

## Prof. Mashfiqus Salehin



### PROFESSOR

Institute of Water and Flood Management (IWFM),  
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### Education:

Ph.D., Northwestern University, Evanston, Illinois, USA (2004)  
M.Sc. Engg. (Water Resources), BUET, Dhaka, Bangladesh (1998)  
B.Sc. Engg. (Civil), BUET, Dhaka, Bangladesh (1993)

### Employment Record:

July 2010 – present: Professor, IWFM, BUET  
June 2007- July 2010: Associate Professor, IWFM, BUET  
June 1998-June 2007: Assistant Professor, IWFM, BUET  
June 1994 -1998 June: Lecturer, IWFM, BUET

### TEACHING

I am a professor of hydrology and interdisciplinary water resources management at IWFM, BUET. My teaching method focuses on providing broader technical skills, contextualized in the real-life problems shaped by bio-physical processes and socio-economic dimensions. My goal is to allow students to develop problem-solving skills but also explore beyond the theoretical elements and recognize the interdisciplinarity aspects of the problems, which are normally absent in conventional courses.

I have taught the following courses at the post-graduate level:

At IWFM, BUET

- ~ Advanced Watershed Hydrology
- ~ Groundwater Resource Assessment
- ~ Hydrogeology and Groundwater
- ~ Environmental Analysis
- ~ Water and Disaster Management
- ~ Integrated Water Resources Management
- ~ Interdisciplinary Field Research Methodology in Water Management

As Part-time Faculty

- ~ 'Integrated Flood Risk Management' at Dhaka University
- ~ 'Floodplain Systems' at Independent University, Bangladesh

### RESEARCH/ COLLABORATIVE INITIATIVES

During my 29-year professional career, I have worked on both technical and interdisciplinary research topics. My research activities have focused on a variety of issues, including hydrologic modeling of water resources at regional (Ganges-Brahmaputra-Meghna basin) scale and national levels, hydrogeologic analysis of coastal aquifers and saltwater intrusion, groundwater and seawater intrusion modelling, hydrodynamics of solute transport between river and near surface groundwater (hyporheic zone), mechanisms of water-related natural disasters, flood hazard, vulnerability and risk analysis, and transboundary water management. My research also includes application of interdisciplinary, socio-eco-technical approaches under the framework

of integrated water resources management (IWRM) to analyzing and harmonizing different uses of water resources, assessing ecosystem services -poverty alleviation linkages, impact assessment of climatic and non-climatic drivers, integrated analysis of biophysical and socio-economic processes, and biophysical vulnerability of coastal hazards and implications to water and food security.

I have been the PI or Co-Pi (of Bangladesh consortium) in several international collaborative projects, such as ESPA Deltas as Co-PI (NERC/DFID/ESRC funded), DECCMA as Co-PI (IDRC/DFID funded), REACH as PI (DFID funded), UKRI GCRF Living Deltas Hub Project (UKRI funded), and Academic Alliance for Anticipator Action (USAid funded). Some key activities in these projects included GBM basin scale hydrologic modeling for cross-border flow under different climate change and socio-economic scenarios, groundwater flow and salinity intrusion modelling to assess aquifer responses to different climatic and anthropogenic stresses, analyzing climate change adaptation gaps and migration, preparing flood hazard, vulnerability and risk maps via flow simulation and flood damage assessments, conceptualizing ecosystem services -poverty alleviation linkages, scenario generation and integrated analysis of biophysical and socio-economic processes using integrated model framework, water security and poverty risk characterization in coastal area, analyzing challenges in safe drinking water supplies in hydrogeologically constrained areas, and contextualizing implementation of sustainable development goals.

Besides, I have a major research interest in transboundary river water management issues, reflected in my involvement in several regional initiatives. One such initiative was the "Transnational Policy Dialogue for Improved Water Governance of Brahmaputra River: Phase-I and II" Project (also known as the Brahmaputra Dialogue Project), in partnership with South Asian Consortium for Interdisciplinary Water Resources Studies (SaciWATERS)- India, and Indian Institute of Technology, Guwahati (IITG). Key objectives of the project included establishment of a regional knowledge base and network of actors to inform Brahmaputra-related dialogues (through a series of country level and bi-lateral meetings at multi-track mode); joint identification of issues critical to the management of the Brahmaputra River; development of a shared vision for co-management of the Brahmaputra River by outlining the priority areas and action plans/vision for future engagements.

I have worked as Consultant in the Flood Preparedness Program (FPP) under the National Resilience Program (UNDP), Post-disaster Recovery Strategy with UNDP, and Hydrological and Morphological Study of over 100 bridges between 2011-2019 for LGED and RHD.

## **MEMBER, NATIONAL COMMITTEES FOR POLICIES, PLANS AND STRATEGIES**

I have served as a member of governing bodies or expert/ technical committees linked to, among others, the Bangladesh Delta Plan, Sustainable Development Goal 6, Climate Change Adaptation, and transboundary water management.

- ~ Member, Board of Governors, Bangladesh Water Development Board (BWDB)
- ~ Member, Task Force on Water Sector, Institution of Engineers (IEB), Bangladesh
- ~ Member, External Advisory Board of the NIHR Global Health Research Center for NCDs and Environmental Change
- ~ Member, Technical Advisory Committee, Support to the Implementation of the Bangladesh Delta Plan (SIBDP) Project
- ~ Member, Committee of the Focal Points, Bangladesh Delta Plan 2100
- ~ Member of Bangladesh Delegation, Water Resources Secretary Level Meeting between Bangladesh and India (August 2019, Dhaka; March 2021, New Delhi; August 2022, New Delhi)
- ~ Member of Bangladesh Delegation, the 38th Meeting of the India- Bangladesh Joint Rivers Commission (August 2022, New Delhi)
- ~ Member, Committee for identifying solutions for optimum utilization of water received under the provisions of Ganges Water Sharing Treaty 1996, Ministry of Water Resources, Government of Bangladesh
- ~ Member, Committee for Expansion of Bangladesh-India Cooperation on Flood Forecasting and Warning, Ministry of Water Resources, Government of Bangladesh
- ~ Member, Joint Technical Committee (Bangladesh-India) for Feasibility Study for optimum utilization of the Ganges Water and sustainable development of the Ganges Dependent Area (GDA) under the provisions of Ganges Water Sharing Treaty, 1996
- ~ Member, Bangladesh National Committee of ICID (BANCID)

- ~ Member, Panel of Experts, Action Plan for Implementation of Sustainable Development Goal 6
- ~ Member, Technical Valuing Water Committee, Prime Minister's Office
- ~ Member, River Master Plan Committee, Ministry of Local Government
- ~ Member, Climate Technology Centre and Network (CTCN) Technical Committee, under the UNFCCC Technology Transfer program, implemented by Department of Environment (DoE), Ministry of Environment, Forest and Climate Change
- ~ Member, Project Evaluation Committee, 'Operationalizing Integrated Water Resources Management (IWRM) in Compliance with the Bangladesh Water Rules, 2018' project, Water Resources Planning Organization, Ministry of Water Resources
- ~ Member, Technical Committee, 'Water Security Assessment in South-West Coastal Region of Bangladesh' project, Water Resources Planning Organization, Ministry of Water Resources
- ~ Member, Expert Panel on "Operationalizing Integrated Water Resources Management (IWRM) in Compliance with the Bangladesh Water Rules, 2018: Determining Safe Yield of Aquifer and Identifying the Water Stress Area", Water Resources Planning Organization, Ministry of Water Resources
- ~ Member, ITN-BUET Research Committee (ITN: International Training Network, Centre for Water Supply & Waste Management)

## **PROFESSIONAL AFFILIATIONS**

Member, Institute of Engineers of Bangladesh (IEB)

## **RESEARCH PROJECTS (NATIONAL AND INTERNATIONAL COLLABORATION)**

### **On-going Projects**

**As PI (Bangladesh Component):** "*Academic Alliance on Anticipatory Action – 4As*", a 2- year research project, funded by USAID; led by Tufts University, USA; Bangladesh Partner - IWFM, BUET; Other global partner are: Makerere University, Uganda; National University of Lesotho; Cayetano Heredia University, Peru; University of the Philippines; University of Namibia; and Eduardo Mondlane University, Mozambique. On-going (2021-2023)

**As PI (Bangladesh Component):** "*REACH: Improving Water Security for the Poor*", REACH is a seven-year, global programme of research (2015-2022) funded with UK aid from the UK government; led by Oxford University; Bangladesh Lead - IWFM, BUET, with University of Dhaka and icddr,b as research partners and UNICEF Bangladesh Strategic Partner. On-going (2015-2024)

**As PI (Bangladesh Component):** "*UKRI GCRF Living Deltas Hub*", funded by NERC (Natural Environment Research Council), UK; Total 24 partners: Newcastle University, UK (Project Lead); Jadavpur University, India; Asian Institute of Technology (AIT), Thailand; An Giang University, Vietnam; University of California Irvine, USA; York University, Canada; United Nations University, Germany, and others. On-going.

**As Co-I:** *Enhancing Climate Resilience of Coastal areas of Bangladesh with Nature-Based Solutions*, Funded by Global Center on Adaptation (GCA), Led by IWFM, BUET. On-going

**As Co-I:** *NIHR Global Health Research Centre on NCDs and Environmental Change*, Funded by National Institute for Health and Care Research (NIHR) and FCDO, UK, Led by Imperial College London and The George Institute for Global Health, India, with partners from Bangladesh (International Centre for Diarrhoeal Research, Indonesia (University of Brawijaya ), and India (Sri Ramachandra Institute of Higher Education & Research).

**As Co-I:** Field Based Applied Research on "*Aquifer Storage and Recovery (ASR)*" technology for increasing cropping intensity of Bangladesh; with Bangladesh Agricultural Development Corporation (BADDC) as partner; funded by Krishi Gobeshona Foundation (KGF).

**As Co-I:** *Sediment Discontinuity in Ganges River and its Impact on Flooding Patterns*; Funded by BUET.

**As Co-I:** Research on *Sediment Distribution and Management in South-West Region of Bangladesh*, in collaboration with Water Resources Planning Organization (WARPO), Ministry of Water Resources; funded by WARPO.

**As Co-I:** *Research on Water-related Disaster Mitigation and Environment Symbiosis Technology in Rural Bangladesh*, with Kyoto University (Project Lead), funded by JSPS, Japan.

**As Co-I:** *Uptake of Climate Change Adaptation Research Results in South Asia: Evaluation of Adaptation Trials in the Ganges-Brahmaputra-Meghna Delta and its Upscaling to Climate Financing (Bangladesh)*, Funded by IDRC, Canada

## **Completed Projects**

**As Co-I:** *"Research on Disaster Prevention/Mitigation Measures against Floods and Storm Surges in Bangladesh"*, PI of the 'Flood Component', funded by JST-JICA Funded; Japanese Lead: DPRI, Kyoto University, Bangladesh Lead: IWFM, BUET. Completed (2019).

**As Co-PI (Bangladesh Consortium):** *"Deltas, vulnerabilities and climate change: Migration and Adaptation (DECCMA)"*, under the CARIAA program of IDRC-Canada and DFID, Collaborative Partners are University of Southampton (UK Lead), IWFM-BUET (Bangladesh Lead), Jadavpur University (India Lead), and University of Ghana (Ghana Lead). Completed (2018).

**As PI (Bangladesh Consortium):** *"Shifting Grounds: Institutional transformation, enhancing knowledge and capacity to manage groundwater security in peri-urban Ganges delta systems"*, collaborative partners are IWFM-BUET, Delft University of Technology, SaciWATERS- India, Both ENDS, Jagrata Juba Shangha, The Researcher, funded by NWO-WOTRO, the Netherlands. Completed (2018).

**As Co-PI (Bangladesh Consortium):** *"Assessing health, livelihoods, ecosystem services and poverty alleviation in populous deltas – ESPA Deltas"*, under the Ecosystem Services for Poverty Alleviation (ESPA) programme funded by the UK Department for International Development (DFID), the Natural Environment Research Council (NERC) and the Economic and Social Research Council (ESRC). Collaborative partners are University of Southampton (UK Lead), IWFM-BUET (Bangladesh Lead), Jadavpur University (India Lead), Completed (2016).

**As PI:** *"Transnational Policy Dialogue for Improved Water Governance of Brahmaputra River: Phase-II"* (shortly termed as *"Brahmaputra Dialogue – Phase II"*), collaborative partners are IWFM-BUET, South Asian Consortium for Interdisciplinary Water Resources Studies (SaciWATERS)- India, and Indian Institute of Technology, Guwahati (IITG), funded by Asia Foundation, New Delhi. Completed (2015)

**As PI:** *"Transnational Policy Dialogue for Improved Water Governance of Brahmaputra River"* (shortly termed as *"Brahmaputra Dialogue – Phase I"*), collaborative partners are IWFM-BUET, South Asian Consortium for Interdisciplinary Water Resources Studies (SaciWATERS)- India, and Indian Institute of Technology, Guwahati (IITG), funded by Asia Foundation, New Delhi. Completed (2014)

**As Co-I:** *"Development of Flood Hazard and Risk Maps with Effect of Climate Change Scenario"*, funded by Climate Change Trust Fund (CCTF), Ministry of Environment and Forest, Government of the People's Republic of Bangladesh. Completed (2015)

**As PI:** *"Development of a Water Resources Model as a Decision Support Tool for National Water Management"*, in collaboration with the Water Resources Planning Organization (WARPO) of the Ministry of Water Resources, 2010.

**As PI:** *"Regional Implications of Water Resources Management Interventions in South Asia"*, Report prepared for Action Aid, Bangladesh, 2007.

**As PI:** *"Development of a Base Document in the Backdrop of Climate Change Impacts: Characterizing Country Settings"*. Report prepared for the Climate Change Cell of DOE under the Comprehensive Disaster Management Programme (CDMP), 2007.

**As PI:** *"A Semi-coupled Modeling Approach for Pollutant Exchange between a Stream and Streambed"*. Funded by BUET, 2007.

**As Co-I:** *"Investigation of Hydrological Aspects of Flood-2004 with Special Emphasis on Dhaka City"*. Funded by BUET, 2005.

**As Co-I:** *"Impact of Sea Level Rise on Land Use Suitability and Adaptation Options"*, Sustainable Environment Management Programme (SEMP) of Ministry of Environment and Forests, Sponsored by UNDP; CEGIS (Center for Environmental and Geographic Information Services), IWM (Institute of Water Modelling) and BUET, 2005.

**As Co-I:** *"Modalities for Environmental Assessment: Flood Loss Control in Bangladesh. in Integrating Environmental Considerations into economic policy Making Processes"*, Vol. IV, pp. 5-84, ST/ESCAP/2003, United Nations, New York, 1999. Available online at: <http://www.unescap.org/drpad/publication/integra/modalities/bangladesh/4bl000ct.htm>

**As Co-I:** *"Performance Evaluation of FCD/FCDI Projects during 1998 Flood"*. Funded by BUET, 1998.

**As Co-I:** "*River Embankment Failure Resulting in Sedimentation over the Floodplain: Physical Model Experiments*". Funded by BUET, 1998.

**As Co-I:** "*Topic 2: Mechanism of Flash Floods*" under the *Japan-Bangladesh Joint Study on Floods*", sponsored by Japan International Cooperation Agency (JICA). Collaboration between Kyoto University of Japan and IWMF, BUET, 1997.

**As Co-I:** "*Flood Control in a Floodplain Country: Experiences with Bangladesh*", Islamic Educational Scientific and Cultural Organization (ISESCO), Morocco, 1997.

## INVITED SPEAKER/ RESOURCE PERSON

- **Panel discussant** in the **National Workshop on Operationalizing Integrated Water Resources Management (IWRM) in compliance with the Bangladesh Water Rules, 2018**, organized by Water Resources Planning Organization (WARPO), 25 June 2023.
- **Invited Lectures in the training** organized by the General Economics Division (GED) of the Planning Commission on "Advanced Adaptive Delta Management Cum Meta Model Training", under the SIBDP 2100 project, on 21 June 2023. Lecture title: "**IWRM concepts and Principles**" and "**Implementation of IWRM in Bangladesh**".
- **Keynote Lecture** in the workshop on "**Potential Challenges of Fourth Industrial Revolution in the Water Resources Sector**", organized by the Joint Rivers Commission (JRC), Ministry of Water Resources, on 19 June 2023: Lecture title: "**The 4th Industrial Revolution (4IR) Technologies: Opportunities for Water Resources Management**")
- **Invited Lectures in the training** organized by the General Economics Division (GED) of the Planning Commission on "Advanced Adaptive Delta Management Cum Meta Model Training", under the SIBDP 2100 project, on 12 June 2023. Lecture title: "**IWRM concepts and Principles**" and "**Implementation of IWRM in Bangladesh**")
- **Invited discussant** in the workshop on "**Portrait of Bangladesh Delta Plan 2100 and Implementation Outlooks: Towards a holistic appraisal of BDP 2100**", organized by Ministry of Water Resources, on 11 June 2023.
- **Designated discussant** in preparatory, consultation workshop on "**Commitments Bangladesh could make in the UN Conference 2023** aligned with the 5 themes", organized by the Ministry of Water Resources, 14 March 2023.
- **Invited speaker** in the Delta Dialoguer Series on **Tools for Enhancing Anticipatory Capacity – from Arts to Modelling**, on 14<sup>th</sup> March 2023. Presentation title: "**How advances in modelling tools can aid delta adaptation and resilience**".
- **Invited Lectures in the training** organized by the General Economics Division (GED) of the Planning Commission on "Advanced Adaptive Delta Management Cum Meta Model Training", under the SIBDP 2100 project, on 06 February 2023. Lecture title: "**IWRM concepts and Principles**" and "**Implementation of IWRM in Bangladesh**")
- **Invited Lectures in the training** organized by the General Economics Division (GED) of the Planning Commission on "Advanced Adaptive Delta Management Cum Meta Model Training", under the SIBDP 2100 project, on 29 January 2023. Lecture title: "**IWRM concepts and Principles**" and "**Implementation of IWRM in Bangladesh**")
- **Panelist** in the session: "**Partnerships and Climate Change Adaptation: Linking Stakeholders for Life-Saving Adaptation**", hosted by Academic Alliance for Anticipatory project, Global Dialogue Platform, Anticipatory Hub network, Berlin, 6-8 December 2022.
- **Moderator** and **Speaker** in the Webinar: **Gender and Water Security: towards climate resilience in Bangladesh**, organized by FCDO-UK funded REACH: Improving Water Security for the Poor Project; Presentation title: "**Biophysical challenges, including climate vulnerability**", 17 October 2022.
- **Invited Lectures in the training** organized by the General Economics Division (GED) of the Planning Commission on "Advanced Adaptive Delta Management Cum Meta Model Training", under the SIBDP 2100 project, on 12 June 2022. Lecture title: "**IWRM concepts and Principles**" and "**Implementation of IWRM in Bangladesh**")
- **Keynote speaker** in the World Environment Day 2022 Seminar organized by North South University, on 06 June 2022. Presentation title: "**Only One Earth: Living Sustainably in Harmony with Nature**".
- **Invited Lecture in the training program** on Water Security Issues in the Himalayan Region and Assessment Tools, under the "Towards sustainable urban water management in Hindukush Himalayan (HKH) Region: a



participatory approach to improving water security in mountain cities” project funded by APN, on 06 May 2022. Lecture title: **“Statistical Sampling and Questionnaire Survey”**.

- [Keynote Speaker](#) in the National Seminar on “Groundwater: Making the Invisible Visible” on 04 April 2022, to commemorate the World Water Day 2022, organized by Bangladesh National Committee of ICID (BANCID), under the supervision of the Ministry of Water Resources (MoWR). Presentation title: **“Demystifying Groundwater for Integrated Management”**.
- [Invited Lectures in the training series](#) organized by the General Economics Division (GED) of the Planning Commission on “Adaptive Delta Management for implementation of BDP 2100”, under the SIBDP 2100 project, on 10 April, 18 April and 10 May 2022. Lecture titles: **“IWRM concepts and Principles”** and **“Implementation of IWRM in Bangladesh”**
- [Key discussant](#) in the seminar on the ‘**Good Groundwater Management: justice in achieving SDG**’, held on 20 March 2022, jointly organized by NGO Forum for Public Health, Bangladesh Water Integrity Network (BAWIN), and the Daily Bhorer Kagoj with the support from Water Integrity Network (WIN).
- [Key Resource Speaker](#) in the **“Delta Resilience and Risk Governance Expert Forum on the Ganga Brahmaputra Meghna Delta, Bangladesh”**, 9 December 2021, organized by Asian Institute of Technology (AIT) in collaboration with Living Deltas Hub (LDH). Presentation title: **“Risk Management and Governance in Delta: Experiences from Ganges-Brahmaputra-Meghna (GBM) Delta”**.
- [Keynote Speaker](#) in the Seminar on **‘Hydro-geological investigation of Groundwater resources assessment for sustainable development of minor irrigation’**, held on 03 November 2021, organized by Bangladesh Agricultural Development Corporation (BADC).
- [Panelist in COP 26 event](#), titled **“Re-imagining the future of water: how landscape-scale adaptation is driving the race to water resilience”**, hosted by Anglian Water, Mott MacDonald, Water Pavilion, and Living Deltas Research Hub, under the COP Resilience Hub Event Programme, on 5 November 2021.
- [Speaker](#) in the **“Water Security for Climate Resilience: How research can support action for COP26 & Beyond”** event, hosted by the REACH programme, the Oxford Martin School Programme on African Governance and the Oxford Water Network, on 26 October 2021. Presentation title: **“Climate Change and Resilience in Bangladesh: Groundwater Salinity and Sea Level Rise”**.
- [Panelist](#) in the **“Adapting to climate change: simple, low-cost solutions”** session of adaptation and resilience workshop in advance of COP26, under the umbrella of the UK-Bangladesh Climate Partnership Forum, 24 November 2020.
- [Invited Lecture](#) in the capacity-building training program on Adaptive Delta Management (ADM) under MOOC: Massive Open Online Course (MOOC), Organized by IWF. October 2021. Lecture title: **“Integrated Assessment for ADM”**
- [Panelist](#) in the Virtual Round table with UK’s International Environment Minister Lord Zac Goldsmith on **Adaptation and Resilience**, organized by DFID Bangladesh, 30 August 2020.
- [Invited Lecture](#) at Foreign Service Academy, Ministry of Foreign Affairs, Dhaka, August 2020. Lecture title: **“Water Resources Development and Management in Bangladesh, Including Transboundary Perspectives”**
- [Designed and conducted](#) training on **“Concept and Practices of Integrated Water Resources Management (IWRM)”** as Key Resource Person, organized by CEGIS and BWP, in 2019, 2020, 2021, and 2022. Lecture topics included: **“Integrated Water Resources Management: Concepts and Principles”**, **“Integrated Planning for Water Resources Management”**, **“Demand Management and Water Allocation Principles”**, and **“Risk Management and IWRM: Experiences in Bangladesh”**.
- [Invited Lecture at Foreign Service Academy](#), Ministry of Foreign Affairs, Dhaka, 28 August 2019. Lecture title: **“Water Resources Development and Management in Bangladesh, Including Transboundary Perspectives”**
- [Invited Lecture](#) in the River Basin Modeling Workshop, organized by ITN-BUET, 22 May 2019. Lecture title: **“Understanding Basin Hydrology & Management: Context of Bangladesh”**.
- [Course Designer and Chief Trainer](#), Certificate Course on Water Diplomacy, 27 April – 04 May 2019; Foreign Service Academy, Ministry of Foreign Affairs, Dhaka. Sessions conducted on: **“Understanding Basin Hydrology & Implications of High and Low Flows”**, **“Conflicts and Cooperation: Global and Regional Experiences”**

- **Invited Lecture** in the “Integrated water resources management (IWRM) for climate change adaptation (IWRM4CCA)” workshop, IWFM, BUET, May 2016. Lecture title: **“IWRM in Bangladesh academia: history, progress, successes and constraints”**.
- **Keynote Speaker** on Environment Day 2018, organized by Independent University, Bangladesh (IUB). Presentation title: **“Natural Resource Conservation and Environment Management: Need for an Integrated Approach”**.
- **Invited Lecture** in the workshop on Training of Trainers for IWRM, Organized by Department of Environmental Science and Management, Independent University, Bangladesh (IUB), 2018. Lecture title: **“Integrated Water Resources Management”**.
- **Speaker** in the 4th Sub-Regional Workshop on Community Resilience to Climate Change in Bay of Bengal, Technical Session 1: Inclusive Water resource Governance for Community Resilience, December 2017, Dhaka, Organized by Bangladesh Unnayan Parishad (BUP) and Concern Worldwide Bangladesh. Presentation title: **“Linking ecosystem services to poverty alleviation: Integrated assessment of biophysical and socioeconomic processes”**.
- **Speaker** in the ‘Water Governance and Diplomacy: National Pilot Testing Workshop’, Organized by IUCN Asia, and Centre for Genocide Studies, Centre for Advanced Research in Arts and Social Sciences (CARASS) of University of Dhaka, November 2017. Presentation title: **“The dynamics of the Farakka Barrage: Is engineering against an integrated approach”**.
- **Panelist** in the Virtual Meghna Knowledge Forum, organized by IUCN Asia, June 2021. Presentation title: **“Do's and Don'ts” for Meghna Basin: Opportunities for learning from proactive and joint understanding and a shared vision”**.
- **Key Discussant** in the **National Workshop on Policy & Protocols Review and Capacity Building of Private Sector for Arsenic Safe Water**, UNICEF Bangladesh, October 2019.
- **Speaker** in the Kick-off Workshop on ‘Roads to the Rescue’ project, IWFM, BUET, April 2017. Presentation title: **“Challenges and Trends in the Coastal Areas of Bangladesh: Research at IWFM, BUET”**.
- **Invited Lecture**, Institute of Disaster Management and Vulnerability Studies (IDMVS), University of Dhaka. Lecture title: **“Water Disaster Management”**
- **Lecture** in the ‘Short Course on Flood Management’, IWFM, BUET, September 2020. Lecture title: **“Hydrological aspects of floods: Including Transboundary Perspectives”**.
- **Invited Lecture** in the Stakeholder Workshop of the DeltaMAR Project, Organized by University of Dhaka, Khulna, February 2017. Lecture title: **“Research at IWFM, BUET”**
- **Invited Speaker** in the Seminar on “Climate Change: Its Impact on Forests and Water Resources”, organized by Dhaka Ahsania Mission (DAM), at Bangladesh Agricultural Research Council (BARC), May 2018. Presentation title: **“Climate change and water resource linkage: Emerging issues, experiences and response strategies”**.
- **Speaker** at the REACH High-Level Symposium: Safe Water for All; 12 April 2018; Presentation title: **“Understanding water security for the poor in coastal Bangladesh: Insights from the Khulna observatory and lessons for investment prioritisation”**.
- **Speaker** at the ESPA Deltas Project Stakeholder Engagement Workshop, BRAC Centre Inn, March 2018; Presentation title: **“Development of the Modelling Approach of ESPA Deltas & Application of the DIEM to the Bangladesh Delta Plan 2100”**.
- **Invited Speaker** in the C3ER-ESPA Deltas Project Stakeholder Engagement Workshop; Presentation title: **“Development of the Modelling Approach of ESPA Deltas & Application of the DIEM to the Bangladesh Delta Plan 2100”**, March 2018
- **Invited Speaker** in the Workshop on Transforming conflict into cooperation for water and natural resources management, 24 October 2017, Organized by Conflict and Cooperation in the Management of Climate Change (CCMCC) Project, NOW, the Netherlands; Presentation title: **“Overview of the REACH project in Bangladesh”**.
- **Invited Speaker** in the workshop for the delegation from Myanmar Water Partnership (MWP) and Delta Alliance Myanmar Wing (DAMW), Organized by institute of Water Modelling (IWM) under Deltas Asia Initiative (LDAI) (IWM). 26 March 2017. Presentation title: **“Experiences from Ecosystem Services for Poverty Alleviation - ESPA Deltas Project”**.

- [Invited Speaker](#) in the 'LET'S TALK WATER' seminar, organized by WARPO, August 2016; Presentation title: **"Integrated assessment of biophysical and socioeconomic processes in linking ecosystem services to poverty alleviation: Experiences from ESPA Deltas Project"**.
- [Speaker](#) at the ESPA Deltas 6th Stakeholder Workshop, Dhaka, Bangladesh, 7 May 2016; "The Delta Dynamic Integrated Emulator Model (ΔDIEM): Introduction, Interventions and Policy responses"
- [Speaker](#) at the ESPA Deltas Final UK event, Royal Society, London, UK, November 2016; Presentation title: **"Linking science to policy to further the SDGs"**.
- [Speaker](#) at the Workshop on Science-Policy Interaction in Adaptive Delta Planning: Sharing key features of Bangladesh Delta Plan 2100 and ESPA Deltas Project, October 2016; Jointly organized by General Economics Division (GED), Planning Commission, Govt. of Bangladesh Institute of Water and Flood Management (IWMF), BUET, Presentation titles: **"Overview of the key policy relevant outcomes and results from the ESPA Deltas project"**; and **"Delta Dynamic Integrated Emulator Model (DDIEM): Development and Results"**;
- [Speaker](#) at the National Level Stakeholders Workshop, at General Economic Division, Planning Commission, Government of the People's Republic of Bangladesh, September 16 2015, Dhaka; Presentation title **"Overview of the key policy relevant outcomes and results from the ESPA Deltas project"**
- [Speaker](#) at the Water Security Conference 2015, 19-21 December 2015, Oxford University; Presentation title: **"Country Diagnostic Report: Bangladesh"**.
- [Invited Speaker](#) in the National Workshop Drought Risk Management" on 1-2 July 2015, organized by Bangladesh Centre for Advanced Studies (BCAS) with support from Cap-Net International (International Network for Capacity Building in Integrated Water Resource). Presentation title: **"Climate Change, Drought and Integrated Water Resources Management: Bangladesh Perspective"**.
- [Principal designer and facilitator](#) of three South Asian Water (SAWA) Fellow Training Program on **IWRM and Interdisciplinary Field Research Methodology** in connection with the regional collaborative programme of IWMF, namely the Crossing Boundaries Project and the IDRC South Asian Water (SAWA) Fellowship Projects, in Nepal, Sri Lanka and Bangladesh
- [Lecture](#) on **"IWRM Concept and Principles, and Demand Management and Water Allocation"**, at the ToT workshop organized by Center for Environmental and Geographic Information Services (CEGIS) in June 2014.
- [Lecture](#) on **"Trans-boundary Water Issues: Its Impact on Flood Management"** at the SAARC Training Programme on River Erosion & Embankment Safety Management in South Asia Region, March 29 – April 4, 2014, Organized by SAARC Disaster Management Centre, New Delhi and Disaster Research Training and Management Centre, University of Dhaka, Dhaka
- [Lecture](#) on **"Transboundary water context (issues & problems) with special reference to Ganges/Padma River"** at Strengthening Transparency and Access to Information on Transboundary Water Governance in South Asia, Organized by Bangladesh Centre for Advanced Studies (BCAS), on March 19 and April 16, 2014.
- [Lecture](#) on **"Integrated Water Resources Management (IWRM): Concepts and Principles"** at the Training of Trainers (ToT) for Water Management & Community Development (Phase-II), organized by Bangladesh Water Development Board, on 31 March 2014.
- [Lecture](#) on **"Changing Jamuna"** at the Media Workshop on the Changing Jamuna and its effects on Livelihood, organized by BCAS on 16/17 May 2013.
- [Panel Speaker](#) on **"Integrating IWRM Concept in the Transboundary Water Management in GBM Basins"** in the Technical Workshop titled 'Transboundary Data Sharing for Integrated Water Resources Management' at the 2nd Asia Pacific Water Summit held during 16-20 May 2013 in Thailand.
- [Panel Speaker](#) on **"Flood Management Versus Flood Control: Integrating IWRM Concept"**, at the Multi-stakeholder Consultation on 'Sharing Responsibilities: Joint Discussions on Floods and Flood Management', organized by IUCN, on 11 January 2013 in Guwahati, India.
- [Lecture](#) on **"IWRM concept and Principles"** in Training of Trainers (ToT) workshops organized by CEGIS in 2013.
- [Lecture](#) on **"IWRM and Ground Water Management: Concepts, science, uncertainties, policy and practice"**, at the National Workshop on Ground Water Management in IWRM, organized by BCAS with support from CapNet Global, during 7-8 September 2013 in Dhaka.
- [Lecture](#) on **"Development and Management of Transboundary Water in the Ganges, the Brahmaputra and the Meghna Basins"** at the Regional Conference on Development and Management of River Basin: The Case of the Ganges- Brahmaputra-Meghna (GBM), organized by Bangladesh Institute of International &



Strategic Studies In collaboration with the Regional Program SAARC of the Konrad-Adenauer-Stiftung (KAS), during 05-06 September 2012 in Dhaka.

- [Lecture](#) on '**IWRM concept and Principles**' in Training of Trainers (ToT) workshops organized by CEGIS in 2012.
- [Key Resource Person](#) in the **ToT on IWRM** organized by SaciWATERS and BUET in 2011 (resulted in a training module on IWRM).
- [Lecture](#) on '**IWRM concept and Principles**' in Training of Trainers (ToT) workshops organized by CEGIS in 2011.
- [Presentation](#) on "**Regional Initiatives of IWF, BUET**" in the Technical Session on Regional Initiatives of the International Workshop on Transboundary Water Resource Knowledge Sharing, organized by IUCN under the Ecosystem for life: A Bangladesh-India Initiative Project, on 24 November 2011
- [Lecture](#) on "**Hydro-morphological Setting of Bangladesh**" at the training program on Analysis, Design and Construction of Bridges organized jointly by Japan International Cooperation Agency (JICA) and Local Government Engineering Department (LGED) and held at LGED during 2 January 2010-17 February 2011.
- [Resource Person](#) in the Training of Trainers on "IWRM concepts and principles: Capacity Strengthening of Water and Environmental Academicians of Public and Private Universities", held during 5-6 July 2010, organized by IWF, BUET in association with BCAS and Cap-Net Global. Delivered two lectures on: (i) **Principle and concepts in IWRM**; and (ii) **IWRM Tools**.
- [Lecture](#) on '**IWRM concept and Principles**' in Training of Trainers (ToT) workshops organized by CEGIS in 2010.
- [Resource Person](#) in the National Level Workshop on "Climate Change and Water Resources: IWRM as a tool to Cope with Changing Condition of the Climate System", held during 20-24 June 2010, Dhaka, organized by Bangladesh Centre for Advanced Studies (BCAS), with support from CapNet Global. Delivered two lectures on: (i) "**Principles and Principles of IWRM**", and (ii) "**Adaptation to Climate Change in Water Management: How can IWRM help?**"
- [Resource Person](#) in the Regional Workshop on "Climate Change and Water Resources: IWRM as a tool to Cope with Changing Condition of the Climate System", held during 10-14 January 2010, Dhaka, organized by Bangladesh Centre for Advanced Studies (BCAS), and Secretariat, CapNet South Asia with support from CapNet Global. Delivered a lecture on "**Adaptation to Climate Change in Water Management: How can IWRM help?**"
- [Lecture](#) on '**IWRM concept and Principles**' in Training of Trainers (ToT) workshops organized by CEGIS in 2008.
- [Invited speaker](#) at the regional seminar on "Food Security and Water Issues in South Asia" organized by Bangladesh Unnayan Parishad (BUP) under the auspices of Imagine A New South Asia (INSA) on 11 June, 2008. Presented a key note paper titled "**Regional Implications of Water Resources Management Interventions in South Asia**".
- [Keynote](#) paper titled "**Regional Implications of Water Resources Management Interventions in South Asia**" at the regional seminar on "Food Security and Water Issues in South Asia" organized by Bangladesh Unnayan Parishad (BUP) under the auspices of Imagine A New South Asia (INSA) on 11 June, 2008.
- [Invited Speaker](#) at Bangladesh Centre for Advanced Studies (BCAS)'s programme on Capacity Development in Integrated Water Resources Management (IWRM), in March 2008; lecture title: "**Research Opportunities on IWRM in Bangladesh**".
- [Lecture series](#) on "**The Conceptual Framework of IWRM**" in the six divisional districts of Bangladesh during the last quarter of 2007 as a part of BCAS's programme on Capacity Development in Integrated Water Resources Management (IWRM), in connection with BCAS's activities under the International Foundation for Science (IFS) of Sweden and the CapNET.
- [Invited Speaker](#) at Bangladesh Centre for Advanced Studies (BCAS)'s programme on Capacity Development in Integrated Water Resources Management (IWRM) [part of BCAS's activities under the International Foundation for Science (IFS) of Sweden and the CapNET]. Geve lectures in six divisional districts of Bangladesh on "**The Conceptual Framework of IWRM**" in the six districts during the last quarter of 2007.
- [Resource Person](#) in a short course on "Water and Flood Management for Journalists" held on March 27-29, 2006 jointly organized by Press Institute of Bangladesh (PIB) and IWF, BUET. I gave a lecture on "**Mechanism of Floods in Bangladesh**".
- [Lecture](#) on "**Mechanism of Floods in Bangladesh**" in the short course on "Water and Flood Management for Journalists" held on March 27-29, 2006 jointly organized by Press Institute of Bangladesh (PIB) and IWF, BUET.

- **Resource Person** in the workshop on "Mathematical Modelling for the Research on the Effect of Bandalling on River flow and Morphology" held on May 06-10, 2006, jointly organized by IWFM, BUET and River Research Institute (RRI), Faridpur. I gave two lectures on: (i) **Surface Water-Groundwater Interactions**; and (ii) **Water Resources Model as a Decision Support Tool**.

## DESIGNING TRAINING COURSES

- I have designed training courses on "IWRM" and "Water Diplomacy/ Transboundary Water Management" for government ministries and agencies, including Ministry of Foreign Affairs, and the Center for Environmental and Geographic Information Services (CEGIS) (under the Ministry of Water Resources).

## POSTGRADUATE RESEARCH SUPERVISION

### PhD

- ~ *Sara Nowreen*: Mechanism of groundwater response to recharge quantification for shallow aquifers in Bangladesh (Completed 2017)
- ~ *Md. Rezaul Hasan*: Groundwater security in coastal peri-urban areas of south-west Bangladesh in the context of multi-scalar hydrological and anthropogenic processes (Completed 2022)
- ~ *Afroza Sharmin*: Investigation of Potential for Enhancing Aquifer Recharge for Increasing Cropping Intensity in Bangladesh. (On-going).

### M.Sc.

- ~ *Nusrat Jahan Tarin*: Optimization of sectoral allocation of the Mayur River water (On-going)
- ~ *Fatima-tuz-Zahra*: Integrated water management to balance different water needs in Boalia Tributary of Halda River catchment (On-going)
- ~ *Mafruha Akter*: Lowering of groundwater level and its impact on livelihood: a case study of Singair Upazila, Manikganj (On-going)
- ~ *Arup Talukder*: Union-based flood risk assessment for different risk elements: a case study of Uria Union in Fulchari Upazila (On-going)
- ~ *Mohammad Jobayer Hossain*: Suitability of drinking water services in greater southwestern coastal Bangladesh (Completed 2022)
- ~ *Md. Hasibul Hasan*: Study of changing water conflicts and their implications for water security in Polder-29 (Completed 2022)
- ~ *Tanjila Akhter*: Hydrogeologic investigation of options for improving drinking water security in a selected polder (Completed 2019)
- ~ *Momtaz Jahan*: Multi-scale assessment of risks to environmental hazards in coastal area of Bangladesh (Completed 2018)
- ~ *Md. Mahabub Arefin Chowdhury*: Comparison of aquifer vulnerability assessment methods: Application to southwest coastal region (Defense completed 2018).
- ~ *Md. Jakir Hossain*: Relative influences of different physical factors on salinity intrusion in coastal aquifer in Bangladesh (Completed 2017)
- ~ *Tamanna Kabir*: Assessment of biophysical vulnerability of storm surge hazard and its implications for water and food security (Completed 2016)
- ~ *Firoza Akhter*: Modification of Halda river flow due to different water control structures and its impact on Halda ecosystem (Completed 2016)
- ~ *Anisa Rahman Siddique*: Impact of land-use change on eco-hydrological characteristics of Arial Beel (Completed 2012)
- ~ *Nargis Akhter*: Assessing aquifer vulnerability to seawater intrusion in coastal southwest region in Bangladesh (Completed 2011)
- ~ *Gautam Kumar Biswas*: River-aquifer interaction in Little Jamuna river catchment in the northwest region of Bangladesh (Completed 2008)
- ~ *Abu Hena Mustafa Kamal Sikder*: Participatory multi-criteria evaluation of alternative options for water supply in a cyclone prone area (Completed 2010)
- ~ *Md. Shafiqur Rahman*: Simulation of water resources management scenarios in Dinajpur Sadar Upazila using WEAP model (Completed 2009)

- ~ *S.M. Sanaul Kafi*: Assessment of ecological health status in selected haors with different degrees of interventions using fish indicators (Completed 2008)
- ~ *Md. Sydur Rahman*: Water management of integrated rice-fish farming in inundated floodplains of Balajtala-Kalmdanga Subproject (Completed 2008)

### **PG Dip.**

- ~ *Khurshid Jahan*: Delineating suitable aquifers for agricultural and drinking water supply in southwest coastal area (Completed 2013)
- ~ *Sayma Khanom*: Salinity constraints to different water uses (Completed 2011)
- ~ *Masuma Akter Happy*: Differences in actual and recommended Land and water use practices in a selected upazila

## **PUBLICATIONS**

### **Journals**

1. Haque, A., Shampa, Akter, M., Hussain, M., Rahman, R., Rahman, M., and **Salehin, M.** (2023). An Integrated Risk-based Early Warning System to Increase Community Resilience against Disaster. *Progress in Disaster Science* (In review).
2. Hossain, M.J., **Salehin, M.**, Akter, T., Hasan, M.H., Chowdhury, A.I.A. (2023). Where to invest for universal access to safe drinking water? The case of identifying water insecurity hotspots in Bangladesh coastal zone. *Environmental Research Letters* (In review).
3. Lima, M.H., **Salehin, M.**, Chowdhury, M.A., Hasan, H., Hossain, M.J., Bala, S.K. (2023). Women's empowerment and effectiveness of community-based water management in geo-hydrologically diverse coastal Bangladesh. *Environment, Development and Sustainability* (In review).
4. Lázár, A.N., Nicholls, R.J., Hutton, C.W., Payo, A., Adams, H., Haque, A., Clarke, D., **Salehin, M.**, Alistair, H., Allan, A., Adger, W.N., Rahman, M.M. (2023). The climate-development nexus in coastal Bangladesh to 2050. *Nature Sustainability* (In review).
5. Sarkar, M., Nasreen, M., and **Salehin, M.** Water Security, Poverty and Livelihoods: Trajectories and adaptation among water-poor in coastal Bangladesh. *Population and Environment* (In review).
6. Akhter, T., Naz, M., **Salehin, M.**, Arif, S.T., Hoque, S.F., Hope, R., and Rahman, M.R. (2023). Hydrogeologic Constraints for Drinking Water Security in Coastal Bangladesh: Implications for SDG 6.1. *Water*. Volume 15, Issue 13 (Issue July-1).
7. Islam, A.F.M.T., Islam, A.K.M.S., Islam, G.M.T., Bala, S.K., **Salehin, M.**, Choudhury, A.K., Mahboob, M.G., Dey, N.C., and Hossain, A. Delineation of wheat crop by assimilating Sentinel-2 imagery and in-situ Spectroradiometer data in heterogeneous field conditions. *Computers and Electronics in Agriculture* (In review).
8. Mohammed, K, Islam A.S., Islam, G.M.T., Bala, S.K., **Salehin, M.** and Rahman, M. A Comparison between ANN and SVM for Real-time Flash Flood Stage Forecasting of the Meghna basin using TRMM 3B42 Precipitation. *Journal of Flood Risk Management* (In review).
9. Cremin, E., O'Connor, J., Banerjee, S., Bui, L.H., Chanda, A., Hua, H.H., Huynh, D.V., Le, H., Murshed, S.B., **Salehin, M.**, Vu, A., Sebesvari, Z., Large, A., and Renaud, F.G. (2023). Aligning the Global Delta Risk Index with SDG and SFDRR global frameworks to assess risk to socio-ecological systems in river deltas. *Sustainability Science*. <https://doi.org/10.1007/s11625-023-01295-3>.
10. Islam, A.F.M.T., Islam, A.K.M.S., Islam, G.M.T., Bala, S.K., **Salehin, M.**, Choudhury, A.K., Dey, N.C., and Mahboob, M.G. (2023). Simulation of water productivity of wheat in northwestern Bangladesh using multi-satellite data. *Agricultural Water Management*, <https://doi.org/10.1016/j.agwat.2023.108242>.
11. Islam, A.F.M.T., A.S., Islam, G.M.T., Bala, S.K., **Salehin, M.**, Choudhury, A.K., and Hossain, A. (2022). Adaptation strategies to increase water productivity of wheat under changing climate. *Remote Sensing of Environment. Agricultural Water Management*, <https://doi.org/10.1016/j.agwat.2022.107499>.
12. Hossen, M.A., Netherton, C., Benson, D., Rahman, M.R., and **Salehin, M.** (2022). A governance perspective for climate change adaptation: Conceptualizing the policy-community interface in Bangladesh. *Environmental Science and Policy*, 137: 174–184, <https://doi.org/10.1016/j.envsci.2022.08.028>.
13. Barbour, E.J., Adnan, S.G., Borgomeo, E., Paprocki, K., Khan, M.S.A., **Salehin, M.**, and Hall, J.W. (2022). The unequal distribution of water risks and adaptation benefits in coastal Bangladesh. *Nature Sustainability*, 5 (4). 294 – 302. ISSN 2398-9629.

14. Hermans, L.M., Narain, V., Kempers, R., Gomes, S.L., Banerjee, P., Hasan, R., **Salehin, M.**, Khan, S.A., Hossain, A.T.M.Z., Islam, K.F., Huda, S.N., Banerjee, P.S., Majumder, B., Majumder, S., and Thissen, W. (2022). Power and Empowerment in Transdisciplinary Research: A Negotiated Approach for Peri-Urban Groundwater Problems in the Ganges Delta. *Hydrology and Earth System Science (HESS)*. *Hydrol. Earth Syst. Sci.*, 26, 2201–2219, <https://doi.org/10.5194/hess-26-2201-2022>
15. Moorhouse, H. L., Roberts, L.R., McGowan, S., Panizzo, V.N., Barker, P., **Salehin, M.**, Nga Do, T., Thanh, P.N., Rahman, M. F., Ghosh, T., Das, S., Hackney, C., Salgado, J., Roy, M., Opel, A., Henderson, A.C.G., Large, A.R.G. (2021). Tropical Asian mega-delta ponds: important and threatened socio-ecological systems. *Geo: Geography and Environment*. 2021;00:e00103, <https://doi.org/10.1002/geo2.103>.
16. Roman, O., Hoque, S.F., Ford, L., **Salehin, M.**, Alam, M.M., Hope, R., and Hall, J.W. (2021). Optimizing Rural Drinking Water Supply Infrastructure to Account for Spatial Variations in Groundwater Quality and Household Welfare in Coastal Bangladesh. *Water Resources Research*, <https://doi.org/10.1029/2021WR029621>.
17. Akter, M., Haque, A., Karim, D.S., Rahman, M., **Salehin, M.**, Kabir, R., Alim, M.A., and Haq, M.A. (2021). Development of an adaptation model by applying non-linear programming to compute adaptation deficiency in climatic hotspots. *Progress in Disaster Science*, <https://doi.org/10.1016/j.pdisas.2021.100201>.
18. Allan, A.A., Barbour, E., Nicholls, R., Hutton, C., Lim, M., **Salehin, M.**, Rahman, M.M. (2021). Developing socio-ecological scenarios for integrated assessment: A participatory process for engaging stakeholders. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2021.150512>.
19. Hashimoto, M., Kawaike, K., Deguchi, T., Haque, S., Arpan, P., **Salehin, M.**, Nakagawa, H. (2021). Multi-scale flooding hazards evaluation using a nested flood simulation model: Case study of Jamuna River, Bangladesh. *International Journal of River Basin Management*. <https://doi.org/10.1080/15715124.2021.1935977>.
20. Nowreen, S., Taylor, R.G., Shamsudduha, M., **Salehin, M.**, Zahid, A., and Ahmed, K.M. (2020). Groundwater recharge processes in an Asian mega-delta: hydrometric evidence from Bangladesh. *Hydrogeology Journal*, <https://doi.org/10.1007/s10040-020-02238-3>.
21. Manandhar, A., Fisher, A., Bradley, D., **Salehin, M.**, Islam, S.M., Hope, R., and Clifton, D. (2019). Machine Learning to Evaluate Impacts of Flood Protection in Bangladesh, 1983–2014. *Water*, 12, 483; doi:10.3390/w12020483.
22. Shouvik, D., Hazra, S., Haque, A., Rahman, M., Nicholls, R.J., Ghosh, A., Ghosh, T., and **Salehin, M.** (2019). Social Vulnerability to Environmental Hazards across the Coastal Region of the Ganges-Brahmaputra-Meghna Delta, India and Bangladesh. In review.
23. Shouvik, D., Hazra, S., Haque, A., Rahman, M., Nicholls, R.J., Ghosh, A., Ghosh, T., and **Salehin, M.** (2019). Social Vulnerability to Environmental Hazards across the Coastal Region of the Ganges-Brahmaputra-Meghna Delta, India and Bangladesh
24. Hoque, S.F., Hope, R., Arif, S.J., Tanjila, A., Naz, M., and **Salehin, M.** (2019). A social-ecological analysis of drinking water risks in coastal Bangladesh. *Science of the Total Environment* 679 (2019) 23–34, [doi.org/10.1016/j.scitotenv.2019.04.359](https://doi.org/10.1016/j.scitotenv.2019.04.359).
25. Hossen, M.A., Chowdhury, M.A., Hans, A., Tagoe, C.A., Allan, A., Nelson, W., Patel, A., Mondal, M.S., **Salehin, M.**, Quaye, R.M., and Das, S. (2019). Governance Challenges in Addressing Climatic Concerns in Coastal Asia and Africa. *Sustainability* 2019, 11, 2148; doi:10.3390/su11072148.
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27. Akter, M., Jahan, M., Kabir, R., Karim, S., Haque, A., Rahman, M. and **Salehin, M.** (2018). Risk assessment based on fuzzy synthetic evaluation method. *Science of the Total Environment*. 658 818-829, 2019. <https://doi.org/10.1016/j.scitotenv.2018.12.204>
28. Hutton, C.W., Nicholls, R.J., Lázár, A.N., Chapman, A., Schaafsma, M., and **Salehin, M.** (2018). Potential Trade-Offs between the Sustainable Development Goals in Coastal Bangladesh. *Sustainability*, 10, 1108; doi:10.3390/su10041108.
29. Nahian, M.A., Ahmed, A., Lázár, A.N., Hutton, C.W., **Salehin, M.**, and Streatfield, P.K. (2018) Drinking water salinity associated health crisis in coastal Bangladesh. *ELEMENTA Science of the Anthropocene*. 6: 2. DOI: <https://doi.org/10.1525/elementa.143>
30. Borgomeo, E., Hall, J.W., and **Salehin, M.** (2017). Avoiding the water-poverty trap: insights from a conceptual human-water dynamical model for coastal Bangladesh. *International Journal of Water Resources Development*, (), 1–23. doi:10.1080/07900627.2017.1331842

31. Payo, A., Lázár, A.N., Clarke, D., Nicholls, R.J., Bricheno, L., **Salehin, M.**, and Haque, A. (2017). Modeling daily soil salinity dynamics in response to agricultural and environmental changes in coastal Bangladesh. *Earth's Future*, 5, doi:10.1002/2016EF000530.
32. Chanda, A., Mukhopadhyay, A., Ghosh, T., Akhand, A., Mondal, P., Ghosh, S., Mukherjee, S., Wolf, J., Lázár, A.N., Rahman, M.M. and **Salehin, M.** (2016). Blue Carbon Stock of the Bangladesh Sundarban Mangroves: What could Be the Scenario after a Century? *Wetlands*, pp.1-13. doi:10.1007/s13157-016-0819-7.
33. Nicholls, R.J., Hutton, C.W., Lázár, A.N., Allan, A., Adger, W.N., Adams, H., Wolf, J., Rahman, M. and **Salehin, M.** (2016). Integrated assessment of social and environmental sustainability dynamics in the Ganges-Brahmaputra-Meghna delta, Bangladesh. *Estuarine, Coastal and Shelf Science*, pp. 1-12. doi: 10.1016/j.ecss.2016.08.017.
34. Hazra, S., Mukhopadhyay, A., Chanda, A., Mondal, P., Ghosh, T., Mukherjee, S., and **Salehin, M.** (2016). Characterizing the 2D shape complexity dynamics of the islands of Sundarbans, Bangladesh: a fractal dimension approach. *Environ Earth Sci* (2016) 75:1367, DOI 10.1007/s12665-016-6175-3
35. Sikder, A.H.M.K., and **Salehin, M.** (2015). Multi-criteria decision making methods for rural water supply: a case study from Bangladesh. *Water Policy*, IWA Publishing, doi: 10.2166/wp.2015.111.
36. Whitehead, P.G., Barbour, E., Futter, M.N., Sarkar, S., Rodda, H., Caesar, J., Butterfield, D., Jin, L., Sinha, R, Nicholls, R., **Salehin, M.** (2015). Impacts of climate change and socio-economic scenarios on flow and water quality of the Ganges, Brahmaputra and Meghna (GBM) river systems: low flow and flood statistics. *Environ Sci Process Impacts*. 2015 Jun;17(6):1057-69. doi: 10.1039/c4em00619d. Epub 2015 Mar 4.
37. Clarke, D., Williams, S., Jahiruddin, M., Parks, K., **Salehin, M.** (2015). Projections of on-farm salinity in coastal Bangladesh. *Environ Sci Process Impacts*. 2015 Jun;17(6):1127-36. doi: 10.1039/c4em00682h. Epub 2015 Mar 19.
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39. Sikder, A.H.M.K., and **Salehin, M.** (2014). Participatory multi-criteria evaluation of alternative options for water supply in cyclone-prone areas of Bangladesh. *Journal of Water, Sanitation and Hygiene for Development*, IWA Publishing, doi: 10.2166/washdev.2014.094.
40. Baki, M.A.A.B., Bhuiyan, S.R., Hoque, M.M., **Salehin, M.**, Islam, A.S. and Islam, T. (2014): Digital elevation based flood hazard study with and without effect of climate change scenario in Sirajganj Sadar Upazila, Bangladesh, *International J. of Surface and Groundwater Management*, 1(1), 43-51. <http://basharesearch.com/IJSGWM/6010107.pdf>.
41. Nicholls, R.J., Hutton, C., Lázár, A.N., Rahman, M.M., **Salehin, M.**, and Ghosh, T. (2013). Understanding climate change and livelihoods in coastal Bangladesh, *International Association for Hydro-Environment Engineering and Research (Hydro Link)*, Special Issue: Sea Level Rise Adaptation Measures, pp40-42, No 2/ 2013.
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43. Stonedahl, S.H., Harvey, J.W., Worman, A., **Salehin, M.**, and Packman, A.I. (2010). A three dimensional spectral flow model for for hyporheic exchange spanning scales from ripples to meanders, *Water Resources Research*, American Geophysical Union (AGU), Vol. 46, W12539, doi:10.1029/2009WR008865, 2010.
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45. **Salehin, M.**, Haque, A., Rahman, M.R., Khan, M.S.A., and Bala, S.K. (2007). Hydrological Aspects of 2004 Floods in Bangladesh. *Journal of Hydrology and Meteorology*, Society of Hydrologists and Meteorologists, Nepal, Vol.4, Number 1, pp.33-44.
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47. **Salehin, M.**, Packman, A.I., and Paradis, M. (2004). Hyporheic exchange with heterogeneous streambeds: Laboratory experiments and modeling. *Water Resources Research*, American Geophysical Union, Vol. 40, W11504, doi:10.1029/2003WR002567.



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50. Packman, A.I., and **Salehin, M.** (2003). Relative roles of stream flow and sedimentary conditions in controlling hyporheic exchange. *Hydrobiologia*, Vol.494, pp.291-297.
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### **Conference proceedings**

57. AFM Tariqul Islam, Islam, A.S., G.M. Tarekul Islam, Sujit Kumar Bala, **Mashfiqus Salehin**, Apuba Kanti Choudhury, Nepal C Dey, Akbar Hossain (2021) Assessment of water productivity of wheat under changing climate in northwest Bangladesh. *Proceedings of the 8th International Conference on Water and Flood Management (ICWFM 2021)*, 29–31 March 2021, IWFM, BUET, Dhaka, Bangladesh.
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## SELECTED ADVISORY SERVICES

- ~ **Consultant** (hydrologist): Flood Preparedness Program (FPP), Client: National Resilience Program (UNDP), 2019-2021(ongoing)
- ~ **Team Leader** and Hydrologist: Feasibility Study and Detailed Design for Development of Jetties and infrastructure at Mirsarai & Sandwip at Chittagong, Subrang and Jaliar Dwip at Teknaf and Sonadia Dwip at Cox's Bazar, Client: BEZA/BIWTA, 2018-2019.
- ~ **Consultant** (hydrologist): Community Focused Guideline Development of Bandal Installation, Client: GUK/OXFAM, 2020.
- ~ **Co-I**: Feasibility Study with ESIA for Resuscitation of Ichamoti River in Pabna District, Client: BWDB, 2018-2019.
- ~ **Co-I**: Feasibility Study for Flood Control, Drainage and Irrigation System at Gowainghat in Sylhet District. Client: Bangladesh Water Development Board. 2018-19 [Team Leader]
- ~ **Co-I**: Hydrological and Morphological Study of over 100 bridges between 2011-2019; Client: LGED and RHD.
- ~ **PI**: "Regional Implications of Water Resources Management Interventions in South Asia", Report prepared for Action Aid, Bangladesh, 2007.
- ~ **As PI**: "Development of a Base Document in the Backdrop of Climate Change Impacts: Characterizing Country Settings". Report prepared for the Climate Change Cell of DOE under the Comprehensive Disaster Management Programme (CDMP), 2007.
- ~ **As Co-I**: "Modalities for Environmental Assessment: Flood Loss Control in Bangladesh. in Integrating Environmental Considerations into economic policy Making Processes", Vol. IV, pp. 5-84, ST/ESCAP/2003,

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