

CLIMATE CHANGE AND HUMAN DEVELOPMENT: A MULTI- DIMENSIONAL ANALYSIS OF POVERTY, EMPLOYMENT, AND GROWTH IN INDIA

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ABSTRACT

One of the biggest threats to India's socioeconomic progress is climate change, which aggravates preexisting vulnerabilities by acting as a "threat multiplier." This paper examines its interconnected effects on poverty, employment, and economic growth. In the Indian region, where agriculture and informal employment are dominant, the cascading socio-economic effects of extreme weather events, unpredictable monsoons, floods, droughts, and heatwaves are not as well studied.

The paper integrates an empirical examination of long-term state-level information from PLFS, NSSO, Census, RBI, and climatic records with a review of current literature. This method makes it possible to investigate in detail how climatic shocks result in setbacks in human development. Results indicate that agricultural interruptions raise food insecurity, lower rural earnings, and further impoverish vulnerable households. The implications on employment are just as bad: rural suffering and urban poverty are made worse by climate-induced drops in agricultural output and recurrent shocks, which lead to rural-urban migration, put a pressure on urban infrastructure, and increase the number of insecure informal occupations. There are direct and indirect costs associated with climate change at the macroeconomic level. Increasing spending on infrastructure reconstruction, rehabilitation, and disaster assistance are examples of direct expenses. Reduced worker productivity brought on by heat stress, health hazards, and waning investor confidence in susceptible areas are examples of indirect costs. These elements work together to limit GDP growth and jeopardize the SDGs' (sustainable development goals) advancement.

The research emphasizes the necessity of adopting integrated, climate-resilient development methods in place of fragmented solutions. Important suggestions involve expanding social security programs like MGNREGA and climate insurance, growing drought-resistant crops to promote climate-resilient agriculture and effective water management, investing in sustainable infrastructure, and diversifying rural livelihoods through agro-processing and green jobs.

The study demonstrates the diverse effects of climate change. It also provides practical policy recommendations by placing climate change at the heart of growth, employment, and poverty. It makes it evident that combating climate change is not just necessary for the environment but also for India's inclusive and sustainable growth.

KEYWORDS: Climate change; Poverty; Employment; Economic growth; Rural–urban migration; Climate-resilient development; Sustainable Development Goals (SDGs)

1. INTRODUCTION

Climate change is no longer an environmental issue, it has become a fundamental challenge to human development. It poses a clear risk to poverty reduction, health, education and wellbeing goals and is one of the largest barriers to achieving the Sustainable Development Goals (SDGs) [1], [2]. The challenge is acute for India, due to its reliance on agriculture, the prevalence of informal jobs and the

persistence of rural poverty. These structural vulnerabilities make climate change a "threat multiplier," which overburdens poverty, unemployment, and inequality[3].

Human development is concerned with the enlargement of people's capabilities and freedoms [4]. Climate shocks like floods, droughts and heatwaves directly undermine these capabilities, negatively impacting food security, quality of health and displacing livelihoods. For example, the 2018 floods in Kerala were the worst flooding in India in nearly a century, displacing more than 1.4 million people, ruining livelihoods and incurring an estimated loss of about 31,000 crore [5],[6]. Similarly, the heatwave that hit in 2022 across northern and central India lowered wheat yields by 10-35% in various states, thus hitting the incomes of farmers and putting pressure on food inflation[7] , [8]. The events illustrate the impacts of climate change on undermining human development outcomes in rural and urban areas.

At the macroeconomic level, climate change poses direct and indirect costs. This includes increased costs for disaster relief and reconstruction. This also includes decreasing labor productivity as a result of heat stress, as well as a lack of investor confidence in vulnerable regions [NO_PRINTED_FORM] [5] . All these have a negative effect on GDP growth and retard human development.

This study attempts to offer a multi-dimensional analysis of the impact of climate change on poverty, employment and economic growth in India. Using secondary data from PLFS, NSSO, Census, RBI and climate data, it examines the cascading socio-economic impacts of climate shocks. The paper makes the case for integrated, climate-resilient strategies including scaling up social protection, supporting drought resilient crops and investing in sustainable infrastructure as crucial to protecting growth and human development in India.

2. LITERATURE REVIEW

UNDP (2020) highlights that climate change is one of the biggest challenges to the achievement of human development, jeopardizing the achievement of poverty reduction goals, education and health. The Human Development Report describes climate change as "the next frontier" in development, with focus on its interaction with social and economic vulnerabilities. In India, where large portions of the population continue to be reliant on climate-sensitive sectors such as agriculture, the risks are especially severe [1].

IPCC (2022) also implies that climate change affects the developing economies more than the developed economies and is badly affecting the vulnerabilities of rural poverty, malnutrition and poor health outcomes. For India, the assessment projects exacerbated heat waves, erratic monsoons and increasing sea levels, which not only put livelihoods at risk, but also pose challenges for the state to adapt to. Climate change is thus a "threat multiplier" in that it amplifies structural inequalities [2].

World Bank (2018) has produced a well-documented sub-national analysis that indicates hotspots in South Asia, especially in India, will face severe living standard losses as a result of changes to temperature and precipitation. By 2050, almost 600 million people in India can expect reduced income and productivity, especially in rural districts which are rainfed-agriculture dependent. This shows how climate change directly is associated with poverty and regional inequality [3].

ADB (2014) points out the broader environmental and economic challenges of Asia, and how India's rapid urbanization and industrial development add to the challenge of vulnerability. The report puts great emphasis on the need for integrated adaptation policies that are in line with development policies, in particular for employment creation and poverty alleviation. Otherwise, growth may be environmentally unsustainable and socially exclusive [9].

The conceptual basis for this is provided by Amarta Sen who defined development in terms of an enlargement of freedoms and capabilities. Climate change endangers these freedoms with the loss of opportunities for education, health and secure livelihoods. [4] Applying Sen's framework to India, this

paper identifies a decline in agricultural productivity, an increase in health risks due to heatwaves, and a decline in the stability of employment in the informal sector as evidence that climate change erodes human capabilities.

RBI (2021) focuses on the economic dimension and explains that climate change is a systemic risk to India's sustainable growth path. It points out how agriculture, manufacturing and financial stability are all vulnerable to climate shocks. This institutional viewpoint stems from the increased appreciation in the policy community in India that climate risks are not confined to the environmental domain but are of a macroeconomic nature [5].

UNDP India (2018), in its evaluation of the Kerala floods, also highlights the huge human and economic losses from extreme climate events. Millions were displaced, infrastructure ruined, and livelihoods derailed: the disaster illustrates the multi-dimensional losses climate shocks inflict on human development [6]. Similarly, **The Hindu (2022)** reports that wheat yields were hit by the 2022 heat wave, putting food security, as well as rural incomes at risk. Examples such as these highlight how climate extremes have a direct developmental regression to them [10].

Cevik & Jalles (2023) empirically demonstrate that climate change increases income inequality as poor households with limited adaptive capacity are disproportionately impacted. This includes deepening rural-urban divides and increased social vulnerability in India, which leads to increased need for redistribution and adaptation [11]. Also, **Udemba et al. (2021)** write that India's high emissions of CO₂ is paradoxically linked with economic growth, whose growth is accompanied by an accumulation of environmental and social costs [12].

Frontiers in Sustainable Cities (2024) implies focus on the vulnerability of urban populations. It points out that cities in India are particularly vulnerable to the risks of heat stress, water scarcity and infrastructure breakdown. And because urban areas are also engines of employment and economic growth, climate shocks here can have a ripple effect across the national economy. The urban dimension of climate change therefore brings the challenge beyond issues of rural poverty to questions of employment insecurity in metropolitan areas [13].

3. Objectives of the Study

- i. To analyze the multi-dimensional impacts of climate change on poverty, employment, and economic growth in India.
- ii. To examine state-level variations in human development outcomes in the context of climatic shocks.
- iii. To identify linkages between climate risks and developmental challenges such as food insecurity, rural and urban migration, and inequality.
- iv. To suggest policy measures for climate-resilient development and inclusive growth in India.

4. Hypothesis Framework

Based on the review of existing literature and preliminary observations, the study is guided by the following hypotheses:

H1: Climate change acts as a "threat multiplier", intensifying poverty, unemployment, and inequality in India.

H2: Climate-induced disruptions in agriculture and informal employment are key drivers of rural-urban migration and urban poverty.

H3: The cumulative impact of climate change imposes significant direct and indirect costs, thereby constraining India's long-term economic growth.

5. Research Methodology

This research work follows a secondary data-driven methodology, with both qualitative as well as quantitative components, to examine the impact of climate change on poverty, employment, and economic growth in India. The methodology is based around the following elements:

5.1 Data Sources

In general, the research is based on secondary data obtained from reliable national and international sources.

- i. **National Datasets:** National Sample Survey Organisation (NSSO), Census of India, Periodic Labour Force Survey (PLFS), Reports from RBI (Reserve Bank of India)
- ii. **Climate and environmental data:** Indian Meteorological Department (IMD) Records, and assessments on IPCC 2022 Also includes: World Bank 2018 regional datasets on climate impacts.
- iii. **International reports:** UNDP (2020), ADB (2014) and insights on broader development and environment linkages by other cross country comparative studies.
- iv. **Primary Data for Visualization:** The central figure (Figure 3: Employment by Sector vs. Climate Vulnerability in India) relies on two primary international datasets:
 - a. **Employment Shares** for India (2021) are sourced from the *World Bank World Development Indicators (WDI) / ILO modeled estimates*.
 - b. **Sectoral Climate Vulnerability** is derived from the *IPCC AR6 Working Group II report (2022)*.

5.2 Analytical Approach

The paper uses a multi-dimensional framework of analysis:

- i. **Literature Review** - Bringing together results from key studies (Sen, 1999; UNDP, 2020; Cevik & Jalles, 2023; Udemba et al., 2021) [1], [4], [11], [12], to map the theoretical and empirical relationships between climate change, poverty and growth.
- ii. **Trend and Descriptive Analysis** - Analysis of long-term state-level data on agriculture, employment, migration, and GDP growth to determine emerging climate- related vulnerabilities.
- iii. **Case study approach** - Highlighting climate shocks like the Kerala floods in 2018 [6] and wheat crop losses in heatwaves in 2022 [10] in order to give an idea of localized impacts as well as the national implications these have.
- iv. **Derivation of the Sectoral Climate Vulnerability Index (CVI):** To facilitate quantitative comparison with employment data, a **Sectoral Climate Vulnerability Index (CVI)** was constructed from the IPCC AR6 Working Group II sectoral risk assessments. This process involved:
 1. **Ordinal Scoring:** Qualitative risk levels from the IPCC reports (e.g., Low, Medium, High) were assigned numerical ordinal scores (V_{score}).
 2. **Min-Max Normalization:** The scores were then scaled to the range 0-1 using the Min-Max Normalization formula:

$$V_{norm} = \frac{V_{score} - V_{min}}{V_{max} - V_{min}}$$

The final values were slightly adjusted to reflect India's context (Agriculture 0.85, Industry 0.55, Services 0.40), providing a quantifiable measure for comparative analysis with the World Bank employment data.

5.3 Scope and Limitations

The research does not include primary surveys or macro-economic modeling. Rather, it focuses on a policy-relevant synthesis of secondary evidence which emphasises patterns, pathways and implications. While this approach provides great insights, it does not allow us to see details at the micro level of the household, so it is still a field for further research

6. Analytical Framework and Findings

6.1 Climate Change and Poverty in India

Climate change interacts with poverty in India through a number of channels: reduction in agricultural productivity, increase in food prices, loss of assets, and loss of livelihoods. Smallholder farmers, landless labourers and rural women are much more vulnerable than others because more of their livelihood depends on natural resources and they are less adapted to climate change. For instance, the 2018 Kerala floods destroyed more than 500,000 houses and resulted in damages worth more than \$4.4 billion [6], and put thousands of households in poverty. Similarly, the heatwave in 2022 resulted in a massive decrease in wheat production, which led to food inflation and increased food insecurity[10].

[14] estimates that climate change may trap 50-100 million people across the world in poverty by 2070 and India is one of the worst affected. The World Bank (2018) reports central and northern India as climate "hotspots" where poverty is likely to increase under climate change projections. [3]One half of India's population is in the vulnerable category and will experience a decline in their standards of living due to falling agricultural yields, lower labour productivity or associated health effects. The change in average weather will also slow its GDP growth. The losses in GDP from the severe hotspot areas are higher.

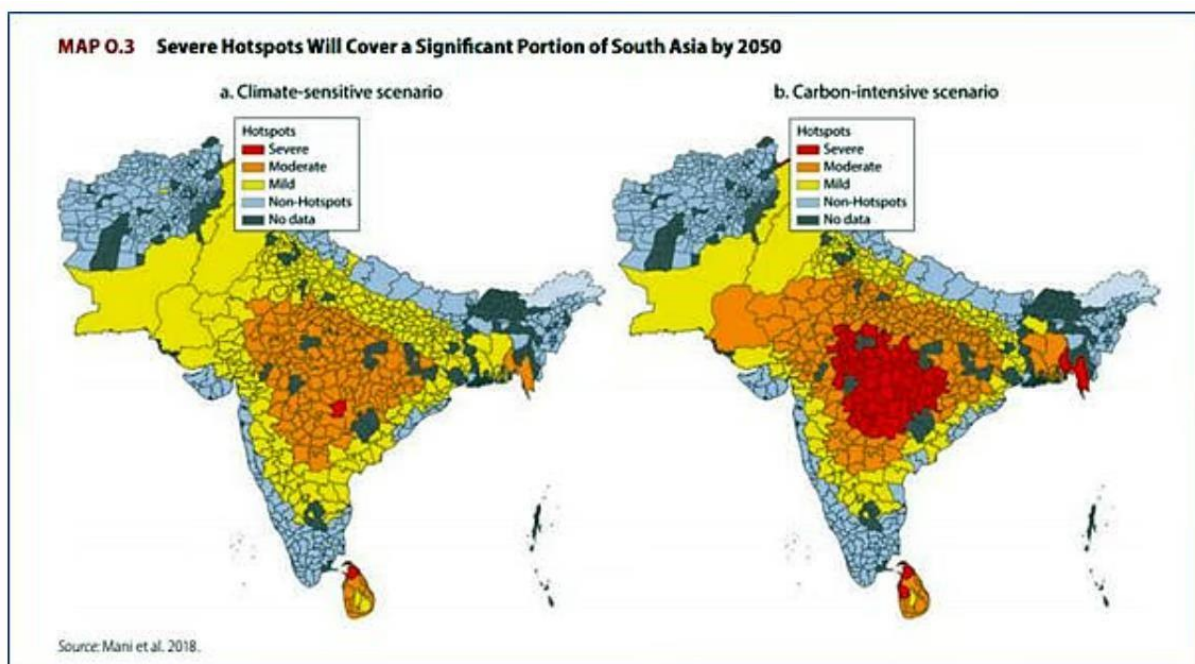


Figure 1. Climate Change Vulnerability Hotspots in India. This map identifies states in the central, northern, and north-western regions of India as being most vulnerable to projected changes in average temperature and precipitation, primarily impacting the agricultural sector. (Source: Adapted from the World Bank, as presented in India Water Portal ("Climate Hotspots Affect India's Economy")).

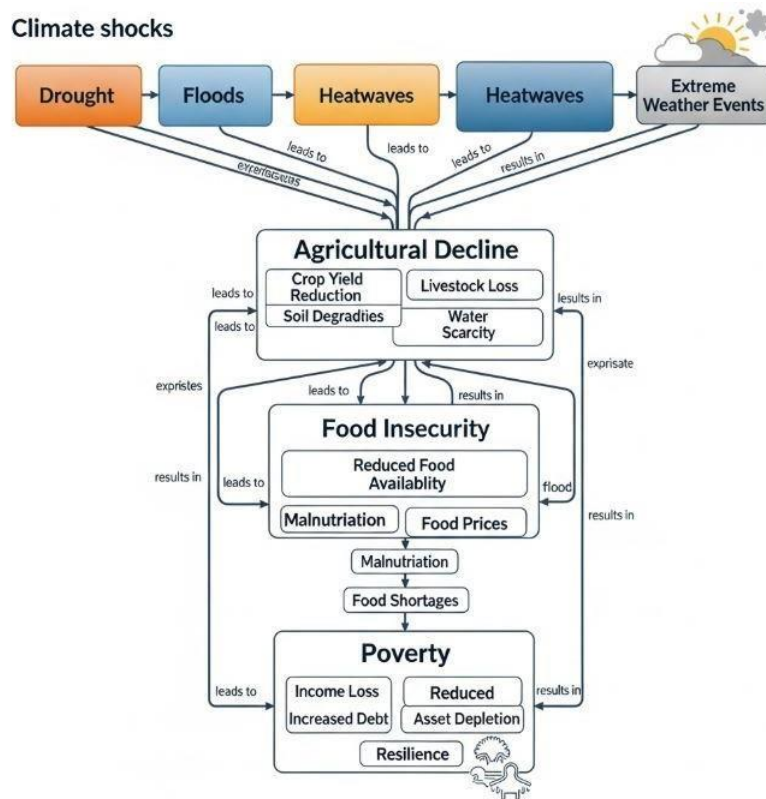


Figure 2: Flowchart depicting Climate Change and Poverty in India: A Pathway Analysis. This conceptual framework highlights key mechanisms such as reduced agricultural productivity, increased distress migration, and heightened urban health risks leading to constrained human capabilities and increased income inequality. (Source: Author's own visualization based on analysis from various studies).

6.2 Climate Change and Employment Dynamics

The Indian labor market is also very climate-sensitive as more than 40 percent of the labor force is engaged in agriculture and almost 90 percent of the population in informal jobs. Climate change also decreases the productivity of agriculture, which increases seasonal unemployment and distress migration. An example is the farmer suicides and out-migration that occurred in the Vidarbha region of Maharashtra due to droughts in the area in the past. Urban poverty is exacerbated by migrants being left in unsafe informal employment in the construction industry, transportation and small services.

The direct impacts of climate risks on South Asia labor productivity are clarified by [9], whereas [11] demonstrate that climate change expands income inequality. Cities such as Delhi and Mumbai are already experiencing heat stress which lowers the work efficiency of people in the outdoor work. True development is expanding human capabilities as [4] argued but climate induced reductions in livelihood constrict these freedoms.

As the chart below demonstrates, the agricultural sector provides the highest percentage of the working population in India (42.3% based on World Bank WDI/ILO modeled estimates for 2021), but it is also the most susceptible one in terms of climate risk, with a **Climate Vulnerability Index (CVI) score of 0.85**. Conversely, the Services (36.4% employment share) and Industry (21.3% employment share) sectors exhibit significantly lower vulnerability, with CVI scores of 0.40 and 0.55, respectively (Figure 3). This stark dissonance—where the largest employment base faces the highest risk—underscores the critical importance of climate resilience in agriculture for inclusive employment security. The construction and normalization of the CVI are detailed in Section 5.2 (iv).

Table1:

Employment Share vs. Sectoral Climate Vulnerability in India (2021)

Sector	Employment Share (%)	Climate Vulnerability Index (CVI, 0-1)
Agriculture	42.3	0.85
Industry	21.3	0.55
Services	36.4	0.40

Note. Employment share data are based on World Bank World Development Indicators (WDI) and ILO modelled estimates for 2021. The Sectoral Climate Vulnerability Index (CVI), scaled 0-1, was constructed using Ordinal Scaling and Min-Max Normalization of qualitative sectoral risk assessments from the IPCC AR6 Working Group II (2022) report (see Methodology Section for details).

(Source: World Bank (2021); Intergovernmental Panel on Climate Change (2022)).

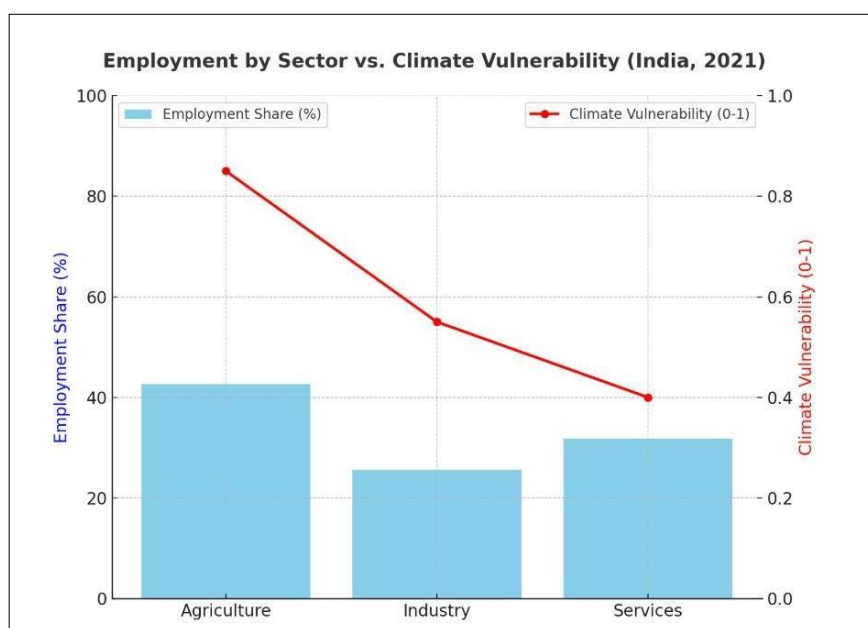


Figure 3: *Employment by Sector vs. Climate Vulnerability in India (2021).* The chart shows how India's economy faces a mismatch between jobs and climate risk. It compares the share of workers in different sectors with how exposed those sectors are to climate change. **(Source:** Employment data adapted from World Bank (2021); Climate Vulnerability Index (CVI) derived from Intergovernmental Panel on Climate Change (2022)).

6.3 Climate Change and Macroeconomic Growth

Climate change has both direct and indirect costs at the macro economic level. Direct costs encompass higher disaster relief, rehabilitation, and infrastructure recovery expenditures, as were experienced during the 2018 Kerala floods. Heat stress and health hazards decrease labor productivity and decrease investor confidence in regions vulnerable to climate change, both of which are considered the indirect costs [5].

As [12] demonstrate, the high CO₂ emission already limits the economic performance of India, indicating that the climate vulnerability has a macroeconomic impact. Another danger that IPCC (2022) sounds the alarm against is that uncontrolled climate change may wipe off GDP growth rates by a few to several percentage points per year in susceptible economies[2]. [13] also observe that urban climate problems (such as heat islands and pollution) have a direct negative impact on economic competitiveness.

Collectively, these results can underpin H3: climate change entails an accumulating pressure on the growth of the economy, putting the achievement of SDGs at risk.

7. Case Studies: Climate Shocks and Human Development in India

7.1 Assam Floods (2020–2022)

Assam is frequently hit by monsoon floods which are getting more and more severe as a result of climate change and Himalayan glacier melting. Over 5 million individuals were displaced, and extensive lands of crop lands were submerged in 2022, resulting in massive losses to the production of rice and tea [6] [2]. The floods disturbed lives, ruined houses and caused mass migration. The effects were multi-dimensional: rural-poor households now became poorer because smallholders lost their crops, agricultural and other related jobs disappeared, and the education of children was interrupted because schooling was closed. Besides, the health hazards were escalated by water-borne diseases. This case highlights the reversal of development gains by climate-induced disasters, which is a poverty trap.

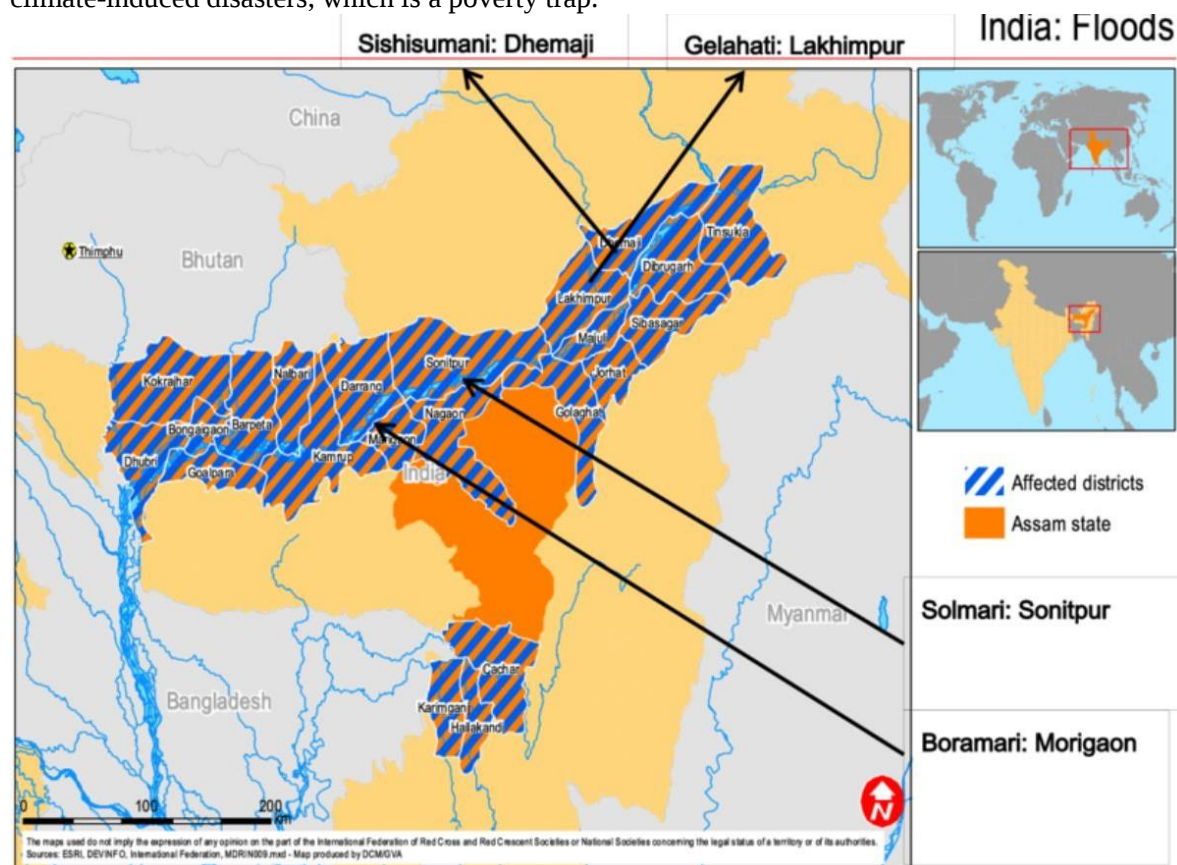


Figure 4: Flood-Affected District Map of Assam. This map identifies districts in Assam affected by floods and riverbank erosion, reflecting the localized climate shocks that contribute to displacement and affect mobility and employment dynamics. (Source: Adapted from Krishnan, S. (2022). Adaptive capacities for women's mobility during displacement after floods and riverbank erosion in Assam, India. *Climate and Development*, 15(1), 1–14. doi:10.1080/17565529.2022.2092052).

7.2 Wheat Heatwave in Northern India (2022)

In March-April 2022, there was an unprecedented heatwave in North India that decreased the yield of wheat by up to 15-20 percent, and forced the government to restrict exports [10] India witnessed a drastic decline in wheat production due to the extreme heatwave in March-April 2022 heatwave, as illustrated in Table 1. Farmers experienced a loss of income and the agricultural laborers on daily wages lost access to seasonal jobs.

Table2:

Impact of 2022 Heatwave on Wheat Production in India

Metric	Region/Level	Data Point
All-India Production	National	106.84 million tonnes (down from initial 111 million tonnes forecast)
Yield Loss	Punjab	Up to 25% yield loss in certain districts
Yield Loss	Haryana	10-15% yield loss
Yield Loss	North-West India	15-20% yield loss in major producing regions
Overall Reduction	National	3-4.5% overall production reduction

Note. The table summarizes the quantitative reduction in wheat yield and grain quality attributed to the early onset of extreme heat in March 2022, which significantly impacted the *rabi* harvest across key northern Indian states. (Source: Data compiled from the Ministry of Agriculture & Farmers Welfare, Indian Council of Agricultural Research (ICAR), and various research studies).

Food inflation also became an effect of the crisis whereby poor households were affected disproportionately already exposed by the post-COVID vulnerability. The case is representative of how the climate change erodes employment and food security, as well as introduces macroeconomic conditions, including inflation and trade instability [11].

7.3 Urban Heat Stress in Delhi (2022–2023)

Delhi experienced unprecedented temperatures of over 49° C, further intensifying the effect of urban heat islands [13]. Outdoor workers, mostly construction laborers, rickshaw pullers, and street vendors were the hardest hit as their productivity plummeted as a result of heat stress. It has been studied that in informal sectors, extreme heat has the potential to slow down labor productivity by 15-20 percent [11]

. The increased demand on electricity to cool also put a burden on urban infrastructure and inequality because only the middle- and high-income households could afford air conditioning. The case shows that climate change poses a higher level of inequality and vulnerability in employment opportunities and thus has a direct connection with environmental stress and human development.

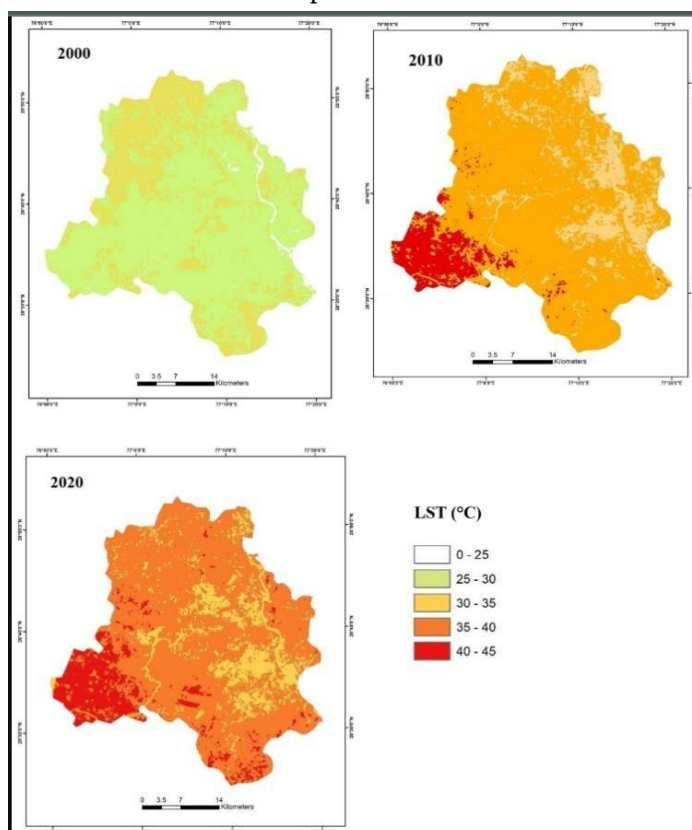


Figure 5: *Land Surface Temperature Distribution Delhi 2000, 2010, and 2020.* This visualization, derived from Earth Observation datasets, demonstrates the temporal and spatial expansion of the Urban Heat Island (UHI) effect in Delhi over two decades, which contributes to heat stress and reduced outdoor labor productivity. **(Source:** Adapted from Singh, P., Sarkar Chaudhuri, A., Verma, P., Singh, V. K., & Meena, S. R. (2022). Earth observation data sets in monitoring of urbanization and urban heat island of Delhi, India. *Geomatics, Natural Hazards and Risk*, 13(1), 1762–1779. <https://doi.org/10.1080/19475705.2022.2097452>).**)**

8. Discussion

8.1 Poverty, Employment, and Growth in a Unified Framework

Development was defined by Amartya Sen, according to the expansion of freedoms not only to growth of income but to lead a dignified life [4]. These liberties are being undermined by climate change through increasing poverty, diminishing job prospects and limiting growth. As case studies (Assam floods, wheat heatwave, Delhi heat stress) demonstrate, the poor are more susceptible to it as they are reliant on agriculture, informal labor, and low adaptability [3]. Shocks in agriculture reduce the income of rural areas, thereby contributing to migrants becoming desperate enough to move to urban areas, where they are usually absorbed into informal work with minimal wages and low security. This undermines the infrastructure of the cities, introduces health costs, and breeds inequality [11]. At the same time, climate shocks cause a decrease in GDP by decreasing productivity, putting a strain on fiscal resources due to increased disaster relief spending, and undermining investor confidence [5]. Therefore, there is a climate-development trap of poverty, employment, and growth in a climate-vulnerable situation where underdevelopment is perpetuated. Climate Change and Sustainable Development Goals (SDGs).

8.2 Climate Change and the Sustainable Development Goals (SDGs)

One of the direct threats to India regarding the achievement of some of the SDGs is climate change. SDG 1 (No Poverty) is compromised because disasters and climate shocks have forced millions of people back into poverty again, particularly in rural communities [14]. The falling agricultural productivity and food insecurity threaten SDG 2 (Zero Hunger) and the consequences of the 2022 heatwave included a reduction in wheat yield [10], [16]. SDG 3 (Good Health and Well-Being) is threatened by increasing heat stress and spreading diseases that are caused by vectors and aggravating malnutrition [2]. Likewise, SDG 8 (Decent Work and Economic Growth) is uncertain with informal workers being victims of unpredictable livelihood and climate threats discouraging long-term investment [12]. Lastly, SDG 13 (Climate Action) specifies the urgent necessity to incorporate adaptation and mitigation into the development planning [8], [9].

Without climate resilience, India stands to lose the gains of human development and cannot deliver its SDG commitments without climate resilience as the [1] warns. In this way, poverty alleviation, job creation, and sustainable development need to be climate action oriented.

9. Synthesis: Climate Change as a Human Development Challenge

The data on the aspects of poverty, employment and growth demonstrates that climate change is not a simple environmental problem, but a basic human development problem. As [4] pointed out, the process of development concerns itself with the process of increasing human freedoms and capabilities- climate change is a limiting factor on these very freedoms by limiting livelihoods, incomes and opportunities.

Therefore, the reaction of India should not just be sectoral fixation but climate-resilient ways of development should be integrated. Social safety nets (MGNREGA, climate insurance), climate resilient agriculture, green jobs and sustainable infrastructure are all important in reducing the vulnerabilities as well as ensuring inclusive growth.

10. Governance and Institutional Framework

The capacity of India to address climate threats is not just a matter of policies, but that of its institutional and governance structures. Although the National Action Plan on Climate Change (NAPCC) and state action plans have provided relevant guidelines, they tend to suffer lack of coherent implementation and inadequate financing. Climate policy needs to cut across ministries such as agriculture, labor, finance, and urban development to ensure that poverty reduction, job creation, and climate resilience proceed hand in hand [2].

This entails a multi-pronged institutional response:

1. **Social protection:** Widening existing programmes like the MGNREGA, crop insurance and healthcare safety nets will help vulnerable communities against climate-induced income shocks.
2. **Climate-resilient agriculture:** Drought resistant seeds, effective irrigation, and rural agro- processing industries will minimize farmer distress as farmers continue to grow [8], [9]
3. **Urban governance:** In the present day scenario, cities are affected by heat waves and flooding. This causes migration pressure to increase. Consequently, there is need to have a strong heat action plan, climate-resistant infrastructure, and emphasis on green jobs, particularly among the informal workers [13]
4. **Finance and regulation:** Financing instruments such as green bonds, price on carbon, and sustainable finance roadmap of the RBI can assist in focusing capital flows toward low-carbon and climate-friendly development [5]

Most importantly there must be institutional accountability and capacity building at the local levels so that people on the ground become aware of the climate policies, particularly the vulnerable. Climate justice will continue to be a dream, but not a reality without empowered local institutions.

11. Conclusion: Charting a Climate-Resilient Development Pathway for India

As this paper illustrates, climate change is a threat multiplier, or not a one-shock event but a combination of multiple pressures that increase poverty, undermine employment and limit economic growth in India. The risks are cross-systemic and cutting across urban and rural economies and essentially constrain human freedoms and opportunities [4]

A new path will require policies that are people-centered and climate-smart:

1. It is essential to increase safety nets: that is, to expand MGNREGA, to universalize climate insurance, and to offer direct income support in disaster areas so that vulnerable families are not forced further into poverty.
2. The transformation of agriculture will need to foster crop diversification, support the development of drought-tolerant crop varieties, and promote agro-based sector development that will provide a stable rural job market and resilience to climate shock [16]
3. Since informal workers and migrants face the brunt of rising temperatures directly, it is necessary to ensure cooling solutions that are affordable for them. Also implementation of urban heat action plans which involve construction of climate-proof housing can be done in order to make cities resilient[13]
4. Green growth can be financed by increasing the use of instruments, including green bonds, encouraging a public-private relationship, and investing in sustainable infrastructure projects [5], [8], [9]

To achieve inclusive governance, more powerful connections between the central and state governments are required, the active involvement of local institutions, and the combination of climate objectives with the strategies of poverty reduction and creating jobs [2].

This, after all, is not an environmental issue; climate change is a problem of human development. Making climate resilience the central theme of development in India is about safeguarding livelihoods, creating an equal opportunity, and ensuring the progress of the SDGs remains on schedule. The only way in which India can be made Viksit Bharat (Developed India) will be climate-resilient. The sense of urgency is evident that is to take action today. If done, India can turn climate threats into an inclusive, equitable, and future-ready growth.

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