

FINAL CIRCULAR

INTERNATIONAL SEMINAR

Global Climate Change : Implications for Agriculture and Water Sectors

December 14-16, 2017



Organized by

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani
Mahatma Phule Krishi Vidyapeeth, Rahuri
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola
Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli
Water and Land Management Institute, Aurangabad
and
Journal of Agriculture Research and Technology, Pune

www.ccaw2017.org

Venue : WALMI, Aurangabad, (MS), India

BACKGROUND



Climate change has become a major concern for ensuring food security globally, more so in developing countries like India, where agriculture is heavily dependent on monsoons. Significant impacts of climate change and variability on agriculture sector are already evident in many tropical countries including India. Despite the deployment of many drought proofing technologies, the drought of 2015 has sharply brought down the food production in India by nearly 10 million tonnes. Unseasonal rainfall, floods, hail storms and heat waves are taking a heavy toll on Indian agriculture and horticulture sectors, affecting the livelihoods of millions of small holders. The situation is no different in many other developing countries where small farmers do not have adequate capacity to cope with such events.

Climate change impacts agriculture directly by reducing crop yields due to variation in temperature and rainfall and indirectly through impacts on natural resources like soil and water. Heavy rainfall events in a short period cause erosion of top soil resulting in loss of soil carbon. Warming of atmosphere results in higher evapo transpiration and increased water requirement for agriculture crops. When the rainfall is deficient, the dams and reservoirs do not get filled up, and even irrigated agriculture is threatened. Pest and disease incidences are likely to increase with elevated temperatures, carbon dioxide and heavy rainfall events. Modelling studies in India on rice and wheat indicated that yield losses up to 6 to 10 per cent could occur due to projected warming by 2030, and in the long term the losses could be much higher. Similarly water availability for agriculture is expected to be significantly affected by climate change.

Agriculture is one of the most vulnerable sectors to climate change. It also contributes to global warming through emission of GHGs. In India, 18 per cent of the total emissions are from agriculture, bulk of which is from enteric fermentation (58%) followed by nitrogen (21%) and paddy cultivation (18%), according to the biennial report of the Ministry of Environment and Forests (2016). Therefore adaptation of crop, horticulture and livestock sectors to changing climate and mitigation of greenhouse gases are urgently required not only to ensure national food security but also to contribute to global efforts of reducing emissions. The recently concluded Paris agreement signed by 192 countries has mandated the conference of parties to take up concrete steps towards reducing green house gas emissions so that the global warming can be limited and adverse effects on agriculture are minimized in order to attain the millennium development goals (MDGs). This seminar therefore will bring together the global experience on understanding the impacts of climate change on agriculture and water sectors, cataloguing promising technologies for adaptation and mitigation and identifying areas for future research and collaboration.

THEMES



The seminar will be organized in following broad themes.

- **Climate change and variability: drivers and processes**
Short term and long term climatic trends, application of global and regional models for building scenarios, understanding extreme weather events, climate related services, disaster management.
- **Impacts, adaptation and mitigation in agriculture sector**
Better understanding the impacts on crop productivity, adaptation through breeding for extreme events (early and terminal heats/temperatures, droughts, floods etc.), managing methane emissions through climate smart agriculture, understanding impacts of extreme events, and breeding for multiple stress tolerance, precision farming, conservation agriculture, carbon sequestration, agro forestry and other adaptation and mitigation options.
- **Climate change and water**
Projected impacts of global warming and rainfall variability on water availability (surface and groundwater) in different river basins, impacts on hydrology of watersheds and flooding, water recycling, innovations in on farm water management from field to watershed/river basin scale, improved irrigation and production methods, micro-irrigation, protected cultivation and new innovations in efficient use of irrigation water.
- **Adaptation in livestock and fisheries**
Observed and simulated impacts of climate change on milch animals, poultry, fisheries, cost effective livestock management options, farmer led innovations.

- **Enabling small holders coping with climate change**

Capacity building and training, awareness generation, indigenous knowledge in adaptation, policy options including compensation for climate smart services/innovations, green energy technologies, weather based crop insurance, disaster relief, green fund etc.

ORGANISERS

The international seminar is jointly organized by the four agricultural universities in Maharashtra i.e. Vasanttrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani, Mahatma Phule Krishi Vidyapeeth (MPKV), Rahuri, Dr. Panjabrao Deshmukh Krishi Vidyapeeth (Dr.PDKV), Akola, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth (Dr.BSKKV), Dapoli and Water and Land Management Institute (WALMI), Aurangabad. All the four agricultural universities in the state are actively engaged in imparting agriculture education, research and extension in the State. These Universities together have a network of 200 colleges with a total intake capacity of over 15000 students per year. WALMI is a leading state level organization involved in adaptive research, training and consultancy on water resources management. The four agricultural universities jointly bring out a journal, namely *Journal of Agricultural Research and Technology (JART)* (NAAS Rating 4.18) which has a subscription of 1500 life members and play active role in publication and dissemination of technologies related to agriculture and water.

SESSIONS

- Plenary lectures from experts
- Concurrent technical sessions for oral presentations
- Poster sessions
- Panel discussion

KEY SPEAKERS AT THE SEMINAR

1. Dr. R.S. Paroda, Former Director General, ICAR, New Delhi and President, TAAS
2. Dr. Ramesh Chand, Member, NITI Aayog, New Delhi
3. Dr. David Bergvinson, Director General, ICRISAT, Patancheru, Hyderabad
4. Dr. K.J. Ramesh, Director General, India Meteorological Department, New Delhi
5. Dr. R. Krishnan, Scientist G, Indian Institute of Tropical Meteorology, Pune
6. Dr. John Dixan, ACIAR, Australia
7. Prof. Ratan Lal, Ohio State University, USA
8. Dr. P.K. Agarwal, Regional Programme Director, CCAFS South Asia, New Delhi
9. Dr. Usha Zehr, MAHYCO
10. Dr. M.V. Sivakumar, Former Sr. Consultant Climate Change, USAID and World Bank, USA
11. Dr. Ajit Jain, Jain Irrigation, Jalgaon
12. Dr. S.P. Wani, Director, ICRISAT Development Center, ICRISAT, Hyderabad
13. Dr. M.L. Jat, CIMMYT, South Asia, New Delhi
14. K.V. Moorthy, Deputy Director General, IWMI, Sri Lanka
15. Dr. Carl Daamen, e-Water Solution, New South Wales, Australia
16. Dr. A.K. Sikka, Regional Director, IWMI, New Delhi
17. Dr. Ch. Srinivasa Rao, Director, NAARM, Hyderabad
18. Dr. Himanshu Pathak, Director, CRRI, Cuttack
19. Dr. A.K. Singh, Vice Chancellor, RVSKV, Gwalior
20. Dr. S.A. Shende, Co-Founder & Chief Executive Officer, Arjun Technology Ventures Ltd., Cambridge, UK
21. Dr. P.P. Majumdar, Indian Institute of Sciences, Bangalore
22. Dr. Rajendra Singh, IIT, Kharagpur

AWARDS

Best papers presented in oral and poster sessions will be awarded. Special awards for students, professionals, exhibitors and farmers for innovative ideas/products.

VENUE

The Seminar will be held at Water & Land Management Institute (WALMI), Aurangabad. The programme will be announced on the website (www.ccaw2017.org).

PUBLICATIONS

1. **Book of abstracts:** A book consisting of the abstracts of accepted papers will be published and released during the seminar.
2. **A souvenir** containing invited lectures and background material.
3. **Special conference volume of JART:** Selected full length papers will be published as a special volume of the **Journal of Agricultural Research and Technology** after peer review.
4. **Success stories of innovative farmers:** Stories of the progressive farmers who have successfully adapted to changing climate and are able to minimize losses during adverse situations will be published separately.

PARTICIPATION

The seminar is open to all scientists, academicians, students, consultants, industry, NGOs, farmers and policy makers who can contribute original research, case studies, success stories and reviews on the above themes.

CALL FOR PAPERS

Abstracts not exceeding 300 words are invited from the participants on the subject areas covered under the seminar themes. Papers covering integrated studies across the themes are also welcome. The abstracts can be submitted online through the website or by email to convener@ccaw2017.org. The abstract be typed in Times New Roman, Normal fonts with double space, Fonts size for abstract - Title - 14 points bold, Authors - 12 points, Institute name - 12 points italic, Content - 12 points. The format of Journal of Agriculture Research and Technology (JART) be followed while submitting research abstracts and full length on Easychair software. First author must mention e-mail ID. Participants are encouraged to see the website (www.ccaw2017.org) for other announcements from time to time and follow the steps via Easychair software to upload the abstracts.

REGISTRATION

Registration can be done online at www.ccaw2017.org or the downloaded registration form duly filled in be sent to the Convener. Registration fee can be paid online (link is given on website) or through a crossed demand draft in favour of Comptroller, VNMKV, Parbhani and sent to the Convener & Director of Research, VNMKV, Parbhani by speed post.

If paid on or before 31st October, 2017

For all participants	Rs. 8,000/-
For students	Rs. 3,000/-
Foreign Delegates	USD 300

If paid on or after 1st November, 2017

For all participants	Rs.10,000/-
For students	Rs. 4,000/-
Foreign Delegates	USD 350

Life members of JART are eligible for a rebate of Rs. 1,000.

Early bird registration is encouraged. Participants registering before 15th September, 2017 will pay only Rs. 6000.

IMPORTANT DATES

Submission of abstracts : September 15, 2017 Acceptance of abstracts : September 30, 2017
 Submission of full length paper : October 31, 2017 Registration without late fee : October 31, 2017

TENTATIVE PROGRAMME

Day-1: 14-12-2017		
Inaugural Session		
Rukmini Auditorium, Mahatma Gandhi Mission (MGM) College Complex, Aurangabad		
10.00	Inauguration of Seminar	
12.00 to 12.20	High Tea	
12.20	Departure to WALMI Campus	
Technical Sessions		
WALMI Campus, Paithan Road, Aurangabad		
12.45	Inauguration of Scientific Expo	Cultural Hall grounds, WALMI
13.30 to 14.30	Lunch	WALMI Lawns
14.30 to 16.30	Plenary Session - I	
	Climate Change and Variability: Drivers and Processes	Auditorium
16.30	Concurrent Session - I	
	Breeding for Climate ready Traits: Current Status and Way forward	Conference Hall
	Concurrent Session - II	
	Carbon Sequestration and Climate Change	Agril. Dept.SeminarHall
18.30	Evening Plenary Lecture	Auditorium
19.30	Cultural Evening	Auditorium
Day - 2 : 15-12-2017		
9.00 to 11.00	Plenary Session - II	
	Climate Change Adaptation : New Innovations and Disruptive Technologies	Auditorium
11.00 to 13.00	Concurrent Session - III	
	Managing Water Resources under Changing Climate	Seminar hall
	Concurrent Session- IV	
	Towards Climate Change Adaptation: New Vistas in Crop Management	Agril. Dept. Hall
	Concurrent Session- V	
	Mitigation Options : Towards Low Carbon, Water and Energy Footprints	Engg Dept. Hall

	Concurrent Session- VI	
	Modelling Climate Change : New Tools and Applications	Main Lecture Hall
13.00 to 14.00	Lunch	
14.00 to 16.00	PosterSession*- All themes	Foyer, Admin. Building
16.00 to 18.00	Panel Discussion - I	
	Climate Change and Small Holder Agriculture : Adaptation, Financing and Risk Management	Auditorium
Day - 3 : 16 - 12 - 2017		
9.00 to 11.00	Plenary Session - III	
	Extreme Weather Events - Impacts and Coping Strategies	Auditorium
11.00 to 13.00	Concurrent Session - VII	
	Impact and Adaptation in Livestock and Fishery Sectors	Agril. Dept. Hall
	Concurrent Session - VIII	
	Application of IT & Geo Informatics for Assessment and Coping with Climate Change	Conference Hall
	Concurrent Session- IX	
	Upscaling Climate Resilient Technologies at Farm Level	Engg.Dept. Hall

*Posters will remain for display during the entire period of seminar.

ABOUT AURANGABAD

Aurangabad is a tourism hub, surrounded by many historical monuments, including the Ajanta and Ellora caves, which are UNESCO World Heritage sites, as well as *Bibi Ka Maqbara* and *Panchakki*. Aurangabad is an administrative headquarters of the Marathwada region. The city was founded in 1610 by Malik Amber and completed 400 years during 2010. It is well connected by road, rail from Nagpur, Mumbai, Pune, Hyderabad, Delhi & directly linked by air to Mumbai, Hyderabad and New Delhi. The climate in December is very pleasant with maximum and minimum temperatures of 26-28°C and 11-15°C, respectively. Only light woolen clothing is recommended.

HOW TO REACH

By air : From New Delhi and Mumbai, both Air India and Jet airways operate daily flights. True Jet airlines operates daily flights from Hyderabad. Aurangabad airport is 08 km from the city. One can hire taxi to reach the venue from air port.

By train : Aurangabad is an important railway station on the Manmad-Secunderabad railway line. There are direct trains connecting Mumbai, Pune, Hyderabad, Nagpur and Delhi.

By road : Aurangabad is well connected with Mumbai, Nashik, Pune, Nagpur, Jalgaon, Hyderabad and Surat by public and private transport buses.

SPONSORSHIP

Sponsorship is available in the following categories.

Co-Organisers : The seminar is organized by four agricultural universities in Maharashtra and WALMI, Aurangabad. Others interested to become co-organizers will pay Rs. 10,00,000/- per organization. The names of such organizations along with Logo will appear along with names of the main organizers on all banners, publications and website. The co-organizers will also be involved in the decision making process of the seminar.

Other Sponsors :

Diamond : (Rs. 5,00,000) : Free registration for 5 delegates, full page colour advertisement in any two publications, one banner each inside and outside the venue.

Gold : (Rs. 2,00,000) : Free registration for 3 delegates, full page colour advertisement in any one publication, one banner each inside and outside the venue.

Silver : (Rs. 1,00,000) : Free registration for 1 delegate, half page colour advertisement in any one publication. Sponsoring of lunch/ dinner with a banner.

ADVERTISEMENT TARIFF (PUBLICATIONS AND WEBSITE)

Front cover inside (colour)	:	Rs. 60,000/-	Full page (black/ white)	:	Rs. 20,000/-
Back cover outside (colour)	:	Rs. 50,000/-	Half page (black/ white)	:	Rs. 15,000/-
Back cover Inside (colour)	:	Rs. 40,000/-	Link on the website	:	Rs. 25,000/-
Full page (colour)	:	Rs. 30,000/-			

Note : For colour advt., a maximum of 4 colours will be permitted. Art work for all advertisements to be made available by the advertisers.

EXHIBITION

An exhibition depicting the latest innovations in climate change adaptation covering scientific and industrial equipments, measuring devices, books, agro meteorology, water and energy saving technologies will be organized. Consultants involved in environmental impact assessment can also participate. Each exhibitor will be provided a stall of 3 m x 3 m @ Rs. 50,000/-.

MODE OF PAYMENT

- Demand draft in favour of Comptroller, VNMKV, Parbhani payable at Parbhani and to be sent to Convener & Director of Research, Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani-431 402, Maharashtra by the speed post.**
- Through Online/NEFT/RTGS transfer**

Name of bank	:	State Bank of India, MKV, Parbhani
Name of branch	:	MKV, Parbhani
Address of branch	:	MKV, Parbhani
Account Number	:	62136247976
Branch IFS code	:	SBIN0020317
MICR Code	:	431002203
Account name	:	Comptroller, VNMKV, Parbhani

ADVISORY COMMITTEE

Dr. R. S. Paroda, Chairman	Former Director General, ICAR, New Delhi and President, TAAS
Dr. David Bergvinson	Director General, ICRISAT, Hyderabad
Dr. Ram Kharche	Vice Chairman, Maharashtra Council of Agricultural Education & Research, Pune
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	Vice Chancellor, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola
Dr. T. Bhattacharya	Vice Chancellor, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli
Dr. K. P. Viswanatha	Vice Chancellor, Mahatma Phule Krishi Vidyapeeth, Rahuri
Dr. Leena Srivastava	Vice Chancellor, TERI University, New Delhi
Er. Anup Kumar Srivastava	Secretary, Central Water Commission, Govt. of India, New Delhi
Dr. Kalanithi Vairavamoothy	Deputy Director General, IWMI, Sri Lanka
Er. H.K. Gosavi	Director General, WALMI, Aurangabad
Dr. A. K. Sikka	Former DDG (NRM), ICAR, & Regional Director, IWMI, New Delhi
Prof. Ian Smout	Water Engineering and Development Centre, Loughborough University, Loughboroughg, UK.
Dr. Robert Carr	Chief Executive Officer, eWater, Australia
Florian Moder	Advisor, GIZ, Germany
Mr. Raju Barwale	Chairman, MAHYCO
Dr. P. K. Aggarwal	Regional Programme Director, CCAFS South Asia, BISA, New Delhi
Dr. S. A. Shende	Co-Founder and Chief Executive Officer, Arjun Technology Ventures Ltd., Cambridge, UK
Dr. S. Bhaskar	Asstt. Director General, ICAR, New Delhi
Dr. Ch. Srinivasa Rao	Director, NAARM, Hyderabad
Dr. Rajendra Singh	Brahmaputra Chair Professor for Water Resources, Indian Institute of Technology Kharagpur, West Bengal
Dr. P. P. Mujumdar	Chairman, Interdisciplinary Centre for Water Research, Indian Institute of Sciences, Bangalore
Dr. Vivek Damle	Chairman and Managing Director, SkillNet Solutions India Pvt. Ltd., Mumbai

ORGANISING COMMITTEE

Dr. B. Venkateswarlu	Vice Chancellor, VNMKV, Parbhani	Chairman
	Vice Chancellor, Dr.PDKV, Akola	Co-Chairman
Dr. T. Bhattacharya	Vice Chancellor, Dr.BSKKV, Dapoli	Co-Chairman
Dr. K.P. Viswanatha	Vice Chancellor, MPKV, Rahuri	Co-Chairman
Er. H.K. Gosavi	Director General, WALMI, Aurangabad	Co-Chairman
Dr. D.P. Waskar	Director of Research, VNMKV, Parbhani	Convener
Dr. S.R. Gadakh	Director of Research, MPKV, Rahuri	Member
Dr. D.M. Mankar	Director of Research, Dr.PDKV, Akola	Member

Dr. P.M. Haldankar	Director of Research, Dr.BSKKV, Dapoli	Member
Dr. V.D. Patil	Director of Instructions & Dean, VNMKV, Parbhani	Member
Dr. A.L. Pharande	Director of Instructions & Dean , MPKV, Rahuri	Member
Dr. V.M. Bhale	Director of Instructions and Dean, Dr.PDKV, Akola	Member
Dr. S.S. Narkhede	Director of Instructions & Dean, Dr.BSKKV, Dapoli	Member
Dr. K.D. Kokate	Director of Extn. Education, MPKV, Rahuri	Member
Dr. D.M. Mankar	Director of Extn. Education, Dr.PDKV, Akola	Member
Dr. P.G. Ingole	Director of Extn. Education, VNMKV, Parbhani	Member
Dr. S.G. Bhave	Director of Extn. Education, Dr.BSKKV, Dapoli	Member
Dr. R.B. Kshirsagar	Joint Director, WALMI, Aurangabad	Member
Dr. S.D. Gorantiwar	Head, Dept. of Irrigation and Drainage Engineering, MPKV, Rahuri & Editor-in-Chief, JART	Co-Convener
Dr. A.S. Garudkar	Head, Faculty of Engineering, WALMI, Aurangabad	Co-Convener
Dr. B.V. Asewar	Chief Scientist, Dryland Agriculture Research Station, VNMKV, Parbhani	Organising Secretary

SECRETARIAT

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**International Seminar on "Global Climate Change :
Implications for Agriculture and Water Sectors", during
December 14-16 , 2017 at Aurangabad**

REGISTRATION FORM*

Name :
Designation :
Organization (With Full Address) :
Telephone/Fax :
Mobile :
E-mail :
Purpose of attending seminar
Paper Presentation : Yes No
Poster Presentation : Yes No
Participation : Yes No
Date of Arrival :
Expected time of Arrival :
Mode of Arrival :
Flight/Train No. :
Date of Departure :
Expected time of Departure :
Mode of Departure :
Flight/Train No. :

Request for Accommodation**

Single bed accommodation : Guesthouse Hotel
Double bed accommodation (Shared Occupancy) : Guesthouse Hotel
Dormitory accommodation : Guesthouse

Signature

* Photocopies/printouts from ccaw2017.org website may be used.

** Accommodation in guest houses will be provided on "First Come, First" basis. There are many hotels in Aurangabad city. Details have been provided on seminar website. Transport from the guest houses/hotels to the seminar venue will be provided.



Rukmini Auditorium, MGM, Aurangabad



WALMI, Aurangabad



Ajanta Caves, Aurangabad



Ellora Caves, Aurangabad