

Book Review

Asha Hans, Nitya Rao, Anjal Prakash and Amrita Patel (edited)
Engendering Climate Change: Learnings
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Climate change is real, so are the vulnerabilities and threats associated with it. Between the two genders, female faces real challenge from the climate change. The book under review unfolds challenges, and problems rural and urban or semi-urban poor women face due to climate change. The significance of the theme this book has covered can be understood by the fact that of the 123 articles reviewed by A. Bunce and J. Ford (2015) on adaptation and vulnerability resilience research, only one focused on men, and none on other sexual identities (p 3). Despite the brunt of climate change women face, they are largely ignored to be a part of any policy-making process.

After Introduction (1-17), which is also chapter 1 of the book, Chapter 2 (19-37), Vulnerabilities of rural women to climate extremes: a case of semi-arid districts in Pakistan by Ayesha Qaisrani and Samavia Batool, focuses on rural areas of Dera Ghazi Khan and Faisalabad district. Even though average annual rainfall level has not changed much in Pakistan, the timings and rainfall patterns have changed (p 23). Such change affects a significant section of the country's population that

is highly dependent on timely rain for sowing seeds in the established agriculture season. In their fields of study–Faisalabad and Dera Ghazi Khan–the authors find the impact of climate change on women varies from one class to the other. Women in poorer socio-economic regions of Dera Ghazi Khan tend to be more vulnerable to adverse climate situations than those in slightly betteroff areas, such as Faisalabad (p 33). The authors also find that, even though older women have their say in household matters, crucial decisions related to adaptation, migration, and agricultural activities are taken by the male members (p 33).

Chapter 3 (38–57), “Gendered Vulnerabilities in Diaras: struggles with floods in the Gandak river basin in Bihar, India” by Pranita Bhushan Udas, Anjal Prakash, and Chanda Gurung Goodrich, explores the relationship between gender, perennial floods and male migration in the Diara region of Bihar. It is estimated that 73 percent of land and 76 percent of the population of Bihar are under perpetual threat of flood. Regular floods affect people’s live and considered hurdle to the growth of the state (p 39). Diara is populated by the most marginalized social groups of Bihar (p 47). As there are not much employment opportunities available in the region, every year several men leave their village to look for work in various parts of India. Due to migration of a significant number of males from the region, burden to face the challenges from the flood rests on the shoulder of the women they have left behind. Despite the difficulties women face during the floods, at the time of distribution of relief packages gender becomes an important identity marker: gender discrimination also manifests in the government assistance programmes (p 51).

Chapter 4 (58–84) by Chandni Singh “Of borewells and bicycles: the gendered nature of water access in Karnataka, South India and its implications for local vulnerability” studies drought-prone Kolar district of Karnataka where use of technologies has pushed many into serious debts. In Karnataka, 27 of 30 districts, including Kolar, have been drought-hit since 2011 (p 61). The district faces an acute water crisis mainly due to the over-extraction of underground water. Regular droughts and unemployment have forced many males to migrate to major cities in search of job, leaving behind women in villages (p 73). To extract waters, most of the male-headed houses, use borewells, while most women-headed households depend on monsoon-season dry spells (p 73). Technology has not

changed the water situation in Kolar; it has privatized the commonly used water resources (p 79).

Chapter 5 (85- 105) “Vulnerabilities and resilience of local women towards climate change in the Indus basin” by Saqeeb Shakil Abbasi, Muhammad Zubair Anwar, Nusrat Habib, and Qaiser Khan studies- how climate change severely affects the health and wellbeing of many women. For instance, during the 2010 floods in Pakistan, the health of 713,000 women, including 133,000 pregnant women, were affected due to the lack of access to fresh water, infectious diseases, snake bites, and several other health-related problems (p 87). The authors have discussed the vulnerabilities of women in the Indus river basin which is divided into three zones: upstream, midstream, and downstream (p 85). In all three zones, climate change has enhanced their vulnerabilities and agency. Based on their study, the authors believe that women are adaptive and are capable of coping with the adverse impacts of climate change, despite having several social and cultural constraints on their mobility and participation in the decision-making (p 101).

Chapter 6 (106-124) “Climate change, gendered vulnerabilities and resilience in high mountain communities: the case of Upper Rasuwa in Gandaki River Basin, Hindu Kush Himalayas is written by Deepak Dorje Tamang and Pranita Bhushan Udas”. This study examines gendered vulnerabilities to climate change as an interplay of external factors with the existing internal environment in Gandaki River Basin area (p 112). In this region, other than animals in transhumant herding, the women are primary caregivers. Women lacks cash in hand, despite the fact that they out-perform men by nearly 3.5 hours a day on an average (p 113). Although women are asked to do more works, they are paid two-thirds of what men get for the same work (p 114). Many men from the region have migrated for work in other countries. The women, left-behind, face challenges due to degrading environment without much of structural support. Unlike other castes, none of the Dalit families have opted for migration because they lack money to pay upfront (p 117). The level of vulnerabilities among women differs from one ethnic group and caste to others, depending upon class, age, educational qualification and geographical location (p 121).

Chapter 7 (127-151) by Divya Susan Solomon and Nitya Rao titled "Wells and well-being in South India: gender dimensions of groundwater dependence" is a study of impact of groundwater exploitation in some regions of Tamil Nadu. Tamil Nadu has only three percent of the total national water resources, making it one of the most water-vulnerable states in India (p 128). Rain deficiency has expanded groundwater irrigation in Tamil Nadu (p 133). Most of the well-off farmers in the state use modern technologies, but substantive number of medium and small farmers depend on their women for labour (p 134). Use of borewell has caused indebtedness among many of the farmers from the region. Indebtedness is disproportionately higher among small farmers belonging to Scheduled Caste (89.2 percent) and Scheduled Tribes (92.1 percent) (p139). In the region, atomization of water ownership through borewells allows women to circumvent historical inequalities in access to water by invalidating the necessity to participate in male-dominated water user group; however, they are constrained by factors such as technology, knowledge and infrastructure (p 143). At social level, extraction and exploitation of groundwater have brought prosperity and emerged as an embodiment of economic aspirations and successful masculinity. But, in many cases, such prosperity has not remained for a long period. Failure of borewell has affected agricultural productivity and livelihoods, pushing people into "cycles of debt" (p 145). In such situation, women now invest more time to collect water from sources such as public handpumps (p 145).

Chapter 8 (152-171), "Gender, migration and environmental change in the Ganges-Brahmaputra-Meghna Delta in Bangladesh" by Katharine Vincent, Ricardo Safra de Campos, Attila N. Lazkar, and Anwara Begum is a study of migration from the region due to effects of climate change. In Bangladesh, there is a long-established seasonal pattern of migration from rural areas to urban regions for jobs (p 155). But climate change and climate-related environmental stress is likely to drastically change the magnitude and status of migrants (p 155). Most of the migrants are male. According to 2011 family survey data, only 8 percent of internal migrants to Dhaka and Chattogram, which accounts for 43 percent of total internal migrants, were women (p 158). There are also involuntary migrations in Bangladesh. It is estimated that every year approximately 60,000 people are made landless due to reshaping of the chars because of erosion. Bangladesh has faced 26 major

cyclones between 1970 and 2009, which have caused the displacement of around 650,000 people (p 161). Due to its physical location, Bangladesh will likely face more climate change-related consequences that will lead to more involuntary forced migrations.

Chapter 9 (172- 200), “Women-headed households, migration and adaptation to climate change in the Mahanadi Delta, India” by Sugata Hazara, Amrita Patel, Showik Das, Asha Hans, Amit Ghosh, and Jasmine Giri looks at the impact of climate change related phenomenon in the basin region. In 2011, the population of Mahanadi Delta was 8 million, a population density much higher than Odisha (270 persons per square kilometers) and India (382 persons per square kilometers) (p 175). The delta is vulnerable to natural hazards like recurrent floods, high-intensity cyclones, storm surges and coastal erosion (p 176). Such disasters cause large-scale damage to the region’s infrastructure and affect agricultural activities. Due to such climate happenings, several people, especially males, migrate to urban Odisha, outside the state and out of the country, searching for employment. The migration of males makes women head of the household with decision-making powers. But the negative side of such migration is that only a handful of young males remain, which has reduced the community’s ability to face climatic hazards and adversities (p 189). There are talks about adaptation. The Odisha 2010-15 Climate Change Action Plan recognized women’s impact on water scarcity and reducing biomass but did not address the issue of adaptation (p 191).

Chapter 10 (201-225), “Gender dynamics and climate variability: mapping the linkages in the Upper Ganga Basin in Uttarakhand, India” by Vani Rijhwani, Divya Sharma, Neha Khandekar, Roshan Rathod, and Mini Govindan is a study of impact of climate change in the Himalaya region. Uttarakhand lies in India’s highest seismic zone. The state is vulnerable to geo-hazards and exposed to many hydro-meteorological extremes because of its geographical location (p 209). In the last few years, Uttarakhand has witnessed many environmental disasters in which several people have lost their lives. Nonetheless, large-scale infrastructural work interfering with the nature continues. Despite being a water rich region, climate variability has intensified the state’s competition for water and agricultural resources (p 213). There are differentiated impacts of climate variability within

gendered institutions. Differences manifest in unequal distribution of roles, responsibilities, and resources for men and women from different communities (p 223).

Chapter 11 (226-235) “Shaping gendered responses to climate change in South Asia” by Asha Hans, Anjal Prakash, Nitya Rao, and Amrita Patel summarizes what the editors had planned, and authors have attempted to say in their respective chapters. The three editors talk about three key insights that they say have emerged from their discourse on the gendered framework for climate change research. First, there is a need to pay attention to inter-and intra-household relations in research. Second, this study establishes an improved understanding of the gendered impacts of climate change and risk management through adaptative strategies undertaken by local communities. Third, the contributors in this volume have explored how vulnerabilities are gendered, and the agency is constructed, despite the existence of social and political barriers across the states of South Asia (p 226). The editors believe that the epistemological position of women in climate change research needs to be based on women's lived experiences. They feel that there is a missing link between research and policy-making. They believe that this study's empirical data could help inform policy and development professionals to implement gendered interventions (p 233).

Although the book is on South Asia, it misses chapter on Afghanistan, Sri Lanka, Bhutan and the Maldives. All the four countries are facing serious consequences of climate change. Second, individual chapters talk about migrations but many have not focused on how far change in the local environment due to climate change is responsible for such migrations. Third, also missing in this important volume is an answer or an attempt to answer a question: how environment-related displacement and other migration are causing conflict between the hosts and the migrant population? This conflict is mainly happening in cities where people coming from rural areas are seen as burdening urban resources and infrastructure. Finally, many of the chapters are unclear on how the regions and countries are trying to deal with the imminent threat. If they are, how effective are those infrastructures? Nonetheless, this book is a significant contribution to the literature looking at engendering climate change.