

## ECONOMIC AND CLIMATE JUSTICE RESEARCHING HOW TECH AND GLOBALIZATION AFFECT INEQUALITY WITH A FOCUS ON DEBT TRAPS AND CLIMATE FAIRNESS

**Dr. Manju Kumari**

Assistant Professor

Department of Economics

G.B. College Naugachia, Bhagalpur

A unit of Tilka manjhi University Bhagalpur

### Abstract

Globalization has fundamentally reshaped the global economy, patterns of development, and environmental governance, while it has contributed to economic growth. Technological globalization has transformed global economic systems, reshaped development pathways, and altered climate governance. While technology and globalization are often presented as engines of growth and innovation, their impacts on inequality, sovereign debt, and climate justice reveal deeper structural imbalances. This paper investigates how technological globalization contributes to economic inequality through debt-driven development models and how these inequalities intersect with climate injustice. Focusing on debt traps, digital dependency, and unequal climate responsibility, the study argues that current global economic growth and technological systems reproduce historical power asymmetries between the global north and global south.

Using a qualitative and analytical research design based on secondary data, policy reports, and existing literature, the study explores how technology-intensive globalization influences labour markets, capital flows, environmental degradation, and climate finance. It further analyzes the role of sovereign debt, green finance, and climate adaptation costs in constraining policy autonomy in developing countries. The findings suggest that without strong global governance, equitable technology transfer and climate-just financial mechanisms, globalization may deepen economic and environmental injustices. The paper concludes with policy recommendations aimed at promoting inclusive technological development, debt sustainability and fair climate action.

**Keywords:** Economic Justice, Climate Justice, globalization, Technology, inequality, debt traps, climate fairness, sustainable development.

### Introduction

Globalization is one of the most influential forces shaping the world. Globalization and technological change have emerged as defining forces of the twenty-first-century global economy. Through the expansion of international trade, foreign direct investment (FDI), digital



technologies, global value chains, and financial integration, globalization has transformed patterns of production, employment, consumption, and governance across the world. Supporters of globalization argue that it enhances efficiency, innovation, and economic growth, while enabling developing countries to integrate into global markets. However, growing evidence suggests that globalization, particularly in its neoliberal form, has also intensified economic inequality, social exclusion, and environmental degradation.

At the same time, climate change has become one of the most pressing global challenges, posing serious threats to ecosystems, livelihoods, and human well-being. Climate impacts such as rising temperatures, extreme weather events, sea-level rise, and biodiversity loss are distributed unevenly across regions and populations. Developing countries, small island states, and marginalized communities face disproportionate climate risk while having limited resources and capacities to adapt. This uneven distribution of climate burdens raises fundamental questions of justice and fairness.

Economic justice and climate justice have therefore emerged as critical analytical frameworks for understanding contemporary global challenges. Economic justice emphasizes fairness in the distribution of income, wealth, opportunities, and economic power, while climate justice focuses on the ethical and political dimensions of climate change, including historical responsibility, unequal impacts, and intergenerational equity. These two forms of justice are deeply interconnected: economic inequality often determines vulnerability to climate change and access to resource for mitigation and adaptation. In a globalized economy, the interaction between technology, global finance, and climate change has created new forms of inequality and dependency. Technology-intensive globalization has reshaped labour markets, often favoring high-skilled workers and capital owners while marginalizing low-skilled labour. Global financial integration has increased access to capital but has also exposed developing countries to volatile capital flows, debt accumulation and fiscal constraints. Climate change further compound these challenges by imposing additional economic costs and risks on already vulnerable economies.

Developing countries today face a compounded crisis. On one hand, they are encouraged to adopt advanced technologies and integrate into global markets through debt-financed development. On the other hand, they are disproportionately affected by climate change while lacking adequate financial and technological capacity for adaptation and mitigation. The result is a cycle of inequality in which debt traps, technological dependency, and climate vulnerability reinforce one another.

This paper seeks to examine how globalization and technology affect economic and climate justice, with specific focus on inequality, debt traps, and climate fairness. The central argument is that globalization, when governed by unequal power relations and market-centric policies, reinforces both economic and climate injustices. Achieving sustainable and inclusive development therefore requires a reorientation of globalization toward justice, equity, and environmental sustainability.

## 2. Conceptual and Theoretical Framework

### 2.1 Economic Justice

Economic Justice refers to the principle that economic systems and institutions should operate in ways that ensure fairness, dignity, and equal opportunities for all members of society. It encompasses issues such as fair wages, decent working conditions, access to employment, social protection and equitable distribution of resources. The concept draws on theories of social justice, welfare economics, and political economy.

John Rawls' theory of justice emphasizes fairness and equality of opportunity, arguing that social and economic inequalities are justified only if they benefit the least advantaged members of society. Amartya Sen's "Capability approach" shifts the focus from income alone to people's substantive freedoms and capabilities to lead lives they value. From this perspective, economic justice involves expanding individuals' capabilities through access to education, health, and productive resources.

In the context of globalization, economic justice is challenged by widening income and wealth inequality, labor market polarization, informalisation of work, and the concentration of economic power in multinational corporations and global elites. Developing countries often experience uneven growth, dependency on external markets and capital, and limited policy space which undermine inclusive and sustainable development.

### 2.2 Climate Justice

Climate justice extends the concept of justice to environmental and climate-related issues, recognizing that climate change is not only a scientific and technical problem but also a moral and political one. Climate justice highlights the unequal responsibility for greenhouse gas emissions and the unequal distribution of climate impacts across countries and social groups.

The principle of "common but differentiated responsibilities" acknowledges that industrialized countries bear greater historical responsibility for climate change and therefore have a stronger obligation to lead mitigation efforts and support developing countries. Climate justice also emphasizes intergenerational equity, ensuring that present actions do not compromise the rights and well-being of future generations.

Climate justice emerged from environmental justice movements and global climate negotiations. It emphasizes three core principles:

- Historical responsibility for greenhouse gas emissions.
- Unequal vulnerability to climate impacts.
- Fair access to resources for mitigation and adaptation.

Developing countries, despite contributing minimally to cumulative emissions, face the most severe climate risks. Climate justice scholars argue that climate change is not merely an environmental problem but a structural injustice embedded in global economic systems.

**2.3 Globalization, Technology and Justice** — Globalization and technological change shape economic and climate justice by influencing patterns of production, consumption, and governance. Neoliberal globalization prioritizes market efficiency, deregulation, and profit maximization, often at the expense of social equity and environmental sustainability. Technological innovation, while increasing productivity, can exacerbate inequality if access to technology, skills, and digital infrastructure remains uneven.

Without justice-oriented policies, globalization and technology can reinforce existing power asymmetries, deepen inequality and intensify environmental degradation.

Technology globalization is not a neutral process, it is shaped by power relations, institutional rules, and historical legacies of colonialism. Control over technology, data, finance, and intellectual property is concentrated in advanced economies creating dependency relationship that limit the autonomy of developing countries.

## 3. Review of Literature

### 3.1 Globalization, Technology and Economic Inequality

A substantial body of literature examines the relationship between globalization, technological change, and inequality. Stiglitz (2002) argues that globalization has been governed by rules that favor developed countries and multinational corporations, leading to uneven outcomes. Milanovic (2016) documents the rise of global inequality, highlighting the divergence between global elites and marginalized populations.

Technological change has contributed to skill-biased labor demand, increasing returns to education and high-skilled labor while displacing low-skilled workers. Global value chains enable firms to fragment production across borders, capturing a disproportionate share of profits while transferring risks to workers and small producers in developing countries.

**3.2 Digital Divide and Unequal Access** — The digital divide remains a central feature of technological globalization. While access to digital technologies has expanded globally, disparities in quality, affordability, and control persist. High income countries dominate innovation ecosystems, research and development, and technology standards.

while low-income countries primarily act as consumers rather than producers of technology. Platform-based gig economies further exacerbate inequality by weakening labor protection and shifting risks onto workers. These dynamic undermine economic justice by concentrating benefit among corporations and skilled elites.

**3.3 Debt, Global Finance, and Dependency** — Global financial integration has expanded access to credit and investment but has also increased vulnerability to debt crises. Many developing countries face rising external debt burdens, limiting fiscal space for social spending and climate action. Scholars describe this situation as a "debt trap" where countries rely on borrowing to finance development and climate adaptation, leading to long-term dependency and reduced policy autonomy.

**3.4 Climate Justice and Unequal Environmental Burdens** — Climate justice literature emphasizes the unequal distribution of environmental harms. Roberts and Parks (2009) discuss ecological unequal change whereby wealthy nations externalize environmental costs to poorer countries. IPCC assessments consistently show that developing countries face higher climate risks with lower adaptive capacity.

## 4. Objectives of the Study

1. To examine the role of global finance and debt traps in shaping economic justice.
2. To analyze climate justice and fairness in the global economic system.
3. To suggest policy measures for promoting economic and climate justice.

**5. Research Methodology** — The study adopts a descriptive and analytical research design to examine complex socio-economic and environmental process.

## 6. Nature of the Study

The research is qualitative in nature and relies on secondary data.

### Scope and Limitations

The study focuses on global trends with emphasis on developing countries. The reliance on secondary data limits empirical validation but allows for broad comparative insights.

## 7. Policy Recommendations

1. Ensure equitable access to technology and digital infrastructure.
2. Strengthen labor rights and social protection systems.
3. Strengthen global climate governance with fairness and equity.
4. Reform global financial system to address debt sustainability.
5. Expand grant-based climate finance and technology transfer.

## Conclusion



Globalization and technological change, when governed by unequal power relations, reinforce economic and climate injustice. Globalization, economic justice, and climate justice are interconnected. Without fair policies, globalization can worsen inequality and environmental damage. A just and sustainable global system requires shared responsibility, equitable economic structures, and climate action that prioritizes those most affected.

## Reference

1. Stiglitz J.E. (2002) Globalization and its discontents
2. W.W. Norton milanovic, B (2016) Global inequality
3. J.T. and parks, B.C (2009)
4. World Bank (2020)