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Research Article

India's Poverty Alleviation Strategies Towards Achieving Sustainable Development Goal-01.

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ARTICLE INFO ABSTRACT

This research work investigates the relationship between income inequality, poverty reduction strategies, and the Lorenz curve in India from 2015 to 2023, with forecasts extending to 2030. Data from the World Bank reveals positive trends in per capita expenditure and a declining population growth rate. The analysis employs the Lorenz curve to visualize income distribution. While the Gini coefficient remained high at 3.70 in the period, income inequality appears to have stabilized since the COVID-19 pandemic. Interestingly, future projections suggest a remarkable decrease in inequality towards 2030, with the Lorenz curve positioned above the line of equality. This, coupled with rising per capita income and a shrinking population, paints a promising picture towards achieving Sustainable Development Goal 1 (eradication of poverty). Regression analysis further strengthens these findings, demonstrating a statistically significant association between per capita income growth and poverty reduction. These results suggest that India's poverty reduction strategies are yielding positive outcomes, but continued policy interventions and investments in social programs are crucial for sustained progress towards a more equitable and prosperous future.

KeyWords: Poverty reduction, Lorenz curve, Gini Coefficient, Sustainable Development Goals.

I. Introduction.

India's struggle with long term poverty has ensnared the nation within the confines of a persistent poverty trap. This self-reinforcing cycle of poverty has profound consequences, disrupting both demand and supply dynamics. The ramification is far-reaching, encompassing low savings, diminished investment, limited capital formation, reduced production and weakened overall demand. This intricate interplay between poverty and economic stagnation perpetuates a cycle that confines India within the grasp of impoverished condition. This research delves into these interrelated aspects, shedding light on the multifaceted consequences of poverty mechanism by which it sustains itself, ultimately impeding India's socioeconomic progress.

II. Background Literature.

In recent years, several research papers have shed light on the positive correlation between poverty reduction and specific sectors of the Indian Economy, (Ahsan, Gutiérrez, Paci, & Ranzani, 2010) underscores the significant role played by workers in agriculture and the manufacturing sector in alleviating poverty. Their high-end labour and skill-intensive contributions have not only boosted per capita GDP but also transformed the landscape of poverty. (Mehta & Shah, 2001) delves into the rural and urban poverty rates in India, emphasizing that faster-growing states have exhibited declining poverty trends. The progress is instrumental in India's pursuit of combatting extreme poverty and meeting its poverty reduction goals by 2030. (Jha, 2023) adds to this promising narrative by estimating that an astounding 135 million individuals have been lifted out of poverty in India. In just a span of a few years, poverty rates have dropped significantly, from 24.85% in 2015-16 to a remarkable 14.96% in 2019-21. Furthermore, the quality of life for the impoverished has improved noticeably over the same period aligning with Sustainable development goals for 2030. A noteworthy aspect of this reduction has been the rapid decline in poverty in rural India, plummeting from 32.59% to 19.28%. This transformation, as revealed through data from National Family Health Survey NFHS-4 and NFHS-5, is closely

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linked to a concerted effort to enhance access to essential services such as sanitation, nutrition, cooking fuel, financial inclusion, clean drinking water, electricity and substantial progress in critical areas of development. (India, 2023), India is a middle-income group country that faces various barriers to achieving SDG 1, (Noorbakhsh, 2003) research in 2003 sheds light on the substantial economic disparities among major states in the country. The study probes whether these regions are moving towards convergence or divergence in terms of economic development. It emphasizes the imperative need for increased investment and progress in the more affluent regions, while also advocating for the development of enhanced social and economic infrastructure in economically disadvantaged regions, similarly a study by (Das, Ghosh, & Paria, 2021) explored regional disparities at a multidimensional level in Indian population over a decade with one notable exception being the northeastern region, which experienced a rapid decline in the intensity of poverty. Additionally (Sehrawat & Giri, 2017) delves into the relationship between financial development, economic growth, income inequality and poverty reduction in India, the paper analyzes how targeted financial sector policies and interventions can contribute to reducing income inequality and poverty levels in the country, highlighting the potential for positive outcomes through economic growth and financial developments. Facilitating access to financial resources will positively impact income distribution and poverty reduction, thereby underscoring the importance of policies promoting income equality and supporting marginalized populations (Bae, Han, & Sohn, 2012). Moreover, (Omoniyi, 2013) draws attention to the pivotal role of education in poverty alleviation, particularly in developing nations. The paper underscores that improving living standards and achievement of economic and social progress hinges on adequate investment in education, finance, time and human energy, involving both public and private stakeholders in reducing poverty and ensuring sustainable development, (Cagatay, 2005) self-group in India can reduce poverty, gender inequality and enhance employment opportunities, particularly for vulnerable groups such as female heads of households single parents and elderly without support, to uplift individuals from the extremely poor condition and fostering social inclusion. To address this goal effectively, a comprehensive set of policy imperatives and strategies are required implementation of progressive taxation policies, job creation, economic growth, education, skill development, healthcare access, agriculture reforms, financial inclusion, gender equality, infrastructure development, environment sustainability and so on, where (Mohan & Kapur, 2015) paper in underscores the significance of understanding the poverty profile to inform policy recommendation, the research emphasizes the need for a multifaceted approach which increased public investment, sustainable inflation reduction, and the promotion of household savings through financial instruments. It also stresses the importance of fostering competitive manufacturing sectors to drive employment opportunities, ensure external stability and sustain economic growth, (Caetano, Winkler, & Depledge, 2020) in a broader context encompassing both climate and development goals, the critical need to strike a balance between development imperatives and climate considerations. The study recognizes the ambitious objectives of eradicating poverty while achieving zero carbon emissions, it advocates for transformative development strategies, innovative governance models, human-centred development strategies, and positive social impacts. Furthermore, (Batra, 2021) zooms in on the pressing issues of food security and poverty in India, the paper identifies these challenges as stemming from the failure of adequate regulation and control of food markets, exacerbated by issues like poor quality and excessive chemical use. To address these challenges, the emphasizes the importance of fostering a competitive, demand-driven knowledge-based, and market-oriented agriculture sector, the paper aims to contribute to the attainment of food security and the alleviation of poverty in India, addressing the crucial intersection of these two critical issues.

III. Data Set and Methodology.

To evaluate India's poverty reduction strategies from 2015 to 2023 along with forecasts upto 2030, this research employs a multi-faceted approach utilizing the World Bank data. We analyze trends in per capita expenditure (a poverty measure) and population to identify historical patterns. The Lorenz curve, a graphical representation of income inequality, will be constructed. This curve, along with the **Gini coefficient** Gini coefficient = A / (A + B)

where A is the area between the line of equality and the Lorenz curve, and B is the area below the Lorenz curve and above the X-axis, will be used to assess income distribution. Furthermore, exponential triple smoothing will forecast poverty reduction in 2030. Finally, regression analysis was explored to explore connection between income and poverty levels. By combining these techniques, this research aims to not only understand historical trends but also predict future poverty reduction, but also assess the effectiveness of India's policies in tackling income inequality and achieving sustainable poverty reduction. (World Bank, 2023)

IV. Hypothesis.

Null hypothesis (Ho): The Lorenz curve does not provide a nuanced perspective on India's battle against poverty. It does not reveal any significant trends or intersection that can be associated with change in poverty dynamics.

Alternative Hypothesis (H1): The Lorenz curve provides a nuanced perspective on India's battle against poverty. It reveals any significant trends or intersection that can be associated with change in poverty dynamics.

V. Data Analysis.

YEAR	Income	Population	Per Capita Population	C% POP	C % Y
Input Data Set					
2015	8.00%	1.20%	666.67%	1.20%	8.00%
2016	7.30%	1.20%	608.33%	2.40%	15.30%
2017	7.80%	1.20%	650.00%	3.60%	23.10%
2018	6.50%	1.10%	590.91%	4.70%	29.60%
2019	4.00%	1.00%	400.00%	5.70%	33.60%
2020	-6.20%	1.00%	-620.00%	6.70%	27.40%
2021	8.30%	0.80%	1037.50%	7.50%	35.70%
2022	7.00%	0.70%	1000.00%	8.20%	42.70%
Predicted Data Set					
2023	12.21%	0.90%	1356.67%	9.10%	54.91%
2024	11.65%	0.90%	1294.44%	10.00%	66.56%
2025	11.09%	0.90%	1232.22%	10.90%	77.65%
2026	10.53%	0.80%	1316.25%	11.70%	88.18%
2027	9.97%	0.80%	1246.25%	12.50%	98.15%
2028	9.41%	0.80%	1176.25%	13.30%	107.56%
2029	8.85%	0.80%	1106.25%	14.10%	116.41%
2030	8.29%	0.80%	1036.25%	14.90%	124.70%

VI. Findings & Results.

a). Present Trends of Lorenz Curve.



Figure 1. Line of equality and Lorenz curve

The analysis reveals positive trends in income and population (2011-2030). Per capita expenditure grew steadily, reflecting a strong expansion in per capita income, peaking in 2020. Population growth, however, displayed a decreasing trend. The relationship between per capita income and the population below the poverty line (BPL) is crucial. As depicted by the Lorenz curve shifting above the line of equality, income growth outpaced population growth. In the same period, the Gini coefficient was 3.70. This value indicates a high level of income inequality in the country, it highlights a significant disparity in income distribution within India. This resulted in a steady decline in poverty from 2017 to 2020. However, Figure 1 clearly shows a rise in income inequality during this period. The COVID-19 pandemic likely contributed to this through jobless growth and reverse migration. Interestingly, the pandemic's effect on inequality seems to have plateaued in 2021. The area under the Lorenz curve and the line of equality narrows after 2020, suggesting a reduction in inequality despite the economic slowdown.

b). Future Trends of Lorenz curve



Figure.2. Poverty trends from 2023-2030

Analysis from 2023 to 2030 suggests a promising trend towards achieving Sustainable Development Goal 1: End poverty in all its forms everywhere (Figure 2). The Lorenz curve's projected position above the line of equality indicates a decrease in poverty rates Intriguingly, the Gini coefficient for this period neared 1.0, suggesting a remarkable reduction in income inequality in India. This aligns with the anticipated decline in cumulative population alongside a rise in per capita income by 2030. These observations in Figure 2 suggest a potential future scenario where both poverty and inequality diminish, paving the way for Goal 1 to be achieved by 2030.

c). Results of Regression Analysis

In the study we employed regression analysis to explore relationship between per capita income and population to understand the poverty trends in India. The model exhibited a very strong positive fit with R-Square=0.99, indicating that **99% of the variation in Income is explained by the factors included in the model, with a low standard error indicating the data points closely align with the regression line.** The ANOVA Test where F-statistic values lead to reject of the null hypothesis, which means that at least one of the independent variables has a statistically significant relationship with the dependent variable. Overall the results suggest that the model is a very good fit for the data.

VII. Conclusion

The intricate interplay between income inequality, the Lorenz curve, and poverty dynamics in India is confirmed by this study. Although the Lorenz curve initially depicted a rise in inequality alongside poverty reduction, positive trends towards income equality re-emerged by 2021. The Gini coefficient, while still high, appears to be stabilizing. Future forecasts based on the Lorenz curve and projected income growth offer a promising trajectory for achieving SDG 1 by 2030. Regression analysis reinforces this optimism, highlighting a statistically significant relationship between rising per capita income and poverty reduction. These findings underscore the effectiveness of India's ongoing poverty reduction efforts. However, achieving SDG 1 necessitates continued policy interventions and investments in social programs to ensure sustained progress towards a more equitable and prosperous future for all Indians.

Highlights of the Research Work:

1.India's battle against poverty is explored through the lens of income inequality and the Lorenz curve, revealing a complex and interconnected relationship with Nurkse's theory of poverty trap.

2.Data from 2010 to 2021, with projections to 2030, shows a significant rise in income inequality, particularly during the global COVID-19 pandemic.

3. These findings underscore the importance of targeted efforts to address income inequality and break the cycle of poverty as India works towards achieving Sustainable Development Goal 1.

References

- 1. Ahsan, A., Gutiérrez, C., Paci, P., & Ranzani, M. (2010)," Growth, employment, and poverty trends in India: unbundling the links', IZA/World Bank Conference, May.
- 2. Bae, K., Han, D., & Sohn, H. (2012, April), "Importance of Access to Finance in Reducing Income Inequality and Poverty Level", International Review of Public Administration, 17, 55–77. doi:10.1080/12264431.2012.10805217
- 3. Batra, S. (2021), "Food Security in India-Challenges and Policy Imperatives", SD College Ambala.
- 4. Caetano, T., Winkler, H., & Depledge, J. (2020, July), "Towards Zero Carbon And Zero Poverty: Integrating National Climate Change Mitigation And Sustainable Development Goals', Climate Policy, 20, 773–778. doi:10.1080/14693062.2020.1791404
- 5. Cagatay, N. (2005), "Social development and poverty elimination division gender and poverty"-Working Paper Series. Social development and poverty elimination division gender and poverty-Working Paper Series. United Nations Development Programme. Retrieved.
- 6. Das, P., Ghosh, S., & Paria, B. (2021, August), "Multidimensional poverty in India: a study on regional disparities", GeoJournal, 87, 3987–4006. doi:10.1007/s10708-021-10483-6
- 7. Jha, A. (2023), 135 million fewer multidimensional poor in 2021 compared to 2015: NITI Aayog index.
- 8. Mehta, A. K., & Shah, A. (2001), "Chronic poverty in India: overview study", Chronic Poverty Research Centre Working Paper.
- 9. Mohan, R., & Kapur, M. (2015), "Pressing the Indian growth accelerator: Policy imperatives" (I. M. Fund, Ed.), International Monetary Fund.
- 10. Noorbakhsh, F. (2003), "Human Development and Regional Disparities In India", Department of economics, University of Glasgow.
- 11. Omoniyi, M. B. (2013), "The role of education in poverty alleviation and economic development: A theoretical perspective and counselling implications", British Journal of Arts and Social Sciences, 15, 176–185.
- 12. Sehrawat, M., & Giri, A. K. (2017, August), "The impact of financial development, economic growth, income inequality on poverty: evidence from India", Empirical Economics, 55, 1585–1602. doi:10.1007/s00181-017-1321-7