

Sunbeam Rahman

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Education

- **Master of Geographic Information Systems (MGIS)**, Department of Geography, University of Calgary, 2500 University Drive NW, Calgary, AB, Canada, Sept 2023 – Oct 2025 (expected)
- Master of Science in Geography and Environment, Department of Geography and Environment, University of Dhaka, Nilkhet Rd, Dhaka, Bangladesh, 2009
- Bachelor of Science in Geography and Environment, from the Department of Geography and Environment, University of Dhaka, Nilkhet Rd, Dhaka, Bangladesh, 2008

Employment history

- Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), Dhaka as **GIS Specialist – Bangladesh**, from Jan 2023 to Aug 2023
- Local Government Engineering Department, Dhaka as **GIS Analyst**, from Jan 2021 to Dec 2022.
- Advanced Chemical Industries (ACI), Dhaka, as **Manager - GIS and Remote Sensing**, from Sept 2017 to Apr 2020
- Bangladesh Center for Advanced Studies (BCAS), Dhaka, as **Research Officer** at GIS, RS and Modelling Division, from Jan 2012 to Sept 2017

Few key projects and accomplishments

Project: Climate Adaptation and Resilience for South Asia (CARE)

Employer: Regional Integrated Multi-Hazard Early Warning System (RIMES), Dhaka

Key Responsibilities:

This role focused on **developing and optimizing** a geospatial database for weather, climate, and sector-specific data, employing CMIP6 data for various spatial analyses. It produced **over 10 historical climate scenarios** for Bangladesh (yearly, decadal, etc.) for over 8 climate parameters to support the development of a comprehensive Decision Support System. Additionally, adept at developing **climate trends and impact scenarios** for extreme weather events on the livestock sector, covering 4 species and 3 commodities, while also proficient in gathering, cleaning, managing, and ingesting complex data for comprehensive sector-specific analyses. Finally, it demonstrated **ISO 19139** spatial metadata standards using a Docker-based GeoNetwork environment and **provided technical inputs** for spatial data integration into the central database.

Project: Need Based Infrastructure Development of Newly Nationalized Government Primary School – 1st Phase (NBIDNNGPS-1)

Employer: Local Government Engineering Department (LGED), Dhaka

Key Responsibilities:

The major responsibility was to maintain **topographic survey data** and integrate CAD and GIS data from RTK field and drone surveys to a central database using GIS and Python scripts. There are over 4,000 survey records with 11 GIS layers that were processed for **quality checks and integrated** into the database to develop a comprehensive web platform for decision-makers.

Project: Intelligent Decision Support System (IDSS) for Farmers

Employer: Advanced Chemical Industries (ACI) Ltd, Dhaka

Key Responsibilities:

The key role was **managing ArcGIS Enterprise and ArcGIS Online** to develop spatial data API endpoints. Developed a national-level six-day interval REST API for **rice paddy growth stage information** by analyzing Sentinel-1 data employing machine learning and **remote sensing**. This initiative supported the creation of an Android app named 'Fosholi', aimed at providing intelligent emergency responses for farmers. Additionally, led the integration of **over 12,000 training data** points using Open Data Kit, which included training field survey teams for seamless integration.

Project: Climate Resilient Ecosystem and Livelihood (CREL)

Employer: Bangladesh Center for Advanced Studies (BCAS), Dhaka

Key Responsibilities:

The role focused on **remote sensing analysis** and **land cover classification** across **appx 2,100 hectares of forest and wetland sites** using object-based image analysis to report gradual quarterly biophysical changes. Additionally, **provided GIS/RS support** for a national-level **Forest Carbon Inventory**, conducted **over 200 hours of GIS training** to more than 100 professionals, and conducted **forest loss/gain mapping** for appx 22 national forests, culminating in successful integration into a unified mission of 'forest monitoring'.

Conference proceeding

Rahman, S. (Oct 2018) ArcGIS ecosystems to connect farmers of Bangladesh, *Esri Malaysia User Conference*, Malaysia, url: [click here](#)

Language proficiencies

- **English:** Professional working proficiency
- **Bangla:** Native user
- **French:** Intermediate level user (Diplôme d'Études en Langue Française, DELF B1 certified)