Second Circular

13th International Conference on Development of Drylands

Converting Dryland Areas from Grey into Green

February 11-14, 2019

Jodhpur, India

Organized by
The International Dryland Development Commission (IDDC)

and

Arid Zone Research Association of India (AZRAI)

Jodhpur, India

Hosted by
ICAR-Central Arid Zone Research Institute

Jodhpur, India

www.drylanddevelop.org  www.13icdd.com
Dear Friends

It is our great pleasure to announce that the 13th International Conference on “Development of Drylands: Converting Dryland Areas from Grey into Green” (13 ICDD) is being jointly organized by the International Dryland Development Commission (IDDC) and Arid Zone Research Association of India (AZRAI) and hosted by the ICAR-Central Arid Zone Research Institute (CAZRI), from 11-14 February 2019, at Jodhpur, India. The 13th ICDD Conference is also in celebration of the Diamond Jubilee of CAZRI, Jodhpur.

The Conference is co-organized by Department of Agricultural Research and Education (Ministry of Agriculture and Farmers Welfare, Govt of India), New Delhi; Indian Council of Agricultural Research (ICAR); New Delhi; National Academy of Agricultural Sciences (NAAS), New Delhi; Trust for Advancement of Agricultural Sciences (TAAS) New Delhi and co-sponsored Australian Commission on International Agricultural Research (ACIAR); Arid Land Research Center (ALRC), Japan; Arid Land Agricultural Graduate Studies and Research Institute (ALARI), Egypt; International Center for Agricultural Research in the Dry Areas (ICARDA); International Maize and Wheat Improvement Center (CIMMYT); Grain Legumes and Dryland Cereals (GLDC); International Livestock Research Institute (ILRI); International Water Management Institute (IWMI); World Agroforestry Centre (WAC); Bioversity International; and National Bank for Agriculture and Rural Development (NABARD) along with many national and international organizations as knowledge partners including the Indian Society of Plant Genetic Resources, Range Management Society of India and Indian Society of Dryland Agriculture.

The organizers are pleased to invite academicians, scientists, students, farmers, as well as representatives from government, non-government organizations and industry to share their experiences for a sustainable development of drylands.

The 13th ICDD will offer opportunity to enhance knowledge through deliberation in plenary session, lead speakers and scientific oral and poster presentations. We will have developed an extensive technical program covering diverse themes around development of drylands and have invited eminent speakers to stimulate well-versed technical and policy level discussions on various aspects of Converting Dryland Areas from Grey into Green.

On behalf of the International Advisory Committee and International Technical Programme Committee we warmly invite you to participate in this International Conference and experience the rich cultural heritage of Rajasthan and India, a country with rich genetic and cultural diversity. We look forward to welcome you in 13th ICDD Conference at Jodhpur.

Chair
IDDC and the International Advisory Committee

Prof. Dr. Adel El-Beltagy

Chair
International Technical Programme Committee

Prof. Dr. Mohan Saxena

Convenor
International Technical Programme Committee

Dr. O.P. Yadav
Drylands cover around 41% of the world’s land area, and is home to about 1/3 of the human population. Majority (>90%) of the people of this ecosystem live in developing countries. Low and highly variable precipitation/rainfall, high evapotranspiration rate, poor soils, severe land degradation processes, a short crop growing season and low crop yields are distinct characters of drylands. Dry areas of the world have highly fragile ecosystem, which is particularly threatened by climate changes. These areas are, however, home to a very large population afflicted by poverty and malnutrition. The people here eke their living by exploiting the natural resources of land, water and biodiversity, further aggravating the problem of desertification and other environmental degradation. With the threat of climate change looming large over resource deficient arid areas, and additional threat of massive exodus, the livelihoods of more than 2.5 billion people who live in these areas, will be further at risk. The efforts of research and development community and policy makers dealing with dry areas and aiming at sustainable management of natural resources have to be boosted in order to optimize adaptive mechanism and risk aversion element for the dryland communities. Fast sharing of knowledge among all the stakeholders and capacity building will have to be an essential element of these efforts. Institutional reforms at the ecosystem level to bridge the divide in governance of different natural resources coupled with global commitment for greater coordination in legal, policy and management issues shall pave the path for sustainable livelihood security in drylands.

Scope and significance

Dryland centric issues, needs and explicit problems are intended to be better elucidated and addressed through in-depth deliberations involving researchers, intellectuals, policymakers, executives, farmers, NGOs and other stakeholders on a common platform. This could bring out a comprehensible roadmap as well as implementation strategy for various dryland development policies and programs at large.

In this context the International Dryland Development Commission (IDDC) and Arid Zone Research Association of India (AZRAI) are jointly organizing 13th International Conference on Dryland Development, with the theme "Converting Dryland Areas from Grey into Green", from 11-14 February 2019, at Jodhpur, India.

The conference will bring together experts on climate change, land degradation and desertification, soil health management, carbon sequestration, conservation agriculture, water harvesting, water productivity, conservation and use of agrobiodiversity, adapted and engineered cultivars, livestock, rangeland and agroforestry management, post-harvest management and value chain, renewable energy, farm mechanization and automation, laws and policies, economics, livelihood security and other social sciences working for the dryland niche over the years.

International Dryland Development Commission (IDDC)

The International Dryland Development Commission (IDDC), an autonomous non-governmental non-profit organization established in 1978 by the individuals and institutions interested in and concerned about the sustainable development of dry areas, is promoting all aspects of dryland studies by fostering
cooperation, collaboration and networking between various international, regional and national organizations.

One of the important modus operandi of the networking of IDDC has been to hold a major scientific conference at periodic intervals to provide the opportunity to participants from around the world to exchange research results and experiences in dryland development and combating desertification. So far twelve such conferences have been organized in last 40 years, in countries which have large areas under drylands. The 13th International Conference on Dryland Development, with the theme “Converting Dryland Areas from Grey into Green”, is being therefore organized by IDDC, from 11-14 February 2019, in collaboration with Arid Zone Research Association of India (AZRAI) and hosted by ICAR- Central Arid Zone Research Institute (CAZRI) at Jodhpur, India with an objective to share technical knowledge and innovations emerging from recent research and development efforts of various institutions and organizations around the world.

Arid Zone Research Association of India (AZRAI)

AZRAI was established in 1962, especially as conduit for scientific dialogue with arid land researchers in different parts of the world. The Association brought out its first biennial Journal, "Annals of Arid Zone" in 1963, which was later converted into a quarterly Journal. Apart from research articles, the Journal also publishes special issues on topical themes with contributions from eminent researchers worldwide.

AZRAI also periodically organizes National and International Conferences to provide a forum to dryland scientists to exchange and share their research results and experiences. The Association has so far organized 3 International and 7 National Conferences. AZRAI is playing a pivotal role in bringing scientists, planners, administrators and the public on a platform to discuss the issues of common interests.

ICAR-Central Arid Zone Research Institute (CAZRI)

The conference is hosted by CAZRI, Jodhpur which is a premier research Institute of its own kind that was established in October 1959 by Government of India on the recommendations of a UNESCO expert, Dr. C.S. Christian of CSIRO, Australia, to promote sustainable development of the Indian Arid Zone. The Institute is an integral part of the National Agricultural Research System of India under Indian Council of Agricultural Research, Department of Agricultural Research and Education, Government of India. The Institute has entered into 60th year of its establishment and this conference is being organized as part of its Diamond Jubilee celebration.

During sixty years of its existence, CAZRI has provided a better understanding of the arid environment and its resources and has developed several technologies that have positively influenced the land-use and livelihood options improving the overall productivity of this fragile agro-climatic region. Located at Jodhpur, in the Thar Desert, CAZRI has been at the forefront of mobilizing scientific, technical and policy-related expertise to improve the livelihood and living conditions of the desert dwellers with a focus on improved agriculture and environmental sustainability.
Conference Objectives

- Endow with a common platform to share experiences and knowledge on the development of drylands
- Decisively appraise the current research and systems of dryland management and to assess the awareness for meeting short-term and long-term requirements of humanity.
- Categorize and prioritize research areas that require greater inputs and thrusts for sustainable management of drylands
- Strengthen capacity and build new partnerships to help dryland communities

Expected Outputs

- New philosophy on the sustainable development of drylands through interdisciplinary exchange of ideas and outlook among various stakeholders
- Mainstreaming dryland related issues into global dialogue to ensure fair access, benefit sharing and sustainable use of drylands
- Develop a network of partnerships to build up dryland development system at national, regional and global level.
- A roadmap for sustainable development of drylands areas in the face of changing climates and contribute to achieving sustainable development goals (SDGs) agreed to by the global community
- Jodhpur declaration on development of drylands and converting dryland areas from grey into green

Themes and Sub-themes of the Conference

1. Impact of Climate Change in Drylands
   - Climate change impact, adaptation and mitigation strategies
   - Vulnerability of drylands to climate change
   - Climate smart farming
   - Climate services
2. Managing Land Degradation and Desertification
   - Soil erosion and desertification process
   - Landscape management
   - Land degradation neutrality
   - Techniques to combat desertification
3. Soil Health Management, Carbon Sequestration and Conservation Agriculture
   - Integrated soil health management
   - Carbon sequestration in drylands
   - Conservation agriculture
   - Traditional and organic farming
4. **Water Harvesting and Improving Water Productivity**  
   - Innovations in water harvesting  
   - Efficient use of water including micro-irrigation  
   - Modelling and measurement of water inputs  
   - Water productivity assessments

5. **Conservation and Use of Agrobiodiversity in Drylands, Developing Adapted Cultivars**  
   - Conservation (in situ and ex situ) and use of agro-biodiversity  
   - Genetic improvement  
   - Abiotic stress tolerance mechanisms

6. **Sustainable Intensification and Diversification in Drylands - Arid horticulture, Aquaculture and Protected Agriculture**  
   - Arid horticulture  
   - Protected and peri-urban agriculture  
   - Abiotic and biotic stress management  
   - Aquaculture for diversification

7. **Livestock, Rangeland and Agroforestry Management**  
   - Livestock based integrated farming system  
   - Enhancing resilience and livestock productivity  
   - Livestock management for reduced GHG emissions  
   - Rangeland management; Agroforestry for ecosystem sustainability

8. **Post-harvest Management and Value Chain**  
   - Post-harvest technology and value addition  
   - Novel food processing technologies  
   - Innovation in value chain  
   - Bioscience and nanotechnology

9. **Renewable Energy, Farm Mechanization and Automation**  
   - Renewable energy resources  
   - Farm mechanization and automation  
   - Energy management in agriculture

10. **Role of Policies, Institutions and Markets in improving Livelihood Security and Resilience of Dryland Communities**  
    - Socio-economic monitoring and market intelligence  
    - Empowerment of women and youth  
    - Indigenous knowledge and heritage systems  
    - Policies and institutions
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- Dr. Mahesh Kumar
- Dr. Pradeep Kumar
- Dr. Ranjit Singh
# 13<sup>th</sup> ICDD-2019  Program Outline

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 10, 2019</td>
<td>Registration (15.00 – 18.00)</td>
<td>Indana Palace Hotel, Jodhpur</td>
</tr>
<tr>
<td>DAY - 1</td>
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<tr>
<td>February 11, 2019</td>
<td>09.00 – 11.00</td>
<td>Inaugural Session</td>
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<td>11.30 – 13.00</td>
<td>Plenary Session 1</td>
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<td>14.00 – 16.30</td>
<td>Plenary Session 2</td>
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<td>17.00 – 18.30</td>
<td>Poster Session 1 (Theme 1, 2, 3, 4 &amp; 5)</td>
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<td>18.30 – 19.30</td>
<td>Cultural Evening</td>
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<td>DAY - 2</td>
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<td>February 12, 2019</td>
<td>09.00 – 10.30</td>
<td>Plenary Session 3</td>
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<td>10.45 – 13.00</td>
<td>Technical Session 1, 2, 3, 5a (Concurrent sessions)</td>
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<td>Theme 1: Impact of Climate Change on Drylands</td>
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<td>Theme 2: Managing Land Degradation &amp; Desertification</td>
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<td>Theme 3: Soil Health Management, Carbon Sequestration, and Conservation Agriculture</td>
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<td>Theme 5: Conservation &amp; Use of Agrobiodiversity; Developing Adapted Cultivars</td>
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<td>14.00 – 16.00</td>
<td>Mini Symposium (2 parallel sessions)</td>
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<td>16.30 – 18.00</td>
<td>Poster Session 2 (6, 7, 8, 9 &amp; 10)</td>
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<td>18.00 – 19.00</td>
<td>Evening Lecture 1</td>
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<td>DAY - 3</td>
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<td>February 13, 2019</td>
<td>09.00 – 10.30</td>
<td>Plenary Session 4</td>
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<td>10.45 – 13.00</td>
<td>Technical Session 4, 5b, 6, 7 (Concurrent sessions)</td>
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<td>Theme 4: Water Harvesting &amp; Improving Water Productivity</td>
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<td>Theme 5: Conservation &amp; Use of Agrobiodiversity, Developing Adapted Cultivars (Continued)</td>
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<td>Theme 6: Sustainable Intensification &amp; Diversification (Arid Horticulture, Aquaculture, Protected Agriculture)</td>
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<td>Theme 7: Livestock, Rangeland and Agroforestry Management</td>
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<td>14.00 – 16.00</td>
<td>Mini Symposium (2 parallel sessions)</td>
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16.30 – 18.00 | Visit to ICAR-Central Arid Zone Research Institute, Jodhpur
18.00 – 19.00 | Evening Lecture 2 at CAZRI, Jodhpur

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<table>
<thead>
<tr>
<th>February 13, 2019</th>
<th>Indana Palace Hotel, Jodhpur</th>
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<tr>
<td>09.00 – 10.30</td>
<td>Plenary Session 5</td>
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</table>
| 10.45 – 13.00     | Technical Session 8, 9 & 10 (Concurrent sessions)  
Theme 8: Post Harvest Management and Value Chain  
Theme 9: Renewable Energy, Farm Mechanization and Automation  
Theme 10: Policies, Institutions & Markets to Improved Livelihood Security |
| 14.00 – 16.00     | Policy Dialogue - Converting Dryland Areas from Grey into Green |
| 17.00 -19.30      | Valedictory function |

Mini Symposia:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Title of Mini-Symposium</th>
<th>Organizers</th>
<th>Scheduled Day &amp; Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Big Data in Agriculture</td>
<td>ICRISAT</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Day</td>
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</tbody>
</table>
| 2      | Crop Improvement for Sustainable Production in Marginal Regions                         | Tottori University, Japan and ICARDA, Lebanon | (12/02/2019)  
(2.00-4.00 pm) |
| 3      | Agro-biodiveristy in Drylands – Meeting Food and Livelihoods for Climate Change Adaptation | Bioversity International ISGPR, APAARI and ICAR | 3<sup>rd</sup> Day   |
| 4      | Water Productivity in Drylands                                                         | IWMI and ICAR                      | (13/02/2019)  
(2.00-4.00 pm) |

Details about Mini Symposia
<table>
<thead>
<tr>
<th>Plenary Speakers</th>
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<tbody>
<tr>
<td><strong>Agro-ecosystems Affected by Dynamic Impact of Climate Change.</strong></td>
<td><strong>Maize and wheat science for alleviating the pressure on natural resources in Drylands.</strong></td>
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<tr>
<td>The Day After 2020 !!!</td>
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<tr>
<td>Prof. Dr. Adel El-Beltagy, Chair IDDC</td>
<td>Dr. Martin Kropff</td>
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<tr>
<td>Professor, ALARI, Cairo, Egypt</td>
<td>Director General, CIMMYT</td>
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<td><strong>The use of no -tillage for sustainable agriculture in drylands in Latin America</strong></td>
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<tr>
<td>Ms. Maria Beatix Giraudo</td>
<td>Mr. Aly Abousabaa</td>
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<tr>
<td>Former President, AAPRESID, Senior Advisor to Govt. of Argentina</td>
<td>Director General, ICARDAs</td>
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<tr>
<td><strong>ICRISAT’s research on enhancing the resilience of farmers in SAT to the impact of Climate change</strong></td>
<td>Development of Innovative germplasm for wheat breeding for dry and heat-prone agro-environment of Sub-Saharan Africa</td>
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<tr>
<td>Dr. Peter Carberry</td>
<td>Prof. Hisashi Tsujimoto</td>
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<tr>
<td>Director General, ICRISAT</td>
<td>Professor, ALRC, Tottori University, Japan</td>
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<tr>
<td><strong>Gene Editing for Adaptation of Dryland Crops to Changing Climate</strong></td>
<td>Sustainable intensification and diversification in drylands: Role of protected agriculture and arid horticulture</td>
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<tr>
<td>Prof. Dr. Ayman F. Abou Hadid</td>
<td>Prof. Dr. Magdy Madkour</td>
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<td><strong>Sustainable intensification and diversification in drylands: Role of protected agriculture and arid horticulture</strong></td>
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**Plenary Speakers**

- **Prof. Dr. Adel El-Beltagy**, Chair IDDC, Professor, ALARI, Cairo, Egypt
- **Dr. Martin Kropff**, Director General, CIMMYT
- **Ms. Maria Beatix Giraudo**, Former President, AAPRESID, Senior Advisor to Govt. of Argentina
- **Mr. Aly Abousabaa**, Director General, ICARDAs
- **Dr. Peter Carberry**, Director General, ICRISAT
- **Prof. Hisashi Tsujimoto**, Professor, ALRC, Tottori University, Japan
- **Prof. Dr. Magdy Madkour**, Professor, ALARI, Cairo, Egypt
- **Prof. Dr. Ayman F. Abou Hadid**, Professor, ALARI, Cairo, Egypt
<table>
<thead>
<tr>
<th>Title</th>
<th>Speaker</th>
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</table>
| Post-harvest processing, storage and marketing of dried products     | Prof. Dr. Michael Reid  
Emeritus Professor, Department of Plant Sciences, UC Davis, CA, USA |
| Managing livestock for sustainable intensification of drylands        | Dr. Jimmy Smith  
Director General, ILRI, Kenya |
| Augmenting water resources for irrigation in the dry area              | Prof. Donald C. Slack  
Agri. and Bioscience Engineering, Tuscan, Arizona, USA |
| Science and policy interacted for combating desertification in China  | Prof. Wang Tao  
President Lanzhou Branch of CAS, China |
| A new paradigm for sustainable rural development under changing human | Prof. Dr. Atsushi Tsunekawa  
ALRC, Tottori University, Japan |
| environment relationship                                              | Prof. Scott Shearer  
Chair, Department of Food, Agri. and Biological Energy, OSU, Columbus, USA |
| Enhancing Resilience of Arid Lands: Indian Experience                | Dr. O.P. Yadav  
Director, ICAR-CAZRI, Jodhpur |
| Synergy of Research-Technology-Policy implementation for resilient    | Dr. Ch. Srinivasa Rao  
Director, ICAR-NAARM, Hyderabad |
| Rainfed-Dryland production systems                                   |                                                                       |
Evening Lectures

Climate Change as a Trigger to Poverty and Outmigration in the Dry Areas

Dr Ismail Serajeldin
Founder President, Bibliotheca Alexandrina, Alexandria, Egypt

Re-carbonizing Soils of Global Drylands

Prof. Rattan Lal
Director, Carbon Management and Sequestration Center, Ohio State University, USA

Climate of Jodhpur

Jodhpur, once the capital of the former princely state of Marwar, is the second largest city of Rajasthan state and a popular tourist destination, featuring many palaces, forts and temples, set in the stark landscape of the Thar Desert. Jodhpur is geographically located at 26.2389° N, 73.0243° E. The city has a typical desert climate, dry and hot with a brief rainy season from late June to September. Although the average rainfall is around 400 mm, it fluctuates widely. During February, you will experience pleasant weather with an average temperature of around 21°C or 69°F (ranging from 12°C to 29°C). The city is known as the "Sun City" for the bright and sunny weather as it enjoys all the year round.

Organisations standing with us for the cause

Organizations

• The United Nations Convention to Combat Desertification, France
• International Maize and Wheat Improvement Center, Mexico
• Argentine Association of Producers in Direct Sowing, Argentina
• International Center for Agricultural Research in the Dry Areas, Lebanon
• International Crops Research Institute for the Semi-Arid Tropics, India
• International Water Management Institute, Sri Lanka
• World Agroforestry Centre, Kenya
• International Livestock Research Institute, Kenya
• Asia-Pacific Association of Agricultural Research Institutions, Thailand
• Chinese Academy of Sciences, China
• Arid Land Agricultural Graduate Studies and Research Institute, Egypt
• Dept. of Plant Sciences, UC Davis, CA, USA
• Agric. and Bioscience Engineering, Arizona, USA
• Central Asia and the Caucasus Association of Agricultural Research Institutions, Georgia
• Arid Land Research Center, Tottori
• Japan International Cooperation Agency.
• Japan International Research Center for Agricultural Sciences, Japan
• International Food Policy Research Institute, USA
• University of Reading, UK
• Australian Centre for International Agricultural Research, Australia
• Bibliotheca Alexandrina, Egypt
• Swedish Uni. of Ag. Sciences, Sweden
• Carbon Management and Seq. Center, OHS, USA
• Dept. of Food, Agriculture and Biological Energy, OHS, USA
• The Human Foundation, Cairo, Egypt
• Noble Research Institute, Ardmore, USA
• Food and Agriculture Organization, Italy
National

- NITI Aayog, Government of India, New Delhi
- Indian Council of Agricultural Research, New Delhi
- National Academy of Agricultural Sciences, New Delhi
- National Rainfed Area Authority, New Delhi
- Trust for Advancement of Agricultural Sciences, New Delhi
- ICAR-National Rice Research Institute, Cuttack
- ICAR-Central Research Institute of Dryland Agriculture, Hyderabad
- ICAR-Central Soil Salinity Research Institute, Karnal
- ICAR-National Bureau of Soil Salinity & Land Use Planning, Nagpur
- ICAR-Indian Institute of Soil Science, Bhopal
- ICAR-Central Arid Zone Research Institute, Jodhpur
- ICAR-National Bureau of Plant Genetic Resources, New Delhi
- ICAR-National Institute of Abiotic Stress Management, Baramati
- ICAR-Indian Institute of Pulse Research, Kanpur
- ICAR-Indian Institute of Water Management, Bhubaneswar
- Indian Agricultural Research Institute, New Delhi
- Protection of Plant Varieties and Farmers' Rights Authority, New Delhi
- ICAR-Central Institute of Arid Horticulture, Bikaner
- AICRP on Pearl millet, Jodhpur
- ICAR-National Research Centre on Seed Spices, Ajmer
- AICRP on Drylands, CRIDA, Hyderabad
- ICAR-Indian Grassland and Fodder Research Institute, Jhansi
- ICAR-Central Sheep and Wool Research Institute, Avikanagar
- ICAR-Indian Institute of Farming System Research, Modipuram
- ICAR-National Academy of Agriculture Research Management, Hyderabad
- ICAR-Central Institute on Post Harvest Engineering and Technology, Ludhiana
- ICAR-Indian Institute of Millet Research, Hyderabad
- ICAR-Central Institute of Agricultural Engineering, Bhopal
- ICAR-National Institute of Agricultural Economics and Policy Research, New Delhi
- Sher-e-Kashmir University of Agricultural Sciences & Technology, Kashmir
- ICAR-Central Agroforestry Research Institute, Jhansi
- ICAR-Agricultural Technology Application Research Institute, Zone VI, Jodhpur
- ICAR-Indian Institute of Soil and Water Conservation, Dehradun
- Assam Agriculture University, Jorhat
- Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola
- Orissa University of Agriculture and Technology, Bhubaneswar
- University of Agricultural Science, Bengaluru
- Punjab Agricultural University, Ludhiana
- Junagarh Agricultural University, Junagarh
- Haryana Agricultural University, Hisar
- Jai Narayan Vyas University, Jodhpur
- Swami Keshwanand Rajasthan Agricultural University, Bikaner
- Maharana Pratap University of Agriculture and Technology, Udaipur
- Sri Karan Narendra Agricultural University, Jobner
- Agriculture University, Kota
- Agriculture University, Jodhpur
- MAHYCO, Jalana
- Phi Seeds, Hyderabad
- Jain Irrigations Pvt. Ltd., Jalgaon
## Important Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts of abstracts</td>
<td>Wednesday, 31 October 2018</td>
</tr>
<tr>
<td>Acceptance of papers/posters for presentation</td>
<td>Saturday, 10 November 2018</td>
</tr>
<tr>
<td>Early registration deadline</td>
<td>Friday, 30 November 2018</td>
</tr>
<tr>
<td>Full manuscripts to be submitted to the organizers</td>
<td>Thursday, 10 January 2019</td>
</tr>
</tbody>
</table>

## Registration Fee

<table>
<thead>
<tr>
<th>Type of Participants</th>
<th>Payment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Up to 30 November 2018</td>
<td>From 01 December 2018</td>
</tr>
<tr>
<td>International Participants</td>
<td>US$ 500</td>
<td>US$ 600</td>
</tr>
<tr>
<td>International Students**</td>
<td>US$ 350</td>
<td>US$ 400</td>
</tr>
<tr>
<td>International Accompanying Person</td>
<td>US$ 100</td>
<td></td>
</tr>
<tr>
<td>Local Participants (Indian)</td>
<td>INR 10,000</td>
<td>INR 12,000</td>
</tr>
<tr>
<td>Local Students** (Indian)</td>
<td>INR 5,000</td>
<td>INR 6,000</td>
</tr>
<tr>
<td>Local Accompanying Member</td>
<td>INR 4,000</td>
<td></td>
</tr>
</tbody>
</table>

* The registration fee covers participation in all sessions, conference materials including the proceedings, sessional tea/coffee and lunch.

** Submit a copy of your current student card with your registration.

## The Venue: Indana Palace

"Indana Palace" is one of the finest heritage style hotel in Jodhpur. The hotel incites and excites one and all with the seamless blending of traditional charm and modern luxuries. Every day spent at Indana Palace is a peek into the lives of Maharajahs. With luxurious amenities at every corner, business and leisure tourists are in pure peace while staying in the hotel.

**Location:** Opposite Military Officer Quarters, Benayakia Road, Shikargadh, Jodhpur, Rajasthan, 342001

**Website:** [https://jodhpur.indanahotels.com/](https://jodhpur.indanahotels.com/)
Other Eminent Speakers

- Prof. Ramesh Chand
  NITI Aayog, New Delhi
- Prof. P.K. Aggarwal
  CGRI-CC AFS, India
- Dr. Himanshu Pathak
  ICAR-NRRI, Cuttack
- Prof. A. Gurum Aleidize
  GAAS, Tbilisi
- Dr. K. Sommreddy
  ICAR-CRIDA, Hyderabad
- Dr. S. Bheskar
  ICAR, New Delhi
- Prof. Mitsuru Tsubo
  ALRC, Tottori
- Dr. Aram Ker
  ICAR-CAZRI, Jodhpur
- Dr. P.C. Shewa
  ICAR-CSWRI, Kangra
- Dr. S.K. Singh
  ICAR-NESS&LU, Noida
- Dr. John Dixon
  ACIAR, Canberra
- Dr. M.L. Jet
  CIMMRT, India
- Dr. A.K. Petre
  ICAR-HISS, Bhopal
- Dr. S.K. Chaudhari
  ICAR, New Delhi
- Dr. Praveen Kumar
  ICAR-CAZRI, Jodhpur
- Dr. Theob Owens
  ICARDA
- Dr. Alok K. Sikka
  IWR, New Delhi
- Dr. B. Venkateswarlu
  VNMR, Parbhani
- Dr. S.K. Ambasht
  ICAR-IIRR, Bhubaneswar
- Dr. Ravindra Kaur
  ICAR-HARI, New Delhi
- Dr. Michael Baum
  ICARDA
- Dr. Rajeev Verma
  ICRISAT, Hyderabad
- Dr. Usha Barwele Zehr
  MAHYCO, Jeana
- Dr. J. Rane
  ICAR-NIAR, Baramati
- Dr. Kuldeep Singh
  ICAR-2IB, New Delhi
- Dr. Rodolfo Ortiz
  SUAS, Sweden
- Dr. P. Anand
  Dupont Pioneer
- Dr. B.D. Prasanna
  CIMMRT, Kenya
- Dr. C.T. Sethysetti
  AICRP FM, Jodhpur
- Dr. N.P. Singh
  ICAR-IPR, Kanpur
- Dr. R.K. Bhatt
  ICAR-CAZRI, Jodhpur
- Dr. P.L. Soroj
  ICAR-CIAR, Bikaner
- Dr. Balraj Singh
  AU, Jodhpur
- Dr. Gopal Lal
  ICAR-NRCS, Ajmer
- Prof. Mohamed Fathy
  Osma
Accommodation

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Category</th>
<th>Tariff (in INR)</th>
<th>Distance from (in km)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td>Indiana Palace Hotel</td>
<td>5 Star</td>
<td>7500</td>
<td>9000</td>
</tr>
<tr>
<td>Park Plaza Hotel</td>
<td>4 Star</td>
<td>5000</td>
<td>6000</td>
</tr>
<tr>
<td>Chandra Imperial</td>
<td>3 Star</td>
<td>2700</td>
<td>3000</td>
</tr>
<tr>
<td>Royal Plaza</td>
<td>2 Star</td>
<td>1500</td>
<td>1800</td>
</tr>
</tbody>
</table>

Notes, Inclusions, Terms and Conditions

- The above rates are available only to the delegates registered for 13ICDD
- It is advisable to book your room(s) well in advance to avoid a waitlist status and disappointment later.
- Kindly note, if the online system does not show the date requested by you because of non-availability of rooms in the online inventory, you may request by sending an e-mail to akpatelarc@yahoo.co.in and 13icdd@gmail.com. Every effort will be made to meet your requirements.
- Check-in-time is 13.00 Hrs and Check-out time is 11.00 Hrs as standard for all hotels.

The Room rates Includes

- Accommodation on per night basis in the room type specified
- Buffet Breakfast at a designated place

The Room Rates Excludes

- Arrival and/or departure airport transfers.
- Expenses of personal nature like laundry, room service, any meals except buffet breakfast, bar, telephone etc.
- Anything not specifically mentioned as included above.
- Rates are inclusive of current GST.

Terms & Conditions

- Rooms are available from Check-in 10 February 2019 to Check-out 15 February 2019.
- 100% payment needs to be made at the time of booking the rooms.
- Early Check-in or late Check-out shall be subject to concerned hotel’s policy in this matter. The policy may vary from hotel to hotel.
- The rates include all taxes as per current tax structure levied by the govt. In case of any change (increase or decrease) in the taxes by the government, the above rates will be revised and you will be informed if you have already booked on the above rates.

Cancellation & Retention Policy

Cancellations received up to 10 December 2018 : No cancellation charge
Cancellations received on and after 10 December 2018 : No refund, 100% retention will be applicable

Please note that cancellation request should be sent only in writing to 13icdd@gmail.com and akpatelarc@yahoo.co.in
## Tours

### Local Tour/Accompanying Person’s Program

<table>
<thead>
<tr>
<th>Tour name</th>
<th>Particular</th>
<th>Tour cost (in INR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half day sightseeing of Jodhpur</td>
<td>Single person</td>
<td>INR 2400</td>
</tr>
<tr>
<td></td>
<td>2 Persons travelling together</td>
<td>INR 1300</td>
</tr>
<tr>
<td></td>
<td>3 Persons travelling together</td>
<td>INR 1000</td>
</tr>
<tr>
<td>Full day sightseeing of Jodhpur</td>
<td>Single person</td>
<td>INR 3400</td>
</tr>
<tr>
<td></td>
<td>2 Persons travelling together</td>
<td>INR 2000</td>
</tr>
<tr>
<td></td>
<td>3 Persons travelling together</td>
<td>INR 1500</td>
</tr>
<tr>
<td>Full day sightseeing of Osiyan</td>
<td>Single person</td>
<td>INR 4000</td>
</tr>
<tr>
<td></td>
<td>2 Persons travelling together</td>
<td>INR 2500</td>
</tr>
<tr>
<td></td>
<td>3 Persons travelling together</td>
<td>INR 1800</td>
</tr>
</tbody>
</table>

**Inclusions:**
- Travel covered by AC Toyota Innova as per the itinerary
- Lunch at good local restaurant (only in full day tour)
- Supplied with mineral/drinking water during tour

**Exclusions:**
- Guide and monument entrance fees
- Camera / video fees at Monuments

### Post-conference Tours

<table>
<thead>
<tr>
<th>Tour name</th>
<th>Particular</th>
<th>Mode of travel</th>
<th>Tour cost (in INR) per person*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaisalmer (Golden City)</td>
<td>Single person</td>
<td>AC Toyota Innova</td>
<td>INR 11000</td>
</tr>
<tr>
<td></td>
<td>2 Persons travelling together</td>
<td>AC Toyota Innova</td>
<td>INR 8000</td>
</tr>
<tr>
<td></td>
<td>3 Persons travelling together</td>
<td>AC Toyota Innova</td>
<td>INR 7000</td>
</tr>
<tr>
<td></td>
<td>Single person</td>
<td>AC Toyota Etios</td>
<td>INR 10000</td>
</tr>
<tr>
<td></td>
<td>2 Persons travelling together</td>
<td>AC Toyota Etios</td>
<td>INR 7000</td>
</tr>
<tr>
<td></td>
<td>3 Persons travelling together</td>
<td>AC Toyota Etios</td>
<td>INR 6000</td>
</tr>
<tr>
<td></td>
<td>6 Persons travelling together</td>
<td>AC Tempo Traveller</td>
<td>INR 5500</td>
</tr>
</tbody>
</table>

**Inclusions:**
- Accommodation on bed in Swiss Tent at Sam Sand Dune & breakfast, lunch and dinner basis as per itinerary
- Mode of travel covered as indicated in package as per the itinerary
- Cultural evening at Sam, Jaisalmer as per itinerary
- Local English speaking guide as per itinerary
- Supplied with mineral/drinking water during tour

**Exclusions:**
- Monument entrance fees
- Camera / video fees at Monuments
- Meals other than mentioned above
- Item of personal nature like laundry, tobacco, liquor, room service, etc.

*Note: Shared accommodation in Swiss Tent on Twin basis leads to Price rebate by INR 1000/-.

For tour booking please write to: pcmoharana45@gmail.com, 13icdd@gmail.com and info@tixilo.com
Sponsorship Details

The objective of the conference is to provide a platform to all the stakeholders engaged in dryland development to deliberate on thematic issues of global importance, with major emphasis on sustainable development of drylands areas in the face of changing climates and contribute to achieving sustainable development goals (SDGs) agreed to by the global community. For details about the conference, please visit the website [www.13icdd.com](http://www.13icdd.com).

Further in view of the relevance of this conference and ongoing research in your company, we are pleased to offer a range of Corporate Sponsorship opportunities for consideration, as given below. We encourage confirmation of sponsorship/exhibition preference for the 13th ICDD as soon as possible so as not to miss out on his opportunity.

<table>
<thead>
<tr>
<th>Deliverables</th>
<th>Platinum Sponsor</th>
<th>Diamond Sponsor</th>
<th>Gold Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-congress benefits</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Company name and logo in all communications</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Company name and logo on homepage of conference website with hyperlinks</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Company name and logo in post conference proceeding</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Print Advertisement in Souvenir, Abstract booklet etc. (provided to all delegates)</td>
<td>Full page Colour</td>
<td>Half page Colour</td>
<td>Quarter page Colour</td>
</tr>
<tr>
<td><strong>On-site benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complimentary exhibition space</td>
<td>~24 sqm</td>
<td>~18 sqm</td>
<td>~9 sqm</td>
</tr>
<tr>
<td>Logos on acknowledgement standees at the pre-function area</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Complementary registrations</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Promotional material of company (provided by company) to be included in the registration kit</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Opportunity to distribute corporate gifts to attending delegates</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Conference period benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined Branding at selected dinner/lunches</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Exclusive branding at lunch/dinner</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Exclusive branding at High Tea</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Cost of sponsorship (INR in lakhs)</strong></td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Options for sponsorship for registration kit, souvenir/gift, and cultural program are also available (on cost basis).

For sponsorship please write to: burmanuday821@gmail.com and 13icdd@gmail.com
Tourist Attraction

Rajasthan

The ‘Land Of Kings’, “Rajasthan”, its the largest state in the Republic of India covering the area by 342,239 square kilometers (132,139 sq mi) or say around 10.4% of total area of the country. It is situated on the northwestern side of India. Have most of the area is covered by the inhospitable Thar Desert, also known as “Rajasthan Desert and Great Indian Desert”. To the northwest, Rajasthan shares border with provinces of Pakistani Punjab and Sindh to the west, along with the Sutlej-Indus river valley. On the other side its border are touching with 5 other Indian states: to north Punjab, the northeast Haryana and Uttar Pradesh, Madhya Pradesh to southeast and Gujarat to the southwest.

Major features of Rajasthan includes:

- Ruins of Indus Valley Civilisation at Kalibanga
- The Dilwara Temples, a Jain pilgrimage site at Mount Abu, only hill station of Rajasthan in the Aravalli mountain range.
- The Keoladeo National Park near Bharatpur, a World Heritage Site known for its bird life.
- Tiger reserves in Rajathan: Ranthambore National Park (Sawai Madhopur), Sariska Tiger Reserve (Alwar), Mukundra Hill Tiger Reserve (Kota).

Rajasthan state was formed on 30th March 1949. Jaipur is the state capital and the largest city, other popular cities are Jodhpur, Kota, Bikaner Ajmer, Jaisalmer and Udaipur.
Jodhpur (Sun City)

Rajasthan, the land embellished with infinite imprints of colour and chivalry, harmonious life and lingering music, harmony and hospitality, palaces and pristine nature; has been extending an invigorating invitation to the world, since time immemorial. Jodhpur, the heart of Rajasthan and the majestic jewel of her eternal crown, illuminate the Thar, enriching the desert with entrepreneurship, scholarship and art.

Jodhpur was founded in 1459 by Rao Jodha, a Rajput chief belonging to the Rathore clan. Rao Jodha succeeded in conquering the surrounding territory and thus founded a state which came to be known as Marwar. As Rao Jodha hailed from the nearby town of Mandore, that town initially served as the capital of this state; however, Jodhpur soon took over that role, even during the lifetime of Rao Jodha. The city was located on the strategic road linking Delhi to Gujarat.
Excursion Tour

Khichan

Khichan is a village near to Jodhpur and is connect through Phalodi tehsil of state Rajasthan. Khichan is well known for the demoiselle cranes, who visit the village every year in winter in huge numbers. This yearly bird migration began in the 1970s with around a hundred cranes, when a village couple began feeding pigeons. Soon other villagers also joined the effort of the couple and as of 2014, Khichan currently hosts more than 20,000 demoiselle cranes from early August to late March of every year.

The village is greatly dominated by Rajpurohit. This desert village is situated 150km west of Jodhpur city. Phalodi is 3.4 km away and is the nearest town to the village.

Jaisalmer (Golden City)

Jaisalmer also known as “The Golden City” of state Rajasthan, is located 575km (357 mi) from Jaipur (Capital of Rajasthan). It is the largest district in the state and by territorial region, it is the third largest district in India. The city is built on a ridge of yellowish sandstone, and ancient Jaisalmer fort is the crown of the city.

Sculptured sandstone was used to build many houses and temples of both town and fort. Thar Desert (the Great Indian Desert) surrounds the entire city, having a total population of 78,000 (fort’s residents included).

Climate

In terms of temperature, Jaisalmer is open to extremes, because of its arid desert region. In both summer and winter temperature of Jaisalmer hugely varies from day to night.

- Summer temperature: Maximum :- 49 °C (120 °F) Minimum :- 25 °C (77 °F).
- Winter temperature: Maximum :- 23.6 °C (74.5 °F), Minimum :- 5 °C (41 °F)

There is a scarcity of water in Jaisalmer so, rainy crops like bajara, jawar, motif, til etc. are grown and spring crops like wheat, barley etc. are hard to find throughout Jaisalmer.

Jaisalmer fort

Bhati Rajput ruler Jaisal build this fort in 1156. Massive walls of the fort made by sandstone appear to be tawny lion color during the day and as the sun sets it turns into magical honey-gold. Located at Meru Hill and named as trikoot garh has witnessed many battles. Being the living fort, a quarter of the city’s population still resides inside the fort.
**Jain Heritage of Jaisalmer**

Jaisalmer is known for beautiful Jain temples. The temples are dedicated to the 16th Tirthankara, Shantinath, and 23rd Tirthankara, Prashanth. The fort contains seven Jain temples built during 12th and 15th centuries.

**Havelis in Jaisalmer**

There are numerous Havelis in Jaisalmer which offer various types of architecture such as Rajputana and Islamic architecture. The havelis are constructed using yellow sandstone and have stunningly carved facades and are beautified by oriel windows. The beauty of these havelis is truly unmatched.

**Desert Festival**

The most awaited festival of Jaisalmer that dominate the sand of Rajasthan. Held every year in the month of February is most famous cultural and colorful event which includes Camel races and turban tying competitions. Rajasthani folk music and dance are also showcased in the Desert Festival of Jaisalmer. To witness the various performing arts like Kalbelia dance, folk song, and music, this is the best time to visit Jaisalmer. Popular Gair and Fire dancers are the major attraction of Jaisalmer’s Desert Festival.

**Museums**

- Jaisalmer War Museum
- Desert Culture Centre & Museum
- Baa ri haveli culture centre & 450yrs old haveli in fort
- Jaisalmer Folklore Museum
- Government Museum
- Jaisalmer Fort Palace Museum
- Jaisalmer War Museum
- Akal Fossil Park Museums
- Cactus Park Museum, Kuldhara
- Tanot Museum, Tanot
Organizers and Sponsors

Organizers

Co-organizers

Sponsored by

Knowledge Partners

Hosted by
For Details Contact
Organization: General

Conference Secretariat
Arid Zone Research Association of India
ICAR-Central Arid Zone Research Institute, Jodhpur – 342 003
Tel: +91 291 2788789 Fax: +91 291 2788706 Mobile: +91 9413906115
Email: 13icdd@gmail.com Website: https://www.13icdd.com