

MOHAMMAD JOBAYER HOSSAIN

School of Human Evolution and Social Change
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Education

Ph.D.	In progress	Arizona State University, Tempe, AZ 85281, USA	Environmental Social Science
MA	2023	Arizona State University, Tempe, AZ 85281, USA	Environmental Social Science
MSc	2022	Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh	Water Resources Development
B.Sc.	2016	Jessore University of Science and Technology, Jessore-7408, Bangladesh	Environmental Science

Work experience

Research Associate 2018 - 2021	REACH: Improving Water Security for the Poor Project (led by the University of Oxford), Institute of Water and Flood Management, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh.
Research Assistant 2016-2017	Water Services in Primary Schools in Coastal Bangladesh Project Department of Environmental Science and Technology, Jessore University of Science and Technology, Jessore-7408, Bangladesh.

Research interests

Water insecurity | Water, sanitation and hygiene | Water governance | Mixed-methods | Community-based participatory research | Natural hazards and extreme events | Institutions and decision analysis | Climate change impacts | RS and GIS in water and environmental management

Publications

Peer-Reviewed Journals:

- 8) Choudhary, N., SturtzSreetharan, C., Trainer, S., Brewis, A., Wutich, A., Clancy, K., Fatima, U., **Hossain, M.J.**
In press Managing menstruation with dignity: Worries, Stress and Mental Health in two water-scarce urban communities in India. *Global Public Health*.
- 7) Roque, A., Wutich, A., Brewis, A., Beresford, M., Landes, L., Morales, O., Lucero, R., Jepson, W., Tsai, Y., Hanemann, M., **Action for Water Equity Consortia**
In press Community-Based Participant-Observation (CBPO): A participatory method for ethnographic research. *Field Methods*.
- 6) Hasan, M.H., Newton, I.H., Chowdhury, M.A., Esha, A.A., Razzaque, S., **Hossain, M. J.**

- 2023** Land Use Land Cover Change and Related Drivers have Livelihood Consequences in Coastal Bangladesh. *Earth Systems and Environment*, 1-19.
- 5) Hossain, M. J.**, Islam, M. A., Rahaman, M. H., Chowdhury, M. A., Islam, M. A., & Rahman, M. M. **2022** Drinking water services in the primary schools: evidence from coastal areas in Bangladesh. *Heliyon*, 8(6), e09786.
- 4) Wutich, A.**, Jepson, W., Carmen, V., Roque, A., Gu, Z., Hanemann, M., **Hossain, M. J.**, Landes, L., Larson, R., Li, W., Morales, O., Patwoary, N., Tsai, Y., Porter, S., Zheng, M., Westerhoff, P. **2022** Water insecurity in the Global North: A review of experiences in US colonias communities along the Mexico border. *Wiley Interdisciplinary Reviews: Water*, e1595.
- 3) Roque, A.**, Wutich, A., Quimby, B., Porter, S., Zheng, M., **Hossain, M. J.**, & Brewis, A. **2022** Participatory approaches in water research: A review. *Wiley Interdisciplinary Reviews: Water*, e1577.
- 2) Chowdhury, M.**, Zzaman, R. U., Tarin, N. J., & **Hossain, M. J.** **2022** Spatial variability of climatic hazards in Bangladesh. *Natural Hazards*, 1-23.
- 1) Hossain, M. J.**, Chowdhury, M., Jahan, S., Zzaman, R. U., & Islam, S. L. U. **2021** Drinking Water Insecurity in Southwest Coastal Bangladesh: How Far to SDG 6.1?. *Water*, 13(24), 3571.

Peer-Reviewed Book Chapters:

- 1) Hasan, M. H.**, **Hossain, M. J.**, Chowdhury, M. A., & Billah, M. **2020** Salinity intrusion in southwest coastal Bangladesh: an insight from land use change. In *Water, Flood Management and Water Security Under a Changing Climate* (pp. 125-140). Springer, Cham.

Peer-Reviewed Manuscripts Under Review:

- 5) Hossain, M. J.**, Salehin, M., Akter, T., Chowdhury, A.I.A., Hasan, M.H. *Under review* Where to invest for universal access to safe drinking water? The case of identifying water insecurity hotspots in Bangladesh coastal zone. Submitted to *Environmental Research Letters*.
- 4) Castro-Diaz, L.**, Roque, Landes, L., Lucero, R., Jankovic-Rankovic, J., Marcos-Hernández, M., Beresford, M., Brewis, A., Jepson, W., Westerhoff, P., A., Wutich, A., **Action for Water Equity Consortia** *Under review* Water injustices in U.S. colonias along the Mexico border. Submitted to *Environmental Justice*.
- 3) Roque, A.**, Wutich, A., Landes, L., Li, W., Larson, R., Westerhoff, P., Zheng, M., Hernández, M., **Hossain, M.J.**, Tsai, Y., Ramón, L., Griffin, T., White, D., Hanemann, M., Action for Water Equity Consortia *Under review* Participatory Convergence: A Process Framework for Action Research. Submitted to *Journal for Action Research*.
- 2) Beresford, M.**, Brewis, A., Choudhary, N., Drew, G., Garcia, N., Garrick, D., **Hossain, M.J.**, Lopez, E., Nébié, E., Pacheco-Vega, R., Roque, A., Wutich, A. *Under review* Justice and Moral Economies in Modular, Adaptive, and Decentralized (MAD) Water Systems. Submitted to *Water Security*.
- 1) Jerin, T.**, Azad, A.K., Islam, S.L.U, **Hossain, M.J.**

Under review Extreme Weather Events (EWEs)-Related Health Complications in Bangladesh: A Gender-based Comparative Study on the 2017 Flood. Submitted to *Environmental Challenges*.

Peer-Reviewed Conference Proceedings:

3) Hossain, M.J., Islam, M.A., Rahman, M.M.

2019 Quality assessment of drinking water sources in the primary schools of coastal areas: A case study on Dacope Upazila, Khulna. In: *Proceedings of the 7th International Conference on Water and Flood Management*, March 2019, Dhaka, Bangladesh.

2) Ahmed, S. I., Fattah, A. A., Hossain, M.J., Tanvir, M.

2018 Potential of Waste to Energy (WtE) Technologies for Efficient Management of Municipal Solid Waste in Bangladesh. In: *Proceedings of the 1st International Conference on Energy & Environment*, September 2018, Sylhet, Bangladesh.

1) Hossain, M.J., Kabir, A.H.M.E. and Jahan, S.

2017 Safe drinking water scarcity in the Southwestern coastal region of Bangladesh: A scenario of Sarankhola Upazila, Bagerhat District. In: *Proceedings of the 6th International Conference on Water and Flood Management*, March 2017, Dhaka, Bangladesh.

Selected Manuscripts in Preparation:

5) Hossain, M.J., Hasan, M. H., Salehin, M. Suitability of water services in different hydro-social context: The case of alternative services in coastal Bangladesh. To be submitted to *Water Policy*.

4) Hossain, M.J., Hasan, M. H., Lima, M. H., Chowdhury, M. A., Salehin, M., Bala, S. K. Role of water management institutions in ensuring water security in coastal Bangladesh. To be submitted to *Water Alternatives*.

3) Hasan, M. H., Hossain, M.J., Salehin, M. Changing water conflicts and social inequalities and their implications for water security in polder-29, southwest coastal Bangladesh. To be submitted to the *International Journal of the Commons*.

2) Lima, M. H., Salehin, M., Chowdhury, M. A., Hasan, M. H., Hossain, M.J., Bala, S.K. Community-based water management and women's empowerment across geo-hydrologically diverse contexts in southwest coastal Bangladesh. To be submitted to the *International Journal of Water Resources Development*.

1) Hossain, M.J., Akhter, T., Hasan, M. H., Salehin, M., Is groundwater a viable source of drinking water in greater southwest coastal Bangladesh? To be submitted to *Groundwater for Sustainable Development*.

Conference presentations

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8) Hossain, M.J.*, Salehin, M., Akter, T.

2023 Water security hotspots: Delineating the spatial variation of risk to drinking water services and investment priorities in greater southwest coastal Bangladesh. *American Association of Geographers Annual Meeting*, March 2023, Denver, CO, USA.

7) Hossain, M.J.*, Amin, G.M.R., Azim, M.R., Zannah, R.

2020 Impact of sea level rise on salinity intrusion in coastal Bangladesh. *Hackathon on Consequences of Extreme Sea Level Rise*, February 2020, Dhaka, Bangladesh.

6) Hossain, M.J.*, Islam, M.A., Rahman, M.M.

- 2019 Quality assessment of drinking water sources in the primary schools of coastal areas: A case study on Dacope Upazila, Khulna. *7th International Conference on Water and Flood Management*, March 2019, Dhaka, Bangladesh.
- 5) Hasan, H.***, **Hossain, M.J.**, Billah, M.
2019 Salinity intrusion in southwest coastal Bangladesh: Land use changes and its impact on agriculture. *7th International Conference on Water and Flood Management*, March 2019, Dhaka, Bangladesh.
- 4) Ahmed, S. I.***, Fattah, A. A., **Hossain, M.J.**, Tanvir, M.
2018 Potential of Waste to Energy (WtE) Technologies for Efficient Management of Municipal Solid Waste in Bangladesh. *1st International Conference on Energy and Environment*, September 2018, Sylhet, Bangladesh.
- 3) Rahman, M.M.***, Leya, R., **Hossain, M.J.**
2018 Storm surge hazard risk assessment for risk reduction in coastal region of Bangladesh. *1st International Conference on Biological and Environmental Research: Recent Development, Challenges and Future Prospects*, September 2018, Jessore, Bangladesh.
- 2) Hossain, M.J.***, Kabir, A.H.M.E. and Jahan, S.
2017 Safe drinking water scarcity in the Southwestern coastal region of Bangladesh: A scenario of Sarankhola Upazila, Bagerhat District. *6th International Conference on Water and Flood Management*, March 2017, Dhaka, Bangladesh.
- 1) Hossain, M.J.***, Islam, M.S.U., Ahmed, M.T., Tarek, M. and Islam, M.S.
2016 Potable drinking water insecurity in South-West coastal Bangladesh: Issues of pond users in Shyamnagar Upazila, Satkhira District. *1st International Conference on Botanical Pesticides and Environmental Sustainability*, September 2016, Rajshahi, Bangladesh.

Teaching experience

- 2023** Lab manager in Culture, Health and Environment Lab (CHELab) under the supervision of Dr. A. Wutich, A. Brewis, A. Ruth & C. SturtzSreetharan.
- 2022** Teaching Assistant for ASB 327 Disaster!, under the supervision of Dr. A. Wutich.
- 2022** Teaching Assistant for ASB 305 Poverty and Global Health, under the supervision of R. Stotts & R. Nelson
- 2021** Teaching Assistant for ASB 316 Money and Culture, under the supervision of A. York.

Grants and fellowships

- 2023** Graduate and Professional Student Association **Jumpstart Research Grant**, Arizona State University, \$750
- 2023** **Research Grant** (II) for Graduate Students, School of Human Evolution and Social Change, Arizona State University, \$3,000
- 2022** **Conference Grant** for attending Water and Health Conference 2022, University of North Carolina at Chapel Hill, \$450
- 2022** **Travel Grant** for Graduate Students, School of Human Evolution and Social Change, Arizona State University, \$1,200
- 2022** **Research Grant** (I) for Graduate Students, School of Human Evolution and Social Change, Arizona State University, \$3,000

2021 Graduate and Professional Student Association **Publication Grant**, Arizona State University, \$1,200

Awards and recognition

- 2020** **Best group in Hackathon award** - Consequences of extreme Sea Level Rise. Joint Corporation Program Bangladesh-The Netherlands, February 2020.
- 2016** **Best undergraduate thesis** - Department of Environmental Science and Technology, Jessore University of Science and Technology (JUST).

Professional development & certifications

- 2021** Certification to teach. **International Teaching Assistant Teacher Training**, Arizona State University.
- 2020** **Short course on mathematical modeling** from IWFm, BUET, January 2020.
- 2020** One-day **training on water quality analysis** from IWFm, BUET, January 2020.
- 2017** Two-day Internal Audit Course on **ISO 14001:2015 (Environmental Management System)**. Bureau Veritas (Bangladesh) Private Limited, November 2017.

International workshops & Conferences

- 2022** Participant. **Water and Health Conference 2022**, University of North Carolina at Chapel Hill, 24 - 28 October, Chapel Hill, NC, USA.
- 2021** Participant. Workshop on **Introduction to methods in ethnoecology: The measure of Local Ecological Knowledge**. Institute for Social Science Research, Arizona State University, 12 - 13 October 2021, Tempe, AZ, USA.
- 2020** Participant. Hackathon on **Consequences of extreme Sea Level Rise**. Joint Corporation Program Bangladesh-The Netherlands, 11 - 12 February 2020, Dhaka, Bangladesh.
- 2019** Participant. Technical workshop on **MAR system in Bangladesh**. Utrecht University, Technical University of Delft, Acacia Water and the University of Dhaka, 6 - 7 November 2019, Khulna, Bangladesh.
- 2019** Participant. **Dhaka Water Knowledge Days (DWKD-2019)**. Joint Corporation Program Bangladesh-The Netherlands and Deltares, 27 - 31 October 2019, Dhaka, Bangladesh.

Service to the community

- 2023-present Reviewer. **Heliyon, Elsevier**.
- 2022-present Member. **American Association of Geographers (AAG)**.
- 2021-present Member. **New York Academy of Science (NYAS)**.
- 2021-present Member. **Household Water Insecurity Experience - Research Coordination Network (HWISE-RCN)**
- 2020-present Member. **Rural Water Supply Network (RWSN)**
- 2019-present Board member. **Bangladesh-The Netherlands Water Youth Forum (BNWYF)**.
- 2015-16 President. **Environment Club**. Jessore University of Science and Technology.
- 2017-19 Team Leader. **BD Clean**, an environmental awareness organization in Bangladesh.
- 2014-16 District Coordinator. **Bangladesh Youth Environmental Initiative (BYEI)**, a non-partisan, and non-profit youth organization.

Skills

- Expert in **Microsoft office package** (e.g., Word, Excel, PowerPoint).
- Basic user of **SPSS** and **MAXQDA**.
- Proficient in using Geographic Information System (GIS) software (e.g., **ArcGIS, QGIS, ILWIS**).
- **Instruments Operated:** HG-AAS, UV-VIS Spectrophotometer, Multimeter, Microbial Apparatus, Autoclave, Colony Counter, Laminar Air Flow Chamber, Humidity Control Oven, Centrifuge machine, ADCP, Eco-sounder.