Academics and Research in the 21st Century

Challenges in Soil Research: where we are

Department of Soil Science

Bangladesh Agricultural University

Mymensingh-2202, Bangladesh

https://ss.bau.edu.bd/

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Contents

1. Introduction

Soils are crucial to life on earth. Soil supplies nutrients for growing plants, and plants manufacture food, fibre and fuel for us. Over half of global ecosystem services arise on land, where soils play a major role. Soils support plant growth, regulate water supply, function as nature's recycling system, influence the composition and physical condition of the atmosphere and play important role as an engineering medium. Managing soil is of utmost importance for enhancing its ecosystem services for global food and environmental security. The Department of Soil Science was established in 1961 under the Faculty of Agriculture which had appeared as the pioneer in Bangladesh in providing high quality education and research opportunity in all branches of Soil Science. It has a wide range of scope to support capacity building of both government and non-government agricultural organizations to promote sustainable agricultural development. At present the discipline is enriched with 15 faculty members who have expertise on highly diverse areas of Soil Science including soil fertility and plant nutrition, management of soils of unfavorable ecosystems, waste management, soil pollution and degradation, conservation agriculture, greenhouse gas emission and mitigation, soil water management and climate change adaptation and mitigation. It has six well equipped laboratories (Soil Physics, Soil Chemistry, Soil Microbiology, Biofertilizer Technology, Arsenic, and Humboldt Soil Testing Lab), five laboratory-cum-classrooms, and one each of seminar, library, and conference room. The Humboldt Soil Testing lab, being established in association with the Humboldt Foundation, Germany, has been serving to analyze soil samples and to recommend fertilizer application rates for farmers since 1977. A well organized and equipped HEQEP laboratory has been built up in the Department with excellent research facilities and sophisticated instruments. The Department has developed Soil Testing Kit for analysing soil nutrients with minimum cost and time. The Department has 20 projects ongoing funded by national and international organizations and has been in collaboration with many national and international organizations and institutes e.g. UEA, JLU, IAEA, OSU, University of Oxford, University of Dundee, University of Aberdeen, University of Southempton, University of Ghent, Murdoch University, Colorado State University, Kyoto University, Kyushu University, Okayama University, etc. It is notable that the Department has already created the opportunity of getting Sakura Science Exchange Program to 36 MS students in collaboration with Okayama University and still going on. The Department has also sent 30 graduates of BAU to pursue their PhD degree in Okayama University. Professor Dr. Md. Anamul Hoque is the pioneer contributor for this outstanding collaboration with Okayama University. The Teachers of this Department have published a good number of research publications in many world reputed journals and are academically honored with different awards. They have innovated some technologies for the first time in the world and in Bangladesh. Rhizobium biofertilizer, Azobiofer, clay mineralogical map of Bangladesh, research on heavy metal and micronutrient deficiency are the major achievements of this Department. The research focus of this Department is highly concentrated to enhance soil resilience and resistance to climate change towards improved ecosystem services of soils for sustainable crop production and environmental security.

2. Vision and Mission

2.1 Vision

The vision of the Department is to establish itself as a premier seat for the advancement of knowledge and development of human resources in soil management and plant nutrition.

2.2 Mission

The missions of the department are

- to generate knowledge through basic and applied research
- to produce high quality professionals in soil resource management
- to develop integrated soil management package for sustainable agricultural development
- to establish knowledge and expertise with national and international organizations
- to provide expert advisory services in agricultural and environmental issues

3. Faculties

Head of the Department

Prof. Dr. Md. Mofizur Rahman Jahangir

Professor

Dr. M. Rafiqul Islam-1

Dr. Abu Zofar Md. Moslehuddin

Dr. Md. Rafiqul Islam-2

Dr. Md. Anamul Hoque

Dr. Md. Abdul Kader

Dr. Md. Anwarul Abedin

Dr. Mahmud Hossain Sumon

Dr. Md. Mofizur Rahman Jahangir

Dr. Tahsina Sharmin Hoque

Associate Professor

Dr. Shofiqul Islam

Assistant Professor

Ms. Hasina Afroz

Mr. Mohammad Golam Kibria

Mr. Imran Ahammad Siddique

Ms. Israt Jahan

Lecturer

Mr. Md. Hosenuzzaman

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Education
Postdoc: University of Aberdeen, UK (2005), Japan (2017)
PhD: University of Durham, UK (1990)
MS: BAU, 1980
B.S.Ag. (Hons.): BAU, 1979

Professional membership

- Krishibid Institution, Bangladesh
- Bangladesh Society of Microbiologists
- Phycological Society, India
- Indian Society of Soil Science
- Bangladesh Society of Soil Science
- Crop Science Society of Bangladesh
- Progressive Agriculturists
- Bangladesh Association for Environmental Development

Professional Experience
Professor: 11/1997 – till date
Associate Professor: 11/1992 – 11/1997
Assistant Professor: 11/1986 – 11/1992
Lecturer: 02/1984 – 011/1986

Consultation services
a. Technical Expert of Concern on National Problems (2011-2013)

Countries Visited
Australia, China, Denmark, Germany, India, Japan, Saudi Arabia, Malaysia, Pakistan, Philippines, Nepal, Netherlands, Sweden, Thailand, United Kingdom, United States of America

b. Member of the consultant team of House of Consultants (May-June 2006) c. Senior Research Manager of IRRI, Bangladesh (April 2009-December 2010)		
Research Interest Heavy metals in water-soil-plant system, Mitigation of GHG emissions from agricultural ecosystems, Integrated nutrient management		**Award** ▪ Global Research Impact Recognition Award-2017 ▪ Gold Medal Award, Bangladesh Academy of Sciences, 2018 ▪ Global Research Impact Recognition Award-202**0** ▪ Soil Care Award-2020 ▪ Bijoy Dibosh Sommanana Puroskar-2020
Courses Taught Undergraduate courses ▪ Introductory Soil Science ▪ Soil Microbiology and Soil Fertility, Postgraduate courses ▪ Soil Plant and Water Analysis, ▪ Soil Survey and Classification ▪ Advanced Soil Fertility and Plant Nutrition ▪ Soil Degradation and Conservation		

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Education
Post-doc.: Texas A & M University, 2008
PhD: Kyushu University, 1998
MS: BAU, 1988
B.Sc.Ag. (Hons.): BAU, 1987

Professional membership
- Soil Science Society of Bangladesh
- Bangladesh Society for Scientists and Scientific Profession
- Krishibid (Agriculturists) Institution, Bangladesh
- Progressive Agriculturists
- Bangladesh Society for Horticultural Science
- Bangladesh Agricultural Extension Society
- Fruit Science Society of Bangladesh
- Bangladesh Fisheries Research Forum

Professional Experience
Professor: 09/2005 – till date
Associate Professor: 11/2000 – 09/2005
Assistant Professor: 05/1996 – 11/2000
Lecturer: 06/1993 – 05/1996
Scientific Officer, BARI: 9/1992-06/1993

Countries Visited
Taiwan, Japan, USA, Saudi Arabia, South Korea, Singapore, Pakistan, Malaysia, Indonesia, Philippines, UK, Tunisia and China.

Award
- University Grants Commission (UGC) Scholarship- 1990
- Professor Karim Memorial Trust Award- 1992
- University Prize, for securing the 1st place at Bachelor level (1987) in 1995

Research Interest
Soil mineralogy, soil chemistry, soil fertility, soil pollution

		▪ Excellent Leadership Award by Islamic Development Bank in 2010 and 2013 ▪ Excellent Leadership Award by Islamic Development Bank in 2013
Courses Taught Undergraduate courses ▪ Introductory Soil Science ▪ Soil Survey, and Classification ▪ Soil Physics and Soil Chemistry Postgraduate courses ▪ Soils of Bangladesh ▪ Advanced Soil Chemistry ▪ Soil, Plant and Water analysis, ▪ Soil Fertility		

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Education
Post-doc.: JSPS (Post-doctoral Fellow, The University of Tokyo, Japan, 2007 - 2009
British Council Fellow, University of Aberdeen, UK, 2015; DAAD Research Fellow, Rhine-Waal University of Applied Sciences, Germany, 2015
Endeavour Research Fellow, The University of Newcastle, Australia, 2018
JSPS Invitational Fellow, The University of Tokyo, Japan, 2018-2019
PhD: Seoul National University, Republic of Korea, 2006
MS: BAU, 1997
B.Sc.Ag. (hons.): BAU, 1991

Professional membership
- Soil Science Society of Bangladesh
- Bangladesh JSPS Alumni Association
- Bangladesh Association for Environmental
- Development
- Progressive Agriculturists
- Krishibid Institution of Bangladesh
- Seed Science Society of Bangladesh

Professional Experience
Professor: 06/2010 – till to date
Associate Professor: 06/2006 – 06/2010
Assistant Professor: 11/1999 – 06/2006
Lecturer: 01/1997 – 11/1999

Countries Visited
Republic of Korea, Japan, United Kingdom, United States of America, Australia, Germany, Netherlands, Norway, France, Belgium, Ireland, Philippines, Malaysia, Singapore, Pakistan, India, Saudi Arabia.

Research Interest
Soil Fertility, Plant Nutrition, Plant Biotechnology, Green House Gas Emission and Mitigation in Paddy Soils, N Mineralization and C Sequestration in Paddy Soils.

Courses Taught Undergraduate courses ▪ Introductory Soil Science ▪ Soil Survey, Classification and Conservation ▪ Soil Physics and Soil Chemistry ▪ Soil Microbiology and Soil Fertility Postgraduate courses ▪ Soil Degradation and Conservation ▪ Research Methodology ▪ Soil, Plant and Water Analysis ▪ Soil Microbiology ▪ Soil Ecology and Biodiversity		**Award** ▪ Professor Karim Memorial Award, 1997 ▪ John Dillon Memorial Award, ACIAR, Australia, 2013

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https://scholar.google.com/citations?user=M5RzCK8AAAAJ&hl=en

Education
Post-doc.: 2010 (JSPS), 2015 (JASSO) & 2017 JSPS Long-Term Fellowship, Okayama University, Japan
PhD: Okayama University, Japan, 2008
MS: BAU, 1999
BSc. Ag. (Hons.): BAU, 1993

Professional membership

- Soil Science Society of Bangladesh
- Seed Science Society of Bangladesh
- American Society of Plant Biologists
- Japanese Society for the Bioscience, Biotechnology and Agroforestry
- Japanese Universities Alumni Association in Bangladesh
- Bangladesh JSPS Alumni Association
- Krishibid Institution Bangladesh
- Japan Student Services Organization
- Okayama University International Alumini Association
- Sakura Science Club, Japan

Journal Editorial Services

- Section Editor, Journal of Bangladesh Agricultural University

		• Section Editor, Journal of Agriculture, Food and Environment
		Countries Visited Japan, USA, Malaysia, India, Turkey, UK
Professional Experience Professor: 03/2012 – till date Associate Professor: 03/2008 – 03/2012 Assistant Professor: 05/2003 – 03/2008 Lecturer: 11/2000 – 05/2003		**Award** ▪ National Science and Technology Fellowship Award-1998, Government of Bangladesh ▪ Professor Karim Memorial Trust Award-1998 ▪ Japanese Language Course Merit Award- 2005 ▪ Global Research Impact Recognition Award-2019
Research Interest Plant Nutrition, Salinity tolerance, Heavy metal stress, Antioxdantdefense mechanisms, Glyoxalase mechanisms, Biofunctionalchemistry, Cell sinalling, Soil fertility		

Courses Taught Undergraduate courses ▪ Introductory Soil Science ▪ Soil Survey, Classification and Conservation ▪ Soil Physics and Soil Chemistry ▪ Soil Microbiology and Soil Fertility Postgraduate courses: ▪ Soil and Water Pollution ▪ Research Methodology		

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Education
Post-doc.: Murdoch University, Australia,2015
PhD: Ghent University, Belgium, 2012
MS: Ghent University, Belgium, 2006; BAU 2000
B.Sc.Ag. (Hons.): BAU, 1994

Professional membership
- Belgian Soil Science Society
- International Union of Soil Sciences
- Bangladesh Association of Progressive Scientists
- Progressive Agriculturist
- Bangladesh Environment Development Association
- Australian Society of Soil Science
- Australasian Soil and Plant Analysis Council (ASPAC)

Journal Editorial Services
- Editor: Journal of South Pacific Agriculture (JOSPA)
- Editorial board member: Bangladesh Journal of Progressive Science and Technology

Organizing National/International Conferences
Member, Programme Committee, 3rd National Conference on Natural Science and Technology, 2016, AUW, Chittagong
Member, Local Organizing Committee, CASH-II Conference, 2017, BAU, Mymensingh
Member, Organizing Committee, and Co-chair session, Session IV, Climate change adaptation, 1st international Conference on Challenges for Future Agriculture 2018

Professional Experience
Professor: 12/2013 –till date
Associate Professor:11/2009 –12/2013
Assistant Professor: 05/2003 –11/2009
Lecturer: 11/2000 – 05/2003

Countries Visited
Belgium, Netherlands, Luxemburg, Germany, France, Spain, Switzerland, United Kingdom, Australia, Indonesia, India, Vietnam, Fiji, Samoa, Tonga, Solomon Island, Vanuatu

Adjunct Professor: Murdoch University, Australia: 01/2016 – till date
Senior Lecturer in Soil Science, University of South Pacific: 23/04/2017-till date

Consultancy services
USP in house consultant for online course conversion 2018 (Fundamental of Soil Science &Soil Fertility and Plant Nutrition)
SPC-ACIAR consultant for PICs soil portal development, November 2020- June 2021

Research Interest
N mineralization in (paddy) soils, C sequestration in paddy soils, Soil organic matter (SOM) quality, Biochemistry of SOM, SOM stabilization mechanisms, N_2 fixation

Courses Taught
Undergraduate courses
- Introductory Soil Science
- Soil Survey, Classification and Conservation
- Soil Physics and Soil Chemistry
- Soil Fertility and Microbiology
- Fundamental of Soil Science
- Soil Fertility and Plant Nutrition

Postgraduate courses
- Soil Degradation and conservation
- Soil Survey
- Advanced Soil Chemistry
- Advanced Soil Fertility and Plant Nutrition

Award
- Professor Karim Memorial Trust Award-2000
- Crawford Fund Training Award 2017
- BAUTA best publication award 2018
- USP Vice-chancellor publication award 2018
- USP Vice-chancellor publication award 2019

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Education
Post-doc.: Northumbria University, UK, 2014-2015
Kyoto University, 2011-2013
PhD: Kyoto University, 2011
MS: BAU, 2004
B.Sc.Ag. (Hons.): BAU, 2003

Professional membership
- Advisory Board Member, iPAGE, Bangladesh
- Coordinator, University Networks in Bangladesh
- Member, DDN Network, UK
- Member, DBAR-Disaster Working Group, Digital Belt and Road (DBAR) initiative, China
- Bangladesh JSPS (Japan Society for the Promotion of Science) Alumni Association, Dhaka, Bangladesh.
- Member, Krishibid Institute Bangladesh
- Member, Japanese Universities Alumni Association in Bangladesh, Dhaka, Bangladesh.

Journal Editorial Services
- Editorial Board, Journal of Plant Biotechnology Reports, Springer
- Advisory Board, Exim Bank Agricultural University Bangladesh Journal (EBAU Journal), Bangladesh.

Professional Experience
Professor: 9/2015 - till date
Associate Professor: 09/2011 – 9/2015
Assistant Professor: 09/2006 – 9/2011
Lecturer: 09/2004 – 09/2006

Countries Visited
Australia, Belgium, China, France, Germany, India, Italy, Japan, Korea, Malaysia, Nepal, Netherlands, Philippine, Qatar Russia, Saudi Arabia, Scotland, Switzerland, Taiwan, Thailand, Turkey and United Kingdom.

Adjunct Professor, Disaster Risk Management Unit, Philippine School of Business Administration, Manila, Philippine: 3/2019 – till date

Consultancy:

- Worked as consultant on draft national watershed policy formulation and implementation framework support by FAO and IUCN
- Worked as consultant with FAO-BD on Agricultural Vulnerability and Hazard mapping in Cox's Bazar
- Currently working as consultant with IUCN on Building Resilience to Landslides through Land Stabilization, Promotion of Alternative Livelihoods and the Establishment of Early Warning Systems in Cox's Bazar, Bangladesh

Research Interest

Water scarcity and vulnerability issues, Climate change and community-based adaptation, disaster (arsenic, salinity, drought, floods) risks reduction and resilience, resilience mapping, Climate smart and sustainable agriculture and food security, heavy metal pollution.

Courses Taught

Undergraduate courses

- Introductory Soil Science
- Soil Survey, Classification and Conservation
- Soil Physics and Soil Chemistry
- Soil Microbiology and Fertility

Postgraduate courses

- Advance Soil Physics
- Soil Ecology and Biodiversity
- Soil survey
- Waste Management and Biofertilizer Technology
- Soil health and disaster risk reduction

Award

- Professor Karim Memorial Trust Award-2005
- Best Publication Award-2016
- Research Grant Award from KURITA Water and Environment Foundation- 2016
- Best Presentation Award in annual workshop arranged by BAURES-2019

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Education
Post-doc: University of Delaware, USA, 2016-2017
Post-doc.: Queens University Belfast, UK, 2014-2015
PhD: University of Aberdeen, UK, 2011
MS: BAU, 2004
B.Sc.Ag. (Hons.): BAU, 2002

Professional membership
- Malaysian Society of Soil Science
- International Society of Root Research
- Agriculturists (Krishibid) Institution
- Soil Science Society of Bangladesh
- Progressive Agriculturists
- Bangladesh Agricultural Extension Society

Journal Editorial Services
- Frontier in Environmental Science (Review Editor)
- Progressive Agriculture (Member, Editorial Board)
- Research in Agriculture, Livestock and Fisheries (Associate Editor-Agriculture)

Organizing National/International Conferences
- Organizing Secretary, 1st international Conference on Challenges for Future Agriculture

Professional Experience
Professor: 11/2015 – till date
Associate Professor: 11/2011 – 11/2015
Assistant Professor: 09/2006 – 11/2011

Country Visited
United Kingdom, Japan, Italy, South Korea, China, Thailand, Malaysia, India, Saudi Arabia, United States of America

Lecturer: 09/2004 – 09/2006

Research Interest

Soil-plant-water interactions (biogeochemical cycling); rhizosphere dynamics and plant ecophysiology of trace elements. Removing inorganic As in rice, Biofortification of trace nutrients in crops.

Courses Taught

Undergraduate courses

- Introductory Soil Science
- Soil Survey, Classification and Conservation
- Soil Physics and Soil Chemistry
- Soil Fertility and Microbiology

Postgraduate courses

- Soil and Water pollution
- Soil, Plant and Water Analysis
- Research Methodology
- Advanced Soil Physics
- Soil Degradation and Conservation

Award

- Professor Karim Memorial Award-2003
- Best Publication Award 2013
- Best Presentation Award in International Conference on Sustainable Agriculture and Rural development: Road to SDG, 22-23 January 2020.

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Education

Post-doc.: Trinity College Dublin, Ireland (2015)
PhD: Trinity College Dublin, Ireland (2012)

Professional membership

- Soil Science Society of Bangladesh
- Krishibid Institution of Bangladesh

M.Sc.: Ghent University, Belgium (2008) MS: BAU, 2003 B.Sc.Ag. (Hons.): BAU, 1998		➢ European Geosciences Union ➢ Irish Hydrogeological Association ➢ Asian Council of Science Editor ➢ Bangladesh Agricultural Extension Society **National Coordinator** Reducing Greenhouse Gas Emission from Agriculture and Land Use Changes through Climate Smart Agriculture Practices (RAS5083) **Counterpart (IAEA-CRP)** Climate-smart agriculture practices for enhancing agricultural productivity and minimising greenhouse gas emissions and gaseous loss of nitrogen **Journal Editorial Services** **Assoc. Editor:** Frontiers in Interdisciplinary Climate Change **Editorial Board member** • Journal of Agricultural Science • International Journal of Scientific Footprints • Advances in Plants & Agriculture Research • Journal of Bioscience and Agriculture Research • Journal of Agriculture, Food and Environment
Professional Experience Professor: 01/2017 - till date Associate Professor: 01/2012 – 01/2017 Assistant Professor: 04/2005 – 01/2012 Lecturer: 01/2003 – 4/2005		**Country Visited** USA, UK, Ireland, Germany, Belgium, France, Netherlands, Italy, Finland, Austria, Denmark, China, Brazil, Malaysia, Indonesia, Nepal and India
Research Interest		

Environmental Soil Physics, climate change adaptation and mitigation, estimating greenhouse gas budgets under different land use changes; soil quality indicators in the light with sustainable soil-water–crop management, biogeochemistry of C and N in terrestrial and aquatic ecosystems, conservation agriculture and agricultural management in ecologically unfavourable ecosystems

Courses Taught

Undergraduate courses

- Soil Physics and Soil Chemistry
- Soil Survey, Classification and Conservation
- Introductory Soil Science
- Soil Microbiology and Soil Fertility

Undergraduate courses for B. Sc. Ag. Engg.

- Soil Science
- Soil Physics

Postgraduate courses

- Advanced Soil Physics
- Soil Water
- Soil, Plant and Water Analysis
- Soil Microbiology and Soil Fertility

Award

- Professor Karim Memorial Award-2002
- TeagascPaper Tiger Competition Award 2012 Best Essay Competition Award by BARC-2015
- TWAS research Grant Award- 2017 by TWAS
- Best Publication Award 2018 by BAURES
- Global Research Impact Recognition Award – 2020 by BAURES

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Education
PhD: Okayama University, Japan (2012)
MS: BAU, 2006
B.Sc.Ag. (Hons.): 2003

Professional membership
- Krishibid Institution, Bangladesh
- Okayama University International Alumni Association
- AYF, Japan

Professional Experience
Professor: 08/2017- tilldate
Associate Professor: 08/2013 –08/2017
Assistant Professor: 08/2008 – 08/2013
Lecturer: 08/2006 – 08/2008

Countries Visited

Japan, Thailand, United Kingdom

Research Interest
Plant stress physiology, Biofunctional chemistry, Aldehyde & hormone signaling in plants under stress, Plant growth regulation and involvement of biostimulants, Soil fertility and Plant nutrition

Courses Taught
Undergraduate courses

- Introductory Soil Science
- Soil Survey, Classification and Conservation
- Soil Physics and Soil Chemistry
- Soil Microbiology and Soil Fertility
- Soil Pollution

Undergraduate courses for B. Sc. Ag. Engg.
- Soil Science
- Soil Physics

Postgraduate courses

Award
- Dr. M. O. Gani Trust Award 2005
- Rahela Khatun Memorial Award 2009 (a gold medal)
- Professor Karim Memorial Trust Award 2010

▪ Advanced Soil Chemistry ▪ Soil Water ▪ Soil and Water Pollution		

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Googlescholar Website:
https://scholar.google.com.au/citations?user=Y-6QHgQAAAAJ&hl=en

Education

Post-doc: The University of Manchester, UK, 2019
Doctor of Philosophy (Environmental Remediation): Global Centre for Environmental Remediation (GCER), University of Newcastle, Australia, 2017
MS: BAU, 2008
B.Sc. Ag. (Hons.): BAU, 2006

Professional membership

- Soil Science Australia
- The International Union of Soil Sciences (IUSS)
- International Society of Groundwater for Sustainable Development (ISGSD) Stockholm, Sweden
- Krishibid Institution Bangladesh (KIB)

Professional Experience

Associate Professor: 01/2018 –till date
Assistant Professor: 01/2014 – 01/2018
Lecturer: 01/2012 – 01/2014, BAU
Lecturer: 02/2011 – 01/2012, PSTU
Research Assistant: 12/2009 – 02/2011, IRRI

Countries Visited

Australia, France, India, Malaysia, Mexico, Sweden, United Kingdom

Research Interest

Pollutants in the environment and their role in global food security; special interest in arsenic biogeochemistry; human health risk assessment and remediation.

Award

- BAUTA Best Publication Award 2018: Category- Home Research
- BAUTA Best Publication Award 2018: Category- Foreign Research
- BAUTA Best Publication Award 2017: Category- Review Article
- Professor Karim Memorial Trust Award-2008
- Gold Medal Award by BAU -2008

Courses Taught Undergraduate courses ▪ Soil Genesis and Soil Physics ▪ Soil Survey and Soil Conservation ▪ Soil Chemistry ▪ Soil Microbiology and Soil Fertility ▪ Soil Pollution **Undergraduate courses for B.Sc.Ag. Engg.** ▪ Soil Science Postgraduate courses ▪ Soil, Water and Air pollution		

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Education
PhD: Queens university Belfast, UK (on- going)
MS: BAU, 2013
B.Sc. Ag. (Hons.): BAU, 2012

Country Visited
United Kingdom, Ireland, Belgium, France, Netherlands, China, Dubai

Professional Experience
Assistant Professor:02/2015 -till date
Lecturer: 02/2013 –02/2015

Award
- Best presentation award in Food Safety and Nutrition symposium at Queen's University Belfast- 2016
- Begum Shitabjan Memorial Trust award- 2016
- University Gold Medal- 2012, 2013
- Prime Minister Gold Medal- 2012
- Dr. S.D Chowdhury Gold Medal- 2011
- Professor Karim Memorial Trust award- 2010

Research Interest
Biotransformation of Arsenic in (paddy) soil, Soil Microbiology, Microbial ecology and Bioinformatics

Courses Taught
Undergraduate Courses
- Introductory Soil Science
- Soil Survey, Classification and Conservation
- Soil Physics and Soil Chemistry
- Waste Management and Biofertilizers

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Education
PhD: UWA, Australia (On-going)
MS: BAU2015
B. Sc. Ag. (Hons.): BAU, 2013

Professional Experience
Assistant Professor: 16/02/2017 - till date
Lecturer: 16/02/2015 to 15/02/2017

Research Interest
Plant stress physiology, Abiotic stress reduction in crop production, Heavy metal toxicity in plant, soil and water system, Soil fertility, climate change adaptation

Courses Taught
Undergraduate courses
- Introductory Soil Science
- Soil survey, Classification and Conservation
- Soil physics and Soil chemistry

Professional membership
- Member, Krishibid Institute Bangladesh (KIB)
- Member, Sakura Science Club, Japan

Countries visited: Japan, Australia

Award

- Begum Shitabjan Memorial Trust Gold Medal Award-2016
- University Gold Medal-2016
- University Prize-2016
- Prime Minister Gold Medal Award 2014

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Education
PhD (On-going): Aarhus University, Denmark
MS: BAU, 2016
B.Sc.Ag.(Hons.): BAU 2015

Professional Experience
Assistant Professor: 02/2019 - tilldate
Lecturer: 02/2017 – 02/2019

Countries Visited
Japan, Philippines, Denmark

Research Interest
Biomass production, Sustainable Agricultural Systems, Biogeochemistry of C and N in terrestrial ecosystems, Greenhouse gas emissions and mitigation in cropping systems, Modelling of ecosystem CO_2 flux

Courses Taught

Undergraduate courses
- Soil Physics and Soil Chemistry
- Introductory Soil Science
- Soil Survey and Soil Classification
- Soil Microbiology and Soil Fertility

Award
- Best Oral Presenter in International Conference on Challenges in Future Agriculture-2018
- First Position (1st) in Essay Competition organised by SAARC-2015
- Prime Minister Gold MedalAward-2015
- Dean's Merit Award -2015
- Begum Shitabjan Memorial Trust Gold Medal Award-2016

Personal Details
Name: Israt Jahan
Position: Assistant Professor
Email: israt.ss@bau.edu.bd
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BAU
profile:https://ss.bau.edu.bd/profile/SS1021

Education
MS: BAU, 2018
B.Sc. Ag. (Hons.): BAU, 2017

Professional membership
- Krishibid Institution Bangladesh (KIB)

Professional Experience
Assistant Professor: 01/10/2020 – till date
Lecturer: 01/10/2018 – 30/09/2020

Countries Visited
Japan, China

Research Interest
Plant Nutrition

Award
- Dean's Merit Award -2018

Undergraduate courses:
- Introductory Soil Science
- Soil Survey, Classification and Conservation
- Soil Physics and Soil Chemistry

Undergraduate courses for B. Sc. Ag. Engg.
- Soil Science

Personal Details
Name: Md. Hosenuzzaman
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Education
MS: BAU, 2020
B. Sc. Ag. (Hons.): BAU, 2018

Professional membership
- Member, Krishibid Institute Bangladesh (KIB)

Professional Experience

Lecturer: 01/03/2020 to till date

Award
Dean's Merit Award-2019

Research Interest
Nitrogen Dynamics in Cropland

Country visited: Japan

Retired Faculties
1. Dr. A.K.M. Fazlul Hoque 2. Professor Dr. A Karim 3. Professor Daniel Hossain Khan 4. Professor Dr. Zahirul Hoque Bhuiyan 5. Dr. M.A. Mannan 6. Professor Dr. M. Idris 7. Professor Dr. M. Shamsul Hoque 8. Professor Dr. Md. Eaqub 9. Dr. Nurul Islam Bhuiyan 10. Mr. Salahuddin Chowdhury 11. Dr. Faisal Ahmed Chowdhury 12. Dr. Zahurul Karim 13. Dr. Md. Shahidul Islam 14. Professor Dr. M.A. Sattar 15. Dr. Md. Zakaria Solaiman 16. Prof. Dr. Syed Anwarul Haque 17. Professor Dr. Musharraf Hossain Mian 18. Prof. Abul Hossain 19. Prof. Dr. Abdul Matin 20. Prof. Dr. Md. Joinul Abedin Mian 21. Prof. Dr. M. Mazibur Rahman 22. Prof. Dr. M. Jahiruddin 23. Prof. Dr. Md. Abul Hashem

Important Executive Position Hold by the Faculties

Sl No.	Name of Faculty	Position Hold
1	Professor Dr. A. Karim	Dean
2	Professor Dr. Z.H. Bhuiyan	Dean & Vice Chancellor
3	Professor Dr. M. Idris	Dean & Coordinator (CASR)
4	Professor Dr. Musharraf Hossain Mian	Vice Chancellor & Coordinator (CASR)
5	Prof. Dr. M Jahiruddin	Dean
6	Prof. Dr. Md. Abul Hashem	Dean
7	Prof. Dr. M. Rafiqul Islam-1	Coordinator (CASR) & Librarian
8	Prof. Dr. Md. Rafiqul Islam-2	Director, BAU Agriculture Museum
9	Prof. Dr. Md Anamul Hoque	Director, Professor Mohammad Hussain Central Laboratory, BAU

Department Staff (In-service)

1. Jahangir Munsur Chowdhury
2. A.B.M Ferdaus Habib
3. Mst. Rokeya Begum
4. Md. Humayun Kabir
5. Mst. Sultana
6. Md. Obaidur Rahman
7. Rejaul Karim Noyon
8. Md. Saddam Hossain
9. Md. Tajuddin

Department Staff (Retired)

1. Md. Azimul Haque
2. Mokbul Hosen
3. Mohammad Ali Khan
4. Md. Abdus Salam Bhuiya
5. Md. Azizul Islam
6. Md. Abdus Sattar
7. Md. Ramzan Ali
8. Mohammad Ali
9. Md. Rustom Ali
10. Md. Shiraj Ali
11. Md. Fazlil Hoque
12. Md. Shamsher Ali
13. Md. Arab Ali
14. Md. Jamal Uddin
15. Md. Abdul Jabbaer

4. Academic Programs

- The Soil Science Department offers 4 compulsory and 3 elective courses at 4 different levels of Bachelor of Science in Agriculture (Honors) degree and two courses for Bachelor of Science in Agricultural Engineering and Technology (Honors) degree.

- The department offers post graduate degree for the professionals and fresh graduates in soil science with the objective of training and enhancing the knowledge and skills of professionals in management of soil and plant nutrition, broadening their perspectives on integrated soil management for sustainable crop production.

A. Undergraduate Courses

B.Sc. in Agriculture (Honours)

- SS 1101 & 1102: Soil Genesis and Soil Physics (T & P)
- SS 2101 & 2102: Soil Survey and Soil Conservation (T & P)
- SS 3201 & 3202: Soil Chemistry (T & P)
- SS 4201& 4202: Soil Microbiology and Soil Fertility (T & P)
- SS3101: Soil Pollution
- SS 3201: Soil Biology
- SS 4203 : Project Design and Report Writing

B.Sc. in Agricultural Engineering (Honours)

- SS 1105 & 1106 : Soil Science (T & P)
- SS 4103: Soil Physics

B. Postgraduate Courses

a) Master of Science in Soil Science

- SS 501: Soil Physics
- SS 502: Soil, Plant and Water Analysis
- SS 503: Soil Chemistry
- SS 505: Soil Microbiology
- SS 507: Soil Fertility and Plant Nutrition
- SS 509: Soil Degradation and Conservation
- SS 511: Research Methodology
- SS 513: Soil Survey & Classification
- SS 515: Soil Water
- SS 517: Soils of Bangladesh
- SS 519: Waste Management and Biofertilizer
- SS 521: Soil, Water and Air Pollution
- SS 523: Nuclear Study in Soil, Water and Fertilizer Management
- SS 525: Soil Resilience and Climate Change
- SS 527: Micronutrient in Soils and Plants
- SS 529: Soil Health and Disaster Risk Reduction

b) Doctor of Philosophy (PhD)

- SS 601: Advanced Soil Physics
- SS 603: Advanced Soil Chemistry
- SS 605: Advanced Soil Microbiology
- SS 607: Advanced Soil Fertility and Plant Nutrition
- SS 609: Advanced Soil Degradation and Conservation
- SS 611: Advanced Research and Reporting

5. Laboratory Facilities

The Department has a remarkable progress in research. There are two types of research activities in the Department: post-graduate research and contract project research.

a. Soil Physics Laboratory

Parameters	**Method**
Soil aggregate size distribution	Wet sieving
Texture	Hydrometer
Root mass density	Mass basis
Volatilization	Closed Chamber method
Leaching	Lysimetric method; Piezometer method
Infiltration	Double Ring Infiltrometer
Greenhouse exchange measurement	Dynamic and Closed Chamber method & Analysis in GC
Ammonia emissions	Closed chamber techniques using acid trap
Bulk density	Core sampler method
Particle density	Volumetric flask method
Soil water	Gravimetric and Tensiometer
Hydraulic conductivity of saturated soil	Constant head method

b. Soil Chemistry Laboratory

Parameters	**Method**
Soil pH	Glass electrode pH meter
Cation Exchange Capacity	Sodium saturation method
Total N	Kjeldahl method
Available P	Olsen method
Available K	Ammonium acetate extraction method
Available S	Calcium chloride extraction method
Carbonate and bicarbonate	Differential titration method
Electrical conductivity	Conductivity meter
Organic carbon	Wet oxidation method
Redox potential in wetland soil	Redox meter
Trace Elements	Atomic Absorption Spectroscopy (AAS)

c. **Soil Microbiology Laboratory**: The Soil Microbiology Laboratory in the Department has been renamed as Professor Shamsul Hoque Laboratory which introduced Rhizobium biofertilizer for the first time in Bangladesh. The Lab has got a nice setup for microbiological research.

d. **Agri-Varsity Humboldt Soil Testing Laboratory**: The Humboldt Soil Testing Laboratory in the department was established in 1977. The Laboratory has developed the facility for analysing major plant nutrients in soil, water and plant samples.

e. **Higher Education Quality Enhancement Project (HEQEP) Laboratory:** The research facilities in the Department have been strengthened by a WB funded Higher Education Quality Enhancement Project (HEQEP). HEQEP laboratory is well equipped with different research facilities and sophisticated instruments. The laboratory is well organized with the following instruments: Distillation unit, Deionizer, Distilled water plant, Microwave digester, Laminar air flow cabinet, Refrigerator, Fume hood, Incubator, Growth chamber and Atomic absorption spectrophotometer (AAS).

Outdoor Research Facilities

- The Soil Science Field laboratory has a total area of 21 acres for conducting research for MS and PhD students as well contract project research.
- The Field laboratory has been recently facilitated with a shed room for initial data collection, sample preparation and threshing grains of different crops for research.
- A composting shed in the field laboratory has been developed with DFID funding.
- USAID funded green house gas emission project has taken initiative to develop a well-equipped field facility for green house gas emissions from the field with a modern data logger system.
- The Soil Science Field Laboratory organizes FIELD DAY in every crop season for comments and suggestions on different research projects.

6. Research Activities

Ongoing Research Projects: 19			
Dr. M. Rafiqul Islam-1	4	Dr. Mahmud Hossain Sumon	2
Dr. Md. Rafiqul Islam-2	1	Dr. Md. Anwarul Abedin	4
Dr. Md. Anamul Hoque	2	Dr. M.M.R Jahangir	6
Completed Research Projects Since 2000: 99			
Dr. Syed Anwarul Haque	6	Dr. Md. Rafiqul Islam-2	9
Dr. M. Mazibur Rahman	8	Dr. Md. Anamul Hoque	13
Dr. M. Jahir Uddin	15	Dr. Md. Abdul Kader	6
Dr. Md. Abul Hashem	7	Dr. Md. Anwarul Abedin	8
Dr. M. Rafiqul Islam-1	13	Dr. Mahmud Hossain Sumon	6
Dr. Abu Zofar Md. Moslehuddin	4	Dr. Mohammad Mofizur Rahman	4

A. Ongoing Research Projects

1. Silicon, an alternative of agro-chemicals for mitigating biotic and abiotic stress and improving grain quality and yield of rice funded by BAS-USDA - Dr. M. Rafiqul Islam-1 as Principal Investigator.
2. Total Diet Study of Bangladesh: Analysis of contaminants, toxins & harmful residues in the foods and assessment of dietary exposure funded by FAO - Dr. M. Rafiqul Islam-1 as Principal Investigator.
3. Uptake of arsenic and other toxic elements by rice from contaminated agricultural ecosystems: Effect of rice genotypes, irrigation, and contamination level. Funded by Mitsui Bussan Company, Japan (2019-21) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
4. Effects of different planting methods and fertilizer management practices on methane emission, yield contributing characters and yield of rice" funded by BAURES from 2019 to date - Dr. M. Rafiqul Islam-1 as Principal Investigator.
5. Acid soil management for wheat and mungbean productivity in Northern and Eastern Piedmont Plains funded by MoST - Dr. Md. Rafiqul Islam-2 as Principal Investigator.
6. Alleviation of aluminium toxicity of acid soils in rice-maize cropping system by application of lime and phosphate fertilizer funded by Bangladesh Agricultural Research System (BAURES) during July 2019 to June 2021 - Dr. Md. Anamul Hoque as Principal Investigator.

7. Increasing Nutrient Use Efficiency of Rice-Rice Cropping System by Split Application of Phosphorus, Potassium and Sulphur Fertilizers funded by MoST (2020-21) - Dr. Md. Anamul Hoque as Principal Investigator.
8. Optimizing rice nutrition through post harvest processing funded by UK Research Innovation (UK) from 2020 to 2023 – Dr. Mahmud Hossain Sumon as Principal Investigator.
9. Restoring fertility to soils after topsoil stripping for brick production in Bangladesh through harnessing agro-ecosystem waste-streams funded by BBSRC-GCRF (UK) from 2019 to 2021- Dr. Mahmud Hossain Sumon as Principal Investigator.
10. Determination of Critical Limit of Nutrients for Soils and Crops funded by World Bank and Government of Bangladesh, from March 2018 to August 2021 – Dr. Md. Anwarul Abedin as Principal Investigator.
11. Impact of climate change, Land use land cover, and socio-economic dynamics on landslides in South and East Asia funded by International Science Council (ICSU), October 2019 to December 2021- Dr. Md. Anwarul Abedin as Collaborator
12. ICT in the time of COVID'19 and beyond - an approach of alleviating climate change adaptation challenges and vulnerabilities in the southwestern coast of Bangladesh funded by the International Development Research Center (IDRC), Canada from 01 August 2020 to 31 December 2021- Dr. Md. Anwarul Abedin as Collaborator.
13. Network for Building Multi-agency Collaboration for Creating Resilient Environments and Communities against Climate Change (Unite4 Resilience) funded by ESRC (Economic and Social Research Council)-UKRI from January 2021 to March 2022 - Dr. Md. Anwarul Abedin as PI-Bangladesh.
14. Nutrient management for diversified cropping in Bangladesh (NUMAN) funded by ACIAR (2018-2021) – Dr. M.M.R Jahangir as Principal Investigator; Dr. M. Jahiruddin as Advisor.
15. Development of a Field Scale Nutrient Balance Calculator for Crops of an Intensively Managed Agricultural System funded by BAS-USDA (2020-2022) – Dr. M.M.R Jahangir as Principal Investigator.
16. Improvement of soil health and crop productivity in climate-vulnerable and polluted areas through organic amendments" Funded by NATP-2 program (2018-2021) – Dr. M.M.R Jahangir as Principal Investigator

17. Confronting the Indigo Giant: how can Bangladesh overcome the memory of indigo cultivation for a more sustainable and equitable future funded by Global Change Research Fund (UKRI-GCRF), UK from January 2021 - December 2022. Dr. M.M.R. Jahangir as Principal Investigator.
18. Developing Climate Smart Agricultural practices for carbon sequestration and mitigation of greenhouse gases funded by IAEA (2020-2024) - Dr. M.M.R Jahangir as Principal Investigator.
19. Reducing Greenhouse Gas Emissions from Agriculture and Land Use Changes through Climate Smart Agricultural Practices funded by IAEA (RAS5083; 2018-2021) - Dr. M.M.R Jahangir as Principal Investigator.

B: Completed Research Projects

1. Direct application of rock phosphate in Bangladesh agriculture funded by World Phosphate Institute (IMPHOS), Morocco (2003 to 2007) – Dr. Syed Anwarul Haque as Principal Investigator.
2. Effect of P placement upon P efficiency for paddy funded by International Fund for Agricultural Development (IFAD), Rome (2000 to 2001) – Dr. Syed Anwarul Haque as Principal Investigator.
3. Effect of urea placement and Nim in coating upon N efficiency for paddy funded by International Fund for Agricultural Development (IFAD), Rome (2000 to 2001) – Dr. Syed Anwarul Haque as Principal Investigator.
4. Release of sulphur from rice residues under flooded condition funded by BAURES (2000 to 2003) – Dr. Syed Anwarul Haque as Principal Investigator.
5. Study on performance of USG and multi nutrient granules on rice funded by BARC (2000 to 2001) – Dr. Syed Anwarul Haque as Principal Investigator.
6. Yield maximization of pulse crops in Bangladesh funded by BARC (2004 to 2006) – Dr. Syed Anwarul Haque as Principal Investigator.
7. Composting of agricultual waste funded by BAURES (1998-2001) - Dr. M. Mazibur Rahman as Principal Investigator.
8. Composting agricultural and urban wastes for use in crop production funded by MOSICT, (2007 to 2008) – Dr. M. Mazibur Rahman as Principal Investigator.

9. Development of Bacterial Biofertilizer for Indigo plants funded by BAURES (2004-2006) - Dr. M. Mazibur Rahman as Principal Investigator.
10. Development and Commercialization of Municipal Solid Waste Compost and Soil Testing Kit by BAU – ACI Collaboration funded by World Bank (HEQEP), (2015 to 2018) – Dr. M. Mazibur Rahman as Principal Investigator.
11. Improvement, Testing and Production of Biofertilizer funded by BAURES (Self-sustaining project) (1996 to 2010) – Dr. M. Mazibur Rahman as Principal Investigator.
12. Leaching loss of nitrogen, phosphorus, potassium and sulphur in the Old Brahmaputra Floodplain soil funded by UGC, (2008 to 2009) – Dr. M. Mazibur Rahman as Principal Investigator.
13. Linking urban waste management and farmer's need for soil organic matter in Bangladesh funded by British Council (INSPIRE), (2009 to 2012) – Dr. M. Mazibur Rahman as Principal Investigator.
14. Quality control & Test of Compost and Monitoring the existing SWM system in Mymensingh Pourashova funded by GTZ (2010 to 2012) – Dr. M. Mazibur Rahman as Principal Investigator.
15. Arsenic in the food chain: assessment of the water-soil-crop systems in the target areas of Bangladesh funded by PETRRA-IRRI, Bangladesh, (2001 to 2003) – Dr. M. Jahir Uddin as Principal Investigator.
16. Biofortification of zinc and iron in rice and wheat by variety selection and fertilizer application, funded by BAS-USDA (2014 to 2016) - Dr. M. Jahiruddin as Principal Investigator.
17. Climate and season driven changes and water salinity for crop production in coastal region of Bangladesh: the promotion of community based adaptive responses, funded by British Council INSPIRE-4 Program (2014 to 2016) – Dr. M. Jahir Uddin as Principal Investigator.
18. Coordinated project on soil fertility and fertilizer management crops and cropping patterns: BAU Component funded by BARC (2011 to 2014) – Dr. M. Jahir Uddin as Principal Investigator.
19. Conservation Agriculture: Soil Component, funded by ACIAR (led by Murdoc University, Australia) – Dr. M. Jahir Uddin as Principal Investigator.

20. Impact of Arsenic Contamination on Agricultural Sustainability and Food Quality funded by USAID (2002 to 2005) – Dr. M. Jahir Uddin as Principal Investigator.
21. Improvement of soil fertility and crop productivity through nutrient management and conservation agriculture in the triple cropping pattern, funded by KGF (2015 to 2018) – Dr. M. Jahir Uddin as Principal Investigator.
22. Investigation of constraints on farmers' access to fertilizer for food production, Sponsor: FAO (2008 to 2009) – Dr. M. Jahir Uddin as Principal Investigator.
23. Management of Secondary and Micronutrients for Major Crops and Cropping Patterns, Sponsor: DANIDA/SFFP, DAE (1998 to 2005) – Dr. M. Jahir Uddin as Principal Investigator.
24. Management of soil fertility for sustainable crop production in Monga affected areas of Kurigram. Sponsor: DANIDA (2009 to 2012) – Dr. M. Jahir Uddin as Principal Investigator.
25. Nutrient management for diversified cropping in Bangladesh funded by ACIAR-KGF (2018 to 2019) – Dr. M. Jahir Uddin as Principal Investigator.
26. Screening, Selection and Molecular Characterization of Boron Efficient Wheat Genotypes, funded by USDA (2006 to 2011) – Dr. M. Jahir Uddin as Principal Investigator.
27. Soil Fertility and Fertilizer Management for Crops and Cropping Patterns - BAU Component, Sponsor: SPGR, BARC (World Bank) (2011 to 2013)– Dr. M. Jahir Uddin as Principal Investigator.
28. Strengthening Post-graduate Research in Soil and Environment for Sustainable Crop Production, funded by HEQEP-AIF-UGC project (2011 to 2013) – Dr. M. Jahir Uddin as Sub-Project Manager.
29. Studies on secondary and micronutrients in soils and crops of some major AEZs of Bangladesh, Sponsor: BARC (1998 to 2001) - Dr. M. Jahiruddin as Principal Investigator.
30. Application of e-agriculture using existing ICT tools to empower the farmers in Bangladesh funded by School of Technology and Health, Royal Institute of Technology, KTH, Sweden (20015 to 2017) – Dr. Md. Abul Hashem as Partner.
31. Development of blue-green algal technology as biofertilizer for rice cultivation funded by the BARC (1998 to 2001) – Dr. Md. Abul Hashem as Principle Investigator.

32. Enriching beneficial indigenous soil microorganisms through integrated plant nutrient management and assessing their effects on soil fertility and sustainable rice production funded by BAURES (2018 to 2020) – Dr. Md. Abul Hashem as Principle Investigator.
33. Enrichment of indigenous microbial population in soil and assessment of their effects in rice cultivation- Funded by UGC (2010 to 2011) – Dr. Md. Abul Hashem as Principle Investigator.
34. Improvement of soil fertility through integrated use of organic and inorganic sources of nutrients for sustainable rice production funded by BAURES (2015 to 2016) – Dr. Md. Abul Hashem as Principle Investigator.
35. Prospects of utilizing cyanobacteria for improving soil health of some problem soils of Bangladesh funded by the Ministry of Science, Information and Communication Technology, Government of the Peoples Republic of Bangladesh (2013 to 2014) – Dr. Md. Abul Hashem as Principle Investigator.
36. Role of blue-green algal inoculum for improving soil fertility and reclaiming salinity of soil funded by BARC (2000 to 2001) – Dr. Md. Abul Hashem as Principle Investigator.
37. A genetic dissection of traits required for sustainable water use in rice using genome wide association studies (GWAS) funded by BBSRC (2012 to 2015) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
38. Action plan for increase in pulse production in Bangladesh funded by Government of Bangladesh funded by BARC (2005 to 2006) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
39. Arsenic: Root to Gut funded by BBSRC-GCRF (2018) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
40. Characterizing genetic and soil induced variation in arsenic uptake, translocation and metabolism in rice to mitigate arsenic contamination in Asia funded by BBSRC, UK (2008 to 2010) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
41. Consumption of unsafe foods: Evidence from heavy metal, mineral and trace element, contamination funded by FAO (2011 to 2012) – Dr. M. Rafiqul Islam-1 as Principal Investigator.

42. Improved crop management and strengthened seed supply system for drought-prone rainfed lowlands in South Asia funded by EC-IFAD (2016 to 2017) – Dr M. Rafiqul Islam-1 as Principal Investigator.
43. Integrated approach for a sustainable wastewater management and biomass production in Bangladesh funded by European Unions (2004 to 2005) – Dr. M. Rafiqul Islam-1 as Team Member.
44. Integrated nutrient management for major cropping patterns funded by DANIDA (2001 to 2006) – Dr M. Rafiqul Islam-1 as Principal Investigator.
45. Integrating greenhouse gas emissions mitigation into the feed the future Bangladesh fertilizer deep placement rice intensification, funded by USAID-IFDC (2012 to 2015) – Dr M. Rafiqul Islam-1 as Principal Investigator.
46. Maximization of crop yield in T. Aman-Mustard-Boro cropping pattern by agronomic manipulation funded by KGF-BARC (2011 to 2014) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
47. Mitigating greenhouse gas emissions from rice-based cropping systems through efficient fertilizer and water management funded by KGF (2016 to 2019) ¬ Dr. M. Rafiqul Islam-1 as Principal Investigator.
48. Screening of rice genotypes for low grain arsenic content funded by Bangladesh Agricultural University Research System, Mymensingh (2006 to 2008) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
49. Waste to Energy Scale up Project funded by IFC and DANIDA (2015 to 2018) – Dr. M. Rafiqul Islam-1 as Principal Investigator.
50. Mineralogy and potassium chemistry of Soils from AEZ 18 Young Meghna Estuarine Floodplain funded by BAURES (2012 to 2014) – Dr. Abu Zofar Md. Moslehuddin as Principal Investigator.
51. Mineralogy and potassium chemistry of Soils from AEZ 22 Northern and Eastern Piedmont Plain. Project funded by by BAURES (2016-2017) – Dr. Abu Zofar Md. Moslehuddin as Principal Investigator.
52. Mineralogy and potassium chemistry of Soils from AEZ 29 Northern and Eastern Hills. Project funded by BAURESS (2018 to 2019) – Dr. Abu Zofar Md. Moslehuddin as Principal Investigator.

53. Screening and selection of advance line of rice on the basis of nitrogen use efficiency funded by BAURES (2003 to 2006) – Dr. Abu Zofar Md. Moslehuddin as Principal Investigator.
54. Effect of green manuring on nitrogen fertility and organic matter build up in soil funded by the University Grants Commission (UGC) of Bangladesh (2013 to 2014) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
55. Integrated and balanced use of manures and fertilizers for sustenance of soil fertility and crop productivity in Rice-Rice and Wheat-Rice Systems funded BAURES (2011 to 2013) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
56. Use of slow-release N fertilizers and manures under different water regimes for increasing N use efficiency and maximizing rice yield funded by Ministry of Science and Technology (MoST), Bangladesh (2012 to 2014) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
57. Increase in N use efficiency and rice yield through water technologies and deep placement of N fertilizers funded by BAURES (2015-2017) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
58. Effect of deep placement of nitrogen fertilizers on N use efficiency and rice yield under different water regimes funded by Ministry of Science and Technology (MoST), Bangladesh (2016 to 2017) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
59. Reducing arsenic and cadmium accumulation in rice through water management funded by BAURES-UGC (2017 to 2018) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
60. Effect of lime and organic matter amendment on wheat productivity in acidic Piedmont soil funded by the University Grants Commission (UGC) of Bangladesh (2018 to 2019) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
61. Management of acid soils for maize productivity in Northern and Eastern Piedmont Plains. funded by Ministry of Science and Technology (MoST), Bangladesh (2019 to 2020) – Dr. Md. Rafiqul Islam-2 as Principal Investigator.
62. Performance of KaziJaibo Shar as a quality organic fertilizer in sustainable soil fertility and crop productivity funded by Kazi Farms Group, Dhaka, Bangladesh (2018 to 2020) – Dr. Md. Rafiqul Islam-2 as 2 as Principal Investigator.

63. Alleviation of soil salinity in rice by proper management of potassium and zinc fertilizers funded by Bangladesh University Grants Commission (2014 to 2015) – Dr. Md. Anamul Hoque as Principal Investigator.
64. Improvement of rice production under different moisture regimes through integrated plant nutrient management funded by BAURESS (2015 to 2017) – Dr. Md. Anamul Hoque as Principal Investigator.
65. Improving crop productivity and livelihoods in the south-west coastal areas of Bangladesh through modern production technologies and soil management practices funded by Ministry of Education, GoB (2014 to 2017) – Dr. Md. Anamul Hoque as Principal Investigator.
66. Improving drought tolerance in wheat and maize by exogenous application of proline funded by BAURES (2013 to 2015) – Dr. Md. Anamul Hoque as Principal Investigator.
67. Increasing crop productivity in saline soils of coastal areas by proper management of potassium fertilizers funded by Ministry of Science and Technology, GoB (2013 to 2014) – Dr. Md. Anamul Hoque as Principal Investigator.
68. Integrated plant nutrient management for improving soil fertility and crop productivity in intensive cropping systems funded by Ministry of Science and Technology, GoB (2013 to 2015) – Dr. Md. Anamul Hoque as Principal Investigator.
69. Management of acid soils for sustainable crop production in Madhupur Tract and Northern & Eastern Piedmont Plains funded by NATP-2, Bangladesh Agricultural Research Council, Dhaka, Bangladesh (2017 to 2018) – Dr. Md. Anamul Hoque as Principal Investigator.
70. Mitigation of salt stress by enhancement of antioxidant defense systems with proline in rice funded by BAURES (2011 to 2012) – Dr. Md. Anamul Hoque as Principal Investigator.
71. Nitrogen Use Efficiency in Rice under Continuous Flooding and Alternate Wetting and Drying Conditions" funded by Ministry of Science and Technology, GoB (2018 to 2019) – Dr. Md. Anamul Hoque as Principal Investigator.
72. Nitrogen Use Efficiency in Rice under Continuous Flooding and Alternate Wetting and Drying Conditions" funded by Ministry of Science and Technology, GoB (2019 to 2020) – Dr. Md. Anamul Hoque as Principal Investigator.

73. Organic amendments for mitigating soil salinity in rice-maize cropping system funded by BARC (2011 to 2014) – Dr. Md. Anamul Hoque as Principal Investigator.
74. Sustainable crop production in salinity affected areas of southern Bangladesh through organic and inorganic amendments funded by Ministry of Science and Technology, GoB (2012 to 2013) – Dr. Md. Anamul Hoque as Principal Investigator.
75. Water and Nutrient Management for Increasing Crop Productivity in Rice-Rice Cropping Pattern funded by Ministry of Science and Technology, GoB (2016 to 2017) – Dr. Md. Anamul Hoque as Principal Investigator.
76. Carbon footprints of major cropping systems of Bangladesh funded by BAURES (2016 to 2018) – Dr. Md. Abdul Kader as Principal Investigator.
77. Development of a model for predicting nitrogen mineralization in paddy soils, Ministry of Education (2015 to 2018) – Dr. Md. Abdul Kader as Principal Investigator.
78. Development of a rapid in-field colorimetric method for soil organic matter determination funded by BAURES (2011 to 2013) – Dr. Md. Abdul Kader as Principal Investigator.
79. Estimation of potentially mineralizable organic nitrogen in paddy rice soils through combined physical and chemical fractionation of soil organic matter, VLIR ICP PhD Grants (2007 to 2011; ICP PhD ID 2007-0008) – Dr. Md. Abdul Kader as Principal Investigator.
80. Identification of abiotic controls on paddy soil NH4+ release within a rice growing season to improve fertilizer efficiency in Bangladesh, VLIR ICP PhD Grants (2013 to 2017; ICP PhD ID 20013-00011) – Dr. Md. Abdul Kader as Principal Investigator.
81. Nutrient releases from vermicompost during a rice growing period and their response to rice crop funded by Christian Commission for Development in Bangladesh (CCDB) (2015) – Dr. Md. Abdul Kader as Principal Investigator.
82. Adoption of Drought Tolerant Rice Varieties in North-western Bangladesh: Constraints and Measures at farmers' level funded by BAURES (2017 to 2018) – Dr. Md. Anwarul Abedin as Principal Investigator.
83. Climate change, water and conflict nexus: Gender based adaptation measures in coastal Bangladesh funded by DECCMA and CARIAA, Canada, (2017 to 2018) – Dr. Md. Anwarul Abedin as Principal Investigator.

84. Climate change, water insecurity, health adaptation in southwestern coastal Bangladesh-funded by BAURES, BAU (2015 to 2016) – Dr. Md. Anwarul Abedin as Principal Investigator.
85. Coping with Flash flood: Potentials of promising Crop Production Practices for North-eastern Haor Areas of Bangladesh funded by UGC, Bangladesh (2017 to 2018) – Dr. Md. Anwarul Abedin as Principal Investigator.
86. Disaster Prevention/Mitigation Measures against Floods and Storm Surges in Bangladesh" funded by JICA-JST, Japan (2014 to 2019) – Dr. Md. Anwarul Abedin as Principal Investigator.
87. Member of work package-5 entitled ESPA Deltas: Assessing Health, Livelihoods, Ecosystem Services and Poverty Alleviation in Populous Deltas funded by DFID, ESRC, NERC and LWEC (2013 to 2016) – Dr. Md. Anwarul Abedin as member.
88. Nutrient Dynamics of Water in Shrimp Farm of Southwest Coastal Ecosystem in Bangladesh funded by Kurita Water and Environment Foundation, Japan (2017 to 2018) – Dr. Md. Anwarul Abedin as Principal Investigator.
89. Smart water solution in Bengal Delta funded by Keio University, Japan (2017 to 2018) – Dr. Md. Anwarul Abedin as Principal Investigator.
90. Evaluation of Selenium nutrition and its potential fortification strategies in Bangladesh funded by BAS-USDA (2017 to 2020) – Dr. Mahmud Hossain Sumon as Principal Investigator.
91. Household biomass ash as a fertilizer to sustainability improve soil nutrition to enhance rice yields funded by BBSRC-GCRF (UK) (2017 to 2019) – Dr. Mahmud Hossain Sumon as Principal Investigator.
92. Mapping arsenic in rice grain funded by BBSRC-STFC (UK) (2019) – Dr. Mahmud Hossain Sumon as Principal Investigator.
93. Removing inorganic arsenic from rice funded by Nestle Foundation (Switzerland) (2015 to 2018) – Dr. Mahmud Hossain Sumon as Principal Investigator.
94. Increasing nitrogen use efficiency through fertilizer and water management in the rice-rice cropping pattern, funded by BARC (2012 to 2015) – Dr. Mahmud Hossain Sumon as Principal Investigator.

95. Effect of organic matter amendment and water management on arsenic mobilization and uptake by rice funded by BAURES (2013 to 2014) – Dr. Mahmud Hossain Sumon as Principal Investigator.
96. Carbon and nitrogen dynamics in constructed wetlands: surface emissions and subsurface drainage fluxes of greenhouse gases (IRC, Ireland) (2013 to 2015) – Dr. Mohammad Mofizur Rahman Jahangir as Principal Investigator.
97. Climate Smart Agriculture: A Solution for Sustainable Food and Environmental Security in Bangladesh funded by BAURES (2016 to 2017) – Dr. Mohammad Mofizur Rahman Jahangir as Principal Investigator.
98. Gross Nitrogen Transformation in Subtropical Paddy Rice Soils: Insights into 15N Tracer Technique funded by the world academy of sciences, TWAS (2018 to 2019) – Dr. Mohammad Mofizur Rahman Jahangir as Principal Investigator.
99. Improving soil resilience to climate change for sustainable crop production through climate smart agricultural technologies, funded by BAURES (2017 to 2019) – Dr. Mohammad Mofizur Rahman Jahangir as Principal Investigator.

National and International Research Collaborations

The department of Soil Science has a number of national and international collaborations with some renowned universities and institutes in home and abroad which are listed below:

1. Banaras Hindu University, India
2. Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
3. Colorado State University, USA
4. Delhi Technological University, India
5. Ghent University, Belgium
6. IAEA, Austria
7. Justus Liebig University, Germany
8. Kyoto University, Japan
9. Kyusho University, Japan
10. Murdoch University in Perth, Australia
11. Nanjing Institute of Soil Science, China
12. Okayama University, Okayama, Japan
13. Oxfam, UK
14. Queen's University Belfast (QUB), UK
15. University of Newcastle, Australia
16. University of Sheffield, UK

17. University of Aberdeen, UK
18. University of Southernpton
19. University of Colombo, Sri Lanka
20. University of Delaware, USA
21. University of East Anglia
22. University of Manchester, UK
23. University of Tokyo

Student Exchange Program

The Department of Soil Science, Bangladesh Agricultural University in collaboration with Okayama University, Okayama, Japan has created the special opportunity for MS student of our Department to avail Sakura Science Exchange Program where a number of MS students visit world class lab in Japan and took their hands on training. Under this exchange program in 2016, 2018 and 2019, a total number of 36 MS students visit Okayama University, Japan which open a new window for future collaborative research of our graduates. This student exchange program will be continuing in future. We are thankful to our colleague Prof. Dr. Md. Anamul Hoque who is the pioneer of this collaboration. By the recommendation of him almost 30 BAU graduates completed or continue their PhD research in the same lab of the Okayama University, Japan.

Postgraduate Student Interactive Workshop

Department of Soil Science, BAU and Disaster Preparedness, Mitigation and Management Program, AIT, Bangkok jointly organized 1st Postgraduate student interactive workshop on Agriculture, disaster risk and sustainability at AIT Bangkok and it will be continued with these two institutions as an outreach international collaborative program.

Industry & Business Engagement

The Department is open to working with industries & businesses of all shapes and sizes.

Social Responsibility

In the Department we're committed to being socially responsible in all we do.

6. Research Publications

Peer Reviewed Research Publication Since 2000

Year	No of Publication	Year	No of Publication
2021	11	2010	25
2020	32	2009	31

2019	29	2008	27
2018	34	2007	24
2017	32	2006	19
2016	35	2005	17
2015	37	2004	16
2014	37	2003	25
2013	36	2002	8
2012	29	2001	15
2011	28	2000	21
Total Number of Journal Articles		**569 (172 with high impact factor)**	
Books & Book Chapters Published		**54**	

a) Research Articles

International Journal with Impact Factor

Publication for the Year 2021

1. **Hossain, M.,** Mestrot, A., Norton, G.J., Deacon, C., **Islam, M.R.** and Meharg, A.A. 2021. Arsenic dynamics in paddy soil under traditional manuring practices in Bangladesh. Environmental Pollution, http://doi.org/10.1016/j.envpol.2020.115821 [Impact factor: 6.792]
2. **Jahangir, M.M.R.**, Begum, R., **Jahiruddin**, **M.,** Dawar, K., Zaman, M., Bell, R.W., Richards, K.G., Müller, C. 2021. Reduced tillage with residue retention and nitrogen application rate increase N_2O fluxes from irrigated wheat in a subtropical floodplain soil. Agriculture, Ecosystems & Environment, 306:107-194, https://doi.org/10.1016/j.agee.2020.107194. [Impact Factor: 4.241].
3. Parvin, G.A., Ahsan, S.M.R., Yusop, A.M., **Abedin, M.A.**, Gordon, J. and Ahmad. M.H. 2021. Kampung (Village) Flood Resilience: An Empirical Analysis in Malaysia. Environmental Hazards, Accepted [Impact Factor: 1.133]
4. Rahman, M.A., **Kader, M.A., Jahiruddin, M., Islam, M.R.** and Solaiman, M.Z. 2021. Carbon mineralization in sub-tropical alluvial arable soils amended with sugarcane bagasse and rice husk biochars. Pedosphere, in accepted for publication. [Impact Factor: 3.736]
5. Sultana, M., **Jahiruddin, M., Islam, M.R., Rahman, M.M., Abedin, M.A.** and Solaiman, Z.M. 2021. Nutrient Enriched Municipal Solid Waste Compost Increases Yield, Nutrient Content and Balance in Rice. Sustainability 2021, 13, 1047.https://doi.org/10.3390/su13031047 [Impact Factor: 2.576]
6. Haque, A.N.A., Uddin, M.K., Sulaiman, M.F., Amin, A.M., **Hossain, M.,** Zaibon, S, Mosharrof, M. 2021. Assessing the Increase in Soil Moisture Storage Capacity and Nutrient Enhancement of Different Organic Amendments in Paddy Soil. Agriculture 11, 44. https://doi.org/10.3390/agriculture11010044 [Impact Factor: 2.072]

7. Norton, G.J., Travis, A., Ruang-areerate, P., Nicol, G.W., Adeosun, A.A., **Hossain, M., Islam, M.R.,** Douglas, A., Price, A.H. 2021. Genetic loci regulating cadmium content in rice grains, Euphytica, accepted for publication. [Impact Factor: 1.614]

Publication for the Year 2020

1. Alam, M.Z., **Hoque, M.A.** and Carpenter-Boggs, L. 2020. Identification of practical amendments to mitigate soil arsenic levels in peas. Rhizosphere, 16, p.100268. https://doi.org/10.1016/j.rhisph.2020.100268[Impact factor: 2.079]
2. Alam, M.K., Bell, W.R., Haque, M.E., Islam, M.A. and **Kader, M.A.** 2020. Soil Nitrogen Storage and Availability to Crops are Increased by Conservation Agriculture Practices in Rice-based Cropping Systems in the Eastern Gangetic Plains. Field Crops Research. 250: 1-14. https://doi.org/10.1016/j.fcr.2020.107764 [Impact factor 4.308]
3. Islam, S., **Islam, M.R**., Kandwal, P., Khanam, S., Proshad, R., Kormoker, T. and Tusher, T.R. 2020.Nitrate transport and assimilation in plants: a potential review. Archives of Agronomy and Soil Science.https://doi.org/10.1080/03650340.2020.1826042[Impact factor: 1.780]
4. **Jahangir, M.M.R.**, Fenton, O., Johnston, P., Richards, K.G. and Müller, C. 2020. Application of 15N tracing for estimating nitrogen cycle processes in soils of a constructed wetland. Water Research 183:116062. https://doi.org/10.1016/j.watres.2020.116062. [Impact Factor: 9.130]
5. **Jahangir, M.M.R., Jahiruddin, M.**, Akter, H., Pervin, R. and Islam, K.R. 2020. Cropping diversity with rice influences soil aggregate formation and nutrient storage under different tillage systems. Journal of Plant Nutrition and SoilScience.https://doi.org/10.1002/jpln.202000310[Impact Factor: 2.083].
6. Sarker, M.M.H., **Moslehuddin, A.Z.M**., **Jahiruddin, M.** and **Islam, M.R**. 2020. Selection of direct, residual and cumulative doses of zinc and boron fertilizers for potato-rice-rice pattern in floodplain soil. Journal of Plant Nutrition. https://doi.org/10.1080/01904167.2020.1799006 [Impact Factor: 1.132]
7. Shi, Z., Carey, M., Meharg, C., Williams, P.N., Signes-Pastor, A.J., Triwardhani, E.A., Pandiangan, F.I., Campbell, K., Elliott, C., Marwa, E.M., Jiujin, X., Farias, J.G., Nicoloso, F.T., De Silva, P.M.C.S., Lu, Y., Norton, G., Adomako, E., Green, A.J., Jiménez, E.M., Zhu, Y.G., Barrachina, A.A.C., Haris, P.I., Lawgali, Y.F., Sommella, A., Pigna, M., Brabet, C., Montet, D., Njira, K., Watts, M.J., **Hossain, M., Islam, M.R.,** Tapia, Y., Oporto, C., Meharg, A.A. 2020. Rice Grain Cadmium Concentrations in the Global Supply-Chain. Exposure and Health, https://doi.org/10.1007/s12403-020-00349-6. [Impact Factor: 4.762]
8. **Siddique, I.A**., Mahmud, A., Al., **Hossain, M**., **Islam, M.R**., Ghaire, Y.K. and Singh, U. 2020. Movement and Retention of NH_4-N in Wetland Rice Soils as Affected by Urea Application Methods. Journal of Soil Science and Plant Nutrition. 20:589-597 https://doi.org/10.1007/s42729-019-00148-2. [Impact Factor: 2.156]
9. Uddin, S., Nitu, T., Milu, U.M., Nasreen, S., **Hosenuzzaman, M.,** Haque, H., Hossain, M.B., **Jahiruddin, M.,** Bell, R.W., Mueller, C. and **Jahangir, M.M.R.** 2020. Ammonia fluxes and emission factors under an intensively managed wetland rice ecosystem. Environmental Science: Processes & Impacts. doi: https://doi.org/10.1039/D0EM00374C [Impact Factor: 3.238]
10. Usese, A.I., Chukwu L.O., Naidu, R., **Islam, S.**, Rahman, M.M. 2020. Arsenic fractionation in sediments and speciation in muscles of fish, Chrysichthysnigrodigitatus from a contaminated

tropical Lagoon, Nigeria. Chemosphere 256: 127134. https://doi.org/10.1016/j.chemosphere.2020.127134. [Impact Factor: 5.778]

Publication for the Year 2019

1. Alam, M.Z., **Hoque, M.A.,** Ahammed, G.J., McGee, R., Carpenter-Boggs, L. 2019. Arsenic accumulation in lentil (*Lens culinaris*) genotypes and risk associated with the consumption of grains. Scientific Reports, 9: 9431.https://doi.org/10.1038/s41598-019-45855-z[Impact Factor: 3.998]
2. **Abedin, M.A.,** Collins, A.E., Habiba, U. and Shaw, R. 2019. Climate change, water scarcity, and health adaptation in southwestern coastal Bangladesh. International Journal of Disaster Risk Science. 10(1), 28-42.https://doi.org/10.1007/s13753-018-0211-8[Impact Factor: 2.048]
3. **Afroz, H.**, Su, S., Carey, M., A., Meharg, A.A. and Meharg, C. 2019. Inhibition of microbial methylation via arsM gene in the rhizosphere: arsenic speciation in the soil to plant continuum. Environmental Science and Technology. 53(7): 3451-3463. https://doi.org/10.1021/acs.est.8b07008 [Impact Factor: 7.864]
4. Alam, M.Z., **Hoque, M.A**., Ahammed, G.J., Carpenter-Boggs, L. 2019. Arbuscular mycorrhizal fungi reduce arsenic uptake and improve plant growth in *Lens culinaris*. PLoS ONE, 14(5):e0211441. https://doi.org/10.1371/journal.pone.0211441[Impact Factor: 2.740]
5. Alam, M.Z., McGee, R., **Hoque, M.A.,** Ahammed, G.J. and Carpenter-Boggs L.2019.Effect of Arbuscular mycorrhizal fungi, selenium and biochar on photosynthetic pigments and antioxidant enzyme activity under arsenic stress in mung bean (*Vigna radiata*). Frontiers in Physiology, 10: 193. https://doi.org/10.3389/fphys.2019.00193[Impact Factor: 3.367]
6. **Islam, S.,** Rahman, M.M., Naidu, R. 2019. Impact of water and fertilizer management on arsenic bioaccumulation and speciation in rice plants grown under greenhouse conditions. Chemosphere, 214: 606-613. https://doi.org/10.1016/j.chemosphere.2018.09.158[Impact Factor: 5.778]
7. **Jahangir, M.M.R.,** Fenton, O., McAleer, E., Johnston, P., Harrington, R., Müller, C. and Richards, K.G., 2019. Reactive carbon and nitrogen concentrations and dynamics in groundwater beneath an earthen-lined integrated constructed wetland. Ecological Engineering, 126, pp.55-63. https://doi.org/10.1016/j.ecoleng.2018.10.021[Impact Factor: 3.512]
8. Nayak, A.K., Rahman, M.M., Naidu, R., Dhal, Swain B.C.K., Nayak, A.D., Tripathi, R., Shahid, M., **Islam, M.R.** and Pathak, H. 2019. Current and emerging methodologies for estimating carbon sequestration in agricultural soils: A review. Science of the Total Environment. 665(2019): 890-912. https://doi.org/10.1016/j.scitotenv.2019.02.125[Impact Factor: 6.551]
9. Norton, G.J., Travis, A.J., Talukdar, P., Hossain, M., Islam, M.R., Douglas, A. and Price, A.H., 2019. Genetic loci regulating arsenic content in rice grains when grown flooded or under alternative wetting and drying irrigation. Rice, 12(1), p.54.https://doi.org/10.1186/s12284-019-0307-9[Impact Factor: 3.840]
10. Miah, M.A.S., Mia, M.M., Islam, M.S., Rahman, M.S., Islam, M., **Kader, M.A., Jahangir, M.M.R.,Hossain, M.A.** 2019.Effects of irrigation scheduling on growth and yield of Boro rice in Bangladesh.International Journal of Business, Social and Scientific Research. 7(4), 15-20.http://www.ijbssr.com/currentissueview/14013331 [Impact Factor: 0.570]
11. Rahman, H, Carey, M., **Hossain, M**., Savage, L., **Islam, M.R.**, Meharg, A.A. 2019. Modifying the Parboiling of Rice to Remove Inorganic Arsenic, While Fortifying with Calcium.

Environmental Science and Technology. 53(9). 5249-5255. https://doi.org/10.1021/acs.est.8b06548[Impact Factor: 7.864]

12. Rana, M.S., **Hoque, T.S.,** and **Abedin, M. A.** 2019. Improving growth and yield performance of cauliflower through foliar application of moringa leaf extract as a bio-stimulant. Acta Scientifica Malaysia 3(2): 07-11.https://doi.org/10.26480/asm.02.2019.07.11[Impact Factor: 1.185]
13. Sarker, M.H., **Moslehuddin, A.Z.M**., **Jahiruddin, M.** and **Islam, M.R**. 2019. Direct and residual effects of micronutrients on crops in a pattern in floodplain soil. Communications in Soil Science and Plant Analysis. 50(2):1-18. https://doi.org/10.1080/00103624.2019.16592. [Impact Factor: 0.767]
14. Sarker, M.M.H., **Jahiruddin, M.**, **Moslehuddin, A.Z.M**. and **Islam, M.R.**, Talukder, R. 2019. Effect of micronutrient fortified fertiliser application on the growth and yield components of tomato plant in floodplain soils of Bangladesh. Journal of the National Science Foundation of Sri Lanka 47(2): http://doi.org/10.4038/jnsfsr.v47i2.9157[Impact Factor: 0.378]
15. Sarker, M.M.H., **Jahiruddin, M.**, **Moslehuddin, A.Z.M**. and **Islam, M.R.** 2019. Optimization of zinc and boron doses for Cauliflower-Maize-Rice pattern in floodplain soil. Communications in Soil Science and Plant Analysis.https://doi.org/10.1080/00103624.2019.1621332 [Impact Factor: 0.767]

Publication for the Year 2018

1. Akter, M., Deroo, H., De Grave, E., Van Alboom, A., **Kader, M.A.**, Boeckx, P., Sleutel, S. 2018. Link between paddy soil mineral nitrogen release and iron and manganesereduction examined in a rice pot growth experiment. Geoderma. 326: 9-21. https://doi.org/10.1016/j.geoderma.2018.04.002[Impact Factor: 4.848]
2. Akter, M., Kamal, A.M., **Kader, M.A.**, Verhoeven, E., Charlotte, D., Boeckx, P., Sleutel, S. 2018. Impact of irrigation management on paddy soil N supply and depth distribution of abiotic drivers. Agriculture, Ecosystems & Environment. 261: 12-24. https://doi.org/10.1016/j.agee.2018.03.015[Impact Factor: 4.241]
3. Alam, M.K., Bell, R.W., Haque, M.E. and **Kader, M.A.** 2018. Minimal soil disturbance and increased residue retention increase soil carbon in rice-based cropping systems on the Eastern Gangetic Plain. Soil & Tillage Research, 183, pp.28-41.https://doi.org/10.1016/j.still.2018.05.009[Impact Factor: 4.601]
4. Begum, K., Kuhnert, M., Yeluripati, J., Ogle, S., Parton, W., **Kader, M.A.**, Smith, P. 2018. Model based regional estimates of soil organic carbon sequestration and greenhouse gas mitigation potentials from rice croplands in Bangladesh. Land. 7(82): 1-18.https://doi.org/10.3390/land7030082[Impact Factor: 2.429]
5. Begum, K., Kuhnert, M., Yeluripati, J., Ogle, S., Parton, W., **Kader, M.A.** and Smith, P., 2018. Soil organic carbon sequestration and mitigation potential in a rice cropland in Bangladesh–a modelling approach. Field Crops Research, 226, pp.16-27. https://doi.org/10.1016/j.fcr.2018.07.001[Impact Factor: 4.308]
6. Bell, R.W., Haque, M.E., **Jahiruddin, M.**, Rahman, M.M., Begum, M., Miah, M.A.M., Islam, M.A., Hossen, M.A., Salahin, N., Zahan, T., Hossain, M.M., Alam, M.K., and Mahmud, M.N.H. 2018. Conservation Agriculture for Rice-Based Intensive Cropping by Smallholders in the Eastern Gangetic Plain. Agriculture 9, 5; http://doi:10.3390/agriculture9010005[Impact Factor: 2.072]

7. Gaihre, Y.K., Singh, U., Islam. S.M.M., Huda, A., **Islam, M.R.**, Sanabria, J., Satter, M.A., **Islam, M.R.**, Biswas, J.C., **Jahiruddin, M.** and Jahan, M.S. 2018. Nitrous oxide and nitric oxide emissions and nitrogen use efficiency as affected by nitrogen placement in lowland rice fields. *Nutrient Cycling in Agroecosystems.* 110(2): 277–291.https://doi.org/10.1007/s10705-017-9897-z[Impact Factor: 2.450]
8. **Haque, M.A., Jahiruddin, M.** and Clarke, D. 2018. Effect of plastic mulch on crop yield and land degradation in south coastal saline soils of Bangladesh. International Soil Water Conservation Research. 6(4): 317-324.https://doi.org/10.1016/j.iswcr.2018.07.001 [Impact Factor: 3.420]
9. Hoque, M.F., Rashid, M.H., **Islam, M.R.**, Islam, M.S., Saleque, M.A. 2018. Phosphorus Sorption and Saturation in the Ganges Tidal Floodplain Soils of Bangladesh. SainsMalaysiana 47(1): 67–76.https://doi.org/10.17576/jsm-2018-4701-08 [Impact Factor: 0.650]
10. Mia, S., Uddin, M.E., Mannan, M.A., **Kader, M.A.**, Hossain, M.M., Ahsan, A., Solaiman, Z.M. 2018. Municipal Organic Waste Management through selective Pyrolysis and Co-composting: a proposed method with quantitative estimation of Nutrient Recycling Potentials in Bangladesh. Waste management. 75:503-513. https://doi.org/10.1016/j.wasman.2018.01.038[Impact Factor: 5.448]
11. Norton, G.J., Travis, A.J., Douglas, A., Fairley, S., Alves, E.D.P., Ruang-Areerate, P., Naredo, M., Elizabeth, B., McNally, K.L., **Hossain, M., Islam, M.R.** and Price, A.H. 2018. Genome wide association mapping of grain and straw biomass traits in the rice Bengal and Assam Aus panel (BAAP) grown under alternate wetting and drying and permanently flooded irrigation. Frontiers in plant science, 9, p.1223.https://doi.org/10.3389/fpls.2018.01223[Impact Factor: 4.402]
12. Sarker, M.M.H., **Jahiruddin, M., Moslehuddin, A.Z.M.** and **Islam, M.R**. 2018. Micronutrient responsiveness of cauliflower, okra, and rice in a pattern in piedmont soil. Journal of Plant Nutrition. http://doi10.1080/01904167.2018.1452938[Impact Factor: 1.132]
13. Schaller, J., Wang, J., **Islam, M.R.** and Friedrich, B.P. 2018. Black carbon yields highest nutrient and lowest arsenic release when using rice residuals in paddy soils. *Scientific Reports*, 2018, 8:17004, http://doi10.1038/s41598-018-35414-3 [Impact Factor: 3.998]

Publication for the Year 2017

1. Fenton, O., Mellander, P.E., Daly, K., Wall, D.P., **Jahangir, M.M.R.,** Jordan, P., Hennessey, D., Huebsch, M., Blum, P., Vero, S. and Richards, K.G. 2017. Integrated assessment of agricultural nutrient pressures and legacies in karst landscapes. Agriculture, Ecosystems & Environment, 239, pp.246-256.https://doi.org/10.1016/j.agee.2017.01.014[Impact Factor: 4.241]
2. Forrestal, P., Krol, D., Lanigan, G., **Jahangir, M.M.R.,** Richards, K.G. 2017. An evaluation of urine patch simulation methods for nitrous oxide emission measurement. Journal of Agricultural Science. doi: https://doi.org/10.1017/S0021859616000939[Impact Factor: 1.082]
3. **Hoque, T.S.,** Uraji, M., **Hoque, M.A.,** Nakamura, Y. and Murata, Y. 2017. Methylglyoxal induces inhibition of growth, accumulation of anthocyanin, and activation of glyoxalase I and II in *Arabidopsis thaliana.* Journal of Biochemical and Molecular Toxicology, 31(7): e21901, doi: 10.1002/jbt.21901. https://doi.org/10.1002/jbt.21901. [Impact Factor: 3.606]
4. Hossain, M.A., Li, Z.G., **Hoque T.S.,** Burritt, D.J., Fujita, M. and Munné-Bosche, S. 2017. Heat or cold priming-induced cross-tolerance to abiotic stresses in plants: key regulators and

possible mechanisms. Protoplasma, 255(1): 399-412. https://doi.org/10.1007/s00709-017-1150-8. [Impact Factor: 2.751]

5. **Islam S.,** Rahman, M.M., **Islam, M.R.** and Naidu, R. 2017. Geographical variation and age-related dietary exposure to arsenic in rice from Bangladesh. Science of the Total Environment. 601-602:122-131. https://doi.org/10.1016/j.scitotenv.2017.05.184 [Impact Factor: 6.551]
6. **Islam, S.** Rahman, M.M., **Islam, M.R.**, and Naidu, R. 2017. Effect of irrigation and genotypes towards reduction in arsenic load in rice. Science of the Total Environment. 609: 311-318. https://doi.org/10.1016/j.scitotenv.2017.07.111 [Impact Factor: 6.551]
7. **Islam, S.**, Rahman, M.M., Duan, L., **Islam, M.R.**, Kuchel, T. and Naidu, R. 2017. Variation in arsenic bioavailability in rice genotypes using swine model: An animal study. Science of the Total Environment. 599-600: 324-331. https://doi.org/10.1016/j.scitotenv.2017.04.215 [Impact Factor: 6.551]
8. **Islam, S.**, Rahman, M.M., Rahman, M.A., Naidu, R., 2017. Inorganic arsenic in rice and rice-based diets: health risk assessment. Food Control, 82: 196-202. http://doi.org/10.1016/j.foodcont.2017.06.030[Impact Factor: 4.258]
9. **Jahangir, M.M.R.**, Fenton, O., Müller, C., Harrington, R., Johnston, P. and Richards, K.G. 2017. In situ denitrification and DNRA rates in groundwater beneath an integrated constructed wetland. Water Research, 111, pp.254-264.https://doi.org/10.1016/j.watres.2017.01.015. [Impact Factor: 9.130]
10. **Kader, M.A.**, Yeasmin, S., Solaiman, Z.M., De Neve, S. Sleutel, S. 2017. Response of hydrolytic enzyme activities and N mineralization to fertilizer and organic matter application in two long-term subtropical paddy field experiments. European Journal of Soil Biology 80:27-34. https://doi.org/10.1016/j.ejsobi.2017.03.004[Impact Factor:2.285]
11. **Kibria, M.G**, Hossain, M., Murata, Y., **Hoque, M.A**. 2017. Antioxidant defense mechanisms of salinity tolerance in rice genotypes. Rice Science 24(3):155-162. http://dx.doi.org/10.1016/j.rsci.2017.05.001 [Impact Factor:3.162]
12. Liu, Y., Bello, O., Rahman, M.M., Dong, Z., **Islam, S.** and Naidu, R., 2017. Investigating the relationship between lead speciation and bioaccessibility of mining impacted soils and dusts. Environmental Science and Pollution Research, 4: (1-2): 1-12.https://doi.org/10.1007/s11356-017-9250-8[Impact Factor:3.056]
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1. **Islam S**, Miah, M.A.H. 2010.Conservation agriculture and sustainable cropping systems in Bangladesh.Compendium of deliverables of the conservation agriculture course 2010. Mexico, D.F.: CIMMYT.
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7. Research Achievements and Major Findings

We are proud to declare here that the Department of Soil Science has made some outstanding contributions in Bangladesh agriculture which are playing a significant role in achieving self-sufficiency in food.

1. Soil Testing Kit: The Department has developed a Soil Testing Kit with the assistance of Alexander Von Humboldt Foundation, Germany for testing major plant nutrients in soil.
2. Rhizobium biofertilizer: Development of Rhizobium biofertilizer for different legume crops is another big research achievement of the Department of Soil Science.
3. Clay mineralogical map of Bangladesh
4. Management of zinc deficiency in rice and boron deficiency in wheat.

5. Development of composting technique.
6. BR 3 and BRRI dhan47 were identified as with low grain arsenic varieties
7. First time reported that arsenic limits trace mineral nutrition (selenium, zinc, and nickel) in Bangladesh rice grain.
8. First time reported the elevated levels of Cd and Pb in rice grains in Bangladesh and their potential health risks.
9. Identified *OsPT1* gene that remediates arsenic transport from soil to shoot of rice.
10. Organic amendment alleviates salinity effects on microorganisms and mineralization processes in aerobic and anaerobic paddy soils.
11. Identified and characterized *AtUK-UPRT1* gene involved in pyrimidine (precursor of DNA and RNA) biosynthesis in plants.
12. Liming and organic amendments reduce soil acidity and improve crop productivity in Madupur Tract and Northern & Eastern Piedmonts Plains.
13. Addition of silicon fertilizers significantly decreased arsenic concentration in rice grains.
14. Through proper management of organic amendments, potassium and zinc fertilizers we can ease the salinity stress in rice. Also, aluminium toxicity of acid soils in rice-maize cropping system can be managed by application of lime and phosphate fertilizer.
15. Combination of different characteristics contributes for salinity tolerance in rice. BINA dhan 10 showed a higher tolerance to salinity stress than the other genotypes.
16. Development of rice parboiling method for removing inorganic arsenic
17. Discovered the contribution of sub-soil denitrification to reactive nitrogen removal from the environment.
18. First time reported N_20 and NH_3 emission factors for wheat and rice in Bangladesh.
19. Urea Deep Placement greatly reduced NH_3 volatilization, N_2O and CH_4 emissions compared to broadcast Prilled Urea. Cow dung in combination with prilled urea increased CH_4 emission compared to prilled urea alone.
20. The emission factors (% N applied) for urea briquette were 0.12, 0.14 & 0.17 in Boro, T. Aus and T. Aman rice, respectively and for prilled urea they are 0.40, 0.46 & 0.55, respectively.

21. Water Management “Alternate Wetting and Drying (AWD) practice had no yield penalty over Continuous Standing Water (CSW) in boro rice and it helps to reduce the CH_4 emission by 10% compared to CSW condition.
22. Arsenic levels in rice are dominated by the location and variety and the daily intake of inorganic arsenic from rice varied significantly. The excess cancer risk higher than ranged used by the US EPA as a threshold and the 2–10 age group experiences higher carcinogenic risks than others and females are more susceptible than males.
23. The concentrations of arsenic in rice grains are cultivar dependent and Bangladeshi rice varieties contents >80% inorganic arsenic that has five times higher bioavailability than organic arsenic. Bioavailability of arsenic from rice varied between 25% and 94% based on varieties and salt tolerance and brown rice have higher arsenic contents but lower bioavailability.
24. Alternate Wetting and Drying irrigation practice reduced 17% to 35% of grain arsenic concentration with 7% to 38% increase in rice grain yield.
25. Smart-water solution a web-based interphase and mobile apps developed in collaboration with Keio University Japan and Calcata University India.
26. SIPE (Safe Water Adaptability Index) Approach for micro level water planning.
27. First time Digital Agricultural Vulnerability and Hazard Mapping at agricultural block level in Bangladesh.
28. Growth and yield enhancement of cereal and vegetable crops by use of bio-stimulants.
29. Physiological functions of signaling molecules in plant abiotic stress responses and tolerance.
30. Mineralization potential of different organic manures integrated with chemical fertilizers in rice-based cropping pattern.

Post-graduate Alumni

MS degree Awarded: ~ 1000

PhD degree Awarded: 50

Running MS students: 70

Running PhD students: 33

PhD Degree Awarded from the Department

Sl No.	Name of student	Name of supervisor	Dissertation title	Year of obtaining degree
1.	Md. Sadrul Amin	Prof. Dr. Z. H. Bhuiya	Transformation and nitrification of urea in Bangladesh soils	1982
2.	Md. Joinul Abedin Mian	Prof. Dr. Z. H. Bhuiya	Air, water and nutrient interactions in paddy soils	1990
3.	Md. Atiqur Rahman	Prof. M. Shamsul Hoque	Integrated use of fertilizer and manure for crop production in wheat-rice and rice-rice cropping patterns	2002
4.	ShafiuddinKaisar Zaman	Prof. Dr. M. Jahiruddin	Integration of fertilizer and manure for sustainable soil fertility and productivity in rice-rice cropping system	2003
5.	Mohiuddin Ahmed	Prof. Dr. M. Jahiruddin	Screening of boron efficient wheat genotypes and assessing boron requirement for wheat-fallow-t. Aman rice cropping pattern	2005
6.	Md. Asadul Haque Bhuiya	Prof. Dr. Musharraf Hossain Mian	Evaluation of introducing mungbean into cereal based cropping pattern for sustainable soil fertility and productivity	2005
7.	Md. Badirul Islam	Prof. Dr. M. Jahiruddin	Requirement of boron for mustard, wheat and chickpea-based rice cropping patterns	2006
8.	Md. Jalal Uddin Sarker	Dr. Md Shahidul Islam (BARC)	Effects of brown manure from food legumes on transplant aman rice and cropping patterns	2006
9.	Sohala Akhter	Dr. Z. Karim (BARC)	System simulation for wheat with special reference to soil and plant nitrogen dinamics and balance	2006

10.	ShahanaAkter	Dr. Z. Karim (BARC)	The effect of arsenic contaminated water and soil on rice	2006
11.	Md. Asaduzzaman Khan	Prof. Dr. M. Rafiqul Islam-1	Movement of arsenic in irrigated rice soil	2007
12.	Md. Baktear Hossain	Prof. Dr. M. Jahiruddin	Behaviour of arsenic in the soil-plant system	2007
13.	Md. Habibur Rahman	Prof. Dr. M. Rafiqul Islam-1	Improvement of crop productivity and sustenance of soil fertility by inclusion of legume in the maize-fallow-t. Aman rice cropping pattern	2008
14.	Md. Ashraf Hossain	Prof. Dr. M. Jahiruddin	Requirement of boron for mustard-mungbean-rice pattern and zinc for maize-mungbean-rice pattern in calcareous soil	2008
15.	Md. Zahurul Islam	Prof. Dr. Musharraf Hossain Mian	Screening and selection of effective azotobacter strains and their use as biofertilizer for cultivation of wheat	2008
16.	Md. Sharif Uddin	Prof. Dr. Md. Joinul Abedin Mian	Dynamics of potassium in paddy soils	2009
17.	Md.Shahiduzzaman	Prof. Dr. M. Abul Hashem	Integrated nutrient management for yield maximization of garlic	2010
18.	Md. Abdul Bari	Prof. Dr. M. Abul Hashem	Impact of deforestation on land and soil of chakariasundarbans mangrove area	2010
19.	Md. Bodruzzan	Prof. Dr. M. Jahiruddin	Lime requirement of acid soils for sustainable crop production	2010
20.	Md. Azizul Haque	Dr. M. A. Sattar, BINA	Characterization and selection of phosphate solubilizing bacteria and their use as biofertilizer for the growth and yield of rice and wheat	2012

21.	Md. Abdus Salam	Prof. Dr. M. Jahiruddin	Phosphorus management for the wheat-rice and chickpea-rice cropping patterns in high barind tract	2012
22.	Nirmal Chandra Shil	Prof. Dr. M. Rafiqul Islam-1	Potassium dynamics in soils of Bangladesh in relation to crop nutrition	2013
23.	Jebun Nahar Ferdoush	Prof. Dr. M. Mazibur Rahman	Effects of boron on physiological and yield parameters of wheat varieties at different sowing dates	2013
24.	Reema Ashrafi	Prof. Dr. Musharraf Hossain Mian	Recycling of spent mushroom substrate for use in mushroom culture and vegetables production	2014
25.	RumiaKhanom	Prof. Dr. M. Jahiruddin	Requirement of zinc and boron for composite and hybrid maize and their residual effects on rice	2014
26.	Saidul Islam	Prof. Dr. M. Jahiruddin	Screening and selection of wheat genotypes for boron efficiency	2014
27.	Md. Ayub-ur-Rahman	Prof. Dr. M. Jahiruddin	Integrated use of fertilizer with manure on mustard, potato and wheat and their residual effects on succeeding crops	2014
28.	Mohammad Asadul Haque	Prof. Dr. M. Jahiruddin	Mineralization of bioslurry and its integrated use with fertilizers in the rice-based cropping systems	2014
29.	Md. Mukhlesur Rahman	Prof. Dr. M. Mazibur Rahman	Quality assessment of municipal solid waste compost and effect of the compost on rice crop and soil properties	2014
30.	Md. Anayet Ullah	Prof. Dr. Md. Joinul Abedin Mian	Cadmium dynamics in soil-plant systems	2014
31.	BegumSamia Sultana	Prof. Dr. Musharraf Hossain Mian	Amendment of Piedmont Soils with Lime and Manure for Improving Soil Fertility and Crop Production in Potato and Wheat Based Cropping Patterns	2015

32.	Md. Abdul Wahab Golder	Prof. Dr. Md. Joinul Abedin Mian	Arsenic and cadmium accumulation in the crops of carrot-red amaranth-transplant aman rice pattern	2015
33.	Md. Abdul Quddus	Prof. Dr. Md. Joinul Abedin Mian	Cropping pattern based nutrient balance in calcareous and terrace soils of Bangladesh	2015
34.	Sultana Bilkis	Prof. Dr. M. Rafiqul Islam-2	Mineralization of different types of manure and their field performances in the potato-mungbean-rice and rice-fallow-rice cropping patterns	2016
35.	A. T. M. Sakhawat Hossain	Prof. Dr. Md. Joinul Abedin Mian	Mineralization of different types of manure and their field performances in the potato-mungbean-rice and rice-fallow-rice cropping patterns	2016
36.	Mohammad Idris Ali Howlader	Prof. Dr. M. Mazibur Rahman	Integrated plant nutrition system for mungbean – t. Aus - t. Aman cropping pattern in the ganges tidal floodplain	2016
37.	Shyamal Brahma	Prof. Dr. M. Abul Hashem	Integrated nutrient management for sustainable yield and storability of onion	2016
38.	Bijoy Krishna Biswas	Prof. Dr. M. Abul Hashem	Integrated nutrient management for sustainable soil fertility and crop production in the rice-rice and potato-rice cropping systems	2016
39.	Saiyera Chowdhury	Prof. Dr. M. Mazibur Rahman	Effect of compost and biofertilizer on crop yield and soil fertility in the mungbean and bororice based cropping systems	2016
40.	Md. Forhadul Islam	Prof. Dr. M. Rafiqul Islam-1	Requirement of micronutrients for rice-based cropping patterns in tista meander floodplain soils	2017
41.	Md. Mosharaf Hossain Sarker	Prof. Dr. Abu Zofar Md. Moslehuddin	Application of micronutrients for vegetable and cereal crops in old meghna estuarine floodplain soil	2017
42.	Md. Aminul Haque	Prof. Dr. M. Mazibur Rahman	Nutrient requirement for sugarcane and intercrops in the tista meander floodplain and high ganges river floodplain soils	2017

43.	NazmusSalahin	Prof. Dr. M. Jahiruddin	Influence of minimum tillage and crop residue retention on soil organic matter, nutrient content and crop productivity in the rice-jute system	2017
44.	Ranjit Chandra Kabiraj	Prof. Dr. M. Abul Hashem	Integrated nutrient management for improvement of soil fertility and yield maximization of sugarcane	2018
45.	Mohammed Shawkhatuzzaman	Prof. Dr. M. Abdul Kader	Changes in land use and soil properties in the barind tract, brahmaputra floodplain and ganges river floodplain	2018
46.	Azmul Huda	Prof. Dr. M. Rafiqul Islam-1	Nitrogen and water management practices for sustainable rice production and reduction of nitric and nitrous oxide emission	2019
47.	Mahbubur Rahman Khan	Prof. Dr. M. Jahiruddin	Biofortification of zinc and iron in wheat by fertilizer application and variety selection	2020
48.	Mohammad ZahangeerAlam	Prof. Dr. Md. Anamul Hoque	Arsenic uptake and mitigation in lentil, mungbean and pea	2020
49.	Most. Bilkis Banu	Prof. Dr. Musharraf Hossain Mian	Selection and characterization of efficient arbuscular mycorrhizal strains for cultivation of vegetables and spices	2020
50.	M. Arifur Rahman	Prof. Dr. M. Jahiruddin	Application of biochar as soil amendment for improvement of soil fertility, carbon sequestration and crop yield in charland	2020

Concluding Remarks

Soil is an invaluable resource that sustains civilization. It provides a wide diversity of ecosystem services. Soil filters our water, provides essential nutrients to our forests and crops and helps regulate the earth's temperature as well as many of the important greenhouse gases. A better understanding and documentation of soil provide more comprehensive valuations of soil services. The Department of Soil Science is renowed for academic excellence as well as building up a strong research network at home and abroad. Expertise faculty members, skilled technician and advanced laboratory facilities are the key assets to achieve acdemic and research goals. The Department is designing research to improve soil health for sustainable crop production and achieving food security.

Appendices:

1. Photographs

Research Activity	
	
	
	

Award Received


৫ ডিসেম্বর ২০২০
5 December 2020
বিশ্ব মৃত্তিকা দিবস
World Soil Day


প্রধান অতিথি


Concluding Session
Professor Dr. Md. Ali Akbar
Professor Dr. Md. Jasimuddin Khan
Professor Dr. Gias Uddin Ahmed
Professor Dr. Subhash Chandra Chakraborty
Professor Dr. M A M Yahia Khandoker

Field Day

International Visitor

Conference, Workshop & Seminar

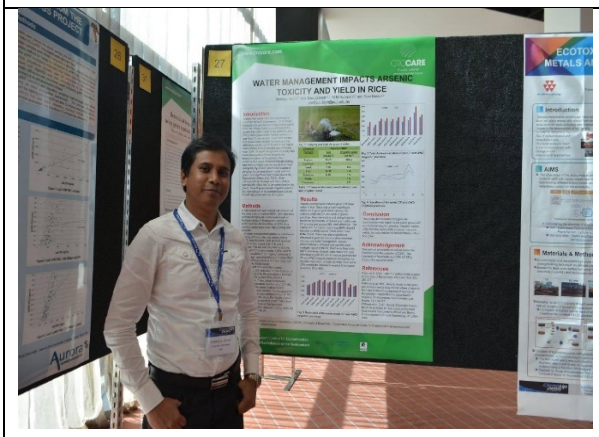

REMOVING INORGANIC ARSENIC FROM RICE
Chief Guest : Professor Dr. Md. Ali Akbar
Special Guests : Professor Dr. M. Jahiruddin
Professor Dr. M. A. M. Yahia Khandoker
Presided By : Professor Dr. Md. Anwarul Abedin
Venue : Syed Nazrul Islam Conference Hall, BAU, Mymensingh


Annual Workshop on
BAU Research Progress : 2017-2018
Technical Sessions 3 & 6
Theme : Agricultural Innovations for Sustainable Development
Venue : Syed Nazrul Islam Conference Hall, BAURES


REDMI NOTE 8 PRO
64MP QUAD CAMERA


Soil Olympiad 2019
BAU Chapter
Date: 29 November 2019
Venue: Dept. of Soil Science
BAU


TEQIP-III Sponsored International Workshop
on
Geohazards Risk Reduction Initiatives in
South and South East Asia (GeoRiskSEA-2019)
November 21-22, 2019
Organized by
Photo by DTU STUDIO


WATER MANAGEMENT IMPACTS ARSENIC
TOXICITY AND YIELD IN RICE


Inaugural Session
Professor Dr. Md. Ali Akbar

Student Exchange Program Postgraduate Workshop

বাংলাদেশ কৃষি বিশ্ববিদ্যালয়

জাপান দেখে এসেছি

সম্প্রতি জাপান-এশিয়া ইউথ এক্সেঞ্জ প্রোগ্রামের আওতায় জাপান সরকারের বিজ্ঞান ও প্রযুক্তি মন্ত্রণালয়ের অর্থায়নে একটি ট্রেনিং প্রোগ্রামের আয়োজন করা হয়। সেখানে অংশগ্রহণের জন্য জাপান যাওয়ার সুযোগ হয় বাকৃবির মুক্তিকা বিজ্ঞান বিভাগের তরুণ শিক্ষক গোলাম কিবরীয়া বাপ্পীসহ ১৪ জন মাস্টার্স শিক্ষার্থীর।
তাদের এ জাপান সফর নিয়ে লিখেছেন **মারুফ আশিফুল ইসলাম**

Social Activities

Study and Field Trips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