstances between the elimination of poverty, income disparity, and CO_2 emissions. Here's an overview of their interconnections:

1. Poverty Eradication and CO_2 Emission:

Raising the impoverished's access to resources, economic opportunities, healthcare, and education is usually necessary to eradicate poverty. Increased use of energy and resources, particularly fossil fuels, can result from this, increasing CO_2 emissions. Lower consumption is, nevertheless, equally linked to poverty, especially when it comes to energy-intensive goods and services. People may first consume more as they escape poverty, but if their earnings rise even more, they might also develop a greater awareness of environmental issues, which could result in more sustainable consumption habits. Furthermore, funding for sustainable development and renewable energy initiatives can lower CO_2 emissions while also opening doors for economic expansion and the eradication of poverty.

2. Income Inequality and CO_2 Emission:

Patterns of production and consumption can be influenced by income disparity, and these can have an impact on CO_2 emissions. The wealthy frequently use a disproportionate amount of resources and produce more greenhouse emissions than the general population in cultures with substantial income disparity. Due to their greater energy-demanding residences, frequent travel, and consumption of upscale items, people with higher incomes typically have larger carbon footprints. Furthermore, political and social instability brought on by wealth inequality may impede attempts to mitigate and adapt to climate change.

3. Poverty Eradication, Sustainable Development and Income Inequality:

Reducing economic disparity and eradicating poverty are crucial elements of sustainable development. Redistributing wealth and resources more fairly will ensure the advantages of economic progress are shared more widely, lowering the likelihood of social unrest and fostering stability. By empowering people to engage more fully in the economic and social spheres and breaking the cycle of poverty, investments in healthcare, social safety nets and education can

ultimately lead to more sustainable patterns of production and consumption.

Poverty eradication efforts, aimed at improving the living standards of the most marginalized communities, often intersect with initiatives to reduce income inequality. Poverty is undoubtedly the most serious problem caused by income disparity, which is present in practically all developing nations with extremely low per capita incomes. In actuality, poverty is a socioeconomic phenomenon closely linked to inequality. Human productivity, efficiency, and health are all negatively impacted, which has an impact on people's income. A portion of society is deprived of the basic needs, including food, clothing, housing, health care, and education of a household, individual's, or group's social marginalization within the community or society as opposed to a lack of funds to meet fundamental necessities. While not the only cause of marginalization; low income is one of the contributing causes.

However, the pursuit of economic growth and development, which is crucial for poverty alleviation, can also contribute to increased carbon emissions, exacerbating environmental degradation and climate change. Income inequality, on the other hand, can both stem from and perpetuate poverty, as marginalized communities face barriers to accessing resources and opportunities. Moreover, disparities in income distribution can influence consumption patterns, with wealthier segments of society often contributing more significantly to CO_2 emissions through their consumption of energy-intensive goods and services. In India, 34.3 percent of the population still lived on less than $1 (PPP) a day, despite all the advancements made over the previous 55 years. Based on an international standard proposed by the World Development Report, this proportion of the population was deemed impoverished. Thus, this study aims to investigate national plans, policies, and initiatives for ending poverty. At the same time, addressing income inequality is essential for fostering inclusive and sustainable development, as it enables more equitable access to resources and opportunities.

In this analysis, we will explore how these complex dynamics play out in the Indian context, examining the various policy interventions and societal transformations necessary to achieve the twin goals of poverty eradication and environmental sustainability. Through the analysis we can identify strategies that promote inclusive and sustainable development, ensuring a more equitable and resilient future for all Indians

Database and Methodology

The methodology entails reviewing existing research on poverty eradication and CO_2 emissions in India. Quantitative data from reliable sources like the World Bank is collected, complemented by qualitative insights from interviews or case studies. The analysis includes examining trends and correlations, with a focus on localized impacts. Existing policies are evaluated for effectiveness, and an interdisciplinary approach ensures comprehensive understanding. Ethical guidelines are followed, and findings are disseminated through academic publications and policy briefs to inform policymaking.

Analysis and Discussion

Income inequality (IE) and CO_2 emissions in India are interconnected in various ways like; income inequality often correlates with consumption patterns, where higher-income individuals tend to consume more goods and services, leading to higher carbon emissions. In India, the wealthiest portion of the population typically has a larger carbon footprint due to their consumption habits, which can include owning multiple vehicles, living in larger homes, and consuming more energy-intensive products. Also, income inequality can affect access to clean energy sources and technology. Lower-income individuals may rely on cheaper but more polluting forms of energy such as solid fuels like coal and biomass for cooking and heating, contributing to higher emissions. On the other hand, wealthier individuals may have the means to invest in cleaner energy sources like solar or wind power. Additionally, income inequality can influence policy decisions and political dynamics related to environmental regulations and climate action. Wealthier individuals and corporations may have more influence over policy-making, potentially leading to policies that prioritize economic growth over environmental protection. In India, poverty has persisted even in the face of the nation's impressive recent economic progress and development. India is home of large fraction of the worlds impoverished, with a population of nearly 1.3 billion. Not only is it morally required, but it is also essential to eradicate poverty in India to achieve equitable and sustainable progress. This paper investigates the various dimensions of poverty in India, looks at the difficulties it presents, and talks about the plans and programs meant to eradicate it.

India's poverty is a complicated, multifaceted issue that affects several factors, including access to basic amenities, healthcare, education, and income. Poverty levels have decreased, although differences across areas, between rural and urban areas, and between social categories still

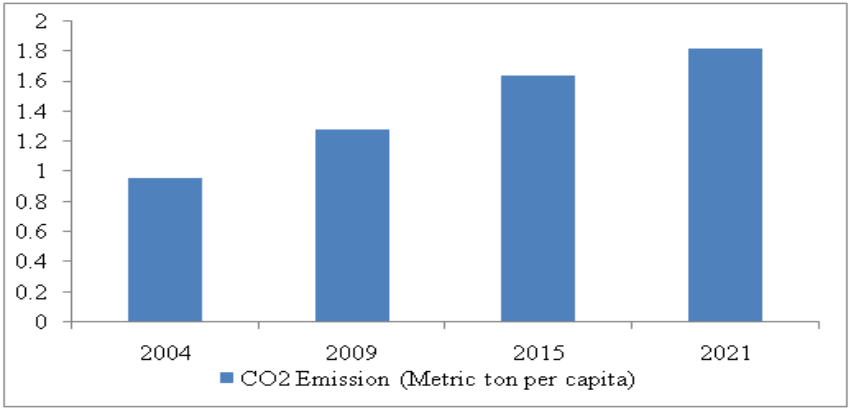
exist. A sizable section of the populace nevertheless struggles to make ends meet, faces obstacles to social and economic mobility, and lives below the poverty line. Addressing income inequality alongside efforts to reduce CO_2 emissions is crucial for sustainable development in India. Policies that promote equitable access to clean energy, improve education and employment opportunities for marginalized communities, and implement progressive taxation can help tackle both issues simultaneously. Poverty is undoubtedly the most serious problem caused by income disparity, which is present in practically all developing nations with extremely low per capita incomes. In actuality, poverty is a socioeconomic phenomenon closely linked to inequality. Human productivity, efficiency, and health are all negatively impacted, which has an impact on people's income. A portion of society is deprived of the basic needs, including food, clothing, housing, health care, and education. While not the only cause of marginalization; low income is one of the contributing causes.

Table 3.1
CO_2 Emission (Metric ton per capita)

Year	India
2004	0.955470
2005	0.984261
2006	1.036534
2007	1.123599
2008	1.180361
2009	1.278874
2010	1.338034
2011	1.396878
2012	1.498204
2013	1.527674
2014	1.642465
2015	1.631323
2016	1.639914
2017	1.704927
2018	1.795595
2019	1.752534
2020	1.576093
2021	1.813855
Source: World Bank, 2024	

India's progress towards sustainable development involves addressing key challenges such as CO_2 emissions, poverty eradication, and income inequality. This analysis focuses on examining the trends depicted in the provided table, which showcases data on CO_2 emissions, poverty rates, and income inequality over several years. By exploring these indicators, we aim to gain insights into the complex relationships between environmental sustainability, poverty alleviation, and socioeconomic equity in India.

Graph 3.1
CO_2 Emission (Metric ton per capita)



Source: Based on the Table 3.1

Table 3.2 presents the income shares held by the highest 10 percent and lowest 10 percent of earners in various years.

Table 3.2
Income Inequality

Year	Highest 10 percent	Lowest 10 percent
2004	28.9	3.7
2009	29.6	3.6
2015	29.7	3.6
2021	25.6	3.3
Source: World Bank (2024)		

Income share held by highest 10 Percent in 2004, the highest 10 percent of earners held 28.9 percent of the total income. In 2009, this figure increased slightly to 29.6 percent. By 2015, it reached 29.7 percent. However, in 2021, there was a decrease, with the highest 10 percent holding 25.6 percent of the total income. The fluctuations in the income share held by the highest 10 percent over the years suggest that income inequality is influenced by various factors and can change over time based on economic conditions and policy interventions.

Graph 3.2
Income Inequality

Source: Based on the Table 3.2

Table 3.3 presents the income shares held by the highest and lowest 10 percent of earners in various years.

Table 3.3
Income Inequality

Year	Highest 20 percent	Lowest 20 percent
2004	43.2	8.6
2009	43.8	8.4
2015	44.0	8.4
2021	41.0	7.9
Source: World Bank, 2024		

In 2004, the highest 10 percent of earners held 28.9 percent of the total income. In 2009, this figure increased slightly to 29.6 percent. By 2015, it reached 29.7 percent. However, in 2021, there was a decrease, with the highest 10 percent holding 25.6 percent of the total income. The data reflects the concentration of income among the highest earners, indicating disparities in income distribution. Despite slight fluctuations, the trend generally shows a significant portion of total income held by the highest 20 percent of earners, highlighting persistent income inequality.

Graph 3.3
Income Inequality

Source: Based on the Table 3.3

Poverty in India

In India, ending poverty is still a difficult task that needs constant governmental commitment, widespread social mobilization, and sector-wide coordination. Even though there has been progress, much more work needs to be done to guarantee that every person has the chance to live a life that is both prosperous and dignified. India can accomplish its goals of a poverty-free society and sustainable development for all by tackling the underlying causes of poverty, making investments in human development, and encouraging inclusive growth.

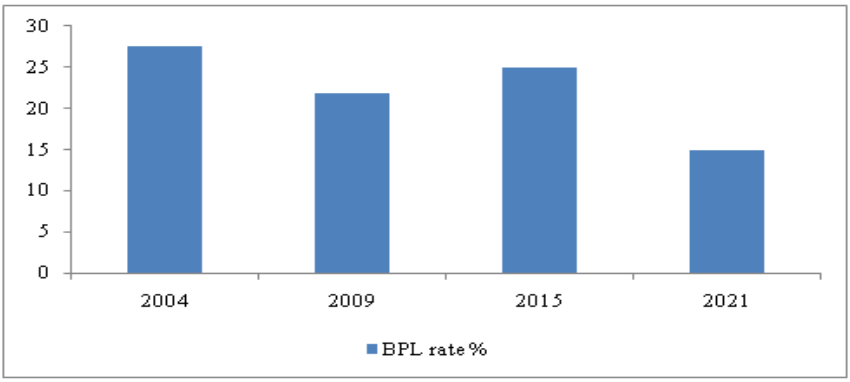
Table 3.4 presents the percentage of the population living BPL in different years, based on data from the NSSO and the RBI. In 2004, 27.5 percent of the population lived BPL.

Table 3.4
Population below the Poverty Line

Year	BPL Rate Percent
2004	27.5
2009	21.9
2015	24.9
2021	14.9
Source: NSSO & RBI	

By 2009, this percentage decreased to 21.9 percent. However, it increased slightly to 24.9 percent by 2015.In 2021; there was a significant decrease, with only 14.9 percent of the population living BPL. The data reflects the prevalence of poverty within the population over time. A decrease in the BPL rate indicates an improvement in economic conditions and living standards of the population. Factors contributing to changes in poverty rates may include economic growth, government policies targeting poverty alleviation, social welfare programs, and changes in employment opportunities. The reduction in poverty rates suggests progress in addressing economic disparities and improving living conditions for vulnerable populations. However, even with decreasing poverty rates, challenges such as IE, regional disparities, and access to basic services may persist.

Graph 3.4
Population below the Poverty Line



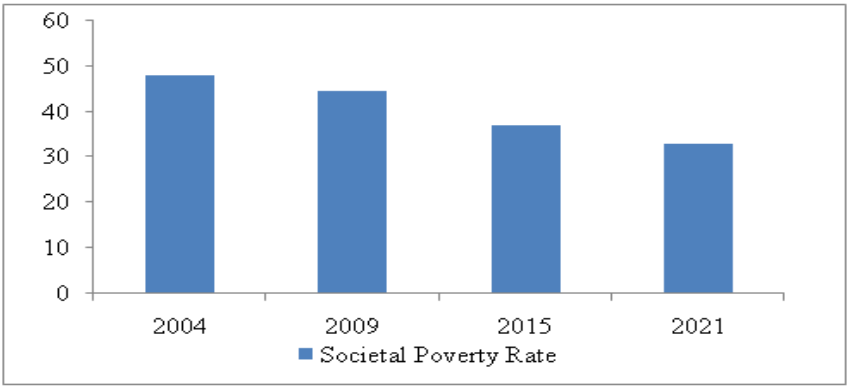
Source: Based on the Table 3.4

Table 3.5
Poverty headcount ratio

Year	Societal Poverty Rate
2004	48.2
2009	44.7
2015	37.2
2021	33.1
Source: NSSO & RBI	

Table 3.5 displays the poverty headcount ratio (PHR) in different years. In 2004, the PHR was 48.2 percent of the population. By 2009, it decreased slightly to 44.7 percent. Further improvement was observed by 2015, with the PHR dropping to37.2 percent. In 2021, there was a notable decrease, with the ratio falling to 33.1 percent of the population.

Graph 3.5
Poverty Headcount Ratio



Source: Based on the Table 3.5

Declines in the poverty headcount ratio suggest progress in poverty reduction efforts. Factors contributing to these improvements may include economic growth, government policies targeting poverty alleviation, social welfare programs, and improvements in access to education and healthcare. However, despite progress, challenges such as income inequality, regional disparities, and vulnerability to economic shocks may persist and require ongoing attention from policymakers. A decrease in the poverty headcount ratio signals

improvement in living standards and quality of life for a significant portion of the population. Poverty reduction efforts should be sustained and tailored to address the specific needs of vulnerable groups to ensure continued progress towards poverty eradication. The data provides valuable insights into changes in poverty levels over time, helping policymakers assess the effectiveness of poverty alleviation strategies and guide future interventions.

Conclusion

India's pursuit of poverty eradication and economic development must be accompanied by efforts to mitigate CO_2 emissions and reduce income inequality. Policies promoting renewable energy adoption, energy efficiency, and sustainable urban planning can contribute to both poverty reduction and environmental sustainability. Social welfare programs and inclusive policies that address income disparities will ensure that society as a whole reaps the rewards of growth fairly. Ultimately, achieving a balance between poverty eradication, reduced CO_2 emissions, and diminished income inequality requires a holistic approach that integrates social, economic, and environmental considerations into policymaking and development strategies. The data highlights the trends in poverty and income inequality over the years, offering valuable insights into socioeconomic dynamics. Across various metrics such as the percentage of the population BPL and the PHR at the societal poverty line, there is a consistent pattern of improvement, indicating progress in poverty reduction efforts. Moreover, while income inequality persists, there are indications of positive changes, with fluctuations in income shares held by different segments of the population. These improvements can be attributed to factors such as economic growth, government policies, social welfare programs, and improvements in access to education and healthcare. However, challenges remain, including the need to address persistent income disparities, regional inequalities, and vulnerability to economic shocks. Sustainable poverty reduction requires continued commitment to inclusive growth, targeted interventions, and equitable distribution of resources. Going forward, policymakers must remain vigilant in their efforts to tackle poverty and income inequality, ensuring that society as a whole reaps the rewards of growth fairly. By addressing these challenges comprehensively and sustainably, societies can strive towards greater prosperity, social cohesion, and inclusive development.

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