

Kamrun Nahar, PhD

Professor, Department of Environmental Science and Management, 705
South Administration Building (SAC), North South University
Dhaka, Bangladesh. 1229

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SUMMARY OF QUALIFICATIONS

- Agronomist, specializing in Crop physiology and sustainable feedstock production from nonfood and drought resistant energy crops
- Expertise includes utilizing energy crops to produce biofuels and usable byproducts by chemical processes
- 23 years of teaching and research experience in the field, greenhouse, hydroponic, laboratory and tissue culture techniques
- Published research articles in peer-reviewed academic and scientific, national and international journals and books
- More than a decade experience in scientific research, secured funding as Principal Investigator on University-level research
- Research interests include: Soil-water-plant relations, Renewable energy (bio-fuel), Climate change (adaptation and mitigation), Waste water treatment, Ecology and Plant biotechnology, Phytoremediation.

EDUCATION

Doctor of Philosophy (PhD)

Department of Applied Plant Sciences and Plant Biotechnology,
University of Natural Resources & Life Sciences (Universität für Bodenkultur) 2000

Dissertation Topic: Effect of Water Stress on Nutrient Uptake,
Osmotic Adjustment and Root Development of Different Tomato
Cultivars under Subtropical Condition

Major: Agronomy

Vienna, Austria

Master of Science (MS), Soil Chemistry

Department of Soil, Water and Environment, University of Dhaka

Dissertation Topic: Salinity of Bangladesh Soils

Dhaka, Bangladesh

1982

GPA: 4.0/4.0 (1st Class)

Bachelor of Science (B.Sc. Hons), Soil Science

Department of Soil, Water and Environment, University of Dhaka

Dhaka, Bangladesh

1981

GPA: 4.0/4.0 (1st Class)

Certification and Training:

Certified DWA (German Associations for Water, Waste water and Waste) Trainer in Water Sector
GIZ (*Deutsche Gesellschaft für Internationale Zusammenarbeit*) German Development Cooperation

Certified trainer of Effluent Treatment in Textile Production
United Nations Industrial Development Organization (UNIDO)

Awards and Honors:

ÖAD Österreichischer Austauschdienst (1997-2000) Austrian Academic Exchange Award (Doctoral)
Bangladesh Education Board First Class Award (1981) University of Dhaka, Dhaka, Bangladesh

TEACHING EXPERIENCE

09/06-Present	Professor, North South University Department of Environmental Science and Management (DESM)	Dhaka, Bangladesh
10/03-07/05	Guest Lecturer, BRAC University Taught courses in Environmental Science	Dhaka, Bangladesh
12/00-05/05	Assistant Professor, Independent University-Bangladesh School of Environmental Science and Management	Dhaka, Bangladesh
06/93-03/95	Lecturer, Ispahani Public School and College Agricultural Science and Biology	Comilla, Bangladesh

Course Taught

Soil Science	Environmental Management
Agricultural Science	Ecology
Agriculture & Land Resource Management	Forest Management
Sustainable Agriculture	General Biology
Environmental Biology	Sustainable energy resources
Population and Environment	Population Environment and Development Planning
Environmental Health and Sanitation	Introduction to Environmental Science

RESEARCH EXPERIENCE

- 04/13-08/13 *Visiting Scholar, Washington State University* Pullman, WA, USA
Biofuel Cropping Systems (BCS), Nutrient Cycling and Rhizosphere Ecology (NCRE) Research,
Department of Crop and Soil Sciences
- 07/12- 09/13 *Principal Investigator, North South University* Dhaka, Bangladesh
Funded Project: Climate Change Mitigation and Prospect of Biofuel Production
from Second Generation Energy Crop Jatropha with Environmental and Socioeconomic Benefits
- 06/11-01/12 *Senior Researcher, University of Dhaka* Dhaka, Bangladesh
In vitro propagation of Jatropha and castor plant to produce sustainable feedstock for energy
Tissue culture laboratory, Department of Botany
- 05/09-Present *Researcher, North South University* Dhaka, Bangladesh
Alternative energy (Biofuel) - Jatropha, Castor oil, Water Hyacinth and other energy crops
- 08/10-11/10 *Visiting Scholar, University of Florida* Immokalee, Florida, USA
Worked with Jatropha Curcas at Intelligentsia International, Inc with the Institute of Food and Agricultural
Sciences (IFAS- University of Florida) in Hendry County Sustainable Biofuels Center
- 07/01-07/10 *Researcher, Independent University, Dhaka University, North South University* Nationwide, Bangladesh
Worked with subtropical fruits and vegetables in field and greenhouse settings, laboratory analysis of soil,
Plant and waters samples
- 03/97-08/00 *Research Assistant, University of Natural Resources and Life Sciences* Vienna, Austria
Research included working with different varieties of tomato on hydroponic systems in the greenhouse
- 04/95-02/97 *Research Associate, University of Dhaka* Dhaka, Bangladesh
Effect of salt and water stress (drought) in Bangladesh soils on Rabi crops (winter crops - oil seeds and
vegetables)

SELECTED PUBLICATIONS

- K. Nahar. and S. Hoque 2021. Phytoremediation to improve eutrophic ecosystem by floating aquatic macrophyte , water lettuce (Pistia stratiotes L.) at lab scale. Egyptian Journal of aquatic research, Elsevier, 47 (2): 231-237
- K. Nahar, 2020. Azolla (Caroliniana): An Aquatic Energy Crop for Remediation of Eutrophic Ecosystems with Prospect of Biofuel Production in Bangladesh. 2020. Asia Pacific Journal of Energy and Environment, 7 (2): 79-86
- K.Nahar and Sanwar Sunny 2020. Duckweed based clean energy production dynamics (Ethanol and Biogas) and Phytoremediation potential in Bangladesh. Springer nature, Modeling Earth System and Environment. 5(4): 1-11. Doi.org/10.1007/s40808-019-00659-y
- K.Nahar and Qafeal Ahsan. 2019. Heavy metal contamination in soil and vegetation from tanning industries in Bangladesh. European journal of Pharmaceutical and Medical research. 6(6):453-462. DOI: 10.20959/ejpmr20196-6564
- K.Nahar and W.L.Pan. 2018. High resolution in situ rhizosphere imaging of root growth dynamics in oilseed castor plant (Ricinus communis L.) using digital scanners. Springer, Modeling Earth Systems and Environment. <https://doi.org/10.1007/s40808-018-0564-4>
- K.Nahar and S.M Ullah, 2018. Drought Stress Effects on Plant Water Relations, Growth, Fruit Quality and Osmotic Adjustment of Tomato (Solanum lycopersicum) under Subtropical Condition. Asian journal of agriculture and horticultural research. 1(2): 1-14
- K.Nahar and R.S. Borna. 2018. Jatropha curcas L. and Ricinus communis L : In vitro Plant Propagation from Shoot Tip Explants for Commercial Cultivation and Biofuel Production. Asian Journal of Biotechnology and Bioresource Technology. 2(3):1- 8
- K. Nahar and S.M Ullah. 2017. Fruit quality and osmotic adjustment of four tomato cultivars under drought stress. Asian journal of soil and plant nutrition. 2(1):1-8
- K. Nahar and Sanwar Sunny. 2016. Bio-diesel, Glycerin and Seed Cake production from roof-top gardening of Jatropha curcas L. *Current Environmental Engineering*, 3 (1): 18-31
- K. Nahar and W.L.Pan. 2015. Urea fertilization: Effects on Growth, Nutrient uptake and Root Development of the Biodiesel Plant (Ricinus communis). American Journal of Experimental Agriculture. 5(4): 320 - 335
- K. Nahar. and S.A.Sunny, 2014. Jatropha curcas L: A Sustainable Feedstock for the Production of Bioenergy and Byproducts. *Journal of Energy and Natural resources*.3 (4):51-57

- K. Nahar and R. Borna. 2013. In Vitro Plant Regeneration from Shoot Tip Explants Of *Jatropha Curcas* L: A Biodiesel Plant. *ARNV Journal of Science and Technology*. **3**(1):38-42
- K. Nahar. 2013. Castor Bean (*Ricinus communis* L.) - A Biofuel Plant:Morphological and Physiological Parameters Propagated from Seeds in Bangladesh. *Asian Business Review*, **2**(2): 64-66
- K. Nahar & Hoque, S. 2013. A Morphological and Physiological Study of *Jatropha curcas* Linn. Propagated from Seeds in Bangladesh. *Middle-East Journal of Scientific Research*, **13**(8), 1115-1118
- K. Nahar and R.S. Borna, 2012. *In vitro* Propagation from Shoot tip Explants of Castor oil plant (*Ricinus communis* L): A Bioenergy Plant, *Canadian Journal on Scientific and Industrial Research*. **3**(5):354-355.
- K. Nahar and S.M. Ullah, 2012. Morphological and Physiological Characters of Tomato (*Lycopersicon esculentum* Mill) Cultivars under Water Stress. *Bangladesh Journal of Agricultural Research*, **37**(2): 355-360.
- K. Nahar. 2012. Biogas Production from Water Hyacinth (*Eichhornia Crassipes*). *Asian Journal of Applied Science and Engineering*. **1**(1): 9-13
- K. Nahar and S.A. Sunny, 2011. Extraction of Biodiesel from a Second Generation Energy Crop (*Jatropha curcas* L.) by Transesterification Process. *Journal of Environmental Science and Technology*, **4**: 498-503.
- K. Nahar and M. Ozores Hampton, 2011. *Jatropha*: An Alternative Substitute of Fossil Fuel. University of Florida, USA, *IFAS Extension*. <http://edis.ifas.ufl.edu/HS1193>
- K. Nahar, 2011. Sweet Sorghum: An alternate feedstock for Bioethanol. *Iranica Journal of Energy and Environment*. **2** (1): 58 -61,
- K. Nahar, S.M. Ullah and N. Islam, 2011. Osmotic Adjustment and Quality Response of Five Tomato Cultivars (*Lycopersicon esculentum* Mill) Following Water Deficit Stress under Subtropical Climate. *Asian Journal of Plant Sciences*. **10** (2): 153-157.
- K. Nahar, S. A. Sunny and S. S. Shazi, 2011. Land Use requirement and urban growth Implications for the production of biofuel in Bangladesh. *Canadian Journal on Scientific and Industrial Research*. **2**(6): 195-208.
- K. Nahar and R. Gretzmacher. 2011. Response of Shoot and Root Development of Seven Tomato Cultivars in Hydroponic System under Water Stress. *Academic Journal of Plant Sciences*, **4**(2): 57-63.
- K. Nahar, S. M. Ullah and R. Gretzmacher. 2011. Influence of soil moisture stress on height, dry matter and yield of seven tomato cultivars. *Canadian Journal of Scientific and Industrial Research*. **2**(4):160-163.
- K. Nahar and S.M Ullah, 2011. Effect of water stress on moisture content distribution in soil and morphological characters of two tomato (*Lycopersicon esculentum* Mill) cultivars. *Bangladesh Journal of Scientific research*. **3** (3): 677-682.
- K. Nahar and R. Gretzmacher. 2002. Effect of water stress on nutrient uptake, yield and quality of tomato (L.e) under subtropical conditions Die Bodenkultur. *Austrian Journal of Agricultural Research*. **53**: 45-51.
- S.A. Ahad, A.S.M. Mohiuddin and K. Nahar. 1993. A Study of some morphological and physical properties of soils from Raojan Rubber Plantation of Chittagong, Bangladesh. *Journal of Soil Science*. **24** (1&2) 31-39.
- M.S. Hussain, K. Nahar, A.K.M.E. Islam and S.F. Elahi, 1989. A Morphological and clay mineralogical study of some soils from Bhola District in Bangladesh. *Dhaka University Studies*. Part B, **4** (2): 93-104.

Book/Book chapter:

- K. Nahar and S.A. Sunny, 2021. Climate Change and State of Renewable Energy in Bangladesh: An Environmental Analysis. In "Climate Change in Bangladesh," (Book chapter) Springer ISBN: 978-3-030-75825-7
- K. Nahar. 2011. Cultivation of *Jatropha curcas* L. in Bangladesh: A Sustainable Solution to the Energy, Environmental and Socioeconomic Crisis. ISBN: 978-3-639-36580-1. VDM Publisher.
- K. Nahar. 2014. Soils of the Coastal Belt of Bangladesh. ISBN: 978-3-639-66686-1. Scholars' Press
- K.Nahar. 2014. . Effect of Water Stress on Nutrient Uptake, Osmotic Adjustment and Root Development in Different Tomato Cultivars. ISBN 978-1-312-59237-7. Lulu Publisher

International Conference Proceeding: “Perceiving and Executing Sound Environmental Design Strategies – A global visual framework”. 2021, DCA International Conference, Atlanta, USA, Sanwar A. Sunny and Kamrun Nahar, University of Baltimore, USA, and North South University, Bangladesh

“Urea Fertilization: Effects on growth, nutrient uptake and root development of the biodiesel plant, castor bean (*Ricinus communis* L).“Global Biotechnology Congress 2014” .Boston USA.

“Biodiesel Production from *Jatropha curcas*- Sustainable energy option with environmental and socioeconomic benefits”. International Green Energy Conference, 2016” at Atlanta, USA.

Newspaper Articles:

- K. Nahar. (Feb 23, 2013). Sustainable Green Energy Option: Prospect for second generation biofuel crops. EnvironmentSection.*The Daily Star*.
- K. Nahar. (May 16, 2013). Sustainable Biogas from Water Hyacinth. Environment Section. *The Daily Star*.
- K. Nahar. (January, 2016). Climate change adaptation, mitigation and Biofuel prospects in Bangladesh. Environment Section. *The Daily Observer*

INVITED LECTURES & SEMINAR

- Attended the workshop as a key speaker on renewable energy (biofuel-Jatropha) organized by Bangladesh Green Building Council (BGBC) at AIUB (American International University, Bangladesh)
- Invited on an Environmentalists Dialogue Event on Climate Change at the American Centre, Bangladesh
- Invited on *Prokriti O Jibon* (Nature and Life) TV series about Green Economy on National Television, Channel I station

AFFILIATION & MEMBERSHIP

Asiatic Society of Bangladesh
Member, Soil Science Society of America
Member, Soil Science Society of Bangladesh
Founding Member, Bangladesh Green Building Council (BGBC)
Member, Dhaka University Soil Science Alumni Association (DUSAA)
Former Secretary and Member, Institute of Environmental Professionals - Bangladesh (IEPB)
Member, Soil, Water and Environment Department of Dhaka University Trust (SWED-DU Trust)
Member, Bangladesh Association for the Advancement of Science (BAAS)
Reviewer of the Journal of Environment, Development and Sustainability, Netherlands
Parlar Scientific Publication (PSP), Fresenius Environmental Bulletin, Germany

LANGUAGES

English, German, Hindi and limited Arabic