

Preface

The global food security and sustainable agriculture are the key challenges before the scientific community in the present era of enhanced climate variability, rapidly rising population and dwindling resources. Agriculture is intimately tied to weather and climate influencing every aspect from long term planning to tactical decisions in day-to-day management operations. Agrometeorology has a vital role to play in increasing agricultural production in a sustainable manner using state-of-art technology and resources efficiently. It is the responsibility of the meteorologists to advise the farming community well in advance to take full advantage of benevolent weather and precautions against malevolent weather to minimize losses. Uncertainties of weather and climate pose a major threat to food security of the world in general and developing countries, in particular. Asia in recent years has made considerable progress in the field of agriculture. However, in order to keep pace with the increasing population, the growth in agricultural production should be sustainable. The problem, therefore, has to be addressed collectively by scientists, planners and the society as a whole.

In view of need for increasing agricultural productivity to meet the demand of rapidly growing population and coping with enhanced uncertainties and risks in agriculture, Agrometeorology is facing lot of challenges as well as opportunities for achieving the path of sustainability. Indian Meteorological Society in association with World Meteorological Organization, India Meteorological Department, Ministry of Earth Sciences, Department of Science and Technology and Department of Space, Government of India organized and International Conference (INTROMET 2009) on “Challenges and Opportunities in Agrometeorology” during 23–25 February 2009 in New Delhi, India. The conference was participated by about 300 experts from India and 20 from abroad (USA, Korea, Egypt, Ukraine, Italy, Philippines, South Africa, China and Switzerland) including International organization like WMO.

The INTROMET-2009 was organized with the specific objectives to focus on the above issues and draw attention of global agrometeorological community, administrators and policy makers to debate and devise improved methods and

techniques for better prediction, preparedness and mitigation of the adverse weather impacts and aware of the possible impact, consequences and mitigation measures to sustain food security. The scientific programme was deliberated through following eight sub-themes in addition to opening and closing session wherein 45 oral presentations were made:

- Weather Forecasting
- Monsoon Variability and Crop Production
- Operational Agrometeorology
- Agromet. Information System
- Adaptation to Climate Change
- Risk Evaluation and Management
- Crop Weather Relationship
- Extreme Weather Events

Further, 63 short oral presentations were also made on above themes along with poster display. A special session was organized to share the wisdom of Veteran Scientists on “Role of IMS in addressing Challenges in Weather and Climate Service”.

All the participants in the conference took part actively in discussion on these papers and to develop several useful recommendations for all organizations involved in providing agrometeorological services to farmers to cope up with agrometeorological risk management, particularly the National Meteorological and Hydrological Services. The main recommendations emerged from the Conference are summarized as under:

- Set up a comprehensive meteorological observation system ranging surface including Agromet., upper air, radar, satellite etc. for weather forecast up to district/taluka level and possibly at village level.
- Development user oriented meteorological information system keeping in view region-specific requirements of varied users including farming community.
- Establishment of mechanism for greater collaboration/feedback between the providers of information and users and also between meteorologists and agriculture scientists.
- Develop action plan at district level for climate change, identify hot spots and promote inter-disciplinary collaboration to enable effective mitigation of impacts in all sectors of economy.
- Greater role in International arena through the establishment of Regional Climate Centre with association of WMO and other International Organization.
- Review of Agromet curriculum in Agricultural Universities with emphasis on Agromet services, Outreach and Human Resource Development.

Selected papers have been edited and compiled in form of this book. As Editors of this volume, we are highly thankful to all the authors for their efforts and cooperation in bringing out this publication. We are also grateful to the World Meteorological Organization and various Ministries/Departments of the Government of India like Ministry of Earth Sciences, Ministry of Science and Technology,

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Editors

Indian Meteorological Society

The Indian Meteorological Society (IMS) established in 1956 has more than 2,000 members at present. The society has been able to reach not only to meteorological community but also amongst a wide spectrum of scientists of allied fields from more than 50 national and international organizations. It carries out its activities from HQ office in Delhi as well as through its 17 Chapters located at different places in India viz. Ahmedabad, Pune, Mumbai, Kolkata, Chennai, Nagpur, Visakhapatnam, Bhopal, Bhubaneswar, Bangalore, Hyderabad, Cochin, Thiruvananthapuram, Guwahati, Noida, Varanasi and Other Places.

The IMS activities are related to encouragement and expansion of R&D in atmospheric, oceanic and allied sciences, sponsored research in meteorology, publication of its biennial Journal – Vayu Mandal (since 1970), IMS News, News letters, scientific books etc. It also organizes annual series of national conference named “TROPMET” since 1992 supplemented with international conference called “INTROMET” every 4 year. Awareness programmes about meteorology and allied sciences are regularly organized in the country. It is co-founder of International Forum of Meteorological Societies. It also felicitates the outstanding scientists by conferring on them the Fellowships and has constituted five national and one international awards in the field of meteorology and atmospheric sciences.

The details of the Society are available on <http://www.indianmetsoc.com>.

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