

# NEWS UPDATE

A Water Secure World Free of Poverty and Hunger through Sustainable Rural

November 2023

## From Secretary-General's Desk...

Dear Colleagues,



This special issue mainly highlights the successfully organisation of the 25th International Congress on Irrigation and Drainage and the 74th International Executive Council meeting from 01-08 November, 2023 at Radisson Blue Resort, Visakhapatnam (Vizag), Andhra Pradesh, India. The 25th ICID Congress was organised on the theme 'Tackling Water Scarcity in Agriculture'.

The event addressed two contemporary questions: Questions No. 64: What Alternative Water Resources could be Tapped for Irrigated Agriculture? and Questions No. 65: What On-Farm Techniques can increase What Productivity? During the Congress, in addition to addressing these two questions, an international symposium on "Pathways and technologies for modern irrigation services" and ICID's five technical working groups i.e. WG-WEF\_N, WG-CLIMATE, WG-LDRG, WG-SDTA and WG-NCRWRI were organised International Workshops concurrently to the 25th ICID Congress. Leading organisations in the world like FAO, IWMI, ICARDA, GIZ, MSSRF Norway, IGS, JICA, WASAG, CNCID were also presented to organise the special events as a part of the Congress. Apart from organising the side events by esteemed international organizations, Young Professionals training programme was organized with the active support from GIZ and India-EU partnership programme.

It was a truly enriching experience for global water and irrigation professionals where more than 1289 delegates from 40 countries participated. It was a pleasure to meet many of you at Visakhapatnam during the 25th ICID Congress and 74th IEC that covered a significant variety of technical and social activities. I am sure that all our national and international delegates were had a wonderful learning

and networking opportunity during this event. I hope you all had a safe journey back home and now head on to your professional mission.

The 12th N.D. Gulhati Memorial Lecture for International Cooperation in Irrigation and Drainage on "Ensuring Water and Food Security through Climate Resilient Infrastructure" was delivered by Shri Gajendra Singh Shekhawat, Hon'ble Minister of Jal Shakti Ministry of Water Resources, Government of India. Several other prominent global water and agriculture policy makers, researchers & professionals, industry experts were invited to attend the event and provided a great learning platform vis-a-vis the latest technologies, innovative practices and solutions.

Along with the enriching technical sessions during the event, several awards were distributed for different achievements. WatSave awards were presented to recognize the water saving efforts of individuals in Technology Category. During the event, ICID also recognized nineteen structures as World Heritage Irrigation Structures nominated by seven countries. The Best Paper award was awarded to several researchers working on 'The development of a hybrid model to forecast paddy water temperature as an alert system for high-temperature damage', published in Volume 71, Issue 1 of the Irrigation and Drainage journal published by Wiley. Iranian National Committee on Irrigation and Drainage (IRNCID) was recognised as the Best Performing National Committee for the outstanding contribution towards the mandate and mission of ICID and impressive achievements through organisation of conferences, workshops, seminars and contributed to national policy & strategy during the last three years, between the 24th and 25th ICID Congresses. Additionally, the IEC based on the voting elected Dr. Marco Arcieri (Italy) as the President of ICID for the three-year term 2023-2026 and three new Vice Presidents for ICID were also elected for 2023-2026, details are given in this issue.

Apart from the Congress event, the fifth meeting of the ICID Management Board meeting was held on 2 November 2023. The News Update contains information on the decisions made during the meeting regarding future ICID events and other important matters.

During the month ICID was represented by President Dr. Marco Arcieri in the FAO-UN in collaboration with International Center for Biosaline Agriculture (ICBA) and WASAG organized a thematic webinar on "Farmers' Guidelines on Soil and Water Management in Salt-affected Areas". The webinar showcased the

Season's Greetings & Best Wishes for a Happy & Prosperous New Year 2024

relevance and importance of the proper soil and water management practices to be implemented within the saline agriculture context. More details are provided in the Newsletter.

The Second General Assembly of the Council for Promoting Regional Revitalization with World Heritage Irrigation Structures (WHIS) held in Fukui, Japan. Details are provided in the Newsletter. On 22 November 2023, as part of the Working Group on Climate Change and Agricultural Water Management (WG-CLIMATE) ICID and Chinese Taipei Committee (CTCID) organised a webinar on "Adapting Agriculture to Climate Change: Strategies for Resilience and Sustainability".

Moving forward, several other major ICID events are lined up for the upcoming year. The First Middle East Regional Conference on Irrigation and Drainage on the theme "Integrated Irrigation Sector Management for Sustainable Development" will be hosted by the Kingdom of Saudi Arabia from 26-28 February, 2024 in Riyadh and organised by Saudi Irrigation Organisation (SIO) and Saudi Committee of Irrigation and Drainage (SACID) in partnership with ICID. For more details visit at <https://sacid2024.sio.gov.sa/En>. 14th International Drainage Workshop on the topic "Modernization of irrigation and drainage systems for adaptation to climate change and sustainable development" will be organised in Dushanbe, Republic of Tajikistan from May 30 to June 1, 2024. It will comprise of two days of thematic sessions with training side events, followed by a third day for visits. A joint extended meeting of the NCID of Tajikistan with the participation ICID representatives will be held in Day 2. For more details visit at <https://tajicid.tj/>

I look forward to meeting you during the above events and thank you for your continued support.

With warm regards

A.B. Pandya  
Secretary General

## 25th International Congress on Irrigation and Drainage & 74th IEC Meeting

1-8 November 2023, Visakhapatnam (Vizag), Andhra Pradesh



The ICID with its Indian counterpart, Indian National Committee on Irrigation and Drainage (INCID) in association with Central Water Commission, Ministry of Water Resources and Government of Andhra Pradesh organized the 25th International Congress and 74th International Executive Council meeting from 1-8, November 2023, at the Radisson Blu Resort, Vishakhapatnam, India. The 25th ICID International Congress centred around the theme “Tackling Water Scarcity in Agriculture.” The event brought together irrigation and drainage professionals and a broad range of other stakeholders to share their knowledge and experience in sustainable agriculture

water management focusing on irrigation management.

This ICID Congress being organised in India after 57 years which brought together a global congregation of around 1,300 experts, researchers, and professionals which include 350 foreign delegates from 40 countries to address the challenges of water resource management, irrigation, and drainage. The event was inaugurated on 2 November 2023 by the Hon’ble Minister Sh. Gajendra Singh Shekhawat, Ministry of Jal Shakti, Government of India, and Hon’ble Chief Minister of Andhra Pradesh Sh. Y.S. Jagan Mohan Reddy. The grand

opening ceremony was attended by distinguished dignitaries Hon’ble Minister Sh. Gajendra Singh Shekhawat, Ministry of Jal Shakti, Government of India, and Hon’ble Chief Minister of Andhra Pradesh Sh. Y.S. Jagan Mohan Reddy; Mr. Ambati Rambabu, Hon’ble Minister for Water Resources Development; Mr. Gudivada Amarnath, Hon’ble Minister for Industries, Infrastructure, Investment & Commerce, Information Technology; Mrs. Vidadala Rajini, Hon’ble Minister for Health, Family Welfare & Medical Education; Government of Andhra Pradesh; Prof. Dr. Ragab Ragab, President ICID; Mr. Kushvinder Vohra, Chairman, Central Water Commission





(CWC) & Indian National Committee on Irrigation and Drainage (INCID); and Mr. Shashi Bhushan Kumar, Principal Secretary, Water Resources, Government of Andhra Pradesh. The inaugural function began with a welcome address by Mr. Kushvinder Vohra, INCID Chairman. He emphasised the importance of sustainable water management in the context of food and ecosystem security. Hon'ble Minister of Jal Shakti Sh. Gajendra Singh Shekhawat highlighted the crucial role of international collaboration for the redressal of the issues and challenges of the water sector in the wake of climate change. Hon'ble Chief Minister of Andhra Pradesh, Sh. Y.S. Jagan Mohan Reddy shared his vision for various interventions required for water resources development and management in the State of Andhra Pradesh. He urged the International Commission on Irrigation and Drainage (ICID) to work on a solution to transfer water from one basin to another in drought-prone conditioned, which is economically viable, socially acceptable, technically feasible and environmentally friendly especially in Andhra Pradesh. Andhra Pradesh is one of the States which is dependent on rain-fed irrigation system and faces problem in water supply to agricultural crops during lean monsoons, he said. He also highlighted the key interventions being undertaken in the field of water resources in the State.

The opening plenary session was delivered by President Prof. Dr Ragab Ragab. He highlighted the vision and activities of ICID, including Webinars, Awards, ICID Membership Networks,

ICID Publications, Memorandums of Understanding (MoU) Signed by ICID to strengthen partnerships and cooperation with partner organizations and working groups on Climate Change Impact and mitigation. Prof. Dr. Ragab Ragab also presented a couple of presentations: (i) Misunderstanding and Misconceptions in Irrigation Water Management and, (ii) Climate Change as a Challenge to Water and Food Security. The presentation covers diverse issues, which include (i) By 2050, the world population is expected to increase to 9.8 billion (ii) The food demand is expected to increase by 70% to 100% (iii) Water & energy consumption is expected to increase by 50% (iv) Climate change predicted to increase vulnerability of agricultural sector.

Secretary General Mr. A.B. Pandya delivered the vote of thanks to all the delegates for accepting the invitation of the Congress and making it a successful opening session. He also shows a gesture to all the international organizations including FAO Land and Water Division, ADB; IWMI; IGS; ICARDA; World Bank; Indian National Committee of Irrigation and Drainage (INCID); Ministry of Water Resources, Andhra Pradesh; Central Water Commission CWC, Minister of Jal Shakti, Govt of India and all the Direct Members of ICID for their participation.

To express gratitude and to pay tribute to the late N.D. Gulhati, the father of ICID, a visionary, who dedicated his entire professional life to the development of irrigation and drainage, a memorial lecture is organized in every ICID Congress. The aforesaid lecture was delivered

by Hon'ble Minister of Jal Shakti, Sh. Gajendra Singh Shekhawat on the topic 'Ensuring Water and Food Security through Climate Resilient Infrastructure'. He presented a brief overview of country's progress in water resources development, vital role of storage and increasing water use efficiency to meet burgeoning irrigation demand with growing population. He flagged various issues, challenges, way forward and the government's commitment to water resource management and particularly in attaining sustainable development goals.

During the Congress Plenary the keynote addresses were delivered by (i) Ms. Yasmin Siddiqui, Director, Agriculture, Food, Nature, and Rural Development (AFNRD), Asian Development Bank (ii) Dr. Qu Dongyu, Director General, FAO Land and Water Division (iii) Dr Mark Smith, DG, IWMI (iv) Ms. Amal Talbi Jordan, Global Lead Water in Agriculture, World Bank and (v) Mr. Kushvinder Vohra, Chairman, CWC/INCID.

The 74th meeting of the International Executive Council (IEC) was organized in three sessions. The Opening Plenary aimed at addressing all stakeholders, experts, representatives, partners, and observers with the objective to communicate issues of general concern and also presenting ICID annual awards and recognitions. The plenary session was attended by about more than 400 delegates from 40 countries. They participated in the various working group meetings, task teams and committees in the following two days. The main session of IEC was conducted in two



sessions on 4 November, 2023 took all decisions based on the outcomes and recommendations of the workbodies and permanent committees.

There were 18 sessions encompassing the congress questions 64 & 65 primarily addressing the supply side augmentation of irrigation water and demand management. Besides, 6 International Workshops on various working groups of ICID, 12 side events by leading organizations such as United Nations Food and Agricultural Organisation (FAO), International Water Management Institute (IWMI), India EU Water Partnership (IEWP), GIZ, Japan International Cooperation Agency, International Center for Agricultural Research in the Dry Areas (ICARDA), M S Swaminathan Research Foundation (MSSRF), Chinese National Committee on Irrigation and Drainage (CNCID), Indian National Committee on Irrigation & Drainage (INCID) and ICID on special topics, 2 International Symposium and 2 Plenary sessions.

A Special Session on ‘Farmers Empowerment through technology innovations and capacity building’ was organized during the 25th International Congress on Irrigation and Drainage of ICID. Indian Network on Participatory Irrigation Management (IndiaNPIM) organized this special session in partnership with Ministry of Jal Shakti Government of India, ICID, INCID and NCPAH of Ministry of Agriculture and Farmers Welfare of Government of India. This session was also sponsored by Jain Irrigation, Sai Sanket, ITC, NETAFIM, MiDigitex and WWF-India. During the session, over 150 participated including members of Water Users Associations from over 10 states of the

country (including – Andhra Pradesh, Telangana, Karnataka, Maharashtra, Gujarat, Rajasthan, Uttar Pradesh, Madhya Pradesh, Chhattisgarh etc.), senior specialist from the World Bank; officials from state irrigation and water resources departments; senior officials from Ministry of Jal Shakti, Government of India and other delegates.

The objective of the session was to have a knowledge exchange session across the farmers and WUAs, who came from different parts of the country and to expose them to the cutting-edge technology and means on efficient irrigation. Whilst the farmers from each of the state talked

Management Institute (IWMI), Indian National Committee on Irrigation & Drainage (INCID) and M S Swaminathan Research Foundation (MSSRF), Norway, on special topics of Global Mapping of Irrigation Potential and Needs.

A side event was organized by FAO with the objective to introduce the progress on the development of a new framework for mapping irrigation potential and needs. The side event contributed to the reviewing the existing methods, stocktaking of information requirement to conduct irrigation potential mapping and setting a roadmap for the development and piloting.



about the state of their respective WUAs and the challenges that they face; on the other hand, few success stories of participatory farmers’ approaches were also discussed and appreciated.

The sideline events were organised by United Nations Food and Agricultural Organisation (FAO), International Water

Side event organized by IWRS with the objective to highlight the smart agriculture technologies for managing irrigation water and improving irrigation water use efficiency on-farm and at the regional level. Specifically, the session will focus on the applications of the Internet of Things (IoT), crop modeling, satellite and

UAV remote sensing in irrigation water management.

The side event by INCID showcased the promotion of gender-responsive water management (SDG 5 and SDG 6), particularly irrigation management. The side event covered the role played by women in agriculture water management, irrigation development, governance, and management. This side event also facilitated a comprehensive discussion and shared the mechanism for effective involvement of women in making strategic decision.

During the opening ceremony of the 25th ICID Congress and 74th IEC Meeting released two publications on Historical Water Sustainability and Compendium: World Heritage Irrigation Structures (2014-2022).

Secretary General Er. Ashwin B. Pandya introduced the agenda for the 74th IEC meeting and provided an overview of the important issues before the Council such as the review of the action plans identified under Road Map to ICID Vision 2030, International Research Program

on Irrigation and Drainage, Knowledge Management Strategy and the procedural aspects regarding the conduct of IEC and Meetings of workbodies, including permanent committees. VP Prof. Dr. Tsugihiko Watanabe, Chairman, PCTA acquainted the members with the four thematic groups of Basin, Knowledge, Schemes and On-Farm under which the workbodies reporting to PCTA are organized and the review of these thematic groups. VP Dr. Mochammad Amron, Chairman, PCSO made a short presentation on the important aspects that need attention of various Working Groups and how to make the meetings of workbodies reporting to their respective permanent committees, more vibrant and productive.

Dr. Mohammad ALomair, Chief Data Officer the representative of Saudi Arabian National Committee of ICID (SACID) made a presentation and shared about the Saudi Irrigation Organization (SIO), which manages and develops the irrigation sector in the Kingdom by achieving sustainability and enhancing efficiency. Mr. Kushvinder Vohra,

Chairman, Central Water Commission & ex-officio Secretary to Government of India and Chairman, INCID & Vice President, ICID, presented the activities of INCID and also briefed about the background and objectives of INCID.

The session also announced the winners of the WatSave Award, WHIS, Best Performing National Committee and Best Paper Award and election for the new President and Vice Presidents. & (Office Bearers). Several study tours and excursion visits are also being organized to Araku valley, Kambalakonda Eco Park, Indira Gandhi Zoological Park, Simhachalam temple, Rishikonda beach etc. for showcasing and promoting the touristic destinations, cultural & architectural heritage.

Besides knowledge enriching technical discussion, the rich cultural heritage of India was also showcased in the form of melodies of Indian classical music, captivating folk dances from various provinces and Bollywood extravaganza.

## 12<sup>th</sup> N.D. Gulhati Memorial Lecture Award 2023

Sh. Gajendra Singh Shekhawat, Hon'ble Minister of Jal Shakti, Ministry of Water Resources, Government of India delivered the 12th N.D. Gulhati Memorial lecture for International Cooperation in Irrigation and Drainage on the theme **“Ensuring Water and Food Security through Climate Resilient Infrastructure”**. The memorial lecture, established in the memory of Late President Hon. N.D. Gulhati is held during the triennial ICID Congress. The memorial lecture aims to encourage the exchange of significant global developments relevant to irrigation and drainage engineering, including all allied aspects like the environment, sociology and economics, as well as fostering and enhancing international cooperation to meet the ICID objectives.

Climate change is posing serious threats to the entire world. Indian sub-continent is already facing huge temporal and spatial variability in respect of availability of water, and climate change further worsens the situation. Climate change will make hydrologic events more unpredictable and lead to more frequent occurrence of hydrological extremities like floods and droughts. Various studies indicate greater expected loss in the Rabi crop and every 1°C rise in temperature reduces wheat production by 4-5 Million



Tonnes. Collectively the impact of climate change, continuous rise in population and deterioration in water quality due to various anthropogenic factors could affect the Indian irrigation sector. India being the second most populous country, seventh largest country by area and the fifth largest economy but having only 4% of freshwater resources of planet is acutely aware of our role in addressing the issue. Considering these potential threats, Prime Minister's National Action Plan on Climate Change (NAPCC) has been continuously making various mitigative and adaptive climate resilient interventions. National Water Mission and National Mission for

Sustainable Agriculture are at the core of NAPCC. Through various global initiatives and recently through G-20 engagement, India have demonstrated our dedication to sustainable water management practices. This 25th International Congress on Irrigation and Drainage provide unique platform for us to share significant developments in irrigation and drainage engineering. I urge all the participants and delegates that let us work towards tackling water scarcity in agriculture and ensuring a sustainable future for generations to come.

## WatSave Award 2023

WatSave Awards are annual awards that were instituted by ICID in 1997 to recognize and encourage the development of innovative ideas to facilitate robust and result-oriented technologies that could be implemented to save the usage of water for agricultural purposes. This year's WatSave Award goes only in the Category of Technology.

**IRRISAT - A satellite Based Irrigation Advisory Service (Technology) Prof. Guido D'Urso & Mr. Carlo De Michele (Italy)**

IRRISAT is a satellite-based irrigation advisory service developed in Italy and operational since 2007 in the Campania region (Southern Italy); nowadays it has been used in Australia (with name COALA). The service aims at providing farms and managers of water resources with real time information on crop water needs. Irrigation needs are estimated using high resolution data from Earth observation satellites and meteorological gridded data (including 5-days forecast)



by using the FAO 56 “direct” calculation method. Data are aggregated at various spatial scales (from field or irrigation unit to district or river basin scale) and temporal scales (real time, historical series). Information is distributed in near-real time to the users (farmers and/or water agencies) by using ICTs, namely

web- mapping applications. Several water user associations in Italy are using IRRISAT for supporting their everyday management of irrigation distribution, as well as for detecting non-authorized water withdrawals.

## Best Paper Award 2023

The ICID Journal ‘Irrigation and Drainage’ is the flagship publication of ICID. The journal is a prestigious, peer-reviewed publication, publishing original papers on scientific, engineering, environmental and socio-economic issues associated with irrigation and drainage. It is a rich resource of reference to professionals, engineers, researchers, university professors, and students of irrigation, drainage, and agriculture disciplines. Its management is governed by an International Editorial Board (EB). ‘Best Paper Award ‘ was started in 2006 to recognize the outstanding papers contributed to ‘Irrigation and Drainage’, annually. During the 74th IEC Meeting, the Best Paper Award 2023 was presented to Wenpeng Xie, Masaomi Kimura, Yohei Asada, Toshiaki Iida, Naritaka Kubo from Japan for their outstanding paper entitled ‘The development of a hybrid model to forecast paddy water temperature as an alert system for high-temperature damage’. <https://onlinelibrary.wiley.com/doi/10.1002/ird.2692>

Climate change has led to increasing global air temperatures. In the field of crop cultivation, long-term high temperatures (heatwaves) during the rice-growing season might increase the risk of high-temperature damage to rice,



which might result in reductions to the yield and quality of rice. In this study, a hybrid forecast model consisting of a combined paddy field heat balance model and a meteorological forecast model is proposed for predicting 1-day-ahead water temperatures as an alert system for high-temperature damage to paddy fields, with resolution in terms of hours. The results show close agreement between the measured and predicted water temperatures, and the high-temperature alert accuracy was 88.5%. Additionally, the climate resilience of paddy fields was investigated by using the rising annual

temperatures due to climate change. The observations indicate that while paddy fields are sensitive to the climate, their climate resilience can be improved through artificial measures. Farmers and managers of paddy fields can thus be made aware of the water temperatures of the paddy fields in advance to enable reasonable management of water resources and avoid high-temperature damages caused by extreme weather conditions.

## World Heritage Irrigation Structures (WHIS) Award 2023

ICID identifies, recognizes and maintains a record of World Heritage Irrigation Structures of archival value that are more than a century old and help understand the evolution of irrigation systems among civilizations across the world. This concept was mooted at the 63rd International Executive Council (IEC) Meeting held in Adelaide, Australia in 2012. The idea is to conserve these heritage structures for posterity on the lines of the world heritage sites recognized by UNESCO. Total nineteen Heritage Structures have been recognized by ICID in the year 2023.

- Baini Weirs, Hongze Lake Irrigation System, Huoquan Spring Irrigation System, and Qimenyan Irrigation System, China (4 Nos.).
- Balidiha Irrigation Project, Jayamangal Anicut, Prakasam Barrage (Old Krishna Anicut), and Srivaikuntam Anicut, India (4 Nos.).
- Notog Weir, The Kepajaran Main Intake, and The Talang Barrage / Dam, Indonesia (3 Nos.).
- The old regulator Al-Hussainya, Iraq.
- Takebe Weir, Yamagata-goseki Irrigation System, Honjukuyousui Irrigation Canal, and Kitayama Irrigation System (Canal), Japan (4 Nos.).
- Damnoen Saduak Canal, and Bang Nok Khwaek Lock, Thailand (2 Nos.).
- Şamran Canal, Turkey.



## Best Performing National Committee Award 2023

The Best Performing National Committee Award (BPNCA) is presented triennially at every ICID Congress, with the main objective to recognize the contributions made by a National Committee to fulfill ICID's mission and objectives. It is presented at every triennial Congress starting from the 18th ICID Congress (Montreal) in 2002. The performance of the award-winning National Committee is judged by a Panel of Judges based on the performance of the 'Candidate National Committee' during the 3-year period between the immediate past two consecutive Congresses. Iranian National Committee on Irrigation and Drainage (IRNCID) has won the 7th BPNC Award. The award was received by Dr. Narges Zohrabi from President Prof. Dr. Ragab Ragab on the occasion



of the 74th IEC Meeting and 25th ICID Congress held in Visakhapatnam (Vizag), India November 2023.

## Newly Elected Office Bearers (2023 – 2026)

### PRESIDENT

#### Dr. Marco Arcieri

His activity has been focused on the study of social and economic characteristics of agriculture in irrigated areas, in order to provide technical assistance to farmers on irrigation, within the framework of Research Projects co-financed by EU, the Italian Ministry of Agriculture and the Ministry of Public Works. He has been a member of ICID since 2008 and was



elected as Vice President of ITAL-ICID in 2011. He is being appointed by ICID as the Permanent Observer to UN Agencies FAO and IFAD. Since April 2017, he is the representative within the Global Framework on Water Scarcity (GFWS) now WASAG - an International initiative coordinated and fostered by UN FAO to cope with water scarcity under the threat of climate change. He is also a member of the Interim Steering Committee and Focal Point for the Working Group on Sustainable Use of Water Resources of WASAG led by ICID. Dr. Arcieri is also a member of the FAO-WWC driven initiative Water Accounting in Agriculture and Head of the Regional

Node for the Mediterranean Area within the International Research Program for Irrigation and Drainage (IRPID) Program of ICID.

In addition to the above, he was Vice President of ICID for the term 2018-2021, and also served as Chair and Member of some of the ICID Working Groups, to name a few, viz. Permanent Finance Committee, Chair of European Regional Working Group, Working Group on Water Food Energy Nexus (WG-WFE-N), Working Group on History of Irrigation, Drainage and Flood Control (WG-HIST), TF-GPP, TF-ILMDM etc.

### VICE PRESIDENTS

#### Dr. Tian Fuqiang (China)

Dr. Tian Fuqiang is a full Professor in Department of Hydraulic Engineering, Tsinghua University. He serves as the Deputy Secretary General of CNCID. His research



interests and area of expertise is in Hydrological Process and Experiment; Hydrological Modelling and Forecasting; Transboundary River Management; Agricultural Water Management etc. He holds a Doctorate in Hydraulic Engineering and Master of Engineering in Hydrology and Water Resources from Tsinghua University, Beijing.

He has contributed immensely to technical journals, viz. ICID Journal, Nature, Nature Climate Change and

Nature Communications, surpassing 200 of them as SCI papers. Besides the above, he has membership in ICID Working Group on Environment (WG-ENV) and Working Group on Climate Change and Agricultural Water Management (WG-CLIMATE) as its Vice Chair.



**Dr. Vadim Sokolov (Uzbekistan)**

In 1981 graduated from Tashkent Institute of Engineers in Irrigation and Agricultural Mechanization. Obtained Civil Engineer diploma with excellency. Specialization: Hydraulic Engineer in construction of river structures and hydroelectric power stations.



Scientist and practitioner in the field of engineering hydrology, water resources management and irrigation. Professional experience in the field of irrigation and integrated water resources management and water security in Central Asia and the Caucasus. Worked for national and international clients as an experienced manager or expert for a big number of regional and national projects. For 12 years he was Regional Coordinator of the Global Water Partnership network for Central Asia and the South Caucasus. Has experience in conducting research / analytical studies, diagnostic reviews

within framework of water resources management projects in all countries of Central Asia, the South Caucasus and Mongolia. There is extensive experience as a lecturer at universities and training centers (advanced training programs). As the Head of Agency of IFAS for implementation of projects in the Aral Sea basin, he provides supervision, practical guidance and implementation of programs and projects (including construction work) related to solving problems of the Aral Sea basin. Member of political council of the Ecological Party of Uzbekistan - since its foundation in 2019.

**Dr. Watchara Suiadee (Thailand)**

Dr. Watchara Suiadee started his career as Irrigation Engineer in the Royal Irrigation Department in 1987. Presently, he is an Executive Advisor on Irrigation Engineering



(Operation and Maintenance) of the Royal Irrigation Department with long experience in the field of irrigation and drainage. He holds a Doctorate in Integrated Water Resources Management from Asian Institute of Technology, Thailand and Master of Engineering in Irrigation Engineering from Kasetsart University, Thailand. Dr. Suiadee is the Vice President of THAICID and Chairman of Thai National Networks for Water and

Ecosystem in Paddy Fields (INWEPF-THAI), has involved actively in THAICID and INWEPF. Besides, the above, he is a member of the ICID Working Group on Managing Water Scarcity under Conflicting Demands (WG-MWSCD) and Working Group on Water Food Energy Nexus (WG-WFE-N). He is also an invited Lecturer at Faculty of Environment and Resource Studies, Mahidol University, Bangkok.

**ICID Organized a Webinar: Adapting Agriculture to Climate Change: Strategies for Resilience and Sustainability, 22 November 2023**

On 22 November 2023, as part of the Working Group on Climate Change and Agricultural Water Management (WG-CLIMATE) ICID, with its counterpart Chinese Taipei Committee (CTCID) organised a webinar on “Adapting Agriculture to Climate Change: Strategies for Resilience and Sustainability”. The session was attended and moderated by Dr. Cheng-I Hsieh, National Taiwan University, Dr. Yo-Jin Shiau, National Taiwan University and Hwa Lung Yu in the place of Prof. Ray Shyan Wu, President, Chinese Taipei Committee (CTCID). During the session the ICID was represented by Hon. President Prof. Dr. Ragab Ragab and Er. H.K Verma, Executive Director, ICID. The welcome note was delivered by Er. H.K Vema. Mr. Verma talked about how gas emission and global warming emerge as a critical issue in the 21st century, which influences rapid rise in global temperature resulting widespread environmental consequences. In response to these ongoing challenges and to achieve a net zero emission target by 2050 the agricultural activity plays important role in climate change,



also been recognized as major source of greenhouse gas emission (GHE) particularly methane and nitrous oxide. These gases were produced from various farming practices. He also mentions that agriculture is not only a contributor but also hold the potential to part of the solution. To the implementation of the regenerative

and sustainable farming techniques the high primary production of agriculture is transform the system to net carbon sink, proper land management practices, rational fertilization and soil carbon sequences to target the net zero emission. This webinar serves as a platform to explore the relationship b/w the farming practices and the environment. The

webinar also explored the audiences to actively engaged to the complexity of climate change adaptation. Mr. Cheng-I Hsieh Department of Bioenvironmental Systems Engineering, National Taiwan University, Taipei, Taiwan presented her presentation on "Energy, Water Vapour, and CO<sub>2</sub> Fluxes above a Subtropical Monsoon Rice Paddy". He talked about eddy-covariance technique to understand the characteristics of sensible heat, water vapor, and CO<sub>2</sub> fluxes above a subtropical monsoon rice paddy in north Taiwan.

Prof. Yo-Jin Shiau presented his presentation on "Adapting Agriculture: Strategies for Achieving Net-Zero Greenhouse Gas Emissions Goals". He talked about (i) Nitrification activity was low in both paddy and vegetable plantation farms, and no N<sub>2</sub>O flux was observed in the incubation experiments. This implies that nitrification may not be the major process for N<sub>2</sub>O emission in either the paddy or vegetable farmlands. (ii) Intermediate soil water contents may stimulate incomplete denitrification in the farmlands, contributing to N<sub>2</sub>O effluxes. The webinar served as a compelling entry

point into the urgent global discourse on climate change and its profound implications for agriculture. It offers a window to explore the intricate relationship between farming practices and the environment. The presentation sets the stage by underscoring the pivotal role of agriculture, which is both a contributor to and a mitigator of climate-related challenges. By delving into innovative strategies, sustainable approaches, and the latest research findings, this webinar empowers its audience to actively engage with the complexities of climate change adaptation.

### About

The eddy-covariance method was applied to understand the characteristics of sensible heat, water vapor, and CO<sub>2</sub> fluxes above a subtropical monsoon rice paddy in north Taiwan. The mean air temperature and annual precipitation is 24 oC and 2540 mm. The crop season is from February to June, and the fallow season is from July to December. During crop season, about 25% of net radiation was used for latent heat flux, 10% for

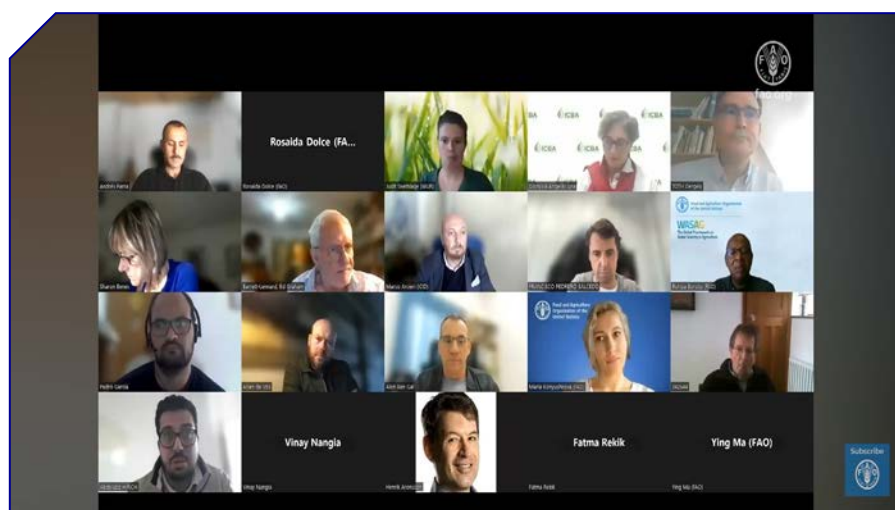
sensible heat flux, and the rest (65%) was absorbed by the water and soil in the rice paddy. During crop season the maximum CO<sub>2</sub> uptake was about 22 mmol m<sup>-2</sup> s<sup>-1</sup>. In fallow period, the maximum CO<sub>2</sub> emission rate from the soil-water surface was about 5 mmol m<sup>-2</sup> s<sup>-1</sup>. Penman-Monteith equation was found to reproduce the evapotranspiration well with surface resistance close to 190 s m<sup>-1</sup>. Under small Bowen ratio conditions, water vapor and CO<sub>2</sub> were transported more efficiently than heat, which is different from typical dry land.

Greenhouse gas emissions and global warming have emerged as critical climate issues in the 21st century. The relentless increase in these emissions has contributed to a rapid rise in global temperatures, resulting in widespread environmental and societal consequences. In response to this pressing challenge, the target of achieving net-zero emissions by 2050 has gained immense importance in the fight against climate change. <https://www.youtube.com/watch?v=apyNsnwzhL8&t=3154s>



## FAO Thematic Webinar on “Farmer Guidelines on Soil And Water Management in Soil Affected Areas”, 22 November 2023

FAO - UN in collaboration with International Center for Biosaline Agriculture (ICBA) and WASAG organized a thematic webinar on "Farmers' Guidelines on Soil and Water Management in Salt-affected Areas". The webinar showcased the relevance and importance of the proper soil and water management practices to be implemented within the saline agriculture context. The webinar are split into two thematic volumes. The thematic 1 focuses on "Soil and water management in salt-affected areas" and thematic 2 on "Saline farming schemes and crops suitable for salt-affected areas". The objective of the webinar (i) Illustrate the relevance and importance of saline agriculture and the farmer's guidelines development, in the context of climate change and increasing salinity issues on global level; due to time limitations the Webinar will focus on three case studies (MENA, Central Asia and Southeast Asia); (ii) Demonstrate the importance of developing effective training modules for farmers and brainstorm with eminent professionals on saline agriculture about how to implement the guidelines more effectively and empower the farmers to make the proper decision making for the



salinity issues they are facing; (iii) Solicit country support and involvement; and (iv) Receive valuable inputs that could be inserted in the technical session on saline agriculture of the WASAG Plenary Assembly of 29th-30th April 2024. The ICID in the webinar is represented by President Mr. Marco Arcieri.

The speakers and moderators includes Jean Boroto, Senior Officer, FAO; Dionysia Angeliki Lyra, Halophyte Agronomist,

ICBA ; Luis-Augusto Becerra, Chief Scientist, ICBA; Dionysia Angeliki Lyra, ICBA, Saline Agriculture Working Group Lead; Fatma Rekik, World Bank; Francisco Pedrero Salcedo, CEBAS-CSIC; Pedro Garcia Caparros, University of Almeria; Sharon E. Benes, California State University, Fresno; Shuwen Hu, Professor, China Agricultural University, China; Ed Barrett-Lennard, Professorial Fellow, Murdoch University, Australia;

Vinay Nangia, Research Team Leader, Soils, Waters and Agronomy, ICARDA, Morocco; Abdelaziz Hirich, African Sustainable Agriculture Research Institute (ASARI), Mohammed VI Polytechnic University (UM6P), Morocco; Judit Snethlage, Wageningen University & Research (WUR), The Netherlands; Maria Konyushkova, Global Soil Partnership, Land and Water Division, FAO; Robert Caudwell, IIRRI Vietnam Office.

The webinar highlighted the threats posed by salt-affected soils to global food security are increasing with climate change. According to the recent global salt-affected soils map, over 424 million hectares of topsoil (0–30 cm) and 833 million hectares of subsoil (30-100 cm) are currently salt-affected. The Saline Agriculture Working Group of the Global Framework on Water Scarcity in Agriculture (WASAG) developed practical

guidelines for farmers implementing agriculture in salt-affected areas to assist them in their decision-making processes in dealing with salinity and sodicity issues in their lands. The webinar is end with the question/answer session. <https://www.youtube.com/watch?v=6J4IL685yeQ>

## The Second General Assembly of the Council for Promoting Regional Revitalization with World Heritage Irrigation Structures (WHIS) held in Fukui, Japan.

On October 10, 2023, approximately 140 members of the Council for Promoting Regional Revitalization with WHIS participated in the Second General Assembly held in Fukui, Japan. The members consist of irrigation facility managers, prefectural and municipal officials from WHIS registered areas. As of November 2023, 51 districts were registered as WHIS in Japan, accounting for approximately 30% of the total WHIS worldwide. The council was established in 2022 to support PR and tourism promotion activities that utilize the historical importance of WHIS in each district, and share good initiatives with each member.

At the beginning of the General Assembly, Dr. Tsugihiko Watanabe, Vice President of ICID, and Mr. Kenji Seiyama, Deputy Director General, Rural Development Bureau, Ministry of Agriculture, Forestry

and Fisheries (MAFF) gave opening remarks. Dr. Watanabe paid tribute to the managers and officials of WHIS registered areas for their efforts to properly preserve and manage the irrigation structures.

The assembly unanimously approved new memberships from Kanuki Irrigation Canal, Teradani Irrigation System, and Yukawa Irrigation Canal, which were recognized in 2022, as well as new office bearers, a new activity plan until the next General Assembly, and a WHIS card design. After that, Mr. Kotaro Tachiya of Hakuhodo Co., Ltd. held a seminar titled "Making regional heritage an asset to improve regional values" for effective initiatives and information dissemination contributing to regional revitalization. In the end, Ms. Kyoko Otsuyama of the Tsujunoyousui Irrigation System and Ms. Mitsuko Ushiyama of the Bizenkyo Irrigation System, who are both WHIS



managers, reported the conservation status of their structures and regional revitalization initiatives. The Council for Promoting Regional Revitalization with WHIS will continue to promote its initiatives and effective information dissemination making use of WHIS as regional assets.

## ICID Forthcoming Events

**1st Middle East Regional Conference, Riyadh, Saudi Arabia, 26-28 February 2024** Theme: Integrated Irrigation Sector Management for Sustainable Development; Contact: Mr. Amjed Al Majed, President, Saudi Arabian National Committee Saudi Arabian National Committee of ICID, Email: [a.almajed@sio.gov.sa](mailto:a.almajed@sio.gov.sa); Website - <https://sacid2024.sio.gov.sa/>

**14th International Drainage Workshop, Dushanbe, Tajikistan, 30 May - 1 June 2024** Theme: Modernization of Irrigation and Drainage Systems for Adaptation to Climate Change and Sustainable Development. Contact: Dr. Bahrom Gaforzoda, Secretary, Tajikistan National Commission on Irrigation and Drainage (TajNCID), [Gbahrom\\_75@mal.ru](mailto:Gbahrom_75@mal.ru) For

more information please visit the link <https://tajncid.tj/>

**75th International Executive Council Meeting and 9th Asian Regional Conference (AsRC), Sydney, Australia; 01 - 07, September 2024** Theme: Irrigation's role in delivering economically viable food security and sustainable urban spaces in an increasingly unpredictable climate Contact: David Cameron; [dave.cameron@irrigation.org.au](mailto:dave.cameron@irrigation.org.au), Website <https://irrigationconference2024.com.au/>

**6th African Regional Conference, Abuja, Nigeria, 14-18 April 2025** Theme - "Tackling Irrigation Development and Water Management Crisis in Africa."

**76th IEC Meeting & 4th World Irrigation Forum, Kuala Lumpur,**

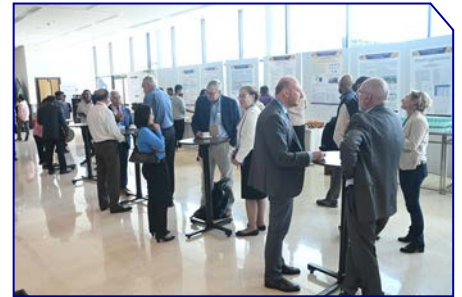
**Malaysia, 7-13 September 2025** Theme: Challenges and Future Needs in Modernization of Irrigation for Food Security and Sustainability; Contact: [mancidmalaysia@gmail.com](mailto:mancidmalaysia@gmail.com)

**11th International Micro Irrigation Conference, Baghdad, Iraq, 2025**

**77th IEC & 26th ICID Congress, Marseille, France, 12-18 October 2026** Theme - "Agriculture and climate change: stakes and levers for irrigation and drainage."

**78th IEC & 5th World Irrigation Forum (WIF5), at Guoce International Conference & Exhibition Center, Beijing, China, 2027**

Glimpses of the 25<sup>th</sup> ICID Congress and 74<sup>th</sup> IEC Meeting, 2023



International Commission on Irrigation and Drainage (ICID)

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