*Migrations in South Asia*

# ENVIRONMENT, CLIMATE CHANGE AND MIGRATION IN SOUTH ASIA

Edited by
Amit Ranjan, Rajesh Kharat and Pallavi Deka

# Environment, Climate Change and Migration in South Asia

Climate change has been fueling migration, and, according to some policy reports, there could more than one billion climate migrants/refugees across the world by 2050. In South Asia, disasters, environmental degradation, and climate change are increasing the number of migrants every year. In South Asia, like other parts of the world, migrants and displaced people mainly move within their respective countries, but some cross the porous border. At most places, the migrants and displaced people face hostile situation as they are not welcome by their local host population.

The chapters in the book highlight the challenges and inadequacies of governments and communities in protecting the environment as well as the disproportionate effect that climate change has on the poor and marginalized groups. The book also discusses the gendered experiences of climate-related migrations and policy measures which need to be implemented to counter forced displacements and environment degradation along with the legal and institutional resources which could help mitigate climate change and protect climate refugees.

This book will be of interest to students and researchers of development studies, ecology and environment, migration, sociology, law and governance, human ecology, climate change and economics.

**Amit Ranjan** is Research Fellow at the Institute of South Asian Studies, National University of Singapore. His latest book is *Urban Development and Environmental History in Modern South Asia* (edited with Ian Talbot). His papers, review essays and book reviews have been widely published in many journals.

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## Migrations in South Asia

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# Preface

This edited book is a collection of papers submitted by the contributors for the Tata Institute of Social Sciences, Routledge series on Migrations in South Asia. Chapters in this edited book discuss the environmental situation in respective South Asian countries, the impact of climate change, and how natural disasters are causing migration and internal displacement in the region. In addition to eight South Asian countries – India, Pakistan, Afghanistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and the Maldives – Myanmar, a part of South East Asia, has been included in this study because of its proximity, and environmental and political spillover effects on South Asia.

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Amit Ranjan, Rajesh Kharat and Pallavi Deka

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# Introduction

*Amit Ranjan, Rajesh Kharat and Pallavi Deka*

According to the United Nations Department of Economic and Social Affairs study, in 2022 , the two most populous regions of the world were in Asia: Eastern and South-Eastern Asia with 2.3 billion people (29 per cent of the global population), and Central and Southern Asia with 2.1 billion (26 per cent).[1] Population of South Asia, as estimated in various studies, is around 24.89 percent of the total world population.[2] The South Asia region stretches from the high Himalayan peaks to the fertile delta of some of the important river systems of the world to the Indian Ocean. Such a vast geographic expansion means that the region does not have a single climate condition. Like other parts of the world, the different climate regions of South Asia are also witnessing serious environmental problems due to climate change.[3] The environmental consequences of climate change are even forcing some people to migrate from their place of living.[4] According to a policy note, published by the World Bank, if effective steps are not taken to arrest the global rise in temperature, by 2050, the number of "internal climate migrants" in South Asia could be more than 40 million. The report also observes that the share of "climate migrants" in the total internal migrants could reach to 25 percent.[5]

It is evident that since ancient times, people across the world and in South Asia have been moving from one place to another due to reasons associated with environmental deterioration and climate change.[6] Environmental factors were also highly referred as an important factor in the first systematic studies on migration. In his work, German-English geographer Ernst Georg Ravenstein (1834–1913) talked about "unattractive climate" that produce currents of migration. Another geographer, Ellen Churchill Semple (1863–1932), talked about how better environmental conditions attract people and make many to move from their original habitat.[7]

However, it is only in the past 30 years or so that the international community has eventually recognised a close linkage between climate change, environment degradation and human mobility.[8] To cut down the effects of climate change, until the early second decade of 2000, international community has largely focused on mitigation by setting emissions targets for developed and developing countries and efforts were made to bring in new

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members to a post-Kyoto 2012 framework.[9] Migration has turned into an important point of discussion only when countries began to pay larger attention to adaptation.[10]

In 1990, the first United Nations (UN) intergovernmental panel's report on climate change stated that "the gravest effects of climate change may be those on human migration as millions will be displaced".[11] Also discussed in Chapter 1 of the book, the use of the term "climate migrants" has become popular as a subcategory of "environment migrants" to signify the recent trends of migration pattern in reference to changes in the climate.[12] The terms such as "environmental migrants" or "climate refugees" have raised controversies. The juxtaposition of the terms "environment" or "climate" with "migrants" or "refugees" has been criticised for implying a mono-causal relationship between environmental factors and human mobility.[13] It is argued by many scholars that harsh decision such as leaving one's place has always been a decision of the last resort that is a combination of many factors that pushes people to take such extreme steps. So only limiting the blame to climatic factors may undermine the socio-economic and political aspects of such decisions.[14]

In South Asia, people are living through a "new climate normal".[15] More than half of all people living in South Asia, or 750 million people in the eight countries – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka – have been affected by one or more climate-related disasters in the last two decades.[16] According to Internal Displacement Monitoring Centre (IDMC) report 2019, in South Asia, as the countries struggle to manage weather-related extremes, more than 3.3 million people were newly displaced in 2018.[17]

In India, 2.8 million people across its 15 states were displaced because of weather-related hazards. Years of successive dry spells and below average rainfall in Afghanistan caused drought that forced about 371,000 new displacements in 2018. In Sri Lanka, around 75,000 new displacements were recorded in the second half of May 2018. Then riverine floods in Bangladesh triggered 12,000 new displacements in Moulvibazar district and riverbank erosion around 44,000 in Shariatpur, mainly in September 2018.[18] Focusing on the displacements during the monsoon season, the IDMC report of 2021 titled "Internal Displacement in a Changing Climate" stated Cyclone Amphan of May 2020 caused around 2.5 million new displacements in Bangladesh, mostly in the form of pre-emptive evacuations.[19] The cyclone also led to evacuation of more than 2.4 million people in India, particularly in the eastern states of India, West Bengal and Odisha. Then, two weeks later, Cyclone Nisarga prompted another 170,000 evacuations in the western states of Maharashtra and Gujarat. The 2020 south-west monsoon in India triggered about 763,000 displacement between early June and late October.[20] In 2020, the monsoon flood caused displacement of around 1.9 million people in Bangladesh. In 2020, three-month-long monsoon affected the entire Pakistan, particularly Sindh province. The Sindh province accounted for almost all the 810,000 new disaster displacements recorded

in Pakistan in 2020.[21] The monsoon in Nepal triggered 48,000 new displacements between June and September 2020.[22] Several such hotspots of climate in- and out-migration are in transboundary areas and that internal migration does not necessarily stop short at borders. They include parts of Nepal, as well as parts of western Bangladesh, along the border with India.[23]

More number of people from the region are expected to face displacement due to weather-related factors, as mentioned earlier. The devastating consequences of the rise in global temperature have been widely discussed in many international, regional and governmental reports. One such comprehensive report on impact of rising global temperature is prepared by the Intergovernmental Panel on Climate Change (IPCC) since its establishment in 1988. IPCC prepared its First Assessment Report in 1990. In August, the IPCC released the first of four reports of its sixth assessment report of Working Group 1 titled "Climate Change 2021: The Physical Science Basis," which finds that if the global warming does not limit to 1.5 degree centigrade or even 2 degree centigrade, its consequences will be beyond reach.[24] The report holds human activities responsible for approximately 1.1 degree centigrade of global warming since 1850 till 1900. The report observes that for 1.5 degree centigrade of global warming, there will be an increase in heatwaves, longer summers and shorter cold seasons. At 2 degree centigrade of global warming, heat extremes would reach at "critical tolerance thresholds for agriculture and health."[25]

About the Indian subcontinent, the IPCC's 2021 report says that there may be an increase in heatwaves and droughts, and more rainfall and cyclones.[26] Expressing his concerns on climate change and related impact, Indian Meteorological Department director, Mrutunjay Mohapatra, said that globally, there is a rise in temperatures by about 1.2 degree Celsius compared to 100 years ago. This has an impact on extreme weather events like heavy rainfall and moderate to light rainfall. He predicts that if this scenario continues then temperature can rise as high as 4 to 5 degrees Celsius by the end of this century that will lead to more frequent and intense extreme events like heatwave, rainstorm, floods in increased area and duration.[27]

It has been claimed that climate change is anticipated to take the heaviest toll on the Pacific, South Asia, and Southeast Asia. Eight of the 10 countries with the greatest number of people living in low-elevation coastal zones are located in these regions. The 2011 Vulnerability Index, assembled by the risk advisory firm Maplecroft, showed that Asian and Pacific countries represent 6 out of the 10 most vulnerable countries worldwide, all ranked as countries at extreme risk. Bangladesh tops the list, followed by India (2nd), Nepal (4th), the Philippines (6th), Afghanistan (8th), and Myanmar (10th).[28] In another revelation, the "Environmental Risk Outlook 2021" report by the same organisation, it has been confirmed yet again that amongst world's 576 largest urban centres on their exposure to a range of environmental and climate-related threats, 99 of the world's 100 riskiest cities are in Asia, including 37 in China and 43 in India.[29]

In a research paper published in *Nature Communications*, Scott A. Kulp and Benjamin H. Strauss (2019)[30] from *Climate Central* argue that the projected rise in sea levels by 2050 would be higher enough to threaten land which are currently home to about 150 million people to a permanently below the high-tide line. The worst-affected Asian countries from the sea rise would be the Maldives, China, Bangladesh, India, Vietnam, Indonesia, Thailand, the Philippines and Japan. The picture used by the authors to show the affected areas from the sea flooding includes Mumbai and few other coastal cities of India.[31] Bangladesh, Sri Lanka and the Maldives are the other three South Asian countries with significant coastal line. On threat from climate change and linking with internal displacement in her country, Bangladesh's Prime Minister Sheikh Hasina has told the United Nations that one-metre rise in sea level – a plausible scenario – this century would submerge a fifth of the country and turn 30 million people into climate migrants.[32]

Not only floods, the South Asian countries are also likely to experience droughts in many parts, which may lead to more out-migration of the poor people. It is already happening in some parts of India, as an earlier report by the Centre for Development Alternatives shows.[33]

Unlike other South Asian countries, Bhutan is a small landlocked but ecologically rich country located in the north-east end of the region. It is facing climate change challenges due to uneven development and dispersed geography. Despite being a water-rich country, some parts of Bhutan are expected to face water stress by 2030.[34] Bhutan is also among the Vulnerable 20 Group (V20) members, a forum of 20 countries of climate vulnerability launched in 2015.[35] Nepal and Afghanistan are the other two landlocked countries from the region. In 2016, that a village in upper Mustang in Nepal had to be relocated gives a glimpse of the impact and case for human mobility.[36] According to the United Nations Environment Programme, 80% of the conflicts in Afghanistan are related to land, water and food insecurity, which are immediate consequences of global warming.[37]

According to the Global Climate Risk index 2021, Pakistan is one among the most vulnerable to the impacts of weather-related events in the world when it comes to the effects of climate change over the past two decades.[38] Arid region of Baluchistan is one of the most vulnerable to water scarcity situation. This province has faced many severe droughts in the past, that is, 1967–1969, 1971, 1973–1975, 1994 and 1998–2002, which had a drastic impact on livelihoods and its economy.[39] Then, the Karachi heatwave of June 2015 created havoc and killed more than 1,200 people.[40] Not only summer heat, Pakistan has also witnessed a number of flooding seasons. One of the most severe flood occurred in 2010 in which around 1600 people died, 38, 600 square kilometers of area inundated and a damage worth around US$10 billion happened.[41] The floods of 2022 were more severe than the one occurred in 2010. According to the Pakistani media reports 33 million people were affected and more than eight million displaced.[42]

More serious than the other South Asian countries, the Maldives faces existential threat due to climate change. According to multiple reports published by the National Aeronautics and Space Administration and the U.S. Geological Survey, almost 80% of the Maldives could become uninhabitable by 2050. At present, 80 per cent of the total islands of the Maldives are just a metre above sea level, making them vulnerable to rising sea waters.[43] To deal with the situation, in 2008 the then President-designate Mohamed Nasheed and now speaker of the Maldivian parliament, said,

> We can do nothing to stop climate change on our own and so we have to buy land elsewhere. It's an insurance policy for the worst possible outcome. After all, the Israelis [began by buying] land in [the] Palestine . . . We do not want to leave the Maldives, but we also do not want to be climate refugees living in tents for decades.[44]

He also said that Sri Lanka and India were possible options as they have similar culture, cuisine and climate. Australia was also considered due to the availability of large tracts of unoccupied land.[45]

Even though Myanmar is not a part of the contemporary political South Asia, migration from the country affects politics, economics and social fabric of the region. More than a million Rohingya Muslims from Myanmar have taken refuge in the South Asian countries, primarily in Bangladesh and India. Moreover, climate-related happenings in Myanmar affect South Asia and vice versa. For instance, on May 1, 2008, tropical Cyclone Nargis devastated an unprepared Myanmar. The cyclone led to the deaths of over 138,000 people and destroyed lands along Myanmar's coastline and Irrawaddy delta, making it among the 10 most destructive cyclones in recorded history. Coastal lands were flooded, and tidal surges inundated low-lying areas including the nation's most populous city, Yangon.[46] Nargis also landed in South Asia. Then, in 2020, as mentioned earlier, Cyclone Amphan has devastating impact on Myanmar, Bangladesh and India.

As the climate change is affecting all aspects of human life, several literatures have been published looking at it from various dimensions. One such dimension is migration and displacement of people. In this book, an effort has been made to investigate links between weather hazards, climate change, environment disaster and migration in South Asia. This edited book has eleven chapters apart from introduction. It has studied eight South Asian countries and Myanmar because of aforementioned reasons. Three broad objectives, which have also worked as the basic framework for each chapter of the book, are identified as follows:

1 Look at the scenarios of migration due to environmental reasons.
2 The policy responses of the countries in South Asia are examined in order to find out their effectiveness.

3 As the weaker sections of population within the respective South Asian countries are most vulnerable to the impacts of climate change, an attempt is being made to mainly discuss the issue from their perspective.

This edited book starts with a chapter by Amit Ranjan titled "Climate Change, Environmental Migration and Population Displacement". The author, primarily, argues that unlike other forms of migration, environmental migrants move to other place to protect their lives and for livelihood. This chapter begins with a theoretical explanation to the question as to why people migrate. Referring extensively to the global organizations reports and documents and critical literatures on the theme, this chapter shows that the impact of the climate change is going to worsen in the coming days.

The second chapter "The Spectre of Climate Change-Induced Migration in Afghanistan" by Fazlullah Akhtar and Usman Shah investigates a detailed relation climate change has with life condition in Afghanistan. The impacts of climate change are expected to be amplified in future by more rapid spring snowmelt combined with the downstream effects such as land degradation, vegetative cover loss, land mismanagement, decrease in crop productivity; changes in livelihood; fall in the amount of exports; financial losses as well forced migration.[47] This chapter argues that climate change has served to exacerbate existing livelihood vulnerabilities and create the tipping point motivating once-resilient populations to eventually migrate.

Bringing into the uniqueness of the location and magnitude of the problem, the third chapter of the book by Pallavi Deka. "Changing Climate and New Migration Crisis in Bangladesh" is an attempt to cover the situation where Bangladesh is placed when the climate change effects are becoming rapid. It also looks into the role of the governmental mechanisms in this situation. This chapter depicts the effects of flood, drought, cyclone and erosion and the coping strategy of the people. The sections on climate change's impact in the Char areas and sea coast look at the struggle of the people to survive due to changing climate.

The fourth chapter "Climate Change and Refugees in Bhutan: The Future Impacts" by Emma Johnson explores the variety of ways that climate change will affect ecosystem, people, politics, economics and culture in Bhutan and also tries to highlight the possible future pathways for handling this crisis and potential cases of climate refugees.

In fifth chapter "Climate Change and Displacement in India: A Gendered Perspective", Pushpa Singh and Chetna Sharma bring in the argument that climate change impacts countries and people differently. In South Asia, the intersectionality of gender and poverty makes women particularly susceptible. This chapter discusses the climate change-induced displacements, particularly during droughts and floods from a gendered lens and proposes that government policies must be structured in ways that are mindful of all these critical aspects of vulnerability and marginality.

The sixth chapter by Daisy Das, Dimpal Dekaraja, and Ratul Mahanta "The Dynamics of Deforestation, Riverbank Erosion and Migration in India With Special Reference to Assam" is a study on the extent of deforestation in India and its relation with migration. In this chapter, the authors have focused on the Indian state of Assam which shows that the extent of migration is related with crop land eroded area. This study shows that distressed people mostly migrate to other areas to compensate the income loss caused by erosion and resulting land degradation. Some people do not migrate and use coping strategies in the less erosion prone areas. But severely affected people are left with no other options than to migrate. The entire discourse reveals that India needs afforestation measures and stringent actions for environmental conservation. Climate is changing mainly because of anthropogenic activities and carbon emission due to energy use has been identified as the devil and afforestation will definitely help to combat climate change.

The seventh chapter "Climate Change-Induced Internally Displaced Persons of the Maldives" by Bharati discusses the factors responsible for the climate change-induced internal migration in the Maldives. It also tries to see how Small Island Developing States (SIDSs) like the Maldives have raised the issues of small island countries' vulnerabilities, namely, the erosion of coastal areas and beaches which are impacting the Maldivian livelihood besides submergence of coastal flooding due to climate change. The chapter highlights the policies adopted by Maldives to deal with the situation. It also looks into the role of non-state actors to mitigate the challenges posed by the climate change in Maldives.

The eighth chapter "Understanding Climate Change and Its Impact on Myanmar: Perspectives on Migration, Migrants and Legal Framework" by Kaveri and Sumallya highlights that while those who possess resources and social capital somehow manage to assimilate to the new surroundings, the vulnerability of those from marginalised sections comes to the forefront as they are mainly employed in the informal sectors. Following this, the chapter probes into the various strategies taken by the Myanmar government to harness community resilience against climate change. The chapter foregrounds that introducing an adequate legal framework will bring forth innovative strategies to mitigate and adapt to climate change. The chapter looks at the strategies taken by the government in Myanmar to harness community resilience against climate change. It also highlights the various complications that migrants, as well as countries, come across due to the lack of any governing legal framework to protect climate-induced migrants.

Ninth chapter of this book by Rajesh Kharat and Rishi Gupta looks at the issue of climate change-induced migration and challenges faced by Nepal. Being landlocked and vulnerable to the topography and constant natural disasters, Nepal has always been facing the implications of climate change. The structural developments initiated by the Government of Nepal have also exposed Nepal's helplessness to cope up with the inadequacies

of limited institutional capacity, low-income level and limited irrigations facilities despite the abundance hydrological resources. Additionally, due to low-income level, the large proportions of marginal farmers with small landholding are dependent on natural resources which increase the degree of vulnerabilities of climate change. As a result, the effects of climate change for instance, higher flood risks, enhanced soil erosion and diversions of river flows, natural disasters like landslides, eruption of volcanoes, epidemic diseases compel local people to displace from one place to other. Particularly, during the floods, landslides and earthquakes there is tremendous mobility of those people who are inhabited around these locations.

In his chapter, "Pakistan's Climate Migrants Beyond Mediatized Fictions", Farooq Sulehria examines Pakistan's burgeoning environmental challenge in order to foreground the link between climate change and patterns of human migration. Empirical evidence suggests an alarming situation whereby, on the one hand, the country ranks atop the global Climate Risk indices, on the other, climate changes and recurring natural catastrophe are displacing millions in the country. Meantime, the state in Pakistan is ill-prepared to deal with either the climate change or climate-induced migration. Though some policy measures and concrete actions in the past two decades have been initiated – offering some reason for optimism – yet an overall balance sheet is unconvincing to say the least.

Chapter 11, "Climate-Induced Migration in Sri Lanka: Vulnerability, Mobility, and Resilience" by Dennis Mombauer and Vositha Wijenayake, outlines the nexus of migration and climate change impacts, especially prolonged droughts, soil degradation, and changing precipitation patterns, and provides an overview of the socio-economic characteristics of vulnerable households, existing protection systems, gender-specific impacts, the impacts on youth and children, and aspects of equity and social justice.

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