

CURRICULUM VITAE

Dr. Mir Nurul Hasan Mahmud

Senior Scientific Officer
Irrigation and Water Management Division,
Bangladesh Rice Research Institute,
Gazipur-1701, Bangladesh
Phone: +8801716963384
E-mail: hasan11bau@yahoo.com



PERSONAL DATA

Name : **Mir Nurul Hasan Mahmud**
Date of birth : 13th October 1980
Nationality : Bangladeshi (By birth)
Religion : Islam (Sunni)
Sex : Male
Marital status : Married
Children : One Son (Date of Birth 16 July 2010)

LANGUAGE : Bengali (mother tongue);
English (fluent),
IELTS Overall Band Score- 6.5,
Test Date: 24 April 2014

COMPUTER LITERACY : MS Office 2010, Operating Software Win 7,
Photoshop, Video Editing, Internet Browsing
E-mail Software, Data Analysis.

EDUCATION

Name of the Examination	Board/University	Passing year	Division/ Class	Marks Obtained (%)
Doctor of Philosophy in Environmental Science	Murdoch University, Western Australia	2021	-	-
Master of Science in Irrigation and Water Management	Bangladesh Agricultural University, Mymensingh	June 2012	A ⁻	3.64 Out of 4
Bachelor of Science in Agricultural Engineering	Bangladesh Agricultural University, Mymensingh	2002 (Held in 2004)	First	63.74
HSC	Dhaka	1997	First	65.7
SSC	Dhaka	1995	First	81.5

TRAINING RECEIVED

(a) In country

SL	Organization	Year	Duration		Name of programme
			Months	Days	
1	Bangladesh Rice research Institute, Gazipur	2021	-	3	Training on Climate Smart Agriculture (CSA): Concept and Impact
2	Bangladesh Rice research Institute, Gazipur	2021	-	6	Advanced Research Data Management using R Studio and Refresher of Scientific Report Writing Training Course
3	Bangladesh Rice research Institute, Gazipur	2020	-	5	Scientific Report Writing Training Course
4	Crawford fund Australia, Khulna	2019	-	3	Data Organizing, Analysing, Interpreting and Presenting
5	Bangladesh Agricultural Research Council, Dhaka	2019	-	3	Climate change, Carbon Sequestration and Adaptation strategies
6	National Agricultural Training Academy, Gazipur	2019	-	5	Integrated Water Resource Management in Agriculture
7	Bangladesh Rice research Institute, Gazipur	2019	-	6	Rice Physiological Development Through Trait Discovery Training Course
8	Bangladesh Academy of Rural Development	2013	4	-	Foundation Training Course for NARS Scientists
9	Bangladesh Rice research Institute, Gazipur	2013	-	3	Training on Experimental Design, Layout and Statistical Analysis
10	Bangladesh Rice research Institute, Gazipur	2013	-	3	Training on Operation of Laboratory Equipment
11	Bangladesh Agricultural Research Institute, Gazipur	2012	-	4	Agricultural Engineering Technology
12	Bangladesh Rice research Institute, Gazipur	2010	1	-	One Month Rice Production Training Course
13	Bangladesh Agricultural Research Council, Dhaka	2010	-	3	Seed Quality Management
14	Centre for Environmental and Geographic Information Services (CEGIS), Dhaka	2010	-	6	Training of Trainers (ToT) on IWRM Concept and Its Practices
15	Bangladesh Rice research Institute, Gazipur	2008	-	3	Breeder Seed Production and Preservation of Rice
16	Bangladesh Rice research Institute, Gazipur	2008	-	5	Hybrid Rice Development and Seed Production
17	Bangladesh Agricultural Development Corporation, Dhaka	2006	-	12	Induction Training Course
18	Graduate Training Institute, Bangladesh Agricultural University, Mymensingh	2004	-	14	Basics of MS Office
19	Rural Development Academy, Bogra	2004	-	3	On Farm Water Management

PROFESSIONAL SKILLS

- Research program development, execution and reporting of research results.
- Data analysis and scientific report writing.

WORK EXPERIENCE

1. 22 November 2012 to present, **Senior Scientific Officer** (Irrigation and Water Management), Bangladesh Rice Research Institute, Gazipur.

Responsibilities:

- (a) Water balance in Conservation Agricultural practices for multiple crops
- (b) Soil physical and hydrological properties in rice soil
- (c) Strength of plough pan and infiltration of water through plough pan in rice field
- (d) Salinity monitoring and cropping system intensification in coastal region of Barishal
- (e) Alternate wetting and drying irrigation practices in the farmers' fields
- (f) Water use efficiency measurements and improvements in farmers' fields
- (g) Performance of Low Lift Pump according to its suction lifts and efficiency.

2. 12 November 2007-21 November 2012, **Scientific Officer** (Irrigation and Water Management), Bangladesh Rice Research Institute, Regional Station, Barisal.

Responsibilities:

- (a) Surface water utilization through water and soil salinity monitoring;
- (b) Looking into water requirements for rice production in Barisal region applying AWD irrigation methods;
- (c) Finding suitable fertilization methods (Prilled urea, USG, Fertigation) under consumptive use water application.

3. 25 September 2006-10 November 2007, **Assistant Engineer**, Bangladesh Agricultural Development Corporation, Patuakhali Irrigation Zone.

Responsibilities:

- (a) Survey and monitoring of surface water quality and ground water depth;
- (b) Provide irrigation facilities to the farmers to increase crop production;
- (c) Construction of hydraulic structures and re-excavation of canals;
- (d) Collect data on irrigation equipments;
- (e) Conduct training and demonstration;
- (f) Forming water groups among the farmers.

4. 23 July 2006-24 September 2006, **Agricultural Engineer**, Agricultural Engineering Technologies Extension Project (AETEP), Department of Agricultural Extension, Poba, Rajshahi.

Responsibilities:

- (a) Provide agricultural machineries to the farmers to minimize crop production cost;
- (b) Conduct training and demonstration of agricultural machineries.

5. 16 May 2005-30 June 2006, **Agricultural Engineer**, Popularizing Agricultural Machineries Project (PAMP), Bangladesh Rice Research Institute.

Responsibilities:

- (a) Conduct training and demonstration on operation and maintenance of BRRI developed agricultural machineries to the farmers;
- (b) Collect data and analyzing the research results on the performance of BRRI farm machineries.
- (c) Develop network and manufacturer, farmers, researchers and extension workers.

MEMBERSHIP OF PROFESSIONAL BODIES

1. Member: The Institute of Engineers, Bangladesh (IEB)
2. Member: Bangladesh Association for the Advancement of Science (BAAS)
3. Member: Bangladesh Association of Agricultural Engineers (BSAE)

LIST OF PUBLICATIONS

Scientific journal

(i) Full paper

(a) Paper Published in the Reputed International Journal

Co-author

R.W. Bell, M. E. Haque, M. Jahiruddin, M. M. Rahman, M. Begum, M. A. Monayeem Miah, M.A. Islam, M. A. Hossen, N. Salahin, T. Zahan, M. M. Hossain, Md. K. Alam, and **M. N. H. Mahmud**. 2019. Conservation Agriculture for rice-based intensive cropping by smallholders in the Eastern Gangetic Plain (EGP). *Agriculture* 9,5. doi:10.3390/agriculture9010005

Md. B. Hossain, D. Roy, **M. N. H. Mahmud**, P. L. C. Paul, Mst. S. Yesmin and P. K. Kundu. 2021. Early transplanting of rainfed rice minimizes irrigation demand by utilizing rainfall. *Environmental Systems Research* 10 (1):34. doi: 10.1186/s40068-021-00239-z.

(b) Other International & National Journal

Principal Author

M. N. H. Mahmud, M. Sh. Islam, M. A. Sattar and M. A. Saleque. 2010. Assessment of Water and Soil Salinity for Boro Cultivation in Coastal Region of Barisal. *Bangladesh Rice J.* 15 (1): 63-70.

- M. N. H. Mahmud**, M. A. Mojid, M. A. Rashid and M. A. Rahman. 2012. Performance Evaluation of a Centrifugal Pump Under Different Suction Lifts. *Eco-friendly Agril. J.* 5(09):140-145.
- M. N. H. Mahmud**, M. A. Rashid, M. U. Ahmmed and M. Adil. 2012. Water and Soil Salinity Monitoring in the Coastal Region of Barisal. *Eco-friendly Agril. J.* 5(09):146-152.

Co-author

- T. M. Ziauddin and **M. N. H. Mahmud**. 2009. An Improved Rickshaw with Modified Driving Sprocket and Pedaling Lever. *Journal of Agricultural Engineering. The Institute of Engineers, Bangladesh.* 36/AE: 23-27.
- M. A. Saleque, **M. N. H. Mahmud**, A. Khatun, M. M. Haque, A. T. M. S. Hossain and S. K. Jaman. 2009. Soil Qualities of Saline and Non-saline Deltas of Bangladesh. *Bangladesh Rice J.* 14 (1 & 2): 99-111.
- M. R. Hasan, M. A. Islam, F-T. Zohara, M. S. Zahan and **M. N. H. Mahmud**. 2012. Optimizing Sowing Date of Morpho-Physiological Traits in Direct Seeding and Transplanting Methods. *Eco-friendly Agril. J.* 5(09):162-167.
- M. R. Hasan, U. Sarker, M. A. Hossain, K.M. K. Huda, M. A. K. Mean, T. Hossain, M. S. Zahan and **M. N. H. Mahmud**. 2012. Genetic Diversity in Micronutrient Dense Rice And Its Implication in Breeding Program. *Eco-friendly Agril. J.* 5(09):168-174.
- M. R. Hasan, U. Sarker, M. A. K. Mean, T. Hossain and **M. N. H. Mahmud**. 2012. Genetic Variation in Micronutrient Dense Rice and Its Implication in Breeding For Higher Yield. *Eco-friendly Agril. J.* 5(09):175-182.
- M. A. Islam, U. Sarker, M. A. K. Mean, M. R. Hasan and **M. N. H. Mahmud**. 2012. Genotype×Environment (Fertilizer Dose) Interaction and Stability Analysis of Hybrid Seed Production of Rice (*Oryza sativa L.*). *Eco-friendly Agril. J.* 5(09):183-185.
- M. Sh. Islam, **M. N. H. Mahmud**, F. Rahman, and M. A. Saleque. 2013. Farmer's Participatory Site Specific Nutrient Management in Tidal Flooded Soil for High Yielding Aus Rice. *Bangladesh Rice J.* 17(1&2): 1-6.
- S. Paul, D. Hossain, **M. N. H. Mahmud**, P. L. C. Paul, A. K. M. L. Rahman, M. K. Saha. 2014. Quality Degradation Trend of Water in the Buriganga River. *Bangladesh Journal of Progressive Science & Technology* 12(1):011-016.
- M. U. Ahmmed, D. Roy, **M. N. H. Mahmud**. 2014. Feasibility study of a Rice Transplanter in Mechanized Agriculture by Analyzing Operation Cost and Performance Evaluation. *Journal of Agricultural Engineering. The Institute of Engineers, Bangladesh.* 41/AE(1): 29-36.
- D. Roy, M. U. Ahmmed, **M. N. H. Mahmud**. 2014. Water Management Technologies for Sustainable Rice Cultivation Under Changing Climate. *Journal of Agricultural Engineering. The Institute of Engineers, Bangladesh.* 41/AE(1): 43-52.

Seminar/Workshop/Symposium Proceedings

(i) International

Principal author

- M. N. H. Mahmud**, R. W. Bell, and W. H. Vance. 2017. Strip planting increases yield and water productivity of wheat (*Triticum aestivum*) in Northwest Bangladesh. Paper read at International conference on Agri Biotech and Environmental Engineering, 11-12 September 2017, at San Antonio, USA.
- M. N. H. Mahmud**, RW Bell, and W Vance. 2017. Chickpea emergence responses to compaction by 2-wheel tractor in two soils of Northwest Bangladesh. Paper read at 2nd Conference on Conservation Agriculture for Smallholders (CASH-II), 14-16 February 2017, at Mymensing, Bangladesh.

M. N. H. Mahmud, RW Bell, W Vance, and ME Haque. 2017. Effect of minimum tillage systems on water balance for rice-based rotations in Northwest Bangladesh. Paper read at 2nd Conference on Conservation Agriculture for Smallholders (CASH-II), 14-16 February 2017, at Mymensingh, Bangladesh.

Co-author

M. E. Haque, R.W. Bell, M. A. Islam, M. K. Alam, **M. N. H. Mahmud**, and M. Jahiruddin. 2018. Long-term impact of smallholders' Conservation Agriculture in rainfed and irrigated systems. In 2nd African Congress of Conservation Agriculture: *African Tillage Network*.

(ii) National
Principal author

M. N. H., Mahmud, M. Sh. Islam, M. A. Sattar and M. A. Saleque. 2009. Suitability Assessment of Water and Soil Salinity for Boro Cultivation in Coastal Region of Barisal. P. 49. Abstracts of 21st Bangladesh Science Conference, Bangladesh Association for the Advancement of Science (BAAS), Bangladesh Agricultural Research Institute. 18-20 February, 2009, Gazipur, Bangladesh.

Booklets

Booklets as Principal Author: 02 (two)

M. N. H Mahmud. 2010. আমন মৌসুমে ধান উৎপাদনে সম্পূর্ণক সেচের গুরুত্ব. In M. Sh. Islam and M. N. H. Mahmud (eds.). আধুনিক ধান চাষের কৃষক গাইড. BRRI Regional station, Barishal.

M. N. H Mahmud. 2010. AWD পদ্ধতিঃ সেচের পানি সাত্রয়ী সহজ পদ্ধতি. In M. Sh. Islam and M. N. H. Mahmud (eds.). আধুনিক ধান চাষের কৃষক গাইড. BRRI Regional station, Barishal.

Radio Talk in “Krishikotha” Broadcasted from Bangladesh Betar, Barisal

1. Seedbed Preparation and Seedling Management of Boro Rice (in Bengali), 26 July 2010.

Research programs developed, supervised and executed

Sl. No	Research program name	PI	CI	Year of initiation	Remarks
1	Study on tidal river water quality for irrigation in coastal region of Barisal.	PI		2008	Developed, Executed
2	Assessment of water resource availability for irrigation to increase rice productivity in tidal areas of Barisal region.	-	CI	2008	Executed
3	Stability analysis of BRRI varieties.	-	CI	2008	Supervised
4	Nutrient accumulation through tidal sediment and their availability to rice plant.	-	CI	2008	Supervised
5	Crop management options for rice cultivation in coastal saline soils.	-	CI	2008	Supervised
6	Impacts of fertigation through flood irrigation by using tank and hose pipe on nitrogen up take and yield of rice.	PI		2009	Developed, Executed
7	Demonstration of Alternate Wetting and Drying (AWD) technology for water saving in rice production in selected locations in Bangladesh.	-	CI	2009	Executed

Sl. No	Research program name	PI	CI	Year of initiation	Remarks
8	Exploring multi use of ground water and fuel source under pressure well system in Borhanuddin upazilla of Bhola district.	PI		2010	Developed, Executed
9	Performance evaluation of a centrifugal pump under different suction lifts.	PI		2010	Developed, Executed
10	Effect of irrigation practices and fertilization method for transplanted rice by using AWD technology under different depths in BRRI regional station Barisal.	-	CI	2010	Executed
11	Assessment of water resources availability for irrigation to increase rice production in tidal areas of Barisal region		CI	2011	Executed
12	Survey on surface water utilization and its scope for crop production in different Agro-Ecological Zones of Bangladesh		CI	2011	Executed
13	Monitoring of groundwater fluctuation and safe utilization in different geo-hydrological regions		CI	2011	Executed
14	Water quality assessment and its suitability for irrigation in different locations of Bangladesh		CI	2011	Executed
15	Adaptation and Demonstration of Water Management Technologies at farmer's fields		CI	2012	Executed
16	Determination of Physical and Hydraulic Properties of Different Soil Types		CI	2015	Developed, Executed
17	Study on Water-Stress Tolerance for Different Advanced Rice Genotypes of BRRI		CI	2015	Executed
18	Use of Less Saline Water Resources for increasing Cropping intensity in Barisal Region		CI	2017	Developed, Executed
19	Optimization of Irrigation Water Use for Boro Cultivation Under Different Establishment Methods		CI	2017	Executed
20	Improving Soil-Water Availability for Crop Production in Char Land by Amendment Practices		CI	2019	Developed, Executed
21	Assessment of Surface and Groundwater Quality for Irrigation in Selected Locations of Bangladesh		CI	2019	Developed, Executed
22	Determining Minimum Irrigation Water Requirement of Rice at Different Regions of Bangladesh through Water Balance from On-Farm Demand and Model Simulation		CI	2020	Developed, Executed
23	Effect on Percolation Losses and Groundwater Recharge Due to Weak Plough-pan Formed under Long Term Conservation Agriculture	PI		2020	Developed, Executed

Sl. No	Research program name	PI	CI	Year of initiation	Remarks
24	Optimization of Water Use Efficiency Through Subirrigation and Mini-sprinkler Irrigation System in Fine (light) Textured Soils of Bangladesh		CI	2021	Developed
25	Irrigation Water Requirement and Rainfall Utilization for Delayed Transplanting of Boro Rice in Different Locations of Bangladesh		CI	2021	Developed
26	Feasibility Evaluation of The Use of Subsurface Drainage System for Rice-based Cropping Pattern in Bangladesh		CI	2021	Developed
27	Water salinity monitoring of river and canal system for suitability assessment of Boro rice cultivation in Southern Barishal region	PI		2021	Developed under KGF Project
28	Survey and availability assessment of suitable water sources of canal system in two polders.	PI		2021	Developed under KGF Project
29	Implementation of integrated minor irrigation schemes utilizing surface water for water and land productivity	PI		2021	Developed under KGF Project
30	Identification of water efficient cropping pattern in the non-saline southern Barishal region.	PI		2021	Developed under KGF Project
31	Determination of suitable transplanting time of Boro rice earlier than the existing	PI		2021	Developed under KGF Project
32	Feasibility of mini-sprinkler/drip irrigation system in rabi crops in coastal Barishal region.	PI		2021	Developed under KGF Project
33	Saline Water Irrigation Strategies for Boro Rice Cultivation in The Coastal Saline Area		CI	2021	Developed
34	Change in Surface Water Bodies and Its Impact on Groundwater Recharge in Barind Region of Bangladesh		CI	2021	Developed
35	Present Status and Potentiality for Increasing Rice Cultivation in Surface Water Irrigation Projects of Bangladesh		CI	2021	Developed
36	Intervention in Surface Water Utilization Through Integrated Minor Irrigation Schemes for Escalating Water and Land Productivity in Coastal Region (ISIMISC)	PI		2021	Developed under KGF Project
<i>A total of research program developed</i>					
As Principal Investigator: 12					
As Co-Investigator: 11					
<i>A total of research program Supervised</i>					
As Principal Investigator: 00					
As Co-Investigator: 03					
<i>A total of research program Executed</i>					
As Principal Investigator: 05					
As Co-Investigator: 15					

List Award received

- Awarded a scholarship for MS program within the country funded by “Farm Machinery Technology Development and Dissemination (FMTD)” project, BRRI, Gazipur.
- John Allwright Fellowship award by Australian Centre for International Agricultural Research (ACIAR) to study PhD in Murdoch University, Western Australia from 2014 to 2018
- Krishi Gobeshona Foundation (KGF) funded project “Intervention in Surface Water Utilization Through Integrated Minor Irrigation Schemes for Escalating Water and Land Productivity in Coastal Region (ISIMISC)” for three years from 2021 to 2024.

NAME OF REFEREES

Prof. Richard W. Bell

Professor of Sustainable Land Management
School of Veterinary and Life Sciences
Murdoch University, Western Australia-6150
E-mail: r.bell@murdoch.edu.au

Prof. M. A. Mojid

Department of Irrigation and Water Management
Bangladesh Agricultural University, Mymensingh
Cell: +8801714418756
E-mail: ma_mojid@yahoo.com

(Mir Nurul Hasan Mahmud)