



## 3<sup>rd</sup> International conference on “Climate Smart Agriculture: The Way towards Ecosystem Restoration”

March 15-16, 2022 at MNS  
University of Agriculture Multan  
Punjab, Pakistan

### Conference Background

World population is increasing with an expectation to reach 9 billion by 2050. The anthropogenic increase in greenhouse gases and heat trapping by such gases has now become an evidence for the warming of climate systems (IPCC). Climate change is a pervasive and growing global threat to biodiversity and ecosystems. Negative effects of climate change are already being observed across the globe in the form of ecosystem degradation. Ecosystems are being destroyed and degraded due to climate crises and lead to loss of ecosystem services and biodiversity. Global changes and climatic variations affect the agriculture production and food security across the globe. Climate change destroys the capacity of ecosystems to mitigate extreme events and disturbance, such as wildfires, floods, and drought. Food production systems are the most vulnerable to climate change and it is a serious threat to food and nutritional security especially in developing countries.

Pakistan is listed among the top ten most vulnerable countries to climate change (Global Climate Risk Index 2021) and has witnessed adverse impacts due to climate extremes in recent past. For instance, during the past two decades, the country has faced the effects of weather extremes, such as devastating floods (2010 and 2014), drought (1998-2002), heat waves and extreme dry spell, cyclones, smog and temperature extremes. Weather extremes also affect the ecosystem and food production systems leading to serious threat to food security and biodiversity losses especially in the developing countries. Erratic and unpredicted weather patterns leading to an outburst of biotic or abiotic stresses, which cause reduction in habitat and biodiversity and finally reduction in agricultural productivity. The condition becomes worst, as the country has already been declared as water-scarce. Sustainable agriculture production is under threat due to climate extremes and the weaker adaptive capacity of the common livelihood. It has threatened the food security and may produce devastating impacts on the livelihoods of poor farmers. Risks due to unprecedented climatic changes increase many folds due to lack of awareness to cope with situations or early warning system to avoid major losses. These situations are specifically damaging for small land holding farming communities. Therefore, it is the

time to explore recent technologies and approaches for ecosystem restoration and agricultural sustainability.

It is time for the protection and revival of the degraded ecosystems to achieve global goals for sustainable future. It is also crucial to develop climate-resilient agricultural production systems to ensure sustainability and biodiversity as directed by the United Nations for the decade (2021-2030). Only with healthy ecosystems we can enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity. Climate-smart agriculture (CSA) technologies and approaches contribute towards sustainable ecosystem which may bear the climatic shocks with minimum losses to infrastructure and ultimately food security and sustainability. Therefore, it is time to explore and implement recent technologies and approaches towards ecosystem restoration

### Conference Objectives

The International Conference on “Climate Smart Agriculture: The Way towards Ecosystem Restoration” will be an opportunity for all agriculture stakeholders, scientists, researchers, students and other key stakeholders of climate smart agriculture (CSA) from national and international institutions will deliberate on ecosystem restoration options in the context of climate change to ensure the sustainability of agriculture system and promotion of ecosystem services, which is directly linked to Sustainable development goals (SDGs) 2, 6, 12, 13 and 15.

The overall aim of the conference is to bring knowledge, innovations and actions together to restore ecosystems and transform agriculture production system to achieve climate resilience”.

Specifically, the event will be held to:

- 1- highlight, discuss and identify the options for the restoration of degraded and destroyed ecosystems, fight the climate crisis and enhance food security, water supply, ecosystem provisions and biodiversity.
- 2- discuss and application of innovative Climate Smart Agriculture (CSA) technologies and practices for the provision of climate resilient agriculture ecosystem and farming system.
- 3- organize a deliberate discussion of renowned National and International experts on climate change impacts on ecosystem and agriculture for food security along with local stakeholders, young graduates, academia, policy makers, public and private sector, business community, civil society and farmers.

assess the scientific knowledge and capacity to adopt climate smart agriculture for ecosystem restoration and look for opportunities and options for the success under current

- 1- scenarios within the context of UN decade (2021-2030) for ecosystem restoration
- 2- create awareness among the masses about climate change impacts on gender, sustainability of agriculture farming and ecosystem to meet the Sustainable Development Goals
- 3- improve academic and real stakeholders' networks and linkages with national and international scientists for future collaborations.

### Conference Thematic Areas

The conference will focus on the following major thematic areas.

#### Ecosystem restoration and provision of ecosystem services and biodiversity

- Impact of climate change on ecosystem and biodiversity
- Recent advancement and effective technologies for ecosystem restoration
- Effective strategies and policies for ecosystem services provision

#### Climate smart agricultural (CSA) innovations and technologies

- Recent advancements in agriculture to climate change
- Proposed effective technologies for CSA
- Effective strategies and policies for CSA
- Digital agriculture
- Farmer perceptions to CSA

#### Climate Smart management of surface and ground water

- Adaptation for flood and drought
- Floods/drought: early warning and early action
- Ground and surface water quality
- Precision water management for sustainable crop production

#### Climate smart soil and fertilizer management

- Climate smart technologies to enhance fertilizer use efficiency
- Soil and water pollution and its remediation
- Successful technologies for utilizing marginal soils

#### Global warming impacts and mitigation

- Impact of increasing temperature on crop production
- Greenhouse gasses and carbon sequestration actions to mitigate climate change
- Climate risk management
- Carbon sequestration, carbon markets/trade
- Agroforestry and alley cropping

#### Climate smart farming systems and breeding programs

- Climate smart cropping; systems
- Climate smart livestock systems
- Inter and strip cropping

- Climate resilient crop, tree, and livestock genotypes development

#### Modeling for climate change

- Prediction and decision support modeling
- Climate modeling; climate change scenarios
- Crop modeling and impact assessment
- Economic modeling
- Agroforestry and alley cropping modeling
- Modeling inter cropping and strip cropping
- ICT tools for decision making

#### Food diversification for future food security

- Crop diversification for climate resilience and nutritional security
- Introduction of new crops for new environments
- Functional foods
- Bio-fortification

#### Socio-economic perspectives and policy innovations for CSA

- Socio-economic impacts of CSA
- Adoption of CSA and success stories
- Climate smart villages

#### Modified integrated pest and disease management for CSA

- Integrated insect-pest management under climate variability scenario
- Novel disease management strategies for CSA.

### Conference Venue

The conference will be held at MNS- University of Agriculture, Multan, (MNSUAM) Pakistan. It is an emerging Public sector University because of its unique location in the country. The University is situated in the periphery of Agricultural complex of core agriculture research institutions like Cotton Research Institute, Pakistan Central Cotton Committee, Central Cotton Research Institute Multan, Mango Research Institute, Multan, Agricultural Mechanization Research Institute Multan and Forest, Wildlife & Fisheries Department Multan. More importantly, University has deepened its roots in the farming community and of the region. A number of progressive farmers who have influence in the region are members of discussions for future sustainable development goals (SDG's).

Multan is the sixth largest city of Pakistan, is the center of Islamic mystical Sufis rich culture, and earned the title of city of saints. The city is surrounded by historical Islamic sites "a collection of the famous master piece of sufi shrines along with the neighboring city of "Uch Sharif". The city is well connected with the world through Multan International Airport with frequent national and international flights and connected to the rest of Pakistan through local air fights, railways and all type of public transport.

### Call for papers

Abstract and full-length papers may be submitted as MS word document at the conference email address, [csac.21century@mnsuam.edu.pk](mailto:csac.21century@mnsuam.edu.pk).

### Conference Schedule

Topics	Dates
Abstracts submission deadline	February 21, 2022
Notification of Abstract Acceptance/Rejection	February 26, 2022
Early Bird Registration Deadline	February 21, 2022
Conference Dates	March 15-16, 2022

### Conference Proceedings

Abstracts and selected full-length articles will be published in conference proceedings.

### Young research Forum and best poster award

Post graduate students from Pakistan and around the world are encouraged to market their innovative research via poster presentation in the conference. A team of honorable national and international scientists will evaluate your posters including a three-minute presentation. The top three posters will be awarded prizes. The poster size should be adhered to 36 x 40 cm in portrait format.

### Conference participants

The Conference will be open to all interested constituencies including researchers, scientists, academia, extension workers, policy makers, social organizations, faculty members, development champions and practitioners, private sector players, progressive farmers, postgraduate students and all others stakeholders from across the world.

### Why attend this conference?

About 350 participants (scientists, academia, researchers, students, policy makers, key decision makers, agriculture experts, progressive farmers, and other stakeholders) across the worlds are expected to meet and share knowledge and develop public-private partnership about SDG's.



It will provide a platform to researchers, faculties, opportunities for better discuss practical innovative young scientists and other future planning and solutions for ecosystem stakeholders to promote adaptability of climate restoration and climate linkages and discuss future resilient ecosystem and smart agriculture system opportunities for joint agricultural production adoption in Pakistan. The research and knowledge system for sustainable conference will provide an exchange. This international future food production forum for institutions, event will provide

### Conference Registration Fee

	Before February 21, 2022	After February 21, 2022
Faculty	1500 (PKR)	2000 (PKR)
Students	500 (PKR)	1000 (PKR)
Professionals	2000 (PKR)	3000 (PKR)
Company Representative	2000 (PKR)	3000 (PKR)
International participants	50 (\$)	100 (\$)

Note: Registration fee includes meals and conference material

### Organizers Committee

**Prof. Dr. Asif Ali** (VC, MNS-University of Agriculture Multan)

**Ms. Florence Rolle** (FAO Representative Pakistan)

**Prof. Dr. Shafiq Saeed** (Dean FA&ES)

**Dr. Abdul Ghaffar** (Chairman, Department of Agronomy)

### Contact Details

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