

Mohammad Rezaur Rahman

Professor

Institute of Water and Flood Management (IWFM)
Bangladesh University of Engineering and Technology (BUET)
Dhaka 1000, Bangladesh

E-mail: rezaur@iwfm.buet.ac.bd; rezaurrahman037@gmail.com

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57212184303>

Orcid: <https://orcid.org/0000-0001-5355-8305>

Field of interest

Ecosystem based Management; Disaster Impact Assessment; Climate Change Adaptation

Education

- Ph.D in Environmental Engineering. University of Illinois at Urbana-Champaign, USA
- M.Sc in Environmental Engineering. The Johns Hopkins University, USA
- M.Sc in Water Resources Engineering. BUET
- B.Sc. in Civil Engineering. BUET

Professional experience

- Currently Professor at IWFM, BUET
- Faculty at IWFM, BUET since 1982
- Environment and Climate Change Expert in updating of National Sustainable Development Strategy, Planning Commission, Government of Bangladesh. 2011-12
- Environmental Expert at Center for Environmental and Geographic Information Services (CEGIS). 1999 - 2002
- Served as part-time/adjunct faculty at
 - Institute of Disaster Management and Vulnerability Studies, University of Dhaka
 - Department of Environmental Science and Management, North South University
 - Postgraduate Program in Disaster Management, BRAC University
 - School of Environmental Science and Management, and International Center for Climate Change and Development (ICCCAD), Independent University
- Visiting Scholar to Lyndon B. Johnson School of Public Affairs, University of Texas at Austin, USA, 1995

Involvement in national plans/strategies/action plan formulation

- Member, Technical Advisory Board (TAB) & Project Steering Committee (PSC)- Formulation & Advancement of National Adaptation Plan Process in Bangladesh (NAP Project); Ministry of Environment, Forest and Climate Change. 2021
- Member of the drafting committee. National Plan for Disaster Management 2016-2020 Reformulation. Ministry of Disaster Management and Relief. 2016
- Member - Panel of Experts. Target 6.4 of Sustainable Development Goal 6. Ministry of Water Resources. 2016.
- Water Resources Specialist. Bangladesh National Conservation Strategy (NCS). Ministry of Environment and Forest. 2016
- Environment and Climate Change Expert. National Sustainable Development Strategy. Planning Commission, Ministry of Planning. 2012-2013.
- Coastal and Water Resources Expert. National Communication of Bangladesh to the United Nations Framework Convention on Climate Change. 2012.
- Contributing author. Bangladesh Climate Change Strategy and Action Plan 2009
- Member. Sectoral Working Group on Water, Coastal Zone, Natural Disaster and Health, National Adaptation Programme of Action (Climate Change), Ministry of Environment and Forest, 2005

- Member, Task Force on Knowledge Base for Integrated Coastal Zone Management Plan Project; Ministry of Water Resources, 2004-05
- Member, Thematic Subgroup on Water Resource Management for finalization of Poverty Reduction Strategy Paper, Ministry of Water Resources, 2004.
- Team Leader (Environmental Support Team of CEGIS). National Water Management Plan. Water Resources Planning Organization, Ministry of Water Resources. 2001.
- Hydrologist and Implementation Issues Specialist. Multipurpose Cyclone Shelter Plan. Planning Commission, Ministry of Planning. 1992-93.

Recent/current professional engagements (selected)

- Conference Co-Chair. International Perspective on Water And Environment (IPWE-2023) American Society of Civil Engineers (ASCE).
- Steering Committee Member (representing Bangladesh). Himalayan University Consortium (HUC), ICIMOD, Nepal.
- Member. Karnafuly River Restoration Committee. National River Conservation Commission, Government of Bangladesh.
- Expert Member. Selection Board of the Department of Climate and Disaster Management. Jashore University of Science and Technology
- Expert Member. Research and Academic Committee, Institute of Water and Environment, Dhaka University of Engineering and Technology (DUET).
- Member, Water Governance and Sustainability Workstream, Bangladesh Water Multi-stakeholder Partnership. 2030 Water Resources Group, World Bank
- Member, Joint Technical Committee for conducting the Feasibility Study of the Ganges-Padma Barrage Project with Alternate Option Analysis for Optimum Utilization of the Water Received under the Provisions of Ganges Water Sharing Treaty, 1996. Ministry of Water Resources.
- Chair, Technical Valuing Water Committee. Prime Minister's Office.

Recent professional activities (selected)

- Invited Speaker and Judge - Poster Session; National Conference on Advances in Science and Technology; Faculty of Science, BUET. 7-8 December, 2023.
- Panelist; National Resilience Week' 2023; Ministry of Disaster Management and Relief; 3-7 September, 2023.
- Chief Guest; Dissemination Program on Curriculum Development on Intersectionality and Humanitarian Response. Barishal University. 21 July, 2023.
- Designated Discussant; Workshop on Preparation of National Guideline for Construction of Bridge, Culvert and Different Hydraulic Structures by Different Agencies for Conservation of Rivers, Canals and Wetlands. National River Conservation Commission. 22 June, 2023.
- Designated Discussant; National Consultation Workshop on Environmental & Social Studies; Jamuna River Sustainable Management Project-1, BWDB. 17 April, 2023.
- Designated Discussant; Environmental and Disaster Management: A Gender and Interdisciplinary Perspective; Seminar on The State of Development in Bangladesh - Prospects and Challenges. Organized by the Asiatic Society of Bangladesh. 18 March, 2023.
- Designated Discussant; Sustainable flood control and water resources management in Haor region'. Organized by Bangladesh Water Development Board. 14 December 2022.
- Panelist; Webinar on Regional Cooperation on Climate Change in South Asia (Session on Transition towards a Green Economy). Center for Regional Perspective at the Institute of Strategic Studies Islamabad (ISSI), Pakistan. 22 November 2022.

- Panelist; Knowledge Exchange and Dialogue series (Elevating river basin management and cooperation in the Hindukush-Himalaya region - Ganges River Basin). ICIMOD. 27 September 2022
- Invited Speaker; International Seminar on Integrated Delta Governance and Ocean Management in the Bay of Bengal and Way Ahead. Bangabandhu Sheikh Mujibur Rahman Maritime University. 31 July 2022.
- Invited Speaker; Webinar on Non-Traditional Security Challenges in South Asia. Institute of Strategic Studies Islamabad (ISSI), Pakistan. 05 July 2022.
- Chair of Workshop on Developing Methodology for Natural Capital Accounting. Forest Department. 23 May 2022.
- Panelist in Session on Valuing Water. International Conference on Bangladesh Delta Plan 2100. 27-27 May 2022.
- Keynote speech on 'Water and IWRM' in Water-Energy-Food (WEF) Nexus Workshop in Bangladesh. Climate Adaptation and Resilience (CARE) for South Asia Project. Asian Disaster Preparedness Center (ADPC). 23 January 2022.
- Invited Speaker in International Webinar on Role of Academics and Governance in Disaster Risk Reduction. Centre for Disaster Management and Research (CDMR), IIT-Guwahati. January 18, 2022.

Selected advisory services

- An Investigation on the Causes of Embankment Failure (CEF) and Recommendations for Sustainable Solutions. Client: BWDB. 2021-22. [Senior Environmental Expert].
- National Consultant for Developing Project Document (ProDoc) for NRP-II - Ecosystem Restoration - Recovery for DRM under National Resilience Programme (NRP). Client: UNDP. 2021-22. [Independent Consultant].
- Specification for basic study on Planning capacity enhancement and establishment of River Training Methodology in Bangladesh. Client: Pacific Consultants & BWDB. 2021-24. [Senior Ecosystem Expert]
- National Assessment on Interlinkages of Gender Equality and Climate Change in Bangladesh. Client: IUCN & UN Women. 2021 [Climate Change Expert]
- Project Preparation Facility activity for the project 'Climate Resilient Sustainable Coastal Forestry in Bangladesh' of Green Climate Fund (GCF). Client: C3ER, BRAC University. 2020-21. [Coastal Zone Management/Environment Expert]
- Watershed Management Policy and Implementation Framework. Client: IUCN & FAO. 2020. [Team Leader]
- Development of Disaster Impact Assessment Tools and Guidelines. Client: UNDP. 2019-20. [Disaster Risk Reduction Specialist].
- Feasibility Study with ESIA for Resuscitation of Ichamoti River in Pabna District. Client: Bangladesh Water Development Board. 2018 [Team Leader]
- Feasibility Study for Flood Control, Drainage and Irrigation System at Gowainghat in Sylhet District. Client: Bangladesh Water Development Board. 2018-19 [Team Leader]
- Preparation of Bangladesh SDGs Progress Report 2018. Client: UNDP. 2018 [Environment and Climate Change Expert]
- Advancing Water Security of Marginalized Communities Living along Karnali-Ganges River Basin in Nepal, India and Bangladesh. (for) WaterAid Bangladesh and C3ER, BRAC University. 2017. [Advisor].
- Water Management Improvement Project. Impact Evaluation of Participatory Scheme Management Component. Bangladesh: World Bank/FAO Cooperative Programme. 2016. [Evaluation Specialist]

- Study to assess impact of disaster on market systems at char areas. Client: SwissContact. 2013. [Team Leader]
- Designing flash flood early warning system subcomponent for haor region of north-eastern Bangladesh under CALIP/HILIP. Client: IFAD. April, 2013.
- The Sundarbans Delta - A Vision. Client: IUCN - Bangladesh. 2012-13. [Water and Environment Management Expert]
- Preparation of National Strategy and Action Plan for Mangrove for Future (MFF). Client: IUCN-Bangladesh. 2011. [Lead author of Coastal and Marine Conservation].
- Setting up monitoring mechanism of evidence of climate change and climate variability. Client: IUCN - Bangladesh. 2010. [Team Leader of Hydro-meteorology group]
- Hydrological and Morphological Study and EIA of Proposed 18 Road Bridges over Different Rivers in Bangladesh. Client: LGED. 2010. [Environmental Specialist]
- A comparative analysis between different types of flood shelters. Client: DIPECHO Partners in Bangladesh. 2010. [Team Leader of Technical Analysis component]

Current research projects

- Enhancing Climate Resilience of Coastal areas of Bangladesh with Nature-Based Solutions. 2022-2024. Funded by Global Center on Adaptation.
- Sediment Discontinuity in Ganges River and its Impact on Flooding Patterns. 2021-24. Funded by BUET.
- Academic Alliance on Anticipatory Action. Lead University: Tufts University, USA. 2021-2023. Funded by USAID.
- REACH: Improving Water Security for the Poor. Lead University: Oxford University, UK. 2015-2024. Funded by UK Aid.

Taught courses

at IWFM, BUET

- Public Health Engineering (post-graduate)
- Community-based Engineering in Water Management (post-graduate)
- Harmonizing Disaster Management and Environmental Conservation (post-graduate)
- Socio-economic Analysis (post-graduate)
- Environmental Analysis (post-graduate)
- Climate Change Risk Management (post-graduate)
- Water and Ecosystem (post-graduate)
- Water Disaster Management (post-graduate)
- Integrated Water Resources Management (post-graduate)
- Water Development Project Planning (post-graduate)

at University of Dhaka

- Concepts and Issues of Disaster Management (post-graduate)
- Climate Crisis, Sustainability and Resilience (post-graduate)

at North South University

- Introduction to Environmental Science (under-graduate)
- Integrated Water Resources Planning and Management (under-graduate)
- Water Supply and Sanitation (post-graduate)

at Independent University

- Sustainable Floodplain Management (post-graduate)
- Flood Mitigation and Management (post-graduate)
- Climate Change and Sustainable development (post-graduate)

at BRAC University

- Disaster Preparedness Response and Recovery Strategies (post-graduate)
- Riverine Disaster Management (post-graduate)

Doctoral committees

at IWFM, BUET

- Nadia Nowshin - Co-creation of sustainable small-scale flood mitigation technologies to improve community resilience; ongoing
- Md. Rezaul Hasan - Groundwater Security in Coastal Peri-Urban Areas of South-West Bangladesh in the Context of Multi-Scalar Hydrological and Anthropogenic Processes; 2022
- Md. Mostafizur Rahman - An Integrated Risk-based System Dynamics Approach for Analyzing Water Security in a Fluvio-Tidal Setting; 2021
- Md. Abul Bashar - Changes and Causes of Rainfall Extremes of Northeast Bangladesh under the Warming World. 2019
- Md. Mahbubul Alam - Poverty Alleviation Through Improved Water Management in a Deltaic Tidal Plain; 2011
- Ahmadul Hassan - Development of Decision Support Framework for Sustainable Land and Water Use in Deltaic Floodplain; 2010
- Sultan Ahmed - Development of Decision Aid for Ecohydrological Consideration in Flood Management in Deltaic Floodplain; 2010

at other Departments of BUET

- Moushumi Zahur - Impact of Climate Change on Water Collection and Consumption, Sanitation and Hygiene Practices at Household Level in the Coastal Regions of Bangladesh: A Study from Gender Perspective. Urban and Regional Planning Department; 2023
- Md. Mizanur Rahman - Teleconnections and Long-Range Prediction of Summer Monsoon Rainfall Variability over Bangladesh - Department of Physics; 2013.
- Ganesh Chandra Saha - Accumulation of arsenic in agricultural soil and selected crops. Department of Civil Engineering. 2006

at other universities

- Md. Mahedi Al Masud - Tidal River Management and Its Impact in the Southwest Region of Bangladesh. Environmental Science Discipline, Khulna University. 2019.
- Md. Shafiqul Islam - Sustainable Approaches to Drought Management Exploratory Study on Selected Regions of Northwest in Bangladesh, Institute of Disaster Management and Vulnerability Studies, University of Dhaka, 2019
- Md. Golam Rabbani - Climate Change Impacts on Small Isolated Wetlands and Associated Livelihoods in Coastal Region of Bangladesh, Department of Environmental Science, Jahangirnagar University, 2019

at overseas universities

- Protiva Adhikary; Center for Disaster Management and Research, Indian Institute of Technology, Guwahati, India. Ongoing
- Sonia Binte Murshed - Hydro-Climatic Changes and Corresponding Impacts on Agricultural Water Demand in the Ganges Delta of Bangladesh; Department of Civil and Environmental Engineering, Utah State University, USA. 2019
- Md. Aminur Rahman - Impact of Structural Development Projects on Vulnerability of Coastal Communities to Disaster; School of Civil Engineering and Built Environment, Queensland University of Technology, Australia. 2019
- Mahmuda Mutahara - Turning the Tide? The role of Participation and Learning in Strengthening Tidal River Management in the Bangladesh Delta; Sociology of Development and Change Group, Wageningen University, The Netherlands. 2018

Post-graduate thesis/project supervision (selected list):

- Future Role of Non-Government Organizations in Climate Change Adaptation in Bangladesh; M.Sc thesis in Water Resources Development by Md. Arif Chowdhury, IWFM, BUET, Ongoing.
- Minimizing the Risk of Sedimentation in Tidal Rivers; Ph.D thesis by Md. Saif Uddin. IWFM, BUET. 2022
- Investigation of Sundarbans Ecosystem Resiliency through Multi-Temporal Remote Sensing Data. M.Sc thesis in Water Resources Development by Maruf Billah. IWFM, BUET, 2022.
- Impact of Resuscitation of Ichamoti River, Pabna on Urban Land Price by using Hedonic Price Model. M.Sc thesis in Water Resources Development by A.K. Azad. IWFM, BUET, Ongoing.
- Role of Mangrove Plantation in Improving Embankment Safety and Supporting Local Livelihoods. M.Sc thesis in Water Resources Development by Kazi Samsunnahar Mita, IWFM, BUET, 2019.
- Changes of Land Use and Soil Properties and their Impact on Rice Yield in Dacope Upazila of Khulna District. M.Sc thesis in Water Resources Development by Sultana Maliha. IWFM, BUET, 2016.
- A Study on Earthquake Preparedness in Schools in North Dhaka City. A dissertation for the degree of Master in Disaster Management by Nafisa Ziauddin; SPRING 2016; Postgraduate Program in Disaster Management, BRAC University.
- Flood Risk Mapping and Damage Analysis through GIS based Approach - A Case Study of Nabinagar Upazila, District - Brahmanbaria. Master of Disaster Management thesis by Md. Abdur Rahman. Institute of Disaster Management and Vulnerability Studies, University of Dhaka. 2013.
- Solving Water Logging Problem: A Study on Munshigonj Town. Master of Disaster Management thesis by Kakoli Akter. Institute of Disaster Management and Vulnerability Studies, University of Dhaka. 2013.
- SWOT Analysis of SWAIWRMP from Poverty Reduction Perspective. Post Graduate Diploma Project in Water Resources Development by Md. Rashed Jalal. IWFM, BUET, 2011.
- Assessment of the Risk due to Storm Surge under Climate Change in the Coastal Zone of Bangladesh. M.Sc thesis in Water Resources Development by Dipanker Kumar Sarkar. IWFM, BUET, 2011.
- Future Economic and Livelihood Impact of Storm Surge Disaster under Climate Change Context in a Selected Polder. M.Sc thesis in Water Resources Development by Pronab Kumar Halder. IWFM, BUET, 2011.

- Social Perceptions and Technical Evaluation of Performance of Selected Water Control Structures. M.Sc thesis in Water Resources Development by Abul Bashar Mohammed Khan Mozahedy. IWFM, BUET, 2011.
- Health Impact due to Subsistence Use of Polluted Water of Shitalakkhya River. Post Graduate Diploma Project in Water Resources Development by Khaleda Begum. IWFM, BUET, 2010.
- Comparing Ecological Resource Dependent Livelihood Patterns between a Water Project and Non-Project Area. Post Graduate Diploma Project in Water Resources Development by Suha Sanwar. IWFM, BUET, 2010.
- Assessing the Livelihood Resilience to Change in the Sundarban Mangrove System due to Climate Change. M.Sc thesis in Water Resources Development by Shibly Sadik. IWFM, BUET, 2009.
- People's perception in Early Warning System : A case study of Bhandara VDC Padariya -7 in Chitwan district, Nepal. A dissertation for the degree of Master in Disaster Management by Richa Lamichanne; Fall 2011; Postgraduate Program in Disaster Management, BRAC University.
- Use of Indigenous Knowledge in Strategies for Disaster Risk Reduction for flood disaster: The Study of Tharu Community in Bardiya District of Nepal'; A dissertation for the degree of Master in Disaster Management by Rachhita Dhungel. Fall 2011; Postgraduate Program in Disaster Management, BRAC University.
- Char dweller's adaptation to climate change. A dissertation for the degree of Master in Disaster Management by Nasrul Momen Saifullah. Fall 2010. Postgraduate Program in Disaster Management, BRAC University.
- Design and dissemination of community oriented flood warning message. A dissertation for the degree of Master in Disaster Management by Md. Saiful Hossain, Fall 2009; Postgraduate Program in Disaster Management, BRAC University.
- Ecological Risk Assessment of Sundarbans Mangrove Forest due to Sea Level Rise. M.Sc thesis in Water Resources Development by Kazi Wahidur Rahman. IWFM, BUET. April 2008.
- Sustainability Assessment of Arsenic Mitigation Technologies in Bangladesh, M.Sc thesis in Water Resources Development by Farhana Sharmin, IWFM, BUET, April, 2008.
- Relationship between Salinity and Crop Production in Different Hydrological Regimes Downstream of Muhuri Regulator, M.Sc thesis in Water Resources Development by A.K.M. Alauddin Chowdhury, IWFM, BUET, September, 2007.
- Women's Empowerment through their participation in Small Scale Water Resources Development Projects, by Sayeda Asifa Ashrafi, M.Sc thesis in Water Resources Development, IWFM, BUET, February, 2007

Selected Publications

Edited Books

- *Water Resource Development in Bangladesh: Historical Documents*. Salim Rashid and **Rezaur Rahman** (eds.). University Press Limited, Dhaka, 2010.
- *Floods in Bangladesh; Views from Home and Abroad*. Mir M. Ali, M. Mozammel Hoque, **Rezaur Rahman** and Salim Rashid (eds.), University Press Limited, Dhaka, 1998.

Book chapters (selected)

- **Rezaur Rahman** (In press). Safeguarding the Sundarbans Mangrove Forest: Assessing the Impact of Upstream Water Diversion and Exploring Pathways for Future India-Bangladesh Water Agreements. *Water Diplomacy Handbook*. Routledge.
- **Rezaur Rahman** (2023). Nature Based Solutions in Coastal Disaster Management in Bangladesh. (In) *Coastal Disaster Risk Management in Bangladesh*. Nasreen, M. et al. (ed.). Routledge, Taylor and Francis. 2023
- **Md. Rezaur Rahman** (2022). Future of flood control projects in Bangladesh considering the Health of Its Floodplain and Inhabitants. (In) *Handbook Human and Planetary Health*, ed. W.L. Filho. Springer. <https://doi.org/10.1007/978-3-031-09879-6>
- Ahmed Ishtiaque Amin Chowdhury, Sonia Binte Murshed, and **Mohammad Rezaur Rahman**. Food Security in a Floodplain Country—Case of Bangladesh. W. Leal Filho et al. (eds.), *Sustainable Agriculture and Food Security*, World Sustainability Series, pp 549-563. Springer Nature Switzerland AG 2022. https://doi.org/10.1007/978-3-030-98617-9_31
- MSA Khan, **R Rahman**, NJ Tarin, SN Huda, and ATMZ Hossain (2022). Views from the Sluice Gate: Water Insecurity, Conflict and Cooperation in Peri-Urban Khulna, Bangladesh. V. Narain, D. Roth (eds.), *Water Security, Conflict and Cooperation in Peri-Urban South Asia*. https://doi.org/10.1007/978-3-030-79035-6_7
- Rahman, M.A., Mondal, M.S., Huq, H., Mukherjee, N., **Rahman, M.R.** (2021). Crop Production Patterns and Marketing in Char Areas: Adapting to Hazards and Vulnerability. In: Zaman M., Alam M. (eds) *Living on the Edge*, Springer Geography, Springer, Cham. https://doi.org/10.1007/978-3-030-73592-0_17
- Sadik, M.S., Nakagawa, H., **Rahman, M.R.**, Shaw, R., Kawaike, K., and Parvin, G.A. (2020). Assessment of Cyclone Aila Recovery Progress: A Comparison between Rice and Shrimp Farming Villages in Koyra. Haque, Anisul, Chowdhury, Ahmed Ishtiaque Amin (Eds.) *Water, Flood Management and Water Security Under a Changing Climate*. Springer Nature Switzerland AG 2020.
- Tompkins, E.L., Vincent, K., Suckall, K., **Rahman, R.** Ghosh, T., Mensah, A., Anderson, K., Chapman, A., Prati, G., Hutton, C.W., Day, S. & Price, V. Adapting to Change: People and Policies. (In) *Deltas in Anthropocene*; Nicholls, R.J., Adger, W.N, Hutton, C.W., Hanson, S.E. (eds.) Chapter 9, Palgrave Macmillan. 2019.
- Rezaie, A.M., Ferreira, C.M., and **Rahman, M. R.** Storm Surge and Sea Level Rise: Threat to the Coastal Areas of Bangladesh. (In) *Extreme Hydroclimatic Events and Multivariate Hazards in a Changing Environment—A Remote Sensing Approach*; V. Maggioni and C. Massari (eds.) Chapter 13, Elsevier, 2019.
- Sadik, M.S., Shaw, R. **Rahman M.R.**, Nakagawa, H. and Kawaike, K. Event-Consequence Chain of Climate Change-Induced Salinity Intrusion in Sundarbans Mangrove Socioecological System, Bangladesh. (In) *Science and Technology in Disaster Risk Reduction in Asia, Potentials and Challenges*, R Shaw, K. Shiwaku, T. Izumi (eds.), Chapter 6, Elsevier, 2018, DOI: <http://dx.doi.org/10.1016/B978-0-12-812711-7.00006-7>.
- **Rahman, M.R.** Technological Fixes for Disaster Management in Bangladesh. (In) *People at Risk: Disaster and Despair*, H. Khatun, A. Baqee, H. Kabir (eds.), Chapter 5, pp. 71-96, Disaster Research Training and Management Centre, University of Dhaka, February, 2019.
- Sadik, M.S., Nakagawa, H., **Rahman, M.R.**, Shaw, R., Kawaike, K., Fujita, K., and Parvin, G.A. Recovery of Coastal Polders after Cyclone Aila at Koyra, Bangladesh. (In) *People at Risk: Disaster and Despair*, H. Khatun, A. Baqee, H. Kabir (eds.), Chapter 8, pp. 139-155, Disaster Research Training and Management Centre, University of Dhaka, February, 2019.

- M. Shahjahan Mondal, Mohammad Towheedul Islam, Debanjali Saha, Muhammad Shahriar Shafayet Hossain, Prodip Kumar Das, **Rezaur Rahman**. Agricultural Adaptation Practices to Climate Change Impacts in Coastal Bangladesh: Policy Strategies for Adaptation and Resilience. (In) *Confronting Climate Change in Bangladesh*, edited by Saleemul Huq, Jeffrey Chow, Adrian Fenton, Clare Stott, Julia Taub, Helena Wright. DOI: 10.1007/978-3-030-05237-9_2 ; Springer Nature Switzerland, 2019.
- Adams, H., Adger, W.N. Ahmed, M., Huq, H., **Rahman, R.**, Salehin, M. *Defining Social-Ecological Systems in South-West Bangladesh*. (In) *Ecosystem Services for Well-Being in Deltas - Integrated Assessment for Policy Analysis*. Eds. R. J. Nicholls, C. W. Hutton, W. N. Adger, S. E. Hanson, M. M. Rahman, M. Salehin. Palgrave Macmillan. 2018.
- Khan, M.W.R., Akber, M.A., Islam, M.A., Rahman, M.M. and Rahman, M.R. Assessment of ecosystem service value in southwest coastal Bangladesh. Chapter 9 in *Sustainable Development Goals in Bangladesh*. Selim, S.A. et.al. (ed.). Routledge, London. 2018
- Saha, D., Hossain, M. A., Hossain, M. S. S., Mondal, M. S. and **Rahman, R.** *Adaptations to Climate Change in Bangladesh: Development of a National Inventory*. Leal Filho, W. (ed.), *Climate Change Research at University: Addressing the Mitigation and Adaptation Challenges*, Springer International Publishing (2017)
- MSA Khan, MS Mondal, **R Rahman**, H Huq, DK Dutta, U Kumar and MR Jalal. *Urban burden on peri-urban areas: shared use of river a river in a coastal city vulnerable to climate change*. (In) *Water Security in Peri-urban South Asia: Adapting to Climate Change and Urbanization*. Editors: V Narain and A Prakash. Oxford University Press. 2016.
- P Dasgupta, PK Ghosh, **R Rahman**, MSA Khan. *Mapping gains and losses from the Mayur ecosystem*. (In) *Water Security in Peri-urban South Asia: Adapting to Climate Change and Urbanization*. Editors: V Narain and A Prakash. Oxford University Press. 2016.
- **R Rahman**, and MS Mondal. *Role of Water Resource Management in Ensuring Food Security*. Chapter 12 (in) *Food Security and Risk Reduction in Bangladesh*. U. Habiba et. al. (eds). Springer Japan. 2015
- A Rahman, F Mallick, MS Mondal, and **R Rahman**. *Flood shelters in Bangladesh: Some issues from the users' perspective*. (In) *Hazards, Risks and Disasters in Society*, AE Collins et al. (eds) Elsevier. 2015
- SA Ashrafi and **R Rahman**. *An Attempt at Quantification of Women's Empowerment in Small Scale Water Resources Project*. Chapter 5 in *Informing Water Policies in South Asia*. Edited by: A. Prakash, C.G. Goodrich and S. Singh. Routledge, New Delhi. 2014.
- **R Rahman** and M Salehin. *Flood Risk and Reduction Approaches in Bangladesh*. Chapter 4 (in) *Disaster Risk Reduction Approaches in Bangladesh*, Edited by: R. Shaw, F. Mallick and A. Islam, Springer, 2013.
- **Rezaur Rahman**. *Environmental Flow: Assessment and Applications*. Chapter 3 (in) *Ecosystems & Integrated Water Resource Management in South Asia*, Edited by: ERN Gunawardena, Brij Gopal and H Kotagama. Routledge, New Delhi. 2012
- **R Rahman**, MFA Khan, B Nishat, N Mukherjee, S Ahmed, S (2011). *Indicators to Assess Impacts on Hydro-meteorology*. Chapter 3 in *Protocol for Monitoring of Impacts of Climate Change and Climate Variability in Bangladesh*. Edited by Ainun Nishat. IUCN Bangladesh, Dhaka.
- MSA Khan & **R. Rahman**. *Water and Environment of Dhaka*. In *Environment of Capital Dhaka*. Md. Anwarul Islam (ed.). Asiatic Society of Bangladesh. 2010.
- SA Khan, **R Rahman**, HE Rashid & S Rashid. *Socio-economic effects of Tsunami on Bangladesh*. Chapter 12 in *Windstorm and Storm Surge Mitigation*, Nasim Uddin (Ed.). ASCE Council on Disaster Risk Management, Monograph No. 4. 2009.

Journal articles (selected)

- Akhter, T.; Naz, M.; Salehin, M.; Arif, S.T.; Hoque, S.F.; Hope, R.; **Rahman, M.R.** Hydrogeologic Constraints for Drinking Water Security in Southwest Coastal Bangladesh: Implications for Sustainable Development Goal 6.1. *Water* 2023, 15, 2333. <https://doi.org/10.3390/w15132333>
- Billah, M., Islam, A. S., Mamoon, W. B., & **Rahman, M. R.** (2023). Random forest classifications for landuse mapping to assess rapid flood damage using Sentinel-1 and Sentinel-2 data. *Remote Sensing Applications: Society and Environment*, 30, 100947.
- M. Anwar Hossen, Corinna Netherton, David Benson, **Mohammad Rezaur Rahman**, Mashfiqus Salehin. A governance perspective for climate change adaptation: Conceptualizing the policy-community interface in Bangladesh. *Environmental Science and Policy* 137 (2022) 174-184. <https://doi.org/10.1016/j.envsci.2022.08.028>
- Gain, A. K.,.....**Rahman. R.**..... Overcoming challenges for implementing nature-based solutions in deltaic environments: insights from the Ganges-Brahmaputra delta in Bangladesh. *Environmental Research Letters* 17 064052 (2022). <https://doi.org/10.1088/1748-9326/ac740a>
- Mohammad Aminur Rahman, Les Dawes, Paul Donehue, **Mohammad Rezaur Rahman**. Transformation of the coastal social-ecological system in southwest Bangladesh due to empolderment. *Water History*, July, 2022. <https://doi.org/10.1007/s12685-022-00301-2>.
- MA Akber, MA Islam, MM Rahman & **MR Rahman** (2022). Crop diversification in southwest coastal Bangladesh: insights into farming adaptation. *Agroecology and Sustainable Food Systems*, 46:2, 316-324, <https://DOI:10.1080/21683565.2021.1989105>
- Rahman, M.A., Dawes, L., Donehue, P., Rahman, M.R. Cross-temporal analysis of disaster vulnerability of the southwest coastal communities in Bangladesh. *Regional Environmental Change* (2021) 21:67 <https://doi.org/10.1007/s10113-021-01797-9>
- S. B. Murshed, **M. R. Rahman**, and J. J. Kaluarachchi, Changes in Hydrology of the Ganges Delta of Bangladesh and Corresponding Impacts on Water Resources. *Journal of the American Water Resources Association*, Vol 55 (4):800-823. 2019. <https://doi.org/10.1111/1752-1688.12775>
- Md. Ali Akber, Md. Wahidur Rahman Khan, Md. Atikul Islam, Md. Munsur Rahman and **Mohammad Rezaur Rahman** (2018). Impact of land use change on ecosystem services of southwest coastal Bangladesh. *Journal of Land Use Science*, 13:3, 238-250. <https://doi.org/10.1080/1747423X.2018.1529832>
- Dik Roth, Muhammad Shah Alam Khan, Israt Jahan, **Rezaur Rahman**, Vishal Narain, Aditya Kumar Singh, Monica Priya, Sucharita Sen, Anushiya Shrestha & Saroj Yakami (2018) Climates of urbanization: local experiences of water security, conflict and cooperation in peri-urban South-Asia, *Climate Policy*, 19:supl, S78-S93, <https://DOI.org/10.1080/14693062.2018.1530967>
- Sadik, M.S., Nakagawa, H., **Rahman, R.**, Shaw, R., Kawaike, K. & Fujita, K. Humanitarian Aid Driven Recovery of Housing after Cyclone Aila in Koyra, Bangladesh: Characterization and Assessment of Outcome. *Journal of Natural Disaster Science*, Vol. 37: p. 73 -91 (2018)
- Parvin, G.A., **Rahman, R.**, Fujita, K. and Shaw, R. (2018) Overview of flood management actions and policy planning in Bangladesh. *Int. J. Public Policy*, Vol. 14, Nos. 5/6, pp.423-443. 2018.
- Akber, M.A., Patwary, M.M., Islam, M. A., **Rahman, M.R.** Storm protection service of the Sundarbans mangrove forest, Bangladesh. *Natural Hazards*, Vol. 94(1), pages 405-418, October, 2018.

- Suckall, N., Tompkins, E.L., Nicholls, R.J., Kebede, A.S., Lazar, A.N., Hutton, C., Vincent, K., Allan, A., Chapman, A., **Rahman, R.**, Ghosh, T. & Mensah, A. A Framework for Identifying and Selecting Long Term Adaptation Policy Directions for Deltas. *Science of the Total Environment*, 633, p. 946-957, 2018.
- Sadik, M.S., Nakagawa, H., **Rahman, R.**, Shaw, R., Kawaike, K. & Fujita, K. A Study on Cyclone Aila Recovery in Koyra, Bangladesh: Evaluating the Inclusiveness of Recovery with Respect to Pre-disaster Vulnerability Reduction. *International Journal of Disaster Risk Science*, Vol. 9 (1), p. 28-43. 2018. doi.org./10.1007/s13753-018-0166-9, 2018.
- Islam, M. A., Akber, M.A., Ahmed, M., Rahman, M.M. & **Rahman, M.R.** Climate Change Adaptations of Shrimp Farmers: A Case Study from Southwest Coastal Bangladesh. *Climate and Development*, Vol. 11:6, 459-468. 2018. doi.org./10.1080/17565529.2018.1442807.
- Sadik, M.S., Nakagawa, H., **Rahman, M.R.**, Shaw, R., Kawaike, K., Fujita, K. and Islam, S.M.T. Systematic Study of Cyclone Aila Recovery Efforts in Koyra, Bangladesh Highlighting the Possible Contribution to Vulnerability Reduction. *Journal of Natural Disaster Science*, 36: 109-121, September 2017.
- Akber, M. A., Islam, M.A. Ahmed, M., Rahman, M. M. and **Rahman, M. R.** Changes of Shrimp Farming in Southwest Coastal Bangladesh. *Aquaculture International*, Volume 25(5), pp 1883-1899. 2017.DOI 10.1007/s10499-017-0159-5.
- Gain, A.K., Benson, D., **Rahman, M.R.**, Datta, D.K. and Rouillard, J.J. Tidal River Management in the South West Ganges-Brahmaputra Delta in Bangladesh: Moving Towards a Transdisciplinary Approach? *Environmental Science and Policy*, 75: 111-120, 2017.
- Gain, A.K., Mondal, M.S. and **Rahman, R.** From Flood Control to Water Management: A Journey of Bangladesh towards Integrated Water Resources Management. *Water*, 9(1), 2017.
- Saha, D., Hossain, M.S.S., Mondal, M.S. and **Rahman, R.** Agricultural Adaptation Practices in Coastal Bangladesh: Response to Climate Change Impacts. *Journal of Modern Science and Technology*, Vol. 4. No. 1. pp. 63 - 74, 2016.
- MS Mondal, A Rahman, N Mukherjee, H Huq, **R Rahman** (2015). Hydro-climatic hazards for crops and cropping system in the chars of the Jamuna River and potential adaptation. *Natural Hazards*, 76: 1431-1455.
- D McEvoy, I Ahmed, A Trundle, LT Sang, NN Diem, LTT Suu, TB Quoc, FH Mallick, **R. Rahman**, A Rahman, N Mukherjee & A Nishat. In support of urban adaptation: a participatory assessment process for secondary cities in Vietnam and Bangladesh. *Climate and Development*, 6:3, 2014. pp 205-215.
- PK Halder & **R Rahman**. Future impact of storm surge hazard on agricultural production inside a coastal embankment under climate change context. *Bangladesh J. of Environmental Science*, Vol. 25, pp 68-75, 2013.
- MS Mondal, MR Jalal, MSA Khan, U Kumar, **R Rahman**, and H Huq, Hydro-meteorological trends in southwest coastal Bangladesh: perspectives of climate change and human interventions, *American Journal of Climate Change*, Scientific Research, 2013, 2, 62-70.
- Wahid, C.M.M., **Rahman, R** and Islam, M.N. Single cell and multiple cell clouds analysed with satellite data in and around Bangladesh. *MAUSAM* (Quarterly Journal of Meteorology, Hydrology & Geophysics, India Meteorological Department), Vol. 50(2), pp177-180, 1999.
- Chowdhury, J.U., Watkins, D.W., Rahman, R. and Karim, F. Models for Cyclone Shelter Planning in Bangladesh. *Water International*, Vol. 23(3), pp 155-163, 1998.

- **Rahman, R.**, Salehin, M. and Matsumoto, J. Trend of monsoon rainfall pattern in Bangladesh, Bangladesh. *Journal of Water Resources Research*, Vol. 14-18, pp 121-138, 1997.
- Fuhu, R., **Rahman, M.R.** and Ochi, S. Delineation of catchment area and proximity analysis of cyclone shelters in coastal region of Bangladesh through GIS. *Journal of the Japanese Society of Photo Geometry*, May 27, pp 75-83, 1993.
- Eheart, J.W., Rahman, M.R., Keith, S.M. and Valocchi, A.J. A Game-theoretic parameter configuration technique for aquifer restoration design, *Journal of Contaminant Hydrology*, Vol.6, pp 205-226, 1990.

Proceedings (selected)

- **Rahman, M.R.** *Resistance or Resilience? Evidences from Recent Flood in Haor Basin*. Proceedings of the International Conference on Disaster Risk Mitigation, BUET, September 23-24, 2017.
- Md. Sabbir Ahsan, Md. Ali Akber, Md. Atikul Islam, Md. Munsur Rahman, and **Mohammad Rezaur Rahman** (2017). Shrimp Farmers' Competence and Training Needs on Climate Change Adaptation: A Case Study from Southwest Coastal Bangladesh. Conference Proceedings of International Conference on Climate Change-2017. 16th-17th, February, 2017. Colombo, Sri Lanka.
- Helen Adams, W. Neil Adger, Hamidul Huq, **Rezaur Rahman** and Mashfiqus Salehin. *Transformations in land use in the southwest coastal zone of Bangladesh: Resilience and reversibility under environmental change*. University of Oslo. Proceedings of Transformation in a Changing Climate, 19-21 June 2013, Oslo, Norway.
- N Naher and **R Rahman**. *Cumulative Environmental Impact Assessment of Narail Sub-Project*. Proceedings of 3rd International Conference on Environmental Aspects of Bangladesh - ICEAB 2012. University of Kitakyushu, Fukuoka, Japan. October 13-14, 2012.
- Huque, I. and **Rahman, R.** A DSS for landuse strategies in the south-west region of Bangladesh. Proceedings of International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission VII Symposium on Resource and Environmental Monitoring, December 2002, Hyderabad, India
- Chowdhury, J.U. and **Rahman, R.** A risk based model for allocation of flood shelters in the coastal area of Bangladesh. Proceedings of Fifth International Conference on Coastal and Port Engineering in Developing Countries, Cape Town, South Africa, April 1999.

Reviewer of journals (Recent)

- Biodiversity and Conservation
- PLOS - Climate
- International Journal of Disaster Risk Reduction
- Sustainable Development
- Journal of Water and Health
- Scientific Reports - Nature
- Mitigation and Adaptation Strategies for Global Change
- Journal of Cleaner Production

Recent Editorial assignment

Associate Editor for Water Resources Research (AGU)