Brief CV of Professor Dr. M. Rafiqul Islam

Professor Dr. M. Rafiqul Islam earned his Bachelor's degree in Agriculture and completed his Master's in Soil Science at Bangladesh Agricultural University, Mymensingh. He obtained his Ph.D. from the University of Durham, UK, and conducted post-doctoral research in Soil Science at Aberdeen University, UK. He was the recipient of a Commonwealth Scholarship for his Ph.D. study, a Commonwealth Fellowship for post-doctoral research in the UK, and a JSPS Invitational Fellowship in Japan.

Professor Islam held several important roles at Bangladesh Agricultural University, including serving as the Head of the Department of Soil Science, acting as the Provost of two Residential Halls, and working as the Coordinator, Committee for Advanced Studies and Research. He also spent 20 months as a Senior Research Manager at IRRI, Bangladesh. Additionally, he contributed as a consultant for the House of Consultants and Concern on National Problems.

Professor Islam has over 40 years of teaching and research experience, and he is well-known for his significant scientific achievements as a researcher. He has successfully managed and completed forty research projects, both as the Principal Investigator (PI) and Co-PI. These projects were funded by various international organizations such as IFS, DFID, DANIDA, IFAD, IRRI, FAO, USAID, BBSRC, IFC, IRRI, EU, Mitsui Bussan Co. Japan, as well as different national organizations including BARC, KGF, BAS-USDA, and BAURES.

Professor Islam has an impressive academic record with 225 research publications to his name. Out of these, 112 papers have been published in international journals, while the remaining 113 papers have been published in national journals. His research findings have been featured in prestigious international journals with high impact factors, including Nature Communications, Exposure and Health, Environmental Science and Technology, New Phytologist, Environment International, Environmental Pollution, Science of the Total Environment, Geoderma, Plant and Soil, Food and Energy Security, among others. According to Google Scholar, his work has received significant recognition, with an h-index of 43 and 9,161 citations. Professor Islam's contributions to education and research in Bangladesh have been acknowledged through awards, including the "BAS Gold Medal Award in 2018" and the "Soil Care Award in 2020." He has consistently ranked as one of the top researchers at Bangladesh Agricultural University for the past five years, according to the AD Scientific Index. In the field of Soil Science and Plant Nutrition, he holds the 2nd position in Bangladesh, the 39th position in Asia, and the 241st position globally (AD Scientific Index 2024). Professor Islam has actively shared his research findings by presenting them at numerous international seminars, conferences, and workshops held in countries such as the UK, South Korea, Germany, Australia, Sweden, Japan, China, Thailand, Malaysia, India, Pakistan, Nepal, and Bangladesh.

Professor Islam's extensive research covers various critical aspects related to heavy metals, including their chemistry, toxicity, bioavailability, human health effects, and implications for food quality and safety. His work encompasses a wide range of study methods, including laboratory experiments, field research, and survey-based studies. Additionally, he focuses on mitigating greenhouse gas emissions from agro-ecosystems. His research findings have had a substantial impact, leading to the development of policy recommendations for government authorities and the introduction of new technologies for managing and remediating soil and food contamination. Specifically, Professor Islam estimated the incremental lifetime cancer risk (ILCR) of arsenic, lead and cadmium due to the consumption of heavy metals contaminated food items for the Bangladeshi population. Rice emerged as the primary dietary component influencing heavy metal intake for the population across all four divisions. As a recommendation, reducing rice consumption while increasing the consumption of wheat, potatoes, and vegetables could help lower dietary exposure to heavy metals. To address the arsenic problem in agriculture, Professor Islam proposed practical solutions, such as cultivating low grain-arsenic content rice varieties like BR3 and BRRI dhan47 and implementing the alternate wetting and drying (AWD) technique for rice cultivation.

His research also involved genome-wide association mapping to identify genetic factors associated with the concentration of arsenic, copper, molybdenum, and zinc in brown rice. Furthermore, Professor Islam quantified the volatilization of nitrogen as ammonia and nitrous oxide from rice fields, and his findings indicated that the deep placement of urea can significantly reduce nitrogen loss. This research contributes to more sustainable agricultural practices and environmental protection.

Professor Islam is a dedicated member of various professional societies and organizations. He holds life membership of the Soil Science Society of Bangladesh, Bangladesh Society of Microbiologists, Indian Society of Soil Science, Phykos, Crop Science Society of Bangladesh, Progressive Agriculturists, and Bangladesh Association for Environmental Development. His active participation in these organizations reflects his commitment to advancing the fields of soil science, microbiology, agriculture, and environmental development.