Abdullah Al Masum

Date of birth: 30/11/1997 | **Place of birth:** Cox's Bazar, Bangladesh | **Nationality:** Bangladeshi | **Gender:** Male | **Phone:** (+880) 1815335212 (Mobile), (+880) 1645362694 (Home) | **Email address:** masum.fpmhau@gmail.com | **Email address:** masum@hau.ac.bd | **Website:** https://hau.ac.bd/facultymember-details/41 | **Address:** Purba Peshkar Para, Ward No: 04, Cox's Bazar Pourashava, , 4700, Cox's Bazar, Bangladesh (Home) | **Address:** Habiganj Agricultural University, Vadoi, Sadar, Habiganj, 3300, Habiganj, Bangladesh (Work)

ABOUT ME

Lecturer in Agricultural Mechanization at Habiganj Agricultural University, with academic and research interests in agricultural mechanization, precision agriculture, smart irrigation, and sustainable agricultural engineering. I hold an MS in Farm Power and Machinery from Bangladesh Agricultural University. My research focuses on machine vision–based agricultural product grading, hyperspectral soil nutrient assessment, IoT-based irrigation systems, and biomass conversion technologies. I am committed to advancing practical, innovative, and sustainable solutions for modern agriculture through teaching, research, and academic service.

WORK EXPERIENCE

25/03/2026 - CURRENT - HABIGANJ, BANGLADESH

LECTURER DEPARTMENT OF ALLIED SCIENCES (AGRICULTURAL MECHANIZATION),HABIGANJ AGRICULTURAL UNIVERSITY

Key Responsibilities:

- Delivered lectures, tutorials, and practical classes for undergraduate students in agricultural mechanization and related agricultural engineering courses.
- Prepared course materials, lesson plans, assignments, quizzes, and examination questions according to the academic curriculum.
- Evaluated students' academic performance through examinations, assignments, practical work, presentations, and answer script assessment.
- Conducted and supported research activities in agricultural mechanization, precision agriculture, smart irrigation, and sustainable agricultural engineering.
- Contributed to departmental and university administrative activities, including student advising, academic coordination, committee work, and institutional development.

Email: registraroffice@hau.ac.bd | **Website:** www.hau.ac.bd

01/04/2026 - CURRENT - HABIGANJ, BANGLADESH

CHAIRMAN DEPARTMENT OF ALLIED SCIENCES, HABIGANJ AGRICULTURAL UNIVERSITY,HABIGANJ-3300

Key Responsibilities:

- Coordinated academic and administrative activities of the department to ensure smooth teaching, learning, and departmental operations.
- Led departmental course curriculum development, syllabus preparation, course allocation, and academic planning in line with university requirements.
- Supervised and supported faculty members in conducting classes, examinations, student assessment, and other academic responsibilities.
- Organized and monitored question moderation, examination-related activities, result preparation, and compliance with academic regulations.

- Attended Academic Council and departmental meetings, providing opinions, recommendations, and suggestions on academic development, curriculum improvement, and institutional progress.

Email: registraroffice@hau.ac.bd | **Website:** www.hau.ac.bd

14/08/2025 - CURRENT - HABIGANJ, BANGLADESH

ASSISTANT DIRECTOR (ADDITIONAL CHARGE) PLANNING AND DEVELOPMENT DIVISION, HABIGANJ AGRICULTURAL UNIVERSITY,HABIGANJ-3300

Key Responsibilities:

- Formulate, review, and monitor university development plans and projects.
- Prepare project proposals, feasibility reports, and documentation for approvals and funding.
- Coordinate with academic and administrative units to collect data and align development priorities.
- Monitor the progress of ongoing infrastructure and development projects to ensure timely completion.
- Support budgeting, resource allocation, and compliance with institutional and government policies.
- Prepare, evaluate, and manage tenders for construction, procurement, and development projects.
- Ensure transparency, compliance, and proper documentation in all tendering processes.

Email: registraroffice@hau.ac.bd | **Website:** www.hau.ac.bd

20/03/2024 - 25/03/2026 - HABIGANJ, BANGLADESH

LECTURER DEPARTMENT OF AGRICULTURAL MECHANIZATION, HABIGANJ AGRICULTURAL UNIVERSITY,HABIGANJ-3300

Key Responsibilities:

- Delivered lectures, tutorials, and practical classes for undergraduate students in agricultural mechanization and related agricultural engineering courses.
- Prepared course materials, lesson plans, assignments, quizzes, and examination questions according to the academic curriculum.
- Evaluated students' academic performance through examinations, assignments, practical work, presentations, and answer script assessment.
- Conducted and supported research activities in agricultural mechanization, precision agriculture, smart irrigation, and sustainable agricultural engineering.
- Contributed to departmental and university administrative activities, including student advising, academic coordination, committee work, and institutional development.

Email: registraroffice@hau.ac.bd | **Website:** www.hau.ac.bd

09/09/2024 - 31/03/2026 - HABIGANJ , BANGLADESH

CHAIRMAN DEPARTMENT OF AGRICULTURAL MECHANIZATION, HABIGANJ AGRICULTURAL UNIVERSITY

Key Responsibilities:

- Coordinated academic and administrative activities of the department to ensure smooth teaching, learning, and departmental operations.
- Led departmental course curriculum development, syllabus preparation, course allocation, and academic planning in line with university requirements.
- Supervised and supported faculty members in conducting classes, examinations, student assessment, and other academic responsibilities.
- Organized and monitored question moderation, examination-related activities, result preparation, and compliance with academic regulations.
- Attended Academic Council and departmental meetings, providing opinions, recommendations, and suggestions on academic development, curriculum improvement, and institutional progress.

Email: registraroffice@hau.ac.bd | **Website:** www.hau.ac.bd

31/10/2024 - 14/08/2025 - HABIGANJ , BANGLADESH

ASSISTANT DIRECTOR (ADDITIONAL CHARGE) TRANSPORT SECTION,HABIGANJ AGRICULTURAL UNIVERSITY

Key Responsibilities:

- Oversee the operation, scheduling, and allocation of university transport services.
- Ensure proper maintenance, safety compliance, and documentation of all vehicles.
- Supervise drivers and transport staff, including duty assignments and performance monitoring.
- Manage transport-related logistics for academic events, official visits, and student activities.
- Prepare and maintain transport records, fuel usage reports, and budgetary documentation for efficient fleet management.

01/01/2024 - 15/01/2024 - DHAKA, BANGLADESH

TRANSECTION SERVICE OFFICER (TSO)IFIC BANK

01/04/2022 - 30/09/2023 - MYMENSINGH, BANGLADESH

RESEARCH ASSISTANT (BAURES)DEPARTMENT OF FARM POWER AND MACHINERY, BANGLADRSH AGRICULTURAL UNIVERSITY, MYMENSINGH-2202

EDUCATION & TRAINING

01/04/2022 - 30/09/2023 - MYMENSINGH, BANGLADESH

MS IN FARM POWER AND MACHINERY- DEPARTMENT OF FARM POWER AND MACHINERY, BANGLADESH AGRICULTURAL UNIVERSITY

Field(s) of study: Farm Power and Machinery | **Final grade:** CGPA: 3.945 out of 4.00 (2nd Position) | **Thesis:** Automated Real Time Mango Grading Using Machine Vision Technique. | **Website:** https://bau.edu.bd

04/01/2017 - 10/03/2022 - MYMENSINGH, BANGLADESH

B.SC. IN AGRICULTURAL ENGINEERING- FACULTY OF AGRICULTURAL ENGINEERING, BANGLADESH AGRICULTURAL UNIVERSITY

Field(s) of study: Agricultural Engineering | **Final grade:** CGPA:3.677 out of 4.00 (6th Position) | **Thesis:** Hyper-spectral Imaging Technique for Quantification of Total Nitrogen in Soil. | **Website:** https://bau.edu.bd

01/06/2014 - 18/08/2016 - CHITTAGONG, BANGLADESH

HIGHER SECONDARY CERTIFICATE (HSC)- BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,CHITTAGONG

Field(s) of study: Science | **Final grade:** GPA: 5.00 out of 5.00 | **Website:** https://ctgcollege.gov.bd/

01/02/2013 - 17/05/2014 - CHITTAGONG, BANGLADESH

SECONDARY SCHOOL CERTIFICATE(SSC)- BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,CHITTAGONG

Field(s) of study: Science | **Final grade:** GPA:5.00 out of 5.00 (With Board Scholarship) | **Website:** https://bise-ctg.portal.gov.bd/

25/12/2024 - 28/12/2024 - HABIGANJ , BANGLADESH

TRAINING ON PUBLIC PROCUREMENT MANAGEMENT- INSTITUTIONAL QUALITY ASSURANCE CELL , HABIGANJ AGRICULTURAL UNIVERSITY

Website: https://www.hau.ac.bd

13/11/2024 - 13/11/2024 - HABIGANJ , BANGLADESH

OUTCOME-BASED EDUCATION AND TEACHING LOAD CALCULATION- INSTITUTIONAL QUALITY ASSURANCE CELL , HABIGANJ AGRICULTURAL UNIVERSITY

28/09/2024 - 28/09/2024 - HABIGANJ , BANGLADESH

EFFECTIVE RESEARCH DESIGN, WRITING AND PUBLISHING- INSTITUTIONAL QUALITY ASSURANCE

CELL , HABIGANJ AGRICULTURAL UNIVERSITY

Website: https://www.hau.ac.bd

15/12/2021 - 15/12/2021 - GAZIPUR, BANGLADESH

INDUSTRIAL TRAINING- AGRICULTURAL MACHINERY AND TESTING INSTITUTE

12/12/2021 - 14/12/2021 - GAZIPUR, BANGLADESH

INDUSTRIAL TRAINING- BANGLADESH AGRICULTURAL RESEARCH INSTITUTE

Website: https://bari.gov.bd/

03/07/2020 - 30/08/2020 - COX'S BAZAR, BANGLADESH

PEACE BUILDING TRAINING 2020- SURGE BANGLADESH AND EMK CENTER

Website: https://surgebd.org/

18/11/2025 - 18/11/2025 - DHAKA, BANGLADESH

E-GP TRAINING FOR ORGANIZATION ADMIN OFFICIALS- BANGLADESH PUBLIC PROCUREMENT AUTHORITY (BPPA)

Website: https://www.bppa.gov.bd/

PUBLICATIONS

Real-Time Automated Potato Grading Using Machine Vision and Support Vector Machine Algorithm
2026

This study presents a real-time automated potato grading system using machine vision and a Support Vector Machine (SVM) algorithm. The proposed approach accurately classifies potatoes based on quality attributes, offering an efficient, non-destructive solution for postharvest grading and supporting precision agriculture and agricultural automation.

Masum AA, Himel MMH, Salehin MM, Rahman KS, Amin A, Ahamed S, et al. 2026. Real-time automated potato grading using machine vision and support vector machine algorithm. Potato Research. Vol. 69, Issue 4. doi:10.1007/s11540-026-10061-8.

Improving Growth and Yield of Chilli (Capsicum spp.) Through Plant Growth Regulator Application 2025

This study investigates the effect of plant growth regulator application on the growth and yield of chilli (*Capsicum* spp.). The findings demonstrate that appropriate plant growth regulator treatments significantly improve vegetative growth, flowering, fruit development, and overall yield, providing practical recommendations for enhancing chilli production.

Siddiki MH, Masum AA, Rashid M, Ahmed SI, Chakraborty B. 2025. Improving growth and yield of chilli (Capsicum spp.) through plant growth regulator application. Research in Agriculture, Livestock and Fisheries. Vol. 12, Issue 2, pp. 253–258.

Development of Automated Real-Time Mango Grader Using Machine Vision Technique 2025

This study presents the development of an automated real-time mango grading system using machine vision techniques. The system enables rapid, accurate, and non-destructive grading of mangoes based on visual quality attributes, supporting postharvest quality assessment and precision agriculture applications.

Masum AA, Himel MMH, Salehin MM, Rahman KS, Ahamed S, Kabir M, et al. 2025. Development of automated real-time mango grader using machine vision technique. Discover Agriculture. Vol. 3, Issue 1. doi:10.1007/s44279-025-00281-w.

Short Wave-Near Infrared Spectroscopy for Predicting Soluble Solid Content in Intact Mango with VariableSelection Algorithms and Chemometric Model 2024

This study evaluates the use of short wave-near infrared (SW-NIR) spectroscopy combined with variable selection algorithms and chemometric modeling to non-destructively predict the soluble solid content (SSC) of

intact mangoes. The findings demonstrate the potential of SW-NIR spectroscopy as a rapid and accurate technique for assessing internal fruit quality in postharvest applications.

Elsevier Khatun MS, Masum AA, Islam MH, Ashik-E-Rabbani M, Rahman A. 2024. Short wave-near infrared spectroscopy... ...algorithms and chemometric model. Journal of Food Composition and Analysis. Vol. 136, Article 106745. doi:10.1016/j.jfca.2024.106745.

Minimizing Chemical Fertilizer Usage and Improving Soil Nutrient and Microbial Activity Through OrganicStrategies in Rice Production 2024

This study examines organic nutrient management strategies for reducing chemical fertilizer use while improving soil fertility and microbial activity in rice production. The findings demonstrate that integrating organic amendments can enhance soil health, sustain crop productivity, and promote environmentally sustainable rice cultivation.

Siddiki H, Chakrabarti B, Masum AA, Rashid M. 2024. Minimizing chemical fertilizer uses... ...through organic strategies in rice production. Advances in Biotechnology & Microbiology. Vol. 18, Issue 4, Article 555992. doi:10.19080/AIBM.2024.17.555992.

CONFERENCES & SEMINARS

25/07/2023 - 25/07/2023 Engineering Institute of Bangladesh,Dhaka
IoT Based Prepaid Meter for Smart Irrigation

19/06/2023 - 19/07/2023 Bangladesh Agricultural University, Mymensingh
Sensor Based Variable-Rate Agrochemical Spraying System for Disease Control in Paddy field

17/11/2022 - 19/11/2022 Bangladesh Agricultural Research Institute (BARI), Gazipur, Bangladesh

3rd Annual Paper Meet 2022 Presented the research paper **"Hyperspectral Imaging Technique for Quantification of Total Nitrogen in Soil"** at the **3rd Annual Paper Meet 2022**, organized by the **Agricultural Engineering Division, Institution of Engineers, Bangladesh (IEB)** from **17–19 November 2022**. The study demonstrated the application of hyperspectral imaging and chemometric techniques for rapid, non-destructive quantification of total nitrogen in soil, highlighting its potential for precision agriculture and soil fertility assessment. The paper was presented by **Abdullah Al Masum** and published in the conference proceedings (p. 23).

23/05/2024 - 24/05/2024 Sylhet Agricultural University, Sylhet-3100, Bangladesh

International Conference on Advanced Agricultural Research (ICAAR 2024) Presented the research paper **"Automated Real-Time Mango Grading Based on Size Using Machine Vision Technique"** at the International Conference on Advanced Agricultural Research (ICAAR 2024). The study demonstrated the development of a machine vision-based system for automated, real-time grading of mangoes according to fruit size, contributing to non-destructive quality assessment and postharvest automation. The presentation highlighted the application of computer vision technologies to improve grading accuracy and efficiency in agricultural production and postharvest management. Presented by **Abdullah Al Masum**.

12/02/2025 - 13/02/2025 Bangladesh Agricultural University, Mymensingh-2200, Bangladesh

1st International Conference on Agricultural Machinery and Bioresource Engineering (ICAMBE 2025) Presented the research paper **"Real-Time Mango Grading Based on Size Using Machine Vision Technique"** at the **1st International Conference on Agricultural Machinery and Bioresource Engineering (ICAMBE 2025)**, organized by the **Bangladesh Society of Agricultural Machinery and Bioresource Engineering (BSAMBE)** and the **Department of Farm Power and Machinery, Bangladesh Agricultural University** on **12–13 February 2025**. The study presented a machine vision-based system for automated, real-time mango grading according to fruit size, contributing to non-destructive quality assessment and postharvest automation. The paper was presented by **Abdullah Al Masum and** received the **Best Presenter Award**.

12/02/2025 - 13/07/2026 Bangladesh Agricultural University, Mymensingh-2200, Bangladesh.

1st International Conference on Agricultural Machinery and Bioresource Engineering (ICAMBE 2025) Co-authored the research paper **"Prediction of Soil Nutrients Using Hyperspectral Image-Processing Techniques"**, presented at the **1st International Conference on Agricultural Machinery and Bioresource**

Engineering (ICAMBE 2025), organized by the **Bangladesh Society of Agricultural Machinery and Bioresource Engineering (BSAMBE)** and the **Department of Farm Power and Machinery, Bangladesh Agricultural University** on **12–13 February 2025**. The study explored the application of hyperspectral imaging and image-processing techniques for rapid, non-destructive prediction of soil nutrient status to support precision agriculture. The paper was presented by **Most. Sapna Khatun** and published in the conference proceedings (p. 52).

12/02/2025 - 13/02/2025 Bangladesh Agricultural University, Mymensingh-2200, Bangladesh

1st International Conference on Agricultural Machinery and Bioresource Engineering (ICAMBE 2025)
Co-authored the research paper **"Comparison of YOLO Neural Network Models for On-Plant Ripe Tomato Detection"**, presented at the **1st International Conference on Agricultural Machinery and Bioresource Engineering (ICAMBE 2025)**, organized by the **Bangladesh Society of Agricultural Machinery and Bioresource Engineering (BSAMBE)** and the **Department of Farm Power and Machinery, Bangladesh Agricultural University** on **12–13 February 2025**. The study compared different YOLO-based deep learning models for accurate, real-time detection of ripe tomatoes directly on plants, demonstrating their potential for automated harvesting and precision agriculture applications. The paper was presented by **Kazi Shakibur Rahman**.

24/05/2025 - 24/05/2025

1st Annual Scientific Seminar Seminar Theme: Agriculture, Climate Change and Biodiversity.

Organized By: Habiganj Agricultural University Research System (HAURES), Habiganj Agricultural University, Habiganj-3300

17/01/2026 - 18/01/2026 Habiganj Agricultural University, Habiganj-3300

2nd Annual Scientific Seminar Seminar Theme: Agriculture for Livelihood and Well-Being.

Organized By: Habiganj Agricultural University Research System (HAURES), Habiganj Agricultural University, Habiganj-3300

13/06/2026 - 14/06/2026 Habiganj Agricultural University, Habiganj-3300

2 Day Aligning of Modular Curriculum and Syllabus of Habiganj Agricultural University with Bangladesh National Qualification Framework (BNQF) Standards Instititional Quality Assurance Cell (IQAC), Habiganj Agricultural University, Habiganj-3300

HONOURS AND AWARDS

30/11/2014 Board of Intermediate & Secondary Education, Chittagong.
SSC Scholarship 2014

Cox's Bazar Zilla Parishad, Cox's Bazar
Zilla Parishad Scholarship 2014

01/01/2022 Ministry of Science and Technology, Bangladesh.
National Science and Technology (NST) Fellowship 2022-23

PROJECTS

01/04/2022 - 30/09/2023

Automated Real-Time Grading System for Potato Using Machine Vision Technology Project ID: 2021/1470/BAU

Funding Agencies: Bangladesh Agricultural University Research System (BAURES)

Role: Research Assistant

01/07/2024 - 30/06/2025

Development of An IoT-Integrated Smart Drip Irrigation System for Vegetables Field at Habiganj Agricultural University Project ID: 022 AM/S&T 24-25 HAURES.UGC

Funding Agencies: University Grant Commission (UGC) & Habiganj Agricultural University Research System (HAURES)

Role: Principal Investigator (PI)

01/07/2025 - 30/06/2026

Spatiotemporal Trend Analysis of Groundwater Levels and Vulnerability Mapping in Habiganj District (1990–2024) **Project ID:** 035 A.M./S&T 25-26 HAURES.UGC

Funding Agencies: University Grant Commission (UGC) & HabiganjAgricultural University Research System (HAURES)

Role: Principal Investigator (PI)

LANGUAGE SKILLS

Mother tongue(s): **BENGALI**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	B2	B2	C1

SKILLS

Use of communication programs (Mail, Google Meet, Zoom, Skype) Use of Email (Yahoo Mail, Gmail) | Good abilities of using communication programs (skype, zoom, mail) | Google suite -Gmail, Google Drive, Google Slide, Google Docs, Google Sheets, Google Forms, Google- | Proficiency of using computer and internet | Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access | Basic knowledge in MATLAB | Basic Knowledge in AutoCAD and SolidWorks

HOBBIES AND INTERESTS

Hobbies and Interests

- Reading research articles
- Walking and gardening
- Photography
- Teaching and mentoring students
- Agricultural research and innovation

CREATIVE WORKS

Development of Automated Real-Time Mango Grader Using Machine Vision Technique

Real-Time Automated Potato Grading Using Machine Vision and Support Vector Machine Algorithm

31/12/2025

Publication of Student Handbook – Academic Year 2025 Contributed to the preparation, editing, and publication of the **Student Handbook for the Academic Year 2025**. Responsibilities included compiling academic and administrative information, coordinating with faculty and administrative offices, reviewing content for accuracy, and supporting the publication process to provide students with comprehensive academic guidelines and institutional information.

RECOMMENDATIONS

Professor Dr. Syed Sayeem Uddin Ahmed Mentor

Vice-chancellor, Habiganj Agricultural University, Bangladesh

Email ahmedssu.eph@sau.ac.bd | **Phone** +880 1711701552

Professor Anisur Rahman (PhD) Supervisor

Professor, Department of Farm Power and Machinery, Bangladesh Agricultural University, Mymensingh-2202.

Email anis_fpm@bau.edu.bd | **Phone** +880 01717605485

ORGANISATIONAL SKILLS

Student Advisor

Green Voice, Bangladesh Agricultural University,Mymensingh

Treasurer

Diba Swapnochari , Cox's Bazar

Founding Member

Project Hashimukh, Chattogram College

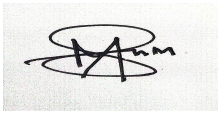
ACADEMIC AND ADMINISTRATIVE EXPERIENCE

14/08/2025 - CURRENT

Assistan Director (Additional Charge), Planning And Development Division, Habiganj Agricultural University, Habiganj-3300

Key Responsibilities:

- Formulate, review, and monitor university development plans and projects.
- Prepare project proposals, feasibility reports, and documentation for approvals and funding.
- Coordinate with academic and administrative units to collect data and align development priorities.
- Monitor the progress of ongoing infrastructure and development projects to ensure timely completion.
- Support budgeting, resource allocation, and compliance with institutional and government policies.
- Prepare, evaluate, and manage tenders for construction, procurement, and development projects.
- Ensure transparency, compliance, and proper documentation in all tendering processes.



Habiganj Agricultural University,
22/07/2026

Abdullah Al Masum