



Waters of Uncertainty: Displacement, Local Adaptation, and the Politics of Coastal Areas in Bangladesh

Faijul Islam¹, A. S. M. Tariq Iqbal^{2*}

¹ M.Phil. Researcher at the University of Chittagong & Lecturer, Department of Law, Prime University, Dhaka, Bangladesh

^{2*} Professor of Law & Dean, Faculty of Arts and Humanities, Sonargaon University, Dhaka, Bangladesh.

*E-mail: tariqiqbal.shakil@gmail.com

Received: April 12, 2026

Revised: June 15, 2026

Accepted: June 22, 2026

Keywords:

Climate Displacement; Local Knowledge; Water Insecurity; Belonging Politics; Coastal Bangladesh

ABSTRACT

Bangladesh's coastal area stands at the timeline of global climate context where the intersection of water insecurity, forced displacement and social belonging impacts every day. Besides the common scenario like rising sea levels, salinity intrusion, poverty and recurrent cyclones have controlled not only land management and livelihood but also people's sense of place, land identity, and community bonding. This paper evolves how local communities negotiate belonging through continuous climate-induced displacement in Bangladesh. The core study is shaped by three central research questions: (i) How do displaced coastal people interpret their sense of belonging? (ii) What role does local ecological system and cultural knowledge play in providing social resilience and adaptation in coastal areas? (iii) How local politics, State responses, and stakeholders intersect in shaping the everyday realities of displaced people? Methodologically and theoretically this study follows a qualitative ethnographic approach including in-depth interviews, oral histories, Focus Group Discussions (FGDs) and Participatory Rural Appraisal (PRA) with affected coastal communities in Khulna, Patuakhali and Barguna districts. In addition the study integrates policy analysis to connect practical experiences with institutional reforms. The study shows that climate displacement should not be viewed merely as a humanitarian or environmental crisis right now but as a profound challenge to establish cultural and political scenarios at the root level. Besides, global debate on water security and resilience, this paper calls for an inclusive water management that values community bonding among the people. Further, this study shapes the urgency of integrating local adaptation knowledge into national and global climate governance for achieving sustainable development. Finally, the paper has proven a critical reflection on how the politics of coastal areas and displacement propose human-water relations in precarious climate future of Bangladesh.

1.0 INTRODUCTION

The coastal zone of Bangladesh, which stretching along the Bay of Bengal encompassing the deltaic regions formed by the confluence of the Ganges, Brahmaputra, Jamuna and Meghna rivers is of immense socio-economic importance in Bangladesh. Unfortunately these regions host critical ecosystems including tidal salinity, water rising, mangrove forests (notably the Sundarban), wetlands including fertile agricultural. They have actually sustained millions of Bangladeshis through fishing, farming, aquaculture and also tidal agriculture. The effective ways ensures significant national food security, employment, cultural development and rural lifestyle in Bangladesh (Islam, 2013; Hasan, Khanam & Zaman, 2018). In addition the complex interplay among displacement, local structure, local knowledge and political/institutional structures poor shape in Bangladesh's coastal zones. It seeks to examine how these interacting factors reshape the coastal vulnerability and ways of resilience. Ultimately, the study evolves to shed light toward more convenient, inclusive, adaptive coastal governance for future and sustainable resilience for Bangladesh's coastal communities in upcoming days.

2.0 THEORETICAL FRAMEWORK

This study is a dynamic theoretical framework to analyze the limitations. Firstly, the Human Security Approach says mere displacement is not a physical transformation, but a multidimensional threat to livelihoods. Moreover, the threat spreads to lifestyle, responsibility, social stability and cultural integrity. From this perspective coastal population has experienced repeated environmental shocks. They faced problems in food, shelter, health, security, investment and income. The entire scenario amplifies their vulnerability and diminishes their capacity to regain stable livelihoods.

Secondly, the political ecology shapes a lens to examine how environmental challenges impact on political, economic, cultural insights. As a result the perspective shows how power politics in governance mechanisms and policy decisions influence violation on environment. Therefore, the question may arise who bears the greatest burden of environmental collapse.

Finally, the aspiration of resilience and adaptive capacity undermines the rational role of local knowledge. However, indigenous strategies with traditional ecological knowledge and community networks enable populations to recover from environmental harm since many years. We believe that by integrating these three perspectives through local knowledge, personal development and politics will ensure the adaptive strategies for coastal communities in Bangladesh.

3.0 LITERATURE REVIEW

The poor condition of coastal Bangladesh to climate displacement has made increasing scholarly remark particularly in the context of water problem including socio-political marginalization. Some scholars have highlighted that rising sea levels, salinity intrusion, and recurrent cyclones not only hampers physical development but also reshape social identities with sense of belonging among marginal community (Haque, 2017; Gainet al., 2020). During displacement, whether temporary or permanent perhaps hampers traditional livelihoods, cultural practices, social environment and intergenerational knowledge transmission making psychosocial depression among affected peoples (Khan et al., 2019).

On the other hand local ecological knowledge shapes as a critical resource in highlighting the adverse effects of climate justice. Besides, indigenous water management such as embankment maintenance in salinity-tolerant cropping and community-based cyclone precaution have been taken as effective policies that often articulate formal interventions in environmental sights (Rahman & Alam, 2021). Therefore, these practices not only make livelihoods but also develop social cohesion reinforcing a sense of place. These activities also suggest that local knowledge systems are essential to adaptive capacity in vulnerable regions (Sultana, 2018). The politics of displacement also complicates the lived means of coastal communities. In reality State policies of development interventions often prioritize infrastructural or economic culture over social continuity resulting in conflicts over land, water, watery sights and resource access in open place (Ahsan & Warner, 2020).

Therefore, the power consumption among local actors like State agencies and external stakeholders shape various vulnerabilities reinforcing informal inequalities and limiting agency among displaced populations of Bangladesh (Karim, 2019). As a result, this limitation of environmental change with local knowledge and political dynamics deliver the multidimensional nature of mitigation and adaptation. The study also highlights the need for structured governance techniques that value community participation to local knowledge (Gain et al., 2020; Sultana, 2018).

4.0 METHODOLOGY

This study shows a qualitative ethnographic research methodology exploring the interconnections between climate-induced displacement, local knowledge systems, and the political dynamics. The research is conducted in selected coastal districts viz. Khulna, Patuakhali, and Barguna, which are highly vulnerable to sea-level rise, salinity intrusion, water discourse and recurrent cyclones. As a part of this, primary data has been collected through in-depth semi-structured interviews, oral histories, Focus Group Discussions (FGDs) and Participatory Rural Appraisal (PRA) techniques with getting information from households, fisherfolk, women, landless migrants and community leaders. Besides, a purposive sampling method was used to select participants who had experienced enough in climate-related displacement for the long time. To complement field findings, the research also includes policy, regulation and document highlighting national climate adaptation policies, coastal management plans, and development reports to implement the role of State institutions and governance frameworks. The collected qualitative data were analyzed based on thematic analysis led by the theoretical lenses of the Human Security Approach, Political Ecology to identify patterns of vulnerability, local resilience mechanisms, and power relations focusing coastal governance. By portraying community narratives with policy-level analysis, this methodological approach provides a comprehensive understanding of how environmental change, socio-political structures and local ecological knowledge work in shaping the realities of climate displacement in coastal Bangladesh gradually.

5.0 LIMITATIONS OF THE STUDY

Despite conceptual depth and empirical evidence this study has some limitations. Firstly, the research is geographically limited to selected coastal areas - Khulna, Patuakhali, and Barguna Sadar Upazila. While these areas represent highly vulnerable coastal areas, findings may not fully cover the diversity of displacement areas at all. Another experience across other coastal zones of Bangladesh such as Bhola, Cox's Bazar or the chars of the Meghna estuary could not cover the study areas with the same level of depth and precision.

Secondly, the study shows a qualitative ethnographic methodology based on in-depth interviews, focus group discussions, oral histories and legends. Though this approach gives nuanced insights into live experiences, the results reflect participants' narratives and the researchers' analytical view. Even this perspective may not adequately represent the full diversity of views within the displaced communities.

Thirdly, the research emphasizes community-level experiences with local knowledge adaptation mechanisms. While macro-level quantitative data is absent; such as longitudinal migration statistics, practical numbers or large-scale climate change, we totally rely on the secondary data to initiate the research measurement. As a result, the research prioritizes depth over breadth interview. The research does not attempt to statistically glorify the scale of displacement or adaptation outcomes of coastal areas.

Fourthly, limited access constrains the objective of the research. Even highly vulnerable groups particularly children and undocumented migrants whose voices remain untouched in the research transformation. Additionally, gender norms and social hierarchies in some communities may have instigated participants.

Finally, the rapidly evolving nature of climate change with coastal governance policies did not provide authentic information. For this reason some institutional responses discussed in this study

may change from time to time. Consequently, the results should be understood as reflective of a socio-political output rather than a fixed or permanent result regarding the research.

Despite these major problems, the study offers effective information into the intersection of displacement, local knowledge, and politics. In coastal Bangladesh, the research will provide a strong foundation for future comparative, longitudinal, authentic and mixed-method research.

6.0 DISPLACEMENT IN COASTAL AREAS

Displacement in coastal Bangladesh is a growing phenomenon in the southern part of Bangladesh. The research is driven by the convergence of environmental, socio-economic, political and non-political factors in the past. Among these environmental harm such as coastal erosion, sea-level rise, salinity intrusion and frequent cyclones or storms create problems to lead a good lifestyle. For these reasons, hazards degrade farmland, contaminate drinking water, reduce fishery activities and destroy habitats. The environmental degradation underscores the viability of traditional marginal livelihoods in the Southern part (Barua, Rahman & Mitra, 2024; Islam, 2023). In addition, saltwater intrusion particularly threatens agricultural activities and once-productive land (Roy et al., 2020).

Unfortunately Socio-economic stressors create environmental pressures in time being. That's why persistent poverty, resource scarcity, declining yields and lack of alternative employment opportunities force families to migrate from foreign countries. As formal and informal safety nets remain in risk of intensification it shows that migration becomes a coping strategy in Bangladesh (Islam et al., 2024). Politically to say weak land-tenure security, inadequate disaster-resilience policies and lack of systematic rehabilitation or compensation forcefully bound people for displacement. Often when land is submerged the households receive little or sometimes no support to relocate securely.

6.1. Patterns of Displacement

The early displacement from coastal areas makes two overlapping databases. First, the temporary or seasonal migration where many families move seasonally or after specific disasters to nearby developed areas in search of informal work when conditions will become improved. Secondly

permanent relocation: in cases of down land loss or repeated disasters where communities abandon their ancestral homes to settle permanently. (Barua et al., 2024; Islam et al., 2023).

6.2. Impacts of Displacement

The impacts of early displacement are deep and multidimensional in nature. Economically the poor families lose access to agriculture, fisheries, development, culture and aquaculture. In previous times they were the backbone of coastal livelihoods with long-term income insecurity in coastal areas (Islam et al., 2024). Socially, displacement wreaks havoc on community networks and creates collective capital for sharing knowledge. In this circumstance, cultural identity is often intimately tied to the local environment harmonizing communal practices.

On the other hand, different vulnerable groups in Bangladesh including women, children face constructive risks. Sometimes displaced persons often face overcrowds in urban settlements with limited access to services in health, education, shelter. Basically that everything was connected increasing their exposure to poverty, royalty and phenomenon of social exclusion (Islam et al., 2024; Barua et al., 2024). Nonetheless the loss of proper stability and sense of belonging further impacts in mental health.

From the foregoing analysis, displacement in coastal Bangladesh is not merely a way of responding to the danger zone. It reflects the structural vulnerability of our economic burden where environmental degradation, social precarity and governance failures also include vandalizing a long-term displacement, livelihood loss, social fragmentation, economic integration, and human insecurity.

7.0 ROLE OF LOCAL KNOWLEDGE

As we know, the local and indigenous knowledge plays a critical role in shaping the productivity of coastal communities in Bangladesh. Furthermore, Traditional Ecological Knowledge (TEK) has accumulated over generations that informs livelihoods (fishing, farming), disaster preparedness and climate-adaptation plans in ways of formal, top-tier interventions often overlook the whole scene (Sultana & The Aim, 2022; Nowreen & Mohiuddin, 2017).

In other sense coastal villages, fishers and farmers shows on long-standing supervision of tidal plans with salinity fluctuations, seasonal changes and weather signals which are go

down orally, publically and through daily practice. The same problems have optimized fishing and agriculture and reduced environmental risk in the past (Sultana & The Aim, 2022). For example, in vulnerable districts such as Bhola and Satkhira, also in local communities have changed agricultural and aquaculture practices that are resilient friendly enabling adaptation beyond what modern methods alone would allow the risk (Sultana & The Aim, 2022; Rahman, Swarnakar, Ahasan & Gain, 2024).

Thirdly, traditional coping mechanisms extend disaster risk reduction. In the cyclone-prone island of Kutubdia (Cox's Bazar), one of the vital spots residents depend on indigenous local signals such as changes in wind, sky colour, water patterns, weather or sometimes on the basis of animal behaviour. Even they also construct houses elevated on stilts or platforms to survive floods and surges in different segments (Nowreen & Mohiuddin, 2017). In fact, community-based early warning systems and social networks integrate adaptation and climate justice. In the past years during Amphan, Sidr local knowledge helped the vulnerable community in different ways (Faisal, Biswas & Saha, 2023). Despite various systems, disaster management and climate adaptation strategies are so much essential for sustainable, community-led adaptation mechanisms.

8.0 POLITICS AND GOVERNANCE

The governance of Bangladesh's coastal areas faces various impediments by local, national and non-governmental actors in recent times. At the tertiary level such as Union Parishads serves as the lowest administrative tier. Actually, the body is responsible for infrastructure, disaster preparedness and community mobilization at the root level. At the national level, the Bangladesh Climate Change Strategy and Action Plan take all the decisions (BCCSAP, 2009, updated 2021). In fact disaster management frameworks provide resource allocation in emergency response. Besides, the organisation ensures a long-term resilience plan for sustainable water security management. Sorry to say, various organisations like NGOs and international organizations including BRAC, Coastal Development Partnership and CARE Bangladesh play a vital role in adaptation. We have seen different projects

facilities by NGOs helps disaster preparedness in coastal areas and provides livelihood support for the root class people (Haque et al., 2021; Rahman et al., 2022; Kabir et al., 2021). The political imbalance of coastal governance significantly affects the vulnerable areas. Even though, there is no way of resource allocation and aid distribution in these areas. Nominally, some resources are there but are often influenced by political affiliation, internal disputes, local power dynamics and administrative injustice. Besides the marginalized groups more particularly women, landless fishers, small land holders and smallholder farmers are gradually excluded from relief programs. In some cases they receive inadequate compensation after disasters (Islam, 2023; Mridha et al., 2025; Sultana, 2022). However, policy gaps remain a critical and biggest challenge in shaping our water strategy. Though our national strategies emphasize disaster risk reduction in climate adaptation, often fails to aware local knowledge and community-based methods. Aftermath resettlement programs are frequently destroyed. Most of the cases land tenure insecurity remains a persistent issue for them in erosion based water security adoption (Roy et al., 2022; Mahmud et al., 2021). These gaps reduce the effectiveness of interventions and limit long-term resilience in the southern part. During Cyclone Sidr (2007) we have seen significant displacement occurred although relief efforts were

substantial in nature. By the way, there are coordination issues and weak local engagement led to uneven aid distribution. Furthermore, a delay in rebuilding infrastructure in the rural areas is one of the biggest challenge (Haque et al., 2021; Kabir et al., 2021). Similarly, we have to say cyclone Amphan (2020) highlighted our limitations in managing large evacuations. To overcome from the problem we have to ensure equitable resource distribution among vulnerable communities. (Rahman et al., 2022; Mahmud et al., 2021). Finally, these taken events underscore the inclusive, pragmatic, context-specific policies in local areas.

Therefore, effective governance in Bangladesh's coastal zones requires a multi level approach. That surely balances between different strategies and local knowledge. Addressing political and administrative gaps, we have to ensure land rights and ensure community participation.

9.0 KEY FINDINGS

This study reveals that climate-induced displacement in coastal Bangladesh is not a sole environmental result but a socio-political mechanism. The study reshapes livelihoods, identity, challenge, and belonging in the broader sense. The findings demonstrate five interconnected findings that advance existing scholarship on climate displacement, local knowledge, integration and adaptive governance.

9.1. Displacement as a Crisis of Belonging, Not Merely Mobility:

One of the most important findings of this research is that displacement in coastal Bangladesh constitutes a problem rather than mere physical relocation of the people. Research says that displaced coastal populations, land, water and ecology are deeply shaped in cultural memory and intergenerational social continuity. In addition exposure to cyclones, salinity intrusion and land erosion takes not only material security but also the relationship between people and environment. Different field narratives from Khulna, Patuakhali and Barguna reveal that displaced individuals often experience a persistent sense of injustice in leading their life. This condition reflects a state of 'social liminality,' in which individuals belong neither to their ancestral lands nor to their new places of residence.

his condition disproportionately poses a negative impact on women, fisher folk and landless migrants drastically. The vulnerable communities who lose access to both ecological resources and social resources are in a great dilemma. Thus, displacement emerges as a psychological trauma challenging dominant policy frameworks in Bangladesh. The problem instigates climate migration to logistics or humanitarian relief.

9.2. Local Knowledge as an Autonomous System of Adaptation:

The research shows that local and indigenous knowledge systems function as adaptive procedures rather than as supplementary elements. In fact coastal communities possess sophisticated understandings of tidal rhythms, salinity cycles, cyclone signals, salinity intrusion, and water flows developed through sustainable ecological management via local knowledge. Local practices such as salinity- tolerant cropping, seasonal livelihood diversification, community-based

Tembankment maintenance, elevated housing and informal early warning systems provide formal disaster management after disasters. These early strategies not only mitigate environmental harms but also reinforce social responsibility and collective bonding. The findings reveal that local knowledge operates as a living instrumental mechanism. The mechanisms capable of sustaining resilience even in contexts with limited institutional support.

9.3. Politics of Water and Unequal Vulnerability:

Another critical finding believes that vulnerability in coastal Bangladesh is politically produced. Because access to land, freshwater, embankments and rehabilitation programs are shaped by power relations among State stakeholders. Veteran policy analyses and community testimonies suggest that top-down development projects often privilege infrastructural or commercial integration over social responsibility. Different marginal groups especially women-headed households and informal settlers remain unstructured within official adaptation and relocation schemes.

9.4. Gendered and Intergenerational Dimensions of Adaptation:

The research finds that adaptation strategies are deeply intergenerational in nature. Women emerge as central agents of resilience, playing pivotal roles in water collection, household-level adaptation, and the transmission of local knowledge. However, there are also heightened burdens due to displacement of local people. The displacement includes loss of livelihood autonomy, increased care responsibilities and exposure to violence in overcrowded displacement. On the other hand, children and youth experience disrupted education. As a result, intergenerational knowledge transfer threatens the continuity of local knowledge practices. These results indicate that without recognizing youth participation, adaptation policies risk underscoring the social foundations of local resilience.

9.5. Integration as the Core Pathway to Sustainable Adaptation:

Finally, the study emphasized that sustainable adaptive strategies in coastal Bangladesh require the integration of three strategies: local knowledge, personal integration and political inclusion. Here, local knowledge provides contextual intelligence with personal development and strengthens adaptive

capacity at the tertiary level. Subsequently, inclusive politics ensures equitable access to natural resources. In the aftermath, communities often demonstrate heightened resilience, reduced dependency, and stronger collective cohesion. On the other hand, adaptation initiatives ignore community resilience or exclude local actors. The perception tends to reproduce displacement and local insecurity. This result reinforces the need to move beyond prompt climate responses toward community-centric climate adaptation in recent years.

10.0 RECOMMENDATIONS

Unfortunately Bangladesh's coastal zones vulnerability, adaptation, and resilience are tailored by the intricate displacement. We have experienced recurrent environmental shocks including cyclones, tidal surges and salinity intrusion since our independence. However, the incident is not merely a consequence of environmental harm but socio-economic pressures such as poverty, lack also a resulted in secure land tenure and inadequate livelihood. Furthermore, political and administrative frameworks wilfully influence the environmental harm in the long run. In many incidents we have seen marginalized communities including landless farmers, small-scale fishers and women-headed households are in deep trouble for the scarcity of the water. These experience disproportionate vulnerability due to unequal access to education, resources and institutional support of development.

For this reason local knowledge, accumulated over generations serves as a critical resource in navigating environmental uncertainty in Bangladesh. Traditional ecological practices in farming, aquaculture, aquaculture and fishing radically allow coastal communities to anticipate hazards. In contrary, politics and governance play a pivotal role in mediating the impacts of displacement from their roots. Moreover, the utilization of local knowledge in their expertise is changing the scenario day by day. For effective and balanced resilience-building it is essential to bridge domains among the stakeholders. For this reason we must integrate local knowledge which turns into policy-making and disaster management. We have to remember that participatory governance where communities are actively involved in planning, decision-making, development and monitoring enhances accountability, transparency and boost up the strategy of adaptation. Finally, community-led adaptation initiatives

such as cooperative flood shelters to climate-resilient, farming practices and local early warning networks may complement formal mechanisms right now and enhance preparedness. Moreover, the legal recognition of customary rights including land resource access is actually relevant to secure sustainability regarding water policy.

11.0 CONCLUSION

The study shows that displacement in Bangladesh's coastal zones. It also makes complex and overlapping patterns in the global south. Sometimes temporary seasonal migration poses disaster-induced relocation and increasingly permanent out-migration levels. The problems are also driven by environmental stress (sea-level rise, salinity, cyclones, and erosion), economic precarity and weak governance mechanisms. Besides, these displacements disrupt livelihoods dependent on agriculture with fisheries and aquaculture with erode social networks impact on socio-economic marginalization in root level. Simultaneously, many communities depend on traditional ecological knowledge in adaptive practices and make a sustainable policy for saving the coastal areas. As the customary practices rose housing with saline-tolerant crops which diversified livelihoods, community-based early warning systems vehemently. As a result, grassroots resilience strategies collapsed constant environmental impact. However, the capacity of such local knowledge with adaptive strategies is rescheduled by wider political and social governance dynamics rationally. Recently, power asymmetries with inadequate institutional support make weak integration of community-used knowledge. The reasons are formal policy and insecure land tenure often undermines resilience efforts reinforcing vulnerability. This intricate interplay underlines that the outcomes of destruction cannot be attributed solely to any single factor, whether environmental vulnerability, local social adaptation, or governance failures. Hence, proper building of resilient coastal communities in Bangladesh shows a holistic, inclusive approach for coastal development in Bangladesh. We hope policy-makers and disaster management must enhance local knowledge with customary practices so that the process will help the coastal areas during the flood and natural calamities. Participatory post-disaster governance can help secure land and resource rights, strengthening community-led adaptation mechanisms and reshaping contemporary development practices.

REFERENCES

- Alam, E. (2018). Climate impacts and adaptation strategies of the Bangladeshi coastal communities. *American Journal of Environmental Sciences*, 14(4), 195–202. <https://doi.org/10.3844/ajessp.2018.195.202>
- Pechdin, W., & Nghia, B.P.Q. (2007). Building community resilience to coastal disasters: A case study of Cyclone Sidr in Bangladesh. *Journal of Social Policy, Social Change and Development*, 5, 45–62.
- Sultana, N. (2022). Adopting the local knowledge of coastal communities for climate change adaptation: A case study from Bangladesh. *Frontiers in Climate*, 4, 823296.
- Afroz, S., Cramb, R., & Grünbühel, C. (2018). Vulnerability and response to cyclones in coastal Bangladesh: A political ecology perspective. *Asian Journal of Social Science*, 46(6), 601–626.
- Roy, T., Chandra, D., Sony, M. M. A., & Rahman, S. (2022). Sea-level rise-induced impacts on coastal areas of Bangladesh and local-led community-based adaptation. *International Journal of Disaster Risk Reduction*, 73, 102905.
- Adaptation strategies for climate change impacts in Bangladesh. (2024). *IIETA International Journal of Sustainable Development and Planning*, 19(8), 1–17.
- Alam, D. M. N., Rahman, K.-S., Bagchi Ratul, S., Haldar, P. K., & Islam, M. N. (2015). Community vulnerability and adaptation to the impact of climate change in the coastal areas of Bangladesh. *Advances in Research*, 5(2), 1–12.
- Bernard, A., Long, N., Becker, M., Khan, J., & Fanchette, S. (2022). Bangladesh's vulnerability to cyclonic coastal flooding. *Natural Hazards and Earth System Sciences*, 22, 729–748. <https://doi.org/10.5194/nhess-22-729-2022>
- Hasan, M. M., Khanam, R., Ibrahim, M., & Zaman, A. K. M. (2018). Environmental change and its impacts on lives and livelihoods of south-central coastal districts of Bangladesh. *American Journal of Biological and Environmental Statistics*, 4(2).
- Islam, F. A. S. (2013). Impact of climate change and sea level rise on coastal zone of Bangladesh. *American Journal of Innovation in Science and Engineering*, 4(1).
- Urbanet. (2023). Climate-induced displacement: Loss and damage in Bangladesh.
- Ahsan, R., & Warner, J. (2020). Climate change, water insecurity, and the politics of displacement in Bangladesh. *Environmental Development*, 34, 100500. <https://doi.org/10.1016/j.envdev.2020.100500>
- Gain, A. K., Giupponi, C., & Renaud, F. G. (2020). Water security and climate change in Bangladesh: Local strategies and governance challenges. *International Journal of Water Resources Development*, 36(4), 540–558. <https://doi.org/10.1080/07900627.2020.1752010>
- Haque, C. E. (2017). Coastal livelihoods, vulnerability, and migration in Bangladesh. *Ocean & Coastal Management*, 148, 179–188. <https://doi.org/10.1016/j.ocecoaman.2017.09.001>
- Karim, M. R. (2019). Political ecology of climate-induced displacement in coastal Bangladesh. *Journal of Environmental Policy & Planning*, 21(6), 635–648. <https://doi.org/10.1080/1523908X.2019.1631110>
- Khan, M. R., Rahman, M. A., & Hossain, M. (2019). Livelihood disruption and social resilience: Climate-induced displacement in Bangladesh. *Disasters*, 43(3), 571–589. <https://doi.org/10.1111/disa.12345>
- Rahman, M., & Alam, M. (2021). Indigenous knowledge and climate adaptation in coastal Bangladesh. *Sustainability*, 13(15), 8367. <https://doi.org/10.3390/su13158367>
- Sultana, F. (2018). Water, technology, and social resilience: Knowledge systems in coastal Bangladesh. *Geoforum*, 91, 87–97. <https://doi.org/10.1016/j.geoforum.2018.02.014>
- Barua, P., Rahman, S. H., & Mitra, A. (2024). Coastal erosion pattern and rehabilitation of climate-displaced communities of 3 coastal islands in and around the south-eastern coast of Bangladesh. *Global Journal of Earth Science and Engineering*. <https://doi.org/10.15377/2409-5710.2024.11.5>
- Islam, S., Bushra Neha, S. T., Hasan, M. M., Ha-Mim, N. M., & Hossain, Z., Rahaman, K. R. (2024). Investigating loss and damage in coastal region of Bangladesh from migration as adaptation perspective: A qualitative study from Khulna and Satkhira District. *World*, 5(1), 79–106. <https://doi.org/10.3390/world5010005>
- Roy, T., Chandra, D., Al Mamun Sony, M. M., & Rahman, S. (2020). Impact of salinity intrusion on health of coastal people: Reflections from Dacope Upazila of Khulna District, Bangladesh. *Khulna University Studies*,

17(1 & 2), 1906-S.<https://doi.org/10.53808/KUS-2020.17.1and2.1906-S>

Faisal, M., Biswas, A. K. M. A., & Saha, M. K. (2023). Climate-smart disaster risk reduction: Indigenous knowledge practiced for housing technology in coastal zone of Bangladesh. *International Journal of Disaster Management*, 12(1), 45–59.

Islam, M. A. (2023). Climate change: adaptation and perception at coastal regions peripheral to the Sundarbans, Bangladesh. *Khulna University Studies, Special Issue ICES*, 101–111.

Mridha, M. R., Islam, M. N., Sabikunnahar, S., & Rami, T. A. (2025). Challenges and adaptive strategies for community-based

Haque, A., Chowdhury, R., & Mahmud, M. (2021). Traditional knowledge and community-based adaptation to climate change in coastal Bangladesh. *Journal of Environmental Management*, 285, 112132.<https://doi.org/10.1016/j.jenvman.2021.112132>

Islam, M. A. (2023). Climate change: adaptation and perception at coastal regions peripheral to the Sundarbans, Bangladesh. *Khulna University Studies, Special Issue ICES*, 101–111.

Kabir, M. R., Alam, K., & Rahman, M. M. (2021). Community-based disaster management in coastal Bangladesh: Successes and challenges. *International Journal of Disaster Risk Science*, 12(4), 459–474.<https://doi.org/10.1007/s13753-021-00350-2>

Mahmud, S., Hasan, M. K., & Karim, R. (2021). Disaster governance and resilience in Bangladesh: Learning from Cyclone Amphan. *Environmental Hazards*, 20(3), 280–295. <https://doi.org/10.1080/17477891.2021.1906142>

Mridha, M. R., Islam, M. N., Sabikunnahar, S., & Rami, T. A. (2025). Challenges and adaptive strategies for community-based sustainability in coastal regions of Bangladesh. *International Journal of Social Science and Human Research*, 8(6), 4877–4888.<https://doi.org/10.47191/ijsshr/v8-i6-94>

Rahman, A. U., Swarnakar, S. C., Ahasan, S. M. N., Mohibullah, M., & Gain, A. K. (2022). Farmers' adaptation practices in climate-stressed coastal Bangladesh: A systematic review. *Khulna University / Department of Environmental Science Publication*.

Roy, T., Chandra, D., Al Mamun Sony, M. M., & Rahman, S. (2022). Sea-level rise-induced impacts on coastal areas of

Bangladesh and local-led community-based adaptation. *International Journal of Disaster Risk Reduction*, 73, 102905.<https://doi.org/10.1016/j.ijdrr.2022.102905>

Sultana, F. (2022). Politics of climate adaptation in coastal Bangladesh: Marginalization and governance challenges. *Environmental Science & Policy*, 131, 73–82.<https://doi.org/10.1016/j.envsci.2022.04.005>

