BHEARD
Borlaug Higher Education for Agricultural Research and Development

2017 BHEARD Scholar
Shuma Ray

Profile

Country of Study:	Genetics & Plant Breeding
University:	Bangabandhu Sheik Mujibur Rahman Agricultural University
Department:	Genetics & Plant Breeding
Student Position:	Graduate Research Assistant—PhD
Home Country:	Bangladesh
Home Institution:	Bangladesh Agricultural University
Home Position:	Assistant Professor
Mentored By:	

Research Area: *Salinity in Rice Plants*

BHEARD PROGRAM START DATE: August 2017

UNDERGRADUATE EDUCATION: B.Sc. Agriculture, Bangladesh Agriculture University, Mymensingh

GRADUATE EDUCATION: M.Sc. Biochemistry and Molecular Biology, Bangladesh Agriculture University, Mymensingh

RESEARCH INTERESTS: For future agriculture to thrive there are necessary changes which must be made in accordance to arising global issues. These issues are arable land, harsh cropping conditions and food security which involves, being able to provide the world population with food containing sufficient nutrients. These crops need to be able to mature in several environments allowing for worldwide access, this is involves issues such as salinity tolerance. These global issues are achievable through the process of plant breeding, as it offers the ability to select specific genes allowing the crop to perform at a level which yields the desired results. Bangladesh, Shuma's home country is a very small country but it's population is too much land area. There are vast coastal area where salinity is a major problem which is the main constraint to grow most of the crops including rice. If this vast area can be brought under cultivation of different crops, then they will be able to feed a large number of increasing populations and food security will be ensured as much as possible.

Agriculture is a major sector of the economy of Bangladesh. Increase in salinity intrusion and increase in soil salinity will have serious negative impacts on agriculture. The molecular characterization information as well as genetic diversity analysis could be helpful for planning of rice breeding program to improve grain quality, yield quality and specially for minimizing stress such as salinity, cold, flood etc. tolerant genotype development. Shuma will conduct her research at molecular level upon salinity in rice plant to understand and screen out: Signaling behavior of plants from normal to stress condition; Molecular conditions (genetic level); Hormonal conditions; Gene identity etc.

PERSONAL STATEMENT: Shuma believes she will be able to generate new knowledge on research that will be helpful for her career development and dissemination/transfer of developed technology and knowledge to the stakeholders through modern information and communication technologies (ICTs) would increase public awareness for the development of salt tolerance allow them to accept the technology for sustainable production of rice as staple food. The findings of the project will add new knowledge in the field of crop production. Moreover, findings to be obtained from this project may be utilized for commercial application by science and information & communication technology of the government of Bangladesh.

WHEN I AM NOT WORKING I ENJOY: Most often Shuma spends her leisure time visiting places to see the unseen and to know the unknown. She also watches movies, listens to music, reads books and enjoys time with her friends. Recently, she spends time exploring the internet, Facebook etc. to maintain communication and to obtain new information related to her research activities.