
Azizur Rahman Siddiqui • Avijit Sahay
Editors

Climate Change, Disaster and Adaptations

Contextualising Human Responses
to Ecological Change

 Springer

Editors

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About the Editors

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Introduction: Resilience, Adaptation, and Migration – Exploring the Range of Human Response to Climatic Change

Avijit Sahay and Azizur Rahman Siddiqui

Introduction

Climate change and extreme natural events have become a major problem across the globe. The capacity of societies to adapt to such changes in the environment is called resilience, but sometimes, extreme natural events make settlements inhospitable, unproductive, and uninhabitable, which lead to abandonment of settlement and therefore, cause mass migration of populations (Hugo, 2010; Adamo & de Sherbinin, 2011; McLeman, 2011; Wrathall, 2012; Ferris, 2020). Such environment-induced migration is most pronounced in developing regions of the world as high disaster risk and a general poverty of the population have rendered societies increasingly vulnerable to climate change. The problem has got exacerbated with the recent multiple earthquake events in Himalayan region, extreme cyclones in the tropics, and the continuing river-bank erosion of Brahmaputra in India and Bangladesh.

Resilience and adaptation are inter-related concepts used in climate science and disaster studies to describe the capacity of a society to

adjust to changing environment. Relationships between the two terms have been subject of extensive academic research (Adger, 2006; Folke, 2006; Berkes, 2007; Kuenzer et al., 2020), and they have been explored to understand the linkages between vulnerability and adaptive capacity in global change science (Gallopín, 2006; Vogel et al., 2007; Lei et al., 2013). Other works have focused on the nexus of vulnerability, resilience, and adaptation to integrate sustainability studies within a coupled human-environment system (Turner II, 2010; Endfield, 2012).

While linkages between resilience and adaptation are well established, there is an understanding that migration is the result of low adaptation capacity (Klepp, 2017; Kaczan & Orgill-Meyer, 2020). Such simplistic explanation of migration fails to interpret that in certain situations, in situ adaptation to climatic and environmental change becomes prohibitive and thus, the only adaptive strategy available to affected communities is migration. This is especially true in the case of slow-onset hazards and displacement of population in the context of climate change. Slow-onset disasters refer to environmental degradation processes such as droughts and desertification, increased salinisation, rising sea levels, or thawing of permafrost. Each of these is related to climate change and causes progressive degradation of land to the limit that it causes the carrying capacity of a place to diminish and thus, human habitation becomes challenging.

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