

MOHAMMAD INZAMUL HAQUE

Assistant Professor

Department of Environmental Science and Geography

Islamic University Bangladesh, Kushtia-7003

Email: mihaque.iu@gmail.com/mihaque@ge.iu.ac.bd

Phone: +88 01674 489010

https://iu.ac.bd/index.php/site/dept_mainmenu/GE/133



www.scholar.google.com/citations?user=TOhzWDDAAAAAJShI=en



www.researchgate.net/profile/Md-Haque-17



www.orcid.org/0000-0003-1756-5561



www.linkedin.com/in/mihaquesazal/

Research Interests

GIS-RS Applications, Environmental Monitoring and Assessment with UAVs, LULC Change Dynamics, Hydrology and Fluvial Morphology, Water Quality, Ecological Modelling, Urban Environmental Study,

Teaching and Professional Experiences

Assistant Professor, Dept. of Environmental Science and Geography

- Preparing and delivering undergraduate and/or graduate-level lectures;
- Developing course materials, including syllabi, assignments, and exams;
- Conducting lab courses and fieldwork;
- Supervising student research projects, theses, or dissertations; and
- Attending faculty meetings and contributing to institutional decision-making.

Islamic University Bangladesh

Kushtia-7003

July 2021-Ongoing

Chairman, Dept. of Environmental Science and Geography

- Provided strategic direction for the department, aligning with the university's mission and goals;
- Represented the department in university-wide initiatives and discussions;
- Oversaw curriculum development, review, and implementation;
- Managed student enrollment, academic advising, and program assessments;
- Recruited, hired, and retained qualified faculty and staff;
- Prepared and managed the department's budget, ensuring efficient allocation of resources;
- Oversaw the maintenance of equipment, labs, seminar library, and other departmental resources;
- Acted as the primary liaison between the department and other university units, including administration, other departments, and external stakeholders; and
- Organized departmental events, seminars, and networking opportunities for faculty, students, and professionals.

Islamic University Bangladesh

Kushtia-7003

Sep 2021-Sep 2024

House Tutor, Lalon Shah Hall

- Acted as a mentor and guide for students, addressing their academic, emotional, and personal concerns;
- Referred students to university counseling, medical, or support services;

Islamic University Bangladesh

Kushtia-7003

Feb 2019-Feb 2021

- Ensured that students adhered to the hall's rules, regulations, and code of conduct;
- Addressed issues like noise complaints, vandalism, or breaches of hall policies;
- Helped organize hall events like orientation programs, sports competitions, or cultural festivals; and
- Coordinated with university authorities or emergency services when needed.

Lecturer, Dept. of Environmental Science and Geography

Islamic University Bangladesh
Kushtia-7003
July 2018-July 2021

- Prepared and delivered lectures, seminars, and tutorials for undergraduate and postgraduate courses;
- Designed and updated course materials, including syllabi, assignments, and exams;
- Assess and grade student work, providing constructive feedback;
- Supervise student projects, dissertations, and theses; and
- Participate in departmental, faculty, or university committees.

Remote Sensing and GIS Analyst, RS, GIS, and Modelling Division

**Bangladesh Centre for
Advanced Studies**
Dhaka, Bangladesh
Aug 2017-July 2018

- Acquired satellite imagery, aerial photographs, LiDAR, or other remote sensing data;
- Integrated data from various sources, including GPS, field surveys, and other spatial datasets;
- Performed spatial analysis and image interpretation to identify patterns, changes, or trends;
- Developed high-quality thematic maps for applications such as urban planning, environmental monitoring, disaster management, and natural resource management;
- Developed custom GIS tools, scripts, or models using programming languages (e.g., Python, R, MATLAB) to automate workflows and enhance analysis;
- Planned and managed remote sensing and GIS projects, ensuring timely delivery of results;
- Prepared technical reports, presentations, and documentation for stakeholders.
- Collaborated with project teams, researchers, or clients to define project goals and requirements; and
- Provided technical support and training on remote sensing and GIS tools and techniques to colleagues or stakeholders.

Research Assistant, SUST Research Center

**Shahjalal University of Science
and Technology**
Sylhet, Bangladesh
July 2015-June 2016

- Planned, modified, and executed research techniques and procedures;
- Collected research data through experimentation, surveys, and leading focus groups; and
- Performed statistical, qualitative, and quantitative analysis and prepared report prepared scientific reports.

Educational Qualification

M.S. Shahjalal University of Science and Technology Sylhet, Bangladesh
Major: Geography and Environment Feb 2016-July2017

Result: CGPA: 3.77 on a scale of 4.00 (with Distinction)

B.Sc. Shahjalal University of Science and Technology Sylhet, Bangladesh
Major: Geography and Environment Jan 2011-June 2015

Result: CGPA: 3.64 on a scale of 4.00

English Proficiency Score

IELTS, Overall Score: 7

Courses Taught

Theoretical Courses- Physical Geography, Introduction to GIS, Remote Sensing, Hydrology and Fluvial Morphology, Geology, Geomorphology, Oceanography, Biogeography, Quantitative Techniques, Geoinformation Science and Technology, Geoinformatics in Disaster Management, Research Methodology, Geophysics, Geochemistry, Gender and Environment, Ecotourism, Economic Geography, Cartography, Environmental Modeling Wastewater treatment. Delta Resource Planning and Management, Flood and River management.

Lab Courses- Physical Geography, Cartographic Techniques, Geophysics, Geochemistry, Geological Mapping and Rocks & Mineral Identification, GIS Application, Remote Sensing, Advanced Spatial Analysis.

Fieldworks- Socio-economic Survey, Physical Observation, Geological Investigation, LULC survey and Planning, and Microregion Survey.

Technical Skills

GIS-RS Based

- *Spatial Analysis Tool (software package):* ArcGIS Pro, ArcGIS Basic, QGIS, SAGAGIS, Erdas Imagine, ENVI, IDRISI Selva, Surfer, etc.
- *GIS-Based Skill:* Cartographic Analysis (Digitizing, Geo-referencing, Generalization etc.), Geo-processing (Clip, Union, Intersect, Merge, Dissolve etc.), Spatial and Geostatistical Analysis (Extraction, Interpolation, Map Algebra, Spatial Autocorrelation, Clustering, Nearest neighbor, Hotspot Analysis, Network Analysis) Modeling (raster-based: DEM, 3D Surface Modeling,

RUSLE, Watershed modeling: flow direction, accumulation, length, stream order etc.)

- *RS Based Skill:* Satellite Data- Acquisition, Preparation (AOI, Composite Generation, Spectral Generalization), Pre-Processing (Geometric correction, Radiometric calibration, Spectral enhancement, Interpolation, PCA), Classification (Supervised: Max likelihood, Min Distance, Binary Encoding, Support vector Machine, Unsupervised: IsoData, K-means), Spectral Indexing (NDVI, MNDVI, NDWI, MNDWI, NDBI, NDSSI, SAVI etc.), Change Detection (Image Differencing, Image Rationing, Thematic Change Workflow, Adaptive Thresholding, Image Statistics: CROSSTAB, Change Vector Analysis etc.), Post Processing (Resampling, Smoothing etc.)

Statistical

- *Statistical Analysis Tool (Software Package):* SPSS, Excel
- *Analytical:* Univariate/multivariate methods (regression, general linear models, logistic regression etc.), categorical analysis, descriptive statistics, confidence intervals/effect sizes, identifying and accounting for missing data, etc.

Programming

- Database programming ORACLE MySQL,
- Geoscripting with Python (currently learning)

Technical Training

Foundation Training for University Teachers

Graduate Training Institute,
Bangladesh Agricultural University
November 2019

Tailor Made Training (TMT): Capacity building for RS & GIS researchers on the use of UAV images and their application in food security, forestry and mangrove

University of Twente, Netherlands
and Bangladesh Centre for Advanced Studies
April 2018

SERVIR Himalayan Youth Forum –
Empowering Youth with Earth Observation
Information for Climate Actions in Bangladesh

Bangladesh Centre for Advanced Studies (BCAS),
ICIMOD, USAID and NASA.
May 2014

Projects/Thesis Supervised

Projects-

B.Sc. Level: 15
MSc Level: 3

Thesis-

MSc Level: 3

Project Experience

Principal Investigator, “A Comprehensive Analysis of Water Quality in Pipeline Water and its Associated Health Risks in Kushtia Municipality”	Bangladesh University Grant Commission July 2024-June 2025 https://ugc.gov.bd/
Remote Sensing & GIS Analyst, “GEOPOTATO” Using satellite data and powerful analysis models, GeoPotato is designed to enable preventive spraying, easier crop protection decisions, and improved potato farmer income.	Bangladesh Centre for Advanced Studies Aug 2017-July 2018 https://bcas.net/
Remote Sensing & GIS Analyst, “Himalayan Adaptation, Water and Resilience (HI-AWARE)” Research on Glacier and Snowpack Dependent River Basins for Improving Livelihoods.	Bangladesh Centre for Advanced Studies Aug 2017-July 2018 https://bcas.net/
Project Fellow, “An analysis of Surma river dynamics using multi-temporal satellite image”	SUST Research Centre July15-June 16 www.sust.edu

Fellowship and Research Grants

- **University Grant Commission (UGC) Research Fellowship (July 2024-June 2025)**
Role: Principal Investigator
Grant Ref: 141/Edu/IU-2024/31
- **National Science and Technology (NST) Fellowship (July 2016-June 2017)**
Role: Principal Investigator

Graduate (MS) Thesis

2017 **Haque, M.I.** (2017). Magnitude and Dynamics of Land Use/Land Cover: A Case Study of Tanguar Haor. Geography and Environment. Shahjalal University of Science and Technology. Sylhet.

Journal Articles (International peer-reviewed journals only)

2026 Trina, M. S. S., **Haque, M. I.***, Rahman, M. A., Dewan, M. A. I., Parvin, M. A., & Hossain, M. A. (2025). Spatiotemporal change and population displacement due to erosion and accretion

along the Jamuna River in Sirajganj from 1988 to 2024. *Jordan Journal of Earth and Environmental Sciences*. (Accepted)

- 2026 Hossain, A., **Haque, I.**, Al Mamun, A., Al-Din Selim, S. M., Ara, H., Das, T. K., & Rahman, M. M.* (2026). Physicochemical and metagenomic characterization of drinking water: Public health implications in Kushtia Municipality, Bangladesh. *Environ Monit Assess* **198**, 224. <https://doi.org/10.1007/s10661-026-15064-z>
- 2025 Rahman, M. A., **Haque, M. I.***, Dewan, M. A. I., Hossain, M. A., & Parvin, M. A. (2025). Spatiotemporal assessment of landscape transformation and ecological risk in Halti Beel. *Journal of Landscape Ecology*, 19(2). doi:10.2478/jlecol-2026-0012
- 2025 Anu, M. A., **Haque, M. I.***, Parvin, M. A., & Jahan, M. S. (2025). "Spatiotemporal analysis of the ecological decline in Chattogram City amid rapid urbanization: a remote sensing approach. *Discover Environment*, **3**, 154. doi: 10.1007/s44274-025-00281-z
- 2025 Hossain, M. A., **Haque, M. I.***, Rahman M. A., Parvin, M. A., & Bashar, A. (2025). Water quality assessment and health risk evaluation in Kushtia municipality of Bangladesh: A comparative analysis of untreated, treated, and pipeline supply water. *Asian Journal of Water, Environment and Pollution*, 8163. doi:10.36922/ajwep.8163
- 2023 Parvin, M. A., **Haque, M. I.***, Hossain, M. A., & Bashar, A. (2023). Index-Based Change Detection, Spatial Zoning and Environmental Criticality of Urban Land Cover: A Spatiotemporal Study on Gazipur Sadar Upazila of Bangladesh. *Journal of Geography, Environment and Earth Science International*, 27(10), 145–163. doi:10.9734/jgeesi/2023/v27i10722
- 2023 Islam, M. N., **Haque, M. I.***, & Hossain, M. A. (2023). Spatial pattern of arsenic concentration and associated noncarcinogenic health risk assessment: a case study on Gangni Union of Chuadanga district of Bangladesh. *Environmental Systems Research*, 12(1), 29. doi: 10.1186/s40068-023-00313-8
- 2023 Bashar, A., **Haque, M. I.***, Parvin, M. A., & Hossain, M. A. (2023). Water and Vegetation Cover Change Detection Using Multispectral Satellite Imagery: A Case Study on Jhenaidah District of Bangladesh. *Bangladesh Journal of Multidisciplinary Scientific Research*, 7(1), 22-34. doi: 10.46281/bjmsr.v7i1.2061
- 2023 Hossain, M. A., **Haque, M. I.***, Parvin, M. A., & Islam, M. N. (2023). Evaluation of iron contamination in groundwater with its associated health risk and potentially suitable depth

analysis in Kushtia Sadar Upazila of Bangladesh. *Groundwater for Sustainable Development*, 21, 100946. doi: 10.1016/j.gsd.2023.100946

- 2021 Hasan, M. M., Sikder, M. B., Gupta, S., **Haque, M. I.**, Kabir, M. N. K., Sujan, M. H., & Howladar, M. F. (2021). An Analysis of the Morphological Changes of Surma River in Sylhet District Using Multitemporal Remote Sensing Images. *American Journal of Agricultural Science, Engineering and Technology*, 5(2), 453-469. doi: 10.54536/ajaset.v5i2.122
- 2021 **Haque, M. I.***, Islam, M. T., Islam, Sabina., (2021). Monitoring the Complex Dynamics of LULC Change of Tanguar Haor, a Ramsar Site in the Northeastern Part of Bangladesh. *Environmental Analysis & Ecology Studies*, 8(4). doi:10.31031/eaes.2021.08.000694
- 2017 **Haque, M. I.***, & Basak, R. (2017). Land cover change detection using GIS and remote sensing techniques: A spatio-temporal study on Tanguar Haor, Sunamganj, Bangladesh. Elsevier, *The Egyptian Journal of Remote Sensing and Space Science*, 20(2), 251–263. doi:10.1016/j.ejrs.2016.12.003

Book Chapters

- 2025 **Haque, Md. I.**, Hossain, Md. A., Parvin, Most. A., & Bashar, A. (2025). সিলেট শহরের পরিবেশগত পরিবর্তনের কালিক পর্যালোচনা (A temporal review of environmental changes in Sylhet city). সিলেট মহানগর: ভৌগলিক সমীক্ষা (Sylhet Metropolis: Geographical Studies)) (Dr. N. Islam & Dr. A. Paul, Eds.; 1st ed.). Centre for Urban Studies (CUS) and Chandrabati Academy.

- 2025 **Haque, Md. I.**, Bashar, A., Rahman, Md. A., & Parvin, Most. A. (2025). সিলেট শহরের কঠিন বর্জ্য ব্যবস্থাপনার সামগ্রিক চিত্র, প্রভাব ও টেকসই সমাধান (An overall picture of solid waste management practice, impact, and sustainable solution to solid waste management in Sylhet city). সিলেট মহানগর: ভৌগলিক সমীক্ষা (Sylhet Metropolis: Geographical Studies). (Dr. N. Islam & Dr. A. Paul, Eds.; 1st ed.). Centre for Urban Studies (CUS) and Chandrabati Academy.

Conference Publications (International conferences only)

- 2025 Rahman, M.A., **Haque, M.I.**, Hossain, M.A., Parvin. M.A. (2025). Evaluating the Ecological Risk and Ecosystem Service Value Based on LULC Change Between 2000 and 2023: A Case Study on Halti Beel, Bangladesh. 1st International Conference on Geosciences for Achieving Sustainable Development Goals. University of Rajshahi, Rajshahi.

- 2025 Hossain, M.A., **Haque, M.I.**, Rahman, M.A., Parvin, M.A. (2025). Water Quality, Health Risks, and Community Perceptions: A Comprehensive Assessment of Public Water Points in Kushtia Municipality, Bangladesh. 1st International Conference on Geosciences for Achieving Sustainable Development Goals. University of Rajshahi, Rajshahi.
- 2025 Parvin, M.A., **Haque, M.I.**, Hossain, M.A., Jahan, M.S., Rahman, M.A. (2025). Urban Heat Island Effects and State of Thermal Comfort in Sylhet City. 1st International Conference on Geosciences for Achieving Sustainable Development Goals. University of Rajshahi, Rajshahi.
- 2025 Rahman, M.A., **Haque, M.I.**, Hossain, M.A., Parvin, M.A. (2025). Unravelling Ecological Risk and Biodiversity Loss in Haldi Beel: The Role of Land Use/Land Cover Transformation and Landscape Stressors. International Conference on Environmental Science and Resource Management. MBSTU. Tangail.
- 2023 Parvin, M.A., **Haque, M.I.**, Hossain, M.A. (2023). Index-Based LULC Change Detection and Environmental Criticality Analysis of Urban Land Cover: A GIS-Based Spatiotemporal Analysis. 7th International Conference on Engineering Research, Innovation and Education. SUST. Sylhet.
- 2023 Hossain, M.A., **Haque, M.I.**, Parvin, M.A. (2023). Assessment of Iron Contamination in Groundwater and Potentially Suitable Depth Analysis with Geostatistical Techniques: A case study in Kushtia Sadar Upazila. 7th International Conference on Engineering Research, Innovation and Education. SUST. Sylhet.
- 2022 Basree, Rabeya., **Haque, M.I.**, Parvin, M.A. (2022). Developing an integrated system for flood susceptibility analysis using GIS-RS and MCA Model. 1st International Conference of Physical Sciences (ICPS). SUST. Sylhet.
- 2022 **Haque, M. I.**, Salam, S. B. (2022). Application of Unmanned Aerial Vehicle (UAV) in Precision Agriculture: A case study from Ayutthaya, Thailand. 1st International Conference of Physical Sciences (ICPS). SUST. Sylhet.
- 2018 **Haque, M. I.**, Gupta, Sushanta., Syed, Dr. Abu. (2018). Effectiveness of LCZ Classification in Urban Heat Monitoring: A Case Study of Dhaka City. International Conference on Climate Change Adaptations at River Basins: Upstream and Downstream Linkage. Dhaka.

- 2018 **Haque, M. I.**, Gupta, Sushanta, Faroque, Mohiuddin. Al., Uddin, Nasir., Syed, Dr. Abu. (2018). Land Cover and Land Use Change in Lower Teesta Basin. International Conference on Climate Change Adaptations at River Basins: Upstream and Downstream Linkage. Dhaka.
- 2017 **Haque, M. I.**, & Basak, R. (2017). Land cover change detection using GIS and RS techniques: A spatio-temporal study on Tanguar Haor, Sunamganj, Bangladesh. 2017. International Conference on Water and Flood Management (ICWFM). ISBN: 978-984-34-2207-1
- 2016 **Haque, M. I.**, & Basak, R. (2016). Land cover change detection using GIS and remote sensing techniques: A spatio-temporal study on Tanguar Haor, Sunamganj, Bangladesh. 2016. International Conference on Innovations in Science, Engineering and Technology (ICISSET). doi:10.1109/iciset.2016.7856482

References

Dr. Md. Anowarul Islam

Associate Professor

Dept. of Geography and Environment
Shahjalal University of Science and Technology,
Sylhet-3114.

TEL: +8802996636454, Cell: + 88 01709109665

E-mail: anowar-gee@sust.edu

Dr. Ashraf Dewan

Senior Lecturer

School of Earth and Planetary Sciences (EPS)
Curtin University, Australia

Phone: 08 9266 4930

E-mail: a.dewan@curtin.edu.au

I declare that all the above information I provided is true and correct to the best of my knowledge. Any willing mistake will result in disqualification.

(Mohammad Inzamul Haque)