International Commission on Irrigation and Drainage

News Update

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

July 2020

From Secretary General's Desk...

As the COVID-19 situation continues to worsen in many parts of the world, ICID's "Virtual Avatar" continues to gain momentum, increasing the ICID network footprint on the online virtual world as well. This reminds me of the famous saying, "when the going gets tough, the tough get going." Over the last month ICID and its members, partners, and young professionals participated in several on-line activities, some of which are covered in this news update.

I am pleased to inform that ICID was invited to contribute in the webinar series on bio-saline agriculture and we did what was expected from us – ICID President delivered the opening remarks and introduced the ICID network to over 200 international participants of the webinar, VP Dr. Marco Arcieri and VPH Dr. Ragab Ragab made available their technical expertise on the subject matter of the webinar. We also participated in Water Digest conclave and our two honored Vice Presidents, Dr Y. Reddy and Dr Marco Arcieri discussed the water use efficiency issues in agriculture. I also played a vital part in organising the conclave.

Based on the success of the ICID's Young Professionals Forum over the last several years, many other organizations are also trying to attract the youth energy in their activities. ICID Executive Director Er. Harish Varma contributed his expertise in the Water Champions Youth Fellowship Program 2020, jointly organized by the Center for Youth (C4Y) and India Water Partnership (IWP).

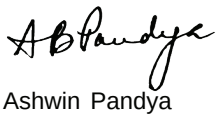
It gives me great pleasure in informing all of us that selected ICID's Young Professionals from all over the world came together to submit a paper in the World Irrigation Forum (WIF3) special issue of the Irrigation and Drainage Journal based on their e-Discussions facilitated by ICID early last year. I congratulate these young professionals for making their technical contributions and getting rewarded by a published paper in ICID's prestigious journal, having a significantly high impact factor.

In collaboration with our various partners and members, ICID is also coming up with some highly relevant Online Courses to be announced in a couple of weeks. This issue of News Update also carries some very important announcements for ICID's upcoming events and activities, so I hope you will find it very timely and useful.

Many of our friendly developing countries are needing to revive their memberships with the organization for our continued support to them in the field of agriculture water management. If you happen to be in one such country, I urge on behalf of the ICID community to take up the matter with relevant authorities in your country so that your country colleagues do not miss out on the vital aspects of water and food security.

I close my corner for now and will be back with more exciting revelations next month.

Best Wishes



Ashwin Pandya
Secretary General, ICID

ICID Webinar Series- Water Management in Saline Agriculture

In many parts of the world, at a dramatically increasing pace, soil salinity and low drainage capacity have become major factors limiting crop yield, depressing agricultural water productivity. Saline water, very often, is the only available resource. It may be accessible as agricultural drainage water, brackish groundwater or also as sea water due to intrusion near coastal areas. Therefore, it is necessary to use lower quality water to meet crop water requirements.

In association with Food and Agricultural Organization of the United Nations (FAO), International Center for Bio-Saline Agriculture (ICBA) and African Young Professionals Forum, ICID organized a webinar on," Water Management in Saline Agriculture" on 1st July 2020.

President, Felix Reinders presented the opening remarks. After giving brief introduction of ICID and its efforts

in the field of saline agriculture, he gave a detailed description of Africa's geographical and climatic conditions. While explaining the effects of salt in the water and soil, he emphasized its' huge economic cost to the agriculture economy. He concluded by reiterating the importance of collaboration among stakeholders to achieve efficiency. Mr. Jean Boroto, Senior Land and Water Officer (FAO) presented WASAG working group on Saline Agriculture while explaining the Global Framework on Water Scarcity in Agriculture. He raised concerns about the impending global water scarcity crisis and WASAG's

key steps and commitments towards the cause. He also discussed the distribution of African youth and the urgent need to educate, inform and motivate them for climate smart agriculture and native innovative farming systems. Vice President, ICID Dr. Marco Arcieri was next in line, who started with mapping the global soil salinity levels and its impact on the different continents. He explained how there can be no single approach, instead it should be a combination of many factors and techniques. Depending on the salinity levels, soil texture and climatic conditions, Leaching (requirement, frequency), Multiple water sources and Drainage systems can be effectively used with different depth and spacing for optimum water-utilization and salt reduction. In the end, he briefly discussed Cape Verde's successful Solar-Powered Water Desalination System and how it is possible to manage saline water efficiently to even produce fresh water. Vice President Honorary, Dr. R. Ragab presented the fourth presentation of the session titled," Management of saline water for irrigation of conventional and non- conventional crops". He talked about the salinity impact on crops and depending on the salinity levels, the various management and irrigation practices which can be implemented in the field. He also talked about the field instrumentation like COSMOS, Scintillometer, Eddy Covariance which can be effectively used in salt effected areas. In the end, he showcased the successful SALTMED Model- an app-based systems approach used for sustainable increase in irrigated vegetable crop production in salinity prone areas of the Mediterranean region. Dr. Dionysia Angeliky Lyra from ICBA shared her expertise on, "Saline Farming: A Tangible Reality for Sustainable Food Production in Salinized areas". She discussed in detail how agriculture in salt affected areas can boost economy as well can improve the productivity and nutritional aspect of the yield. She advocated for the usage of Brackish ground water, seawater, reject brine from desalination, drainage water, aquaculture effluents and others. Towards the later part of her presentation, she discussed ICBA's projects in the Middle East, Sub-Saharan Africa and other parts of the world. The last presentation of the session was given by Dr. R. Ragab, Vice President Hon. ICID, who informed the audience about African Young Water Professional Forum (Af YWP Forum), it's mandate, activities and the planned future events.

Lasting over two hours, the webinar witnessed over two hundred participants from different parts of the world ranging from students, researchers, government officials, young professionals and members from international networks and multi-lateral organizations.The webinar discussed the important aspects regarding salinity and the role that advanced soil management and irrigation techniques play in ensuring food security in such areas. The second half of the webinar was focused on cost-effective and suitable solutions for the amelioration of the given conditions, besides suggesting measures to enhance water productivity in these areas, specifically approaches and measures based on field trials conducted both under farmer's field and research station experiences.

ICID Young Professionals (IYPeF) News

In line with the Young Professionals e-Forum activities, a summary of all the e-discussions titled; "Non conventional sources of agricultural water management: Insights from young professionals in the irrigation and drainage sector" has been published on the Irrigation and Drainage Journal. The paper is a condensed summary of all the e-discussions organised by ICID-IYPeF during the 2019 activity year. After deliberations during the 4th IYPeF Annual meeting held in Bali, Indonesia, it was published in the WIF3 special issue.

The young professionals who contributed as authors are as follows: Amali A. Amali, Adey N. Mersha, Eman R. Nofal, Kathleen Murray, Sahar Norouzi, Shoaib Saboory, Heidi Salo, Sneha R. Chevuru, Mahdi Sarai Tabrizi, Paavan K. Reddy, Abdulrahman O. Abdullahi, Hassan Farahani, Pravin Kolhe, Reza Dowlati Fard, Abdul W. Salik, Abdullahi H. Hussein, Husain Najafi, Mojtaba Poormoghadam and Monday Adiaha

Abstract from the paper: Distribution and availability of global resources is highly variable over time and heterogeneous in space. With the natural or conventional supply of these resources no longer meeting a growing demand, the need to promote resource efficiency is now being paralleled with innovative approaches to conserve resources within their use

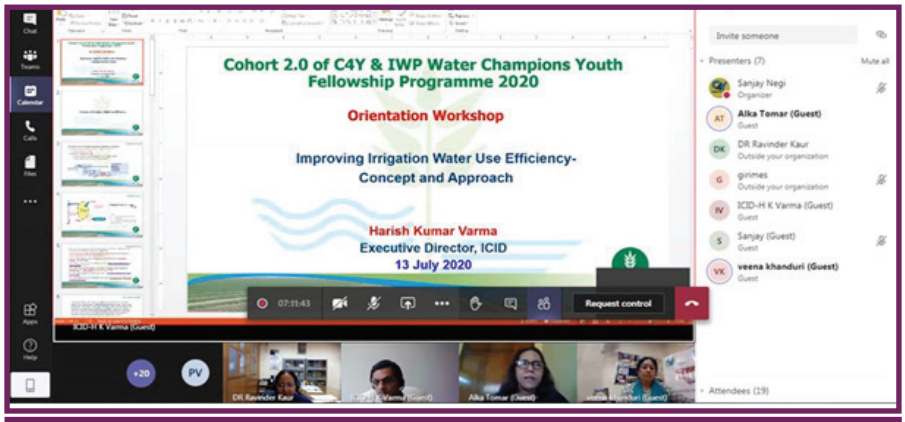
cycle. These 'innovative approaches' herewith referred to as non-conventional was the subject of a 10-weeks extensive discussion among Young Professionals (YPs) in the field of irrigation and drainage.

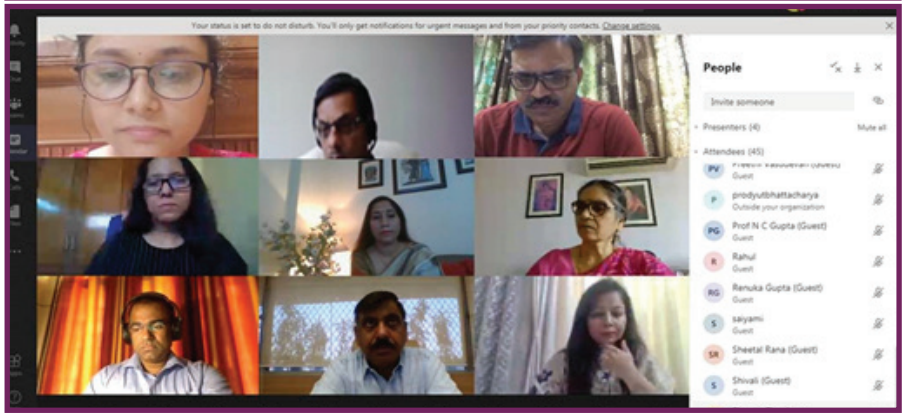
The discussion aligns to a higher objective of breeding a generation of YPs with an open mindset and multi-disciplinary approach to the challenges in irrigation and drainage. Cutting across development corridors in the water sector, this review paper presents insights on non-conventional sources of agricultural water management (AWM) as viewed from the lenses of YPs. The discussions underscore the need for broad-based approaches to resource management, building on the premise that all forms of resources are linked to form a system that provides the most effective service when managed in an integrated fashion. Non-conventional requires divergent approaches and flexibility; underlining the invaluable capabilities YPs present in AWM. Besides highlighting these roles, insights provided by YPs suggests that feeding a growing population necessitates looking beyond system efficiency to multivariate approaches of resource optimization and utilization in the field of irrigation and drainage.

For the full paper, kindly visit: **https://onlinelibrary.wiley.com/doi/full/10.1002/ird.2495**

ICID participates in the Orientation of C4Y IWP Water Champions Youth Fellowship Program 2020

To foster and empower Sustainable Youth Leadership in the country, and build their capacities on developing sustainable solutions for water security, Centre for Youth (C4Y) and India Water Partnership (IWP) have collaborated to initiate "C4Y IWP Water Champions Youth Fellowship Program." The fellowship Program is also aligned towards the GWP Youth Strategy: Unite and Strengthen Voices of Youth for a Water Secure and C4Y Sustainable Development (SUDEV) thematic area. This six-month intensive fellowship organised in partnership with WAPCOS Ltd and Ministry of Water, India aims to empower young leaders by providing them with relevant and comprehensive work experience in the water sector. The second cohort of the Youth Fellowship began on 13th July 2020 with the orientation Program attended by prominent organisations and experts from the water fraternity.





ICID was represented by Eng. Harish Kumar Varma, Executive Director who gave the introductory presentation and congratulated the new fellows further encouraging them to contribute towards the betterment of the water sector. After briefly introducing ICID, its vision and activities conducted throughout the year, detailed discussion on ICID Young Professionals e-forum, he discussed his views on, "Improving Irrigation Water Use Efficiency". While tracing the development of "Water Use Productivity" to "Water Use Efficiency (WUE)" over the years, he shed light on its various approaches ranging from Water Scarcity, Usage Disparity to Management and Environmental concerns. His presentation highlighted the requisite reform areas like Storage, Conveyance, On-Farm Application, Participatory Management, Crop Management and Research and Development areas. While giving a multi-perspective picture of the evolution of WUE, he told how it is relevant to monitor the entire irrigation cycle for optimum water efficiency and eliminating wastage. Towards the end, he talked about the modern irrigation technologies and promoting the fellows to invest their energies in developing advanced innovations and irrigation techniques.

Overall, the virtual orientation workshop focused on diverse range issues in the water sector. Water literacy, communication and documentation framed the thrust of the workshop. The workshop was organised for the young students who were selected as fellows of Cohort 2.0 of C4Y-IWP Water Champions Youth Fellowship 2020. The fellows are postgraduate university students pursuing environmental sciences, environmental management, environmental engineering and water related subjects. The thematic focus of the session was on Water Efficient Agriculture Management - Overview and Case Studies.

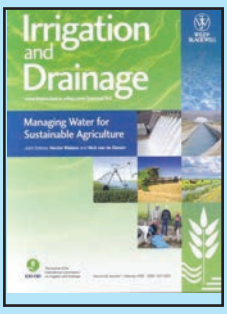
ICID Journal on Irrigation and Drainage

Volume 69, Issue 3, July 2020

The ICID journal, Irrigation and Drainage is available online with its latest Volume 69, Issue 3, published in July 2020. The new volume is FREE via Wiley online library for all ICID Office Bearers, Work Body Members and Subscribers.

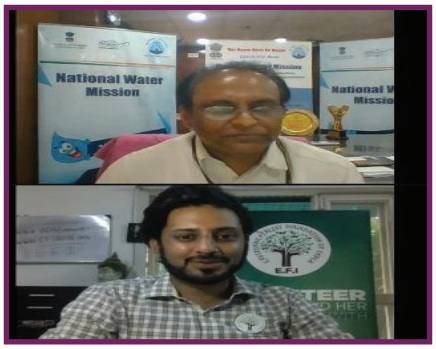
- Papers are available in easy to read PDF format
- Provides access to the full text of all articles published in Irrigation and Drainage since 2001, as well as Tables of Contents and Abstracts
- EarlyView service provides papers online as soon as they have been accepted for publication, which can be several months earlier than the papers published in print
- Sign up for FREE Wiley Alerts – receive the table of contents via email as soon as an issue is published online:

For 2019 Wiley has provided each ICID Office Bearer, Work Body Member and Subscriber a membership registration number. Your e-mail address is your user name and you can choose your own password. Click for direct access to the page with the papers of the latest issue of Irrigation and Drainage on **https://onlinelibrary.wiley.com/toc/15310361/2020/69/3**



ICID attends National Water Mission's 14th Water Talk

National Water Mission (NWM), India has initiated a lecture series 'WATER TALK' to promote dialogue and information sharing among participants on variety of water related topics. The aim of 'WATER TALK' is to stimulate awareness, build capacities of stakeholders and encourage people to become active participants to sustain life by saving water on earth. Sharing ideas among participants enhances knowledge, ensures consistent dissemination of information and builds capacities in better water management. The Program is intended to be a platform to transfer knowledge, solve problems, brainstorm and promote teamwork among various participants. The Water talk Program also provides an opportunity of 'learning something new' and 'broadening our perspective through sharing of knowledge and experience. NWM organized the Fourteenth Water Talk virtually on 26thJune 2020, ICID officials from the central office attended the session.



The talk was delivered by Dr. Arun Krishnamurthy, Founder, Environmentalist Foundation of India (EFI) from Chennai, in association with Water Digest, the official media partner for this webinar. He discussed the topic, "Citizens in Lake Conservation, India sets a global agenda in water conservation". While highlighting the deterioration of air, water bodies, wildlife, environment etc., he professed the need to promote and spread positive news about efforts being made by individuals and stakeholders working towards preservation of environment. In this session, he shared successful case studies (Manimangalam lake, Bomanakatte lake of Shimoga in Central Karnataka and others) of stakeholders and those individuals who have made remarkable efforts in conservation of neighborhood lakes and ponds across the country. The webinar was attended by more than five hundred participants from across the country ranging from students, researchers, international organizations, NGOs and government officers.

Important ICID Announcements

ICID Annual Report 2019-20: Call for Updated Information from NCs and DMs

The International Commission on Irrigation and Drainage (ICID) Central Office is in the process of compiling the ICID Annual Report for 2019-20. The ICID Central Office has sent out emails to National Committees and Direct Members requesting for information for inclusion in the Annual Report.

The Chairs of National Committees are requested to kindly provide detailed information about the events, meetings held and any other material relevant to the national committee for the year 2019-2020 which could be included in the Annual Report. Suitable pictures and/ or audio-video media may be included with the submission.

National Committees are requested to update the data relating to the agricultural scenario of their country with the latest and accurate information on the total arable area, total irrigated and drained area and areas under sprinkler and micro-irrigation.

We request you to kindly review the existing data from 2018-2019 Annual Report from the link https://www.icid.org/ar_2018.pdf in case the information needs to be updated. The latest information may be mailed to ICID Central Office for updating the same.

Similarly, the Direct Members are requested to provide detailed information about the events conducted, meetings held and any other relevant material related to their professional activities during the year 2019-2020.

71st International Executive Council (IEC)

The 71st International Executive Council (IEC) will be held along with the 5th African Regional Conference (ARC) and the Young Professional's Training Program (YP-TP) in 2020. With consultation of the Moroccan National Committee (ANAFIDE), it will be held tentatively in the first week of December 2020. Confirmed dates will be released as and when finalized. The Young Professional's Training Program (YP-TP) will also be organized during the 5th African Regional Conference.

10th International Micro Irrigation Conference: Dates will be announced later

10th International Micro Irrigation Conference (10MIC) to be held in Agadir, Morocco, will be a standalone event in 2021. Dates will be announced later. Micro-irrigation (drip/ trickle or localized irrigation) was introduced on a commercial scale in the world sometime in the 1970s. Micro-irrigation is the most efficient method of water application to crops. However, owing to the technicalities involved in its design, operation, and maintenance, the pace of its adoption was rather slow. To promote the use of micro-irrigation on a large-scale, the irrigation community worldwide, especially in developed countries, launched the International Micro Irrigation Congress in the year 1971. Subsequently, ICID volunteered to organize the event beginning with the 5th International Micro Irrigation Congress held in South Africa in 2000 to create awareness among its members about the latest developments in micro-irrigation technology to enhance crop production.

Submission of Abstracts and Full Papers for 24th ICID Congress, Symposium and Special Sessions

SYDNEY, AUSTRALIA 2021

24th ICID INTERNATIONAL CONGRESS 72nd IEC MEETING 06-12 JULY 2021

IAL/ IACID/ICID much appreciate the time and efforts of the aspiring participants in submitting their abstracts for the ICID Congress and associated events and Irrigation Australia. All abstracts submitted to date stand automatically included for consideration.

We are fortunate to have your wholehearted participation with nearly 300 abstracts. Some abstracts have been approved for the submission of full-length papers. We assure you that the submissions will remain valid throughout the period, and you may continue the preparation of your full-length papers and submit them on the portal for further review and inclusion in the proceedings of the Congress. Since the event is delayed, we have extended the dates for the submission of full-length papers substantially. Please visit the portal for the latest deadlines. However, we request you to not wait until the deadline and continue preparing for the full-length paper and submit the same online.

Some of our friends who registered on the portal have not proposed abstracts or papers for the Congress. This postponement offers a golden opportunity to do so now and catch up with your other friends. The window for the submission of the new abstracts stands extended to 30 November 2020. Please note the important deadlines:

- Submission of 'Extended Abstracts' (500-600 words): **30 November 202**
- Notification of Acceptance of Extended Abstracts: **31 December 2020**
- Submission of Full Papers: **15 February 2021**
- Notification to Authors (oral/poster/ presentation): **15 April 2021**

In the meantime, should you wish to withdraw or edit your submission, you may do so at the portal https://icidevents.org/techmanagement for 24th Congress, Symposium and Special Sessions.

Deadline Approaching!!

ICID Watsave Awards and Recognition of World Heritage Irrigation Structures (WHIS)

The postponement and rescheduling of the 71st IEC due to the COVID-19 from Sydney to Morocco and change in date of the IEC meeting led to the new deadline (which is soon approaching) for receipt of nomination forms for Watsave Awards and WHIS Recognition 2020 at the ICID Central Office in New Delhi, India as 31 August 2020.

It was decided to switch to online submission of nomination forms for WatSave Awards and WHIS Recognition beginning this year. We continue to encourage online submission of nomination forms. However, if there is any difficulty in submitting nominations forms online, the applicant may contact us at icid@icid.org.

The nominations will also be accepted via e-mail (icid@icid.org) for this year keeping in view the technical limitations imposed by COVID-19. For details, please visit, WatSave Awards: **https://www.icid.org/awards_ws.html**, WHIS Recognition: **http://www.icid.org/awards_icid.html**

For queries, please contact Dr. Sahdev Singh, Director (Knowledge Management) at icid@icid.org

News from Georgian National Committee on Irrigation and Drainage (GENCID)

New Management: Mr. Davit Tsitlidze, President, GENCID and General Director, Georgian Amelioration LTD under the "Ministry of Environment Protection and Agriculture of Georgia" (t.lakirbaia@ag.ge); Mr. Tengiz Lakirbaia, Vice President, GENCID, Technical Director of "Georgian Amelioration" Ltd under the "Ministry of Environment Protection and Agriculture of Georgia" (t.lakirbaia@ag.ge) ; Mr. Gizo Chelidze, Vice President, GENCID, Head of primary structural unit of "Water Conservation and Land Management" Department at the "Ministry of Environment Protection and Agriculture of Georgia"(Gizo.Chelidze@mepa.gov.ge); Dr. Givi Gavardashvili, Vice President, GENCID, Director of "Ts. Mirtskhulava Water Management Institute of Georgian Technical University" (GTU)(gmwi1929@gmail.com, givi_gava@yahoo.com); Mrs. Nato Khutsurauli, Secretary GENCID, Leading Specialist of "Projects Coordination and International Relations Office" at "Georgian Amelioration" Ltd under the "Ministry of Environment Protection and Agriculture of Georgia" (n.khutsurauli@ag.ge).

News from International Partners

The Energy And Environment Foundation Global Water Award 2020

The Energy And Environment Foundation (EEF) Global Water Awards are conferred on the highest achievers in International Water Industry/Research/Management. The awards have focus on initiatives in scientific management of drinking water, industrial water, waste water, and desalination, across the globe in competing areas like Innovation, Technology, Conservation and Sustainable Finance. There are different categories for the awards as follows:

- **Leadership and Technology**
  - The EEF Global Water Leadership Awards
  - The EEF Global Water Young Professional Awards
  - The EEF Global Water Women Professional Awards
  - Water Technology Idol of the Year
- **Finance**
  - Financing Water Infrastructure of the Year PROJECTS | PLANTS
  - Smart Water Project / Plant of the Year Water Project of the Year
  - Waste Water Project of the Year Water Reuse Project of the Year Industrial Water Project of the Year Industrial Water Plant of the Year Desalination Plant of the Year
- **Company**
  - Water Company of the Year
  - Digital Water Company of the Year Water Innovation Company of the Year Water Technology Company of the Year Water Desalination Company of the Year
  - Water Conservation Company of the Year Breakthough Technology Company of the Year MSME: Excellence in Water Management of the Year Upcoming Water Startup of the Year

For more information, kindly visit: **www.ee-foundation.org/globalwaterawards.html**

FAO and World Bank: Fighting the Locust Menace

Swarms of desert locusts that started invading Somalia, Ethiopia, Kenya, Uganda, and other African nations in January this year, have finally arrived on the Indian soil spelling destruction and devastation for Indian farms and farmers. They have destroyed crops and

tens of thousands of hectares of farmland in Africa. The Food and Agricultural Organization (FAO) of the United Nations (UN) recommended a $70 million aid to the African nations for aerial spraying of pesticides to deal with the fast-breeding locusts that could grow over a hundred times in a month. The World Bank has approved $500 million in grants and low-interest loans to African nations to deal with this menace.

The locusts eat fodder meant for animals and make short work of food crops intended for human consumption. A swarm of locusts may contain over 150 million locusts per sq. Km. of farmland, explains an African observer. In a single day, a small swarm of locusts can make short work of food that could feed about 35,000 people, according to Jens Laerke of the UN humanitarian office in Geneva.

This month locusts crossed the Indian Ocean and headed for Pakistan, Iran, and northern Indian states such as Rajasthan, Gujarat, Punjab, Haryana, Uttar Pradesh, and Madhya Pradesh. The current invasion of locusts could be the worst attack in the last 25 years. These locusts entered India from Pakistan through Rajasthan. The Indian farmers, who were already cringing under the impact of a prolonged economic slowdown and the lethal COVID-19, are likely to be hard hit by this new menace. According to estimates, about 125,000 hectares of farmland have been affected due to the locust menace. The damages caused by locusts could run down to millions of dollars.

The Locust Warning Organization in Rajasthan is planning to use drones to spray pesticides for destroying the locusts after their terrestrial efforts have proved insufficient to deal with the problem. Rajasthan is one of the worst-affected states of India. Locusts represent one of the most persistent pests, and FAO has set up a 'Locust Watch' to keep tabs on the movement of locusts. Pakistan has found a novel way of dealing with the locust menace. It is using the locusts as chicken feed. By doing this, they are killing two birds with one stone and earning a bonus in the process. Firstly, the locusts are being destroyed. Secondly, they are getting free protein for the chicken. And, finally, they are saving the environment by not spraying pesticides which are carcinogenic to human beings and poisonous to wildlife.

The Pakistani civil servant Muhammad Khurshid says he borrowed the idea from Yemen, which says 'Eat the locusts before they eat the crop.' The Pakistani government is encouraging people to trap locusts and earn 20 Pakistani rupees (USD 0.12) per kilogram. Some farmers have earned as much as 20,000 Pakistani rupees (USD 125) in a single night. The locusts are being consumed by 1.5 billion chickens that are reared by poultry farms and by numerous fish farms as a high protein diet for them. This could emerge as a model worth replicating for other nations that have to deal with the locus menace.

International Commission on Large Dams (ICOLD)

The International Commission on Large Dams (ICOLD) has announced the postponement of its 88th Annual Meeting and Symposium on Sustainable Development of Dams and River Basins. The decision is based on the request made by the Indian National Committee on Large Dams (INCOLD) and follows a close monitoring of the outbreak of coronavirus around the globe. ICOLD 2020 will be held from 28 November - 3 December 2020 in New Delhi, India. For more information, kindly visit: **https://www.icold-cigb.org/**

Aqua Foundation presents Online Certificate Course on

"Ground Penetrating Radar"

AF Academy is pleased to open registrations for the latest batch of the online course on Ground Penetrating Radar (including data acquisition, processing, and 3D processing of GPR data). The course is being conducted by experts having more than 25 years of experience with the technology. Other than covering theory, this unique course involves working on live software for 2D and 3D processing of data. A sample video can be seen here.

Title of the course: Course on Ground Penetrating Radar

Course Delivery

- The course is delivered through the Learning Management System (LMS) which hosts videos, presentations, and reading material. Login credentials of LMS are sent soon after completion of online registration.
- You can complete the course at your own pace, within a time period of 3 months.
- Live webinars are organized at regular intervals for trainer-trainee interaction.
- Membership of a member's only Facebook group for interaction within the group members on various aspects of GPR. This is a lifetime membership.
- Email/ online support is provided to all registered candidates
- Certificate from AF Academy on completion of course

Course Fee

- *One-time payment:* ₹ 5,000.00 / US$100.00 (Plus GST)
- *Monthly Payment:* ₹ 2,000 per month / USD 40 (Plus GST), 3 monthly instalments

Registration Link: Please visit **https://hmz.io/GPR** to register for the course.

If you are already registered in the GPR course, do share this email with colleagues and friends who may be interested in participating. For detailed course structure and more details, please visit: http://www.aquafoundation.in/

Some feedback from previous students: It was really very informative and useful in terms of acquisition, processing and interpretation. Course plan and support for solving doubts were undoubtedly remarkable. - Subhendu Mondal, India

The course is good for beginners and for the intermediate level of GPR users. It clarifies a lot of issues the user should now about GPR. I recommend that this course is repeated. Finally, I'd like to acknowledge the efforts of Dr. Sanjay and his team for this amazing course.- Ali Nashwan, Bahrain

Call for Paper under "Wastewater Treatment and Reuse" Special Issue

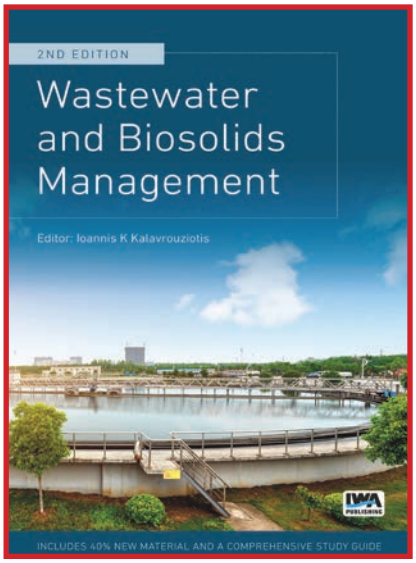
The section of Wastewater Treatment and Reuse covers topics that are connected to water treatment, including water purification, the treatment of domestic and industrial wastewater, water reuse, ecological engineering, constructed wetlands and treatment wetlands. This section aims to review the exciting progress that we have made in water and wastewater treatment to date, as well as to share new developments. Multidisciplinary studies aiming for integrated solutions for urban water in cities and towns are very welcome.

This is a call for papers for the special issue of "Microplastics in Water Bodies and in the Environment" under this section. Deadline for manuscript submissions: 31 March 2021.

Int. Journal Water (ISSN 2073-4441), IF: 2.554. For more information, kindly visit: https://www.mdpi.com/journal/water/special_issues/Microplastics_water

Publications

1. International Water Association's Book entitled: Wastewater and Biosolids Management - 2nd Edition (publication date: September, 2020).



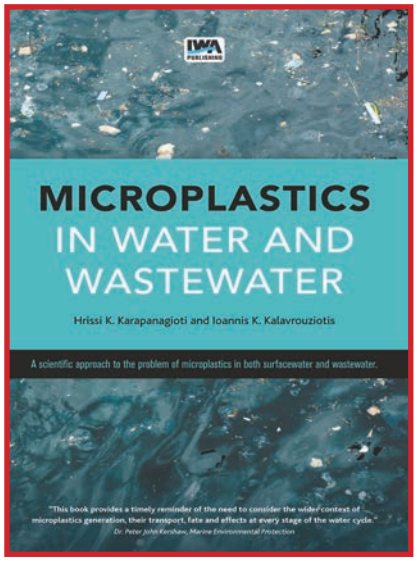
The second edition of Wastewater and Biosolids Management has 40% new material including a comprehensive study guide and one new chapter entitled 'The contribution of Decision Support System (DSS) to the approach of safe wastewater and biosolid reuse'. The study guide contains the title of the chapter, the purpose, the expected results, key concepts, study plan, additional bibliography, and a set of self-assessment exercises and activities.

The book covers a wide range of current, new and emerging topics in wastewater and biosolids. It addresses the theoretical and practical aspect of the reuse and looks to advance our knowledge on wastewater reuse and its application in agricultural production. The book aims to present existing modern information about wastewater reuse management based on earlier literature on the one hand and recent research developments, many of which have not so far been implemented into actual practice on the other. It combines the practical and theoretical knowledge about 'wastewater and biosolids management' and in this sense it is useful for researchers, students, academics as well as professionals.

Link: **https://www.iwapublishing.com/books/9781789061659/wastewater-and-biosolids-management-2nd-edition**

2. International Water Association's BOOK titled: Microplastics in Water and Wastewater - 2nd Edition, Hrissi Karapanagioti and Ioannis Kalavrouziotis (publication date: September, 2020).

This book covers the topic of microplastics in water and wastewater. The chapters start with introductory issues related to the growing interest in the scientific community on microplastics and the human water cycle and point out where the microplastics could interact with water. The subsequent chapters examine evidence of the microplastic presence in freshwater, such as in both rivers and lakes, in freshwater biota, and hazardous chemicals associated with microplastics in such systems.



Another set of chapters discuss the presence of microplastics in wastewater: their sources; their transfer through a wastewater treatment plant; the concentration of microplastics in effluents throughout the world; the plastic biomedia used in wastewater treatment plants and the effect on the surrounding environment of effluent wastewater pipes. These chapters also discuss the sampling methods, the sample treatment and analysis techniques used so far for microplastics in wastewater. Additionally, the presence of microplastics in sewage sludge and in soils irrigated with wastewater or fertilized with sludge are discussed. The possible impact of plastics and their additives on plants, microalgae, and humans are reviewed and presented in a critical way. Finally, a chapter summarizes all the relevant regulations and initiatives that point to the necessity of a global directive for the protection of the environment from plastic and microplastic pollution.

The topic of microplastics in freshwater systems and in wastewater has scarcely been studied and requires more attention. Microplastics in Water and Wastewater aims to bring these initial findings to the attention of a broader audience and especially to operators and managers of freshwater and wastewater systems. It will also be helpful to people already aware of the marine debris problem to understand the sources of microplastics in the oceans, from freshwater systems and wastewater treatment plants.

Link: **https://www.iwapublishing.com/books/9781789061680/microplastics-water-and-wastewater-2nd-edition**

ICID Invites Expression of Interest for Online INTERNATIONAL CERTIFICATE COURSE ON MICRO IRRIGATION SYSTEMS

Introduction

Global water scarcity and increased demand for food are two main drivers for the urgent efforts to improve food productivity in agriculture, the sector that consumes 70-80% of annual freshwater availability. Micro-irrigation Systems (MIS) are fundamentally designed and operated to economize water application in crop fields. As MIS is an evolving technology, the existing curricula on these systems is still not adequately covered in regular academic programs. Also, the professionals who are already working in the area of agricultural water management (AWM) irrigation planning have had limited exposure to MIS concepts and practices thus far. The proposed short duration certification course offers to fill such existing knowledge and skills gaps.

Course Structure

The course, based on a points-system, has an inherent flexibility to suit the learning needs of prospective trainee through 3 main modules on MIS, namely:

(a) Agronomic Aspects

Basic science of soil-water-crop interactions in various agro-climatic regimes; crop-specific cultural requirements; water and nutrient movements in micro-irrigation environment; irrigation scheduling and fertigation cycles; cropping patterns; and so on.

(b) Engineering Aspects

MIS principles and practices; types of MIS currently used and their suitability in various scenarios; drip/sprinkler design and related processes; power and energy options for different water sources; and commercially available products and services for MIS in various parts of the world; and so on.

(c) Management Aspects

Field implementation challenges and solutions; potential financial support schemes in various countries; operational and maintenance requirements; capacities needed in the communities using MIS.

Course Schedule

September to December 2020 (Tentative).

Course Requirements

Prospective trainees will undergo an intensive learning exercise over a period of 3 months through a series of lectures, webinars, assignments, quizzes, hands-on activities, and face-to-face interactions with the course faculty to earn minimum points in each module for an international certificate that will add value to their professional credentials.

Prospective Beneficiaries

The course is intended for those who are working in the area of AWM and the programs projects oriented towards broader aspects of AWM including MIS.

How to Enroll

Since the course is being offered in a Distance Learning (DL) mode on Moodle platform at present, the interested individuals will have to enroll on ICID's DL platform (**https://icid.moodlecourse.com**) that provides a very conducive learning environment through interactive online activities.

All academic and training processes, right from registration to certification, are online. Interested professionals can send an e-mail to **icid@icid.org w**ith copy to **sahdevsingh@icid.org** for receiving further instructions.

ICID in collaboration with National Water Academy (NWA-Central Water Commission, India), Jain Irrigation Systems Limited (JISL), NETAFIM Irrigation Private Limited and Dr. TBS Rajput is offering a 3-month (September-December 2020) International Certificate Course on Micro-Irrigation Systems (MIS) online. It covers almost all aspects of MIS, including Agronomic, Engineering and Management. We have limited seats and they are filling up fast. Interested professionals working in the agricultural water sector can send their expression of interest to **icid@icid.org** with copy to **sahdevsingh@icid.org.**

The course summary and content will be posted on a dedicated ICID website shortly. The inaugural offering is free. Don't miss the opportunity!

Forthcoming ICID Events

71st IEC Meeting & 5th African Regional Conference on Irrigation and Drainage. Marrakech, Morocco. Tentatively in first week of December 2020. Website: **http://5arcid.ma**

24th ICID Congress and 72nd IEC Meeting. Rescheduled to 6-12 July 2021, Sydney, Australia. Website: **http://www.icid2021.com.au/**

73rd International Executive Council (IEC) and 4th World Irrigation Forum (WIF4), September 2022, Beijing, China. Contact: Executive Secretary, Chinese National Committee on Irrigation and Drainage (CNCID), Email : gaolh@iwhr.com, cncid_office@sina.com, lihui.gao@qq.com, Website : **http://www.cncid.org/cncid/index.htm**

Other Events

ICASI 2020 - 2nd International and 15th National Congress on Agricultural Structures and Irrigation 29 September – 2 October 2020, Diyarbakır, Turkey. Contact: Prof.Dr. Öner ÇETİN, Head of Organizing Committee, Dicle University, Faculty of Agriculture, Department of Agricultural Structures and Irrigation, Diyarbakır/Turkey, E-mail: oner_cetin@yahoo.com, and onercetin@dicle.edu.tr Website: **http://www.icasi2020.org/**

The 2020 International Water Association (IWA) - World Water Congress & Exhibition, 18-23 October 2020, Denmark, Copenhagen, on the theme "Water for Smart and Liveable Cities". For more details, please visit: **https://worldwatercongress.org/?ct=t%28EMAIL_IWA%20Newsletter%20Oct%202019_members_COPY_02%29**

13th International Conference on Irrigation and Drainage, 27-30 October, 2020, Sacramento, California, USA. Contact: Mr. Larry D. Stephens, Executive Vice President, U.S. National Committee on Irrigation and Drainage (USCID). Email: stephens@uscid.org, Website: **http://www.uscid.org**

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International Commission on Irrigation and Drainage (ICID)

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