



# International Conference

on

## Global Water Crisis: Agriculture and Food Security in the era of Climate Change

1 - 3 December, 2018

Patron

**Prof. Tariq Mansoor**  
Vice-Chancellor  
Aligarh Muslim University, Aligarh

Organised by

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Aligarh Muslim University, Aligarh



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## **About the Conference**

Water is a unique gift of nature to our living planet earth. It is an elixir of life and its cultural and social meaning is deeply rooted in our past heritage. Centuries passed, the civilization has taken birth along the natural water course. All people everywhere and everyday need water to sustain their life. We need it for drinking, cooking, bathing, washing, for food, industries energy, transport for rituals for fun for life, but we stand today on the brink of a global water crisis. UNO declared the decade 2005-2015 as “water for life” a decade to mark the importance of water. Even former Secretary General of United Nations *Mr. Ban Ki Moon* declared that water scarcity, threats, economic and social gains and is a potent fuel for wars and conflicts. The fear around water wars has been driven by a Malthusian outlook which equates scarcity with violence, conflict and war. Ramon Magsaysay & Stockholm Water Prize recipient *Dr. Rajendra Singh*, also known as Waterman of India apprehended that if the World War III is fought, that must be on scarcity of water.

Global demand for water has tripled since the 1950s, but the supply of fresh water has been declining. Half a billion people live in water-stressed or water-scarce countries, and by 2025 that number will grow to three billion due to an increase in population. The global human population may hit a record 9 billion people by 2050. The availability of sufficient water resources is one of the major crises with overarching implications for many other world problems especially poverty, hunger, ecosystem degradation, desertification, climate change, and even world peace and security. Continued increase in demand for water by non-agricultural uses, such as urban and industrial uses and greater concerns for environmental quality have put irrigation water demand under greater stress. Climate change poses significant threat to global food security, eradication of poverty, hunger, starvation and to achieve sustainable development. Green House Gases (GHGs) emission from human activities and livestock are significant drivers of climate change, trapping heat in the earth's atmosphere and triggering global warming which has significant impact on agricultural productivity by altering the behaviour of rainfall distribution, draught, flooding, landslide and geographical re-distribution of pastes and diseases. It may also create uncertainty throughout the food chain from farm to fork and yield to trade dynamics. The ecological balance on which present and future generation depends can only be preserved through food-chains that balance energy and nutrients flow.

The big challenge in the 21<sup>st</sup> Century is how to feed a world with continuous growing and increasing affluent population with greater meat demand. These challenges pose significant risk to food security, even in areas with high productivity and production. Human response to these challenges depends fundamentally on how water scarcity and food security issues are conceptualised and addressed. Climate change challenges to future food security are immense. There are two potential pathways in dealing with climate change, i.e., mitigation and adaptation. Mitigation is the process to reduce the carbon emission for balanced ecosystem, adaptation is the mechanism to manage, conserve and use the water in sustainable manner in different ecological settings.

Water is a key driver of agricultural production; its scarcity can reduce production and adversely affect the food security. Water for agriculture is critical for sustainable livelihood. The poor adaptation and deficiency in water management in response to climate change poses further challenges to food security. In order to overcome the existing water crisis and food security caused by human induced climate change requires fundamental shift in our food-system policy and rational use of water and energy. The strong will and high visionary government with full of commitment and determination is direly needed to deal forcefully with underlying issues driving food security, such as population growth, widespread poverty, income-inequality, climate change, water scarcity, land degradation, energy and food price inflation.

There is no doubt climate change and its adverse impacts has sparked worldwide concern, but so far has failed to inspire world leaders to set aside their national agenda and work together to craft an international strategy for mitigation and adaptation of climate change to save the living planet from irreparable loss of existing precious water resource for humanity.

The proposed theme addressing one of the burning issues of the globe, which is a centre of debate and discussions among the climatologists, earth scientists, geographers, geo-spatial researchers, social scientists, academicians, planners, stakeholders and administrators to find out plausible measures to mitigate and adapt in accordance with climate change and to orient the resilient path towards development. These issues are to be initiated in a broader framework under the following sub themes.

### **Sub-themes**

#### ***Global Water Crisis***

- Water stress & food security - energy and ecosystems
- Climate change and urban water management, water supply and water scarcity
- Groundwater Extraction and Environmental Impacts
- Design of data collection & analysis for water systems, land use and climate change
- Surface and ground water hydrologic systems and models
- Watershed impacts on land use/ land cover
- Economics of water systems & Impacts of water quality on human health

#### ***Food Security Issues***

- Food, Land and Water Systems: Future Challenges and Pathways
- Public policy for food security, water access and sustainable development
- Food security, poverty and sustainability with special reference to developing world
- Culture and politics in food security - Social protection for food security
- Women- the key to sustainable food and nutrition security
- Sustainable intensification of food production systems
- Convergence of different technologies for sustainable food production
- Climate-smart agriculture and agro-ecology

#### ***Agriculture and Climate Change***

- Agriculture, sustainable development and climate change – A key to food security
- Modelling climate change and its applications to agriculture
- Land use and Land cover Transformation and Climate Change
- Agricultural uncertainty – Changing food systems & agro-ecological food production
- Agricultural marketing and Agri-business

#### ***Environment and Geospatial Technologies***

- Population displacement, human health & implications
- Planning ahead: delivering resilience in the face of climate uncertainty
- Geospatial techniques for adaptation of water crisis, food security & climate change
- Convergence of geo-spatial data for modelling the global change
- GIS, remote sensing and climate change
- Geospatial Technologies and Sustainable Development
- Indoor and outdoor environmental pollutions and its impact
- Environmental Impact Assessment- Air, Water, Noise & Land pollution

## **The Aligarh Muslim University**

Aligarh Muslim University (AMU) is a public university, funded by the central Government of India. It was established by Sir Syed Ahmad Khan as Madrasatul Uloom Musalmanan-e-Hind in 1875, which later became Mohammedan Anglo-Oriental College (MAO College). The Mohammedan Anglo-Oriental College became Aligarh Muslim University in 1920. The main campus of AMU is located in the city of Aligarh in Western Uttar Pradesh in North India. There are three fully functioning off-campus centers located in the cities of Malappuram (Kerala), Murshidabad (West Bengal) and Kishanganj (Bihar). The university campus occupies an area of over 468 hectares (1,155 acres). It has total academic staff strength of 2,500 with around 30,000 students. A special feature of the University is its residential character with most of the staff and students residing in the campus. Aligarh Muslim University draws students from all corners of the country as well as foreign countries, especially Africa, West Asia and Southeast Asia. In some courses, seats are reserved for students from SAARC and Commonwealth Countries. AMU is truly representative of the country's multi-religious, multi-racial and multi-lingual character. In 2017, the University ranked 1<sup>st</sup> in the top 10 higher education institutions in India by Times Higher Education World University Rankings.

## **The Department of Geography**

The Department of Geography, Aligarh Muslim University, Aligarh was established in 1924 which is the oldest department of Geography in the Indian sub-continent. Since then the department is catering to the geographical knowledge at under-graduate, post-graduate level and pursuing research in almost all the fields of Geography, especially in Agriculture, Rural-Urban Development, Population, Environment and Planning.

## **The Aligarh city**

Aligarh is notable for being the seat of Aligarh Muslim University. The city is nicknamed *Tala Nagri*, "The City of Locks" for its famous Lock industry. Aligarh is located approximately 90 miles (140 km) south-east of the capital city of New Delhi and 85 km from Agra. It is very well connected with major cities of India by railways and roads. Weather in Aligarh becomes mild and pleasant cold by the start of December.

## **Call for Papers: Submission of Abstracts and Full Papers**

Abstracts and full papers are invited on any of the above theme areas or other related areas. The abstracts should not exceed 300 words, should be typed in 1.5 line spacing leaving 1" margin on all sides on A-4 paper. Three to five keywords should be given below the abstract in italics. The font should be Times New Roman in size 12. The abstract can be submitted on [www.amugeography.com](http://www.amugeography.com), for all queries regarding the conference kindly write on [intconfgeogamu@gmail.com](mailto:intconfgeogamu@gmail.com).

The selected papers will be published in the Conference Proceedings which will be released on the day of Inaugural function of the Conference.

## **Registration Fees**

### **Indian Delegate**

Faculty/ Scientist : ₹ 2000/-

Research Scholars : ₹ 1500/-

**Foreign Delegate** : \$ 200 (USD)

- Registration fees include the conference kit, access to conference sessions, accommodation, food, lodging and local hospitality. Spot registration is also permitted but without conference kit. The research scholars are required to produce a valid identity card/ certificate for availing the discount.
- The registration fee should either be sent in the form of Demand Draft (DD) drawn in favour of **Convenor of International Conference**, Department of Geography, Aligarh Muslim University, Aligarh (INDIA) or paid through Net-Banking (as per Bank details given on [www.amugeography.com](http://www.amugeography.com))
- **Venue:** Department of Geography, Aligarh Muslim University, Aligarh.
- **Accommodations:** It will only be provided to those delegates who inform the organisers in advance and will be accommodated in the University Guest House/Hotels/Hostels.
- No spot accommodation will be provided on the conference day.

### **Important Dates**

<i>Deadline for abstract submission</i>	:	<i>01<sup>st</sup> October, 2018</i>
<i>Notification of acceptance of abstract</i>	:	<i>10<sup>th</sup> October, 2018</i>
<i>Deadline for full paper submission</i>	:	<i>01<sup>st</sup> November, 2018</i>
<i>Notification of acceptance of full paper</i>	:	<i>10<sup>th</sup> November, 2018</i>

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