Chapter 16
Impact of Climate Change on Environment, Agriculture, and Health:
Assessing the Challenges in India

Salma Begum
https://orcid.org/0000-0003-0416-8700
Faculty of Management Studies, CMS Business School, Jain University, India

ABSTRACT

India's unique position, shaped by geographical location and socioeconomic conditions, renders it exceptionally susceptible to the repercussions of climate change. The country is grappling with climate-related challenges, including rising temperatures, shifting precipitation patterns, rising sea levels, and increasing extreme weather events. These climatic shifts are detrimental to India's economy, magnifying pre-existing vulnerabilities and directly impacting key sectors such as agriculture, water resources, public health, and infrastructure. The current study focused on the impact of climate change on India's environment, agriculture, and health, and measures its position in attaining SDG 13. India's geographical intricacies contribute significantly to the challenges it faces from climate change. The nation is currently confronting more frequent and prolonged heatwaves and unpredictable monsoon seasons, which are considerably affecting agricultural output and intensifying both rural and urban water shortages.

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INTRODUCTION

India, with its vast and diverse landscape, stands at the crossroads of a climate crisis that transcends borders and defies the boundaries of nations. Climate action, under the framework of the Sustainable Development Goals (SDG 13), presents a formidable challenge to India, a nation that plays a pivotal role in shaping the global response to this complex and interconnected issue.

In recent years, the Indian Network of Climate Change Assessment (INCCA) has delivered sobering projections. These projections delve into the impending climate change scenarios set to unfold across the country by 2030. These projections indicate a temperature increase of 1.7 to 2°C by 2030, with a nuanced impact on rainfall patterns. While overall precipitation is expected to rise slightly, the number of rainy days is forecasted to decrease in specific regions.

This paper seeks to delve deeper into India's role in addressing climate change within the framework of the Sustainable Development Goals. It aims to explore the multifaceted challenges and opportunities that India faces, examining how climate change impacts sectors as diverse as agriculture, healthcare, and Indian geography. By dissecting India's climate policies through contributions of various stakeholders, it will provide a comprehensive overview of India's journey in combating climate change and its alignment with SDG 13. As the nation forges ahead in this global challenge, the world watches, learns, and collaborates, recognizing the significance of India's role in shaping the climate-resilient future that we all aspire to achieve.

Objectives of the Study

- To assess the impact of climate change on environment, agriculture and health in India
- To examine the challenges India faces to attain SDG13
- To highlight India's role in combating climate change through various stakeholders.

LITERATURE REVIEW

Purohit et al (2019) explores the mitigation pathways to achieve India’s National Ambient Air Quality Standard (NAAQS), emphasizing the importance of 2018 legislation compliance. It utilizes a multi-disciplinary framework with the Global Change Assessment Model (GCAM) and the Gas-Air Pollution Interactions and Synergies (GAINS) model to study socio-economic drivers of pollution and policy effectiveness. Ray et al. (2019) found that wheat yields in India could decline by up

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