CURRICULUM VITAE

KAZI KHAYRUL BASHAR
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Objective:

I want to acquire and utilize my knowledge and skills in plant improvement programs for the benefit of humanity. My long term interest is working with plant genomics in collaboration with molecular biology and bioinformatics.

Personal Details:

Father's name : MD. Mizanur Rahman
Mother's name : Mst. Shirina Akter
Date of birth : 1st May, 1990
Gender : Male
Blood Group : B^+ (B Positive)
Nationality : Bangladeshi (By Birth)
Marital Status : Married
Religion : Islam
Permanent Address : C/O- MD. Mizanur Rahman, Village: East Balubhara Post: Raninagar, Upazila: Raninagar, District: Naogaon.

Educational Qualifications:

Degree	GPA/CGPA	Board/university	Year
Secondary School Certificate	5.00 (out of 5)	Rajshahi	2005
Higher Secondary Certificate	4.40 (out of 5)	Rajshahi	2007
Bachelor of Science in Agriculture	3.87 (out of 4)	Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU)	2011
Masters in Genetics and Plant Breeding	3.91 (out of 4)	Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU)	2014

Service experience

Designation	Duration	Place of work
MS fellow	09.07.2012 to 20.11.2014	Collaborative project of BSMRAU and Bangladesh Rice Research Institute (BRRI)
Biotechnologist	01.03.2015 to 14.06.2022	Basic and Applied Research on Jute Project, (**Jute Genome Sequencing Project**) Bangladesh Jute Research Institute (BJRI) Manik Mia Avenue, Dhaka-1207
Senior Research Officer	15.06.2022 to ongoing	Bangladesh Forest Research Institute, Chattogram

Completed job responsibilities

1. **MS Fellow, BSMRAU: Genetic Enhancement of local rice germplasm towards aromatic hybrid rice variety development in Bangladesh**

- Morphological and molecular characterization of around 100 aromatic rice genotypes.
- Development of **first aromatic hybrid rice variety in Bangladesh** through the production and maintenance of A, B and R lines.

2. **Biotechnologist, BJRI: Jute genome project**

Title: Development of waterlogging tolerant jute variety

- Morphological, anatomical and biochemical characterization of waterlogging tolerant (CVL-1) and sensitive (O-9897) jute varieties under both waterlogging and post-waterlogging stress.
- Identification of molecular differences between CVL-1 and O-9897 based on the transcriptomic analysis of tap roots, adventitious roots, bark and stick at variable waterlogging treatments at pot, research field, and farmers' field.
- Development of **100% waterlogging tolerant 04 CVL-1 advanced lines** through selection of survived plants from natural flooding at farmers' field.
- Genome wide identification of genes for Transcription factor (58 superfamilies), Autophagy genes (54 superfamilies), Phytohormone (8 superfamilies), Cell wall (Cellulose, expansin, lignin, suberin), Flowering gene (48 families), Lateral roots (13 families), Core cell cycle (9 families) and Waterlogging specific pathways (10 pathways) in both white jute (*Corchorus capsularis*) and dark jute (*Corchorus olitorius*).

Title: Nutritional composition of local jute genotypes

- Comparison between local jute genotypes (Merha red, Merha green, Birol red, Accession-3840) and released jute varieties (BJRI deshi pat shak-1 and BINA pat shak-1) in nutritional content point of view.

Title: Construction of evolutionary history of *Sesbania* genome

- Development of paleohistory of nitrogen fixing clade
- Finding out the reasons for survival capability of *Sesbania* species in both wet and dry land ecosystems
- Comparison of bast fibre length among four *Sesbania* species (*Sesbania bispinosa, Sesbania rostrate, Sesbania cannabina, Sesbania sesban*)

Title: Field evaluation of jute advanced lines

- Regional yield trial of *Corchorus olitorius* variety, BJRI Tossa pat-8 in Rangpur and Kishoregonj region.
- Regional yield trial of *Corchorus capsularis* advanced lines, Shoshi1, Shoshi-2 and Shoshi-3 in Rangpur and Kishoregonj region.

Skills and expertise

- Gene expression profiling using RNA-Seq and qRT-PCR.
- Three line rice (aromatic) hybrid breeding system as an MS fellow under the project entitled "**Genetic Enhancement of Local Rice Germplasm towards Aromatic Hybrid Rice Variety Development in Bangladesh".**
- Morphological and molecular characterization of aromatic rice genotypes through **Marker Assisted Selection (MAS)** method by using SSR markers.
- **Experimental Techniques**: Genomic DNA extraction, RNA extraction, PCR, RT-PCR, real-time PCR, cloning, agarose/polyacrylamide gel electrophoresis, gene sequencing using capillary sequencing machine, genome (DNA sequencing) and transcriptome (RNA sequencing) sequencing.
- **Bioinformatic Tools**: BLAST, Blast 2GO, clustalw, clustal omega, SMART, Pfam, Prosite, MEME, InterProScan, Agustus, ORF finder, MBCF oligo calculator, Expasy, MEGA, String, TMHMM, Gene

Bee, TopHat, Bowtie2, Newbler, clc-assembly-cell, MIRA, SOAPdenovo-Trans, velvet, oases, Trinity, etc.

Formal Training

Training (Online)			
Sl. No.	**Name of the Training**	**Organization**	**Year and Duration**
01	Bioinformatic Methods I	Authorized by "University of Toronto", and offered through "Coursera"	2017 (08 weeks)
02	Finding Hidden Messages in DNA (Bioinformatics I)	Authorized by "University of California, San Diego", and offered through "Coursera"	2017 (08 weeks)
03	Understanding Plants- Part I: What a Plant Knows	Authorized by "Tel Aviv University" and offered through "Coursera"	2017 (07 weeks)
04	Understanding Plants- Part II: Fundamentals of Plant Biology	Authorized by "Tel Aviv University" and offered through "Coursera"	2017 (08 weeks)
05	Journal Citation Reports	Clarivate	03 hours (02 classes)
Training Certificates (In Country)			
06	Forestry Research and Development in Bangladesh	Bangladesh Forest Research Institute	16 June 2022- 02 July 2022 (16 days)
07	30kb SMRTbell Express Libraries Preparation	From Pacific Biosciences, USA and held at Bangladesh Jute Research Institute (BJRI), Dhaka	25-29 November 2018 (5 days)
08	Overview & Safe Use of Laboratory Ventilation Equipment (Laminar Air Flow, Biosafety Cabinets and Fume Hood)	From ESCO Biological Safety Institute, Singapore and held at BJRI, Dhaka	05 August 2017 (01 day)
09	Eppendorf Fermentor Bioflo 415 (SIP)	From Eppendorf, Germany and held at BJRI, Dhaka	09-11 May 2017 (03 days)
10	NextSeq 500 & TruSeq Stranded Total RNA training	From Illumina, Inc, USA and held at BJRI, Dhaka	02-05 April 2017 (04 days)
11	Molecular Biology Application in Plant Breeding	From Korea International Cooperation Agency (KOICA) and held at BRRI, Gazipur	08 June 2014- 03 July 2014 (25 days)
12	Basic Biotechnology	National Institute of Biotechnology	18-22 May 2014 (05 days)
13	Website Design (HTML, Content Management and Local host, XAMPP, WORDPRESS)	Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur	25 June 2012- 09 july 2012 (15 days)
14	Extension Education Field Trip	BSMRAU, Gazipur	30 October 2011- 3rd November 2011 (05 days)
15	Microsoft Office Management (Windows Environment, Microsoft Word, Microsoft Excel and Microsoft PowerPoint)	BSMRAU, Gazipur	26 February 2009- 12 March 2009 (15 days)

MS Thesis Title

MS (Genetics and Plant Breeding): Morphological and Molecular Characterization of Some Selected Aromatic Rice Genotypes

Workshop and conferences

Type	Name	Duration	Place	Date
Conference	Plant breeding for sustainable agriculture	2 days	KIB	**2017.**01.06-07
Conference	International Agriculture Conference	2 days	KIB	**2016.**09.29-30
Conference	Bangladesh Science Conference	2 days	BSMRAU	**2015**.10.17-18

workshop	**Genomics and Bioinformatics: Prospects and promises**	1 day	BSMRAU	**2013**.06.03

Professional Membership

Type of membership	Name
Life	Bangladesh Association for the Advancement of Science **(BAAS)**
Life	Plant Breeding and Genetics Society of Bangladesh (**PBGSB**)
Life	Krishibid Institution (**KIB**)
General	Bangladesh Nano Society

Awards and prizes

Type	Name	Position	Place
Poster presentation	**Golden Rice: a True Weapon Against Malnutrition**	3rd	BSMRAU

Scholarship

- Received General Government Scholarship in Primary School Certificate (**P.S.C.)** and Junior School Certificate (**J.S.C.**) result
- Received Rajshahi Board Merit Scholarship in Secondary School Certificate (**S.S.C**) result
- Received General Scholarship from the University based on **S.S.C** & **H.S.C** result
- Received merit scholarship from the university based on **Honor's** and **Masters** results

Publications:

1. **Kazi Khayrul Bashar**, Md. Zablul Tareq, Shah Md Tamim Kabir, Md. Sabbir Hossain, Rasel Ahmed, Borhan Ahmed, Md. Shahidul Islam. 2022. Comparative transcriptomics discovers the genetic basis of contrasting waterlogging tolerance between two cultivated jute species. Industrial Crops and Products. (Under review).

2. Md. Zablul Tareq, Md. Abul Fazal Mollah, Md. Saiful Alam Sarker, **Kazi Khayrul Bashar**, Md. Delwar Hossain Sarker, Md. Moniruzzaman, Syed Nazrul Islam, Md. Zahid Al Rafiq, Md. Abu Sadat. 2021. Nutritive Value of BJRI Mesta-2 (*Hibiscus sabdarifa L.*) Leaves. *Acta Agrobotanica*. 74:749. https://doi.org/10.5586/aa.749

3. Shah Md Tamim Kabir, Md. Sabbir Hossain, **Kazi Khayrul Bashar**, Ummay Honi, Borhan Ahmed, Emdadul Mannan Emdad, Md. Monjurul Alam, Md. Samiul Haque, Md. Shahidul Islam. 2021. Genome-wide identification and expression profiling of *AP2/ERF* superfamily genes under stress conditions in dark jute (*Corchorus olitorius* L.). *Industrial Crops & Products*. 166:113469. https://doi.org/10.1016/j.indcrop.2021.113469

4. Md. Abu Sadat, Md. Wali Ullah, **Kazi Khayrul Bashar**, Quazi Md. Mosaddeque Hossen, Md. Zablul Tareq, Md. Shahidul Islam. 2021. Genome-wide identification of F-box proteins in *Macrophomina phaseolina* and comparison with other fungus. *Journal of Genetic Engineering and Biotechnology*. 19:46. https://doi.org/10.1186/s43141-021-00143-0

5. **Kazi Khayrul Bashar**, Md. Abu Hanif. 2021. Crop gene editing against biotic stresses via CRISPR/Cas9 tools: a review. *Archives of Phytopathology and Plant Protection*. https://doi.org/10.1080/03235408.2021.1895476

6. Ummay Honi, Md. Ruhul Amin, Shah Md Tamim Kabir, **Kazi Khayrul Bashar**, Md. Moniruzzaman, Rownak Jahan, Sharmin Jahan, Md. Samiul Haque and Shahidul Islam. 2020. Genome-wide identification, characterization and expression profiling of gibberellin metabolism genes in jute. *BMC Plant Biology*. 20: 306. https://doi.org/10.1186/s12870-020-02512-2

7. Md. Abul Fazal Mollah, Md. Zablul Tareq, **Kazi Khayrul Bashar**, ABM Zahidul Hoque, Md. Meftahul Karim and Md. Zahid Al Rafiq. 2020. Antioxidant properties of BJRI vegetable mesta-

1 (*Hibiscus sabdariffa* L.). *Plant Science Today*. 7(2):154. https://doi.org/10.14719/pst.2020.7.2.664

8. **Kazi Khayrul Bashar**, Md. Zablul Tareq and Md. Shahidul Islam. 2020. Unlocking the mystery of plants' survival capability under waterlogging stress. *Plant Science Today*. 7(2):142-153. https://doi.org/10.14719/pst.2020.7.2.663

9. Md. Tahjib-UI-Arif, Abdullah Al Mamun Sohag, Sonya Afrin, **Kazi Khayrul Bashar**, Tania Afrin, AGM Sofi Uddin Mahamud, Mohammed Arif Sadik Polash, Md. Tahmeed Hossain, Md. Abu Taher Sohel, Marian Brestic and Yoshiyuki Murata. 2019. Differential Response of Sugar Beet to Long-Term Mild to Severe Salinity in a Soil-Pot Culture. *Agriculture*. 9(10), 22. https://doi.org/10.3390/agriculture9100223

10. Md. Mahmudul Hasan Arif Sardar, Habibur Rahman, Md. Shahidul Islam, Mohammad Saiful Alam Sarker and **Kazi Khayrul Bashar**. 2019. Comparative resistance and yield performance of summer mungbean mutants and varieties as affected by MYMV. *Plant Science Today*. 6(4):433. https://doi.org/10.14719/pst.2019.6.4.596

11. Md. Zablul Tareq, **Kazi Khayrul Bashar**, Md. Ruhul Amin, Muhammad Delwar Hossain Sarker, Md. Moniruzzaman, Mohammad Saiful Alam Sarker, and Md. Shahidul Islam. 2019. Nutritional composition of some jute genotypes as vegetables. *International Journal of Vegetable Science*. 26(5):506-515 https://doi.org/10.1080/19315260.2019.1658686

12. **Kazi Khayrul Bashar**, Md. Zablul Tareq, Md. Ruhul Amin, Ummay Honi ,Md. Tahjib-Ul-Arif, Md. Abu Sadat and Quazi Md. Mosaddeque Hossen. 2019. Phytohormone-Mediated Stomatal Response, Escape and Quiescence Strategies in Plants under Flooding Stress. *Agronomy* 9(2): 43. https://doi.org/10.3390/agronomy9020043

13. **Kazi Khayrul Bashar**. 2018. Hormone dependent survival mechanisms of plants during post-waterlogging stress. *Plant signaling & behavior*. 13(10):1-5. https://doi.org/10.1080/15592324.2018.1529522

14. **Kazi Khayrul Bashar**, Nasrin Akter Ivy, MA Khaleque Mian, Khandakar Md. Iftekharuddaula, and Md. Azizul Hoque. 2017. *International Journal of Biosciences*. 11(3): 184-198. http://dx.doi.org/10.12692/ijb/11.3.184-198

15. **Kazi Khayrul Bashar**, Nasrin Akter Ivy, MA Khaleque Mian, Khandakar Md. Iftekharuddaula, and Md. Azizul Hoque. 2016. Morphological characterization and diversity analysis of some selected aromatic rice genotypes in Bangladesh. *Journal of Biodiversity and Environmental Sciences*. 8(4): 196-208.

Performance as an international reviewer

Sl. No.	Name of the journal	No. of review
01	Plant Science Today	24
02	Genetic Resources and Crop Evolution	08
03	BMC Genomics	04
04	Plant Gene	04
05	Gene	03
06	International Journal of Environment and Climate Change	02
07	International Journal of Biological Macromolecules	02
08	Archives of Agronomy and Soil Science	02
09	Journal of Plant Research	02

10	Plant Signaling and Behavior	02
11	Archives of Phytopathology and Plant Protection	02
12	Acta Physiologia Plantarum	02
13	Journal of Agricultural Science and Practice	01
14	South African Journal of Botany	01
15	Journal of Experimental Agriculture International	01
16	Scientific Reports	01
17	Annals of the New York Academy of Sciences	01
18	Current Journal of Applied Science and Technology	01
19	International Journal of Plant Breeding and Genetics	01