International Commission on Irrigation and Drainage (ICID) renewed its Memorandum of Understanding (MoU) and long-term relations with the African-Asian Rural Development Organization (AARDO) in November 2020 strengthening future collaborations for the next five years.

Recognizing that AARDO and ICID share mutual goals of poverty alleviation through food and water security, this MoU will be instrumental in supporting each other’s interventions to reduce risks due to water-related extremes – floods and droughts, and effective rural development in Asia and Africa, in particular. To achieve these goals, both AARDO and ICID have a mutual interest and commitment to work in the better management of water resources, especially in rural areas, using the latest tools and information. This Memorandum of Understanding (MoU) is intended to further enhance AARDO’s ability to appropriately make use of the outreach, capabilities, and expertise of ICID in the areas of agricultural water management for beneficial use of AARDO’s sustainable agriculture and rural development efforts, it defines the general areas of cooperation and the scope and nature of collaboration. This MoU encourages close cooperation, collaboration on projects, and activities of mutual interest. Activities like information sharing, joint research tasks, consultations, and technical support services in ‘Water’, ‘Agriculture’ and ‘Rural Development’ will be promoted.

African-Asian Rural Development Organization (AARDO) founded in 1962, is one of the earliest examples of South-South cooperation in rural development in the Afro-Asian region. It is an autonomous intergovernmental organization comprising country governments of Africa and Asia. The organization was set up to promote coordinated efforts, exchange of experiences, and cooperative action for furthering the objectives of development of the rural areas. AARDO, a non-political body enjoys observer status with various UN and other international organizations like Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Development Programme (UNDP), International Cooperative Alliance (ICA), Centre on Integrated Rural Development for Asia and the Pacific (CIRADAP), etc. It also promotes collaboration with various international organizations for the economic and social welfare of the rural community. Prior to renewing the MoU, ICID had a standing MoU with AARDO identifying areas of cooperation since 2015.
National Water Academy (NWA), Pune provides training and capacity building services for the water resources professionals in India. As the central government institution to train government officials and civil servants, it provides responsive engineering service in a caring, ethical, and transparent framework and develops the participant’s competency in the field of irrigation and drainage. ICID and NWA share a long history of collaborations on research, workshops, conferences, webinars, and the most recent one, the e-learning programs. Celebrating its 75 years of excellence in service, NWA representing the Government of India, Ministry of Water Resources (Ministry of Jal Shakti) is organizing a webinar series focusing on “Interstate River Water Disputes in India” from 19 October 2020 to 08 February 2021.

Interstate water disputes are complex involving various issues like hydrological, ecological, geological, socioeconomic needs of the riparian parties, population dependent on water, effects of use by one party and another party, existing and projected use amongst the various water user sectors, availability of water, etc. Resolving water disputes involves the application of customary judicial and legal principles which are very subjective in nature. This webinar series aims to focus on understanding the legal and institutional issues related to water; types of water disputes in India; to resolve the dispute in a scientific manner; to meaningfully engage with disputing parties in a specific case; sharing experiences and learning through practical approaches to dispute resolution; methodologies of dispute resolution, etc.

Secretary-General A B Pandya represented ICID and presented the fourth webinar of the session on 2nd November 2020 on the topic, “National Water Policy 2012”. In the beginning, he discussed the importance of a policy, its nature, and implications in the water sector. He said that “A policy is a long-term directive to settle the interstate dispute in the direction of national development. Water Policy directs the government, departments, and state governments to implement schemes and initiatives.” A national policy is a powerful instrument using which all the initiatives could be redirected with a unified national approach. He also discussed the role of international organizations in influencing the national policies and their contribution on-ground.

While tracing ICID’s role since its inception in 1950, he highlighted how ICID was established in light of India’s conscious role in mobilizing eleven countries towards food security, employment generation, and national development. Specifically talking about National Water Policy 2012, he said it is a well-drafted comprehensive document but there is a limited focus on implementation, road map, and action plan. He further added that flexibility is required in a policy to accommodate the dynamic environmental, social, and economic shifts in the future in accordance with the guiding principles. Talking about the country’s contemporary water situation, he emphasized how both demand management and supply augmentation require equal focus right from the ground to the decision-making level. There is an upper limit unto which you can efficiently manage water even at the optimum level, thus the supply side needs attention. Demand-side intervention is equally important to supply-side interventions, creation of storages, wastewater management, and efficient distribution should set the beginning. A large part of the water which is available is not yet utilized. It needs to change.

Towards the end, he said given the dynamic ecological situations due to climate change, global warming, and the increasing demands, we need to be prepared and ready in advance. Predictions and assumptions are often indicative and based on averaging, which can happen in consecutive years or shorter periods over a long period of time. For example, Australia faced drought for ten consecutive years, thus we need to be prepared for the uncertainties of hydrological cycles. “A rain-fed country like India needs balancing storage. There is no guarantee we can have continuous dry seasons or continuous monsoons.”

Secretary General writes foreword for Water Digest’s magazine release

Water digest is a premier Indian water magazine that brings the latest in technologies & varied opportunities to cope with escalating water troubles to the water industry worldwide. The objective is to promote and build awareness on critical water issues and trigger actions to facilitate the efficient management and use of water in all its dimensions on an environmentally sustainable basis. They promote both solutions and the exchange of ideas that lead to a better understanding of problems being faced in the water sector. Water Digest has a strong national presence and network with a close working relationship with several ministries, industries, municipal corporations, civic bodies, regulatory agencies, financial institutions, and NGOs. Water Digest actively participates in ICID events and on various occasions had covered and publicized ICID’s initiatives and activities. Secretary-General AB Pandya is also associated with Water Digest in the capacity of Editor in Chief. He wrote the foreword for Water Digest October magazine’s special issue on "Wastewater Management: The Untapped Resource" Volume. XIV Issue III.

He began his foreword by tracing the cyclic nature of water resource, the increasing dependency on used water with each passing day. He highlighted how all of us live downstream of others and hence the waste from one will be the source for another. More than ever, today the concept of “Waste Water: An untapped resource” requires attention in terms of planning, execution, and monitoring. He stated that there is a need for an integrative approach for regaining a balance between satisfying human demands and maintaining ecosystems. As India hurtles towards a more developed economy, it is high time that we manage the resources efficiently, a lot of investment is required especially in the field of wastewater management. While concluding he said, it has now become a necessity to identify used water as a potential source, this is the only way to achieve sustainability.
This e-magazine release was part of Water Digest’s bi-monthly magazine series which delivers updates on news replica watches, reports, tenders, upcoming events of the water industry, and updated information on the various important topics. Water digest reaches over 45,000 active, influential, and engaged readers providing new ways for the segment to connect with its potential clients through novel sections and special issues. To access the full magazine and more information, kindly visit: https://www.thewaterdigest.com/

**ICID e-learning Training Programs**

International Commission on Irrigation and Drainage (ICID) in collaboration with the National Water Academy of India and two international industry leaders - Jain Irrigation Systems Limited and Netafim Irrigation Limited is organizing an online certificate course on Micro-Irrigation systems. The faculty team includes world-renowned micro-irrigation experts and field research specialists on the adoption of drip and sprinkler systems by farming communities. A brief description of the course is given below:

**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 are still not adequately covered in regular academic programs. Also, the professionals who are already working in the area of agricultural water management (AWM) 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; etc.

(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; and so on.

**Course Requirements:** Prospective trainees will undergo an intensive learning exercise through 35 online sessions comprising audio-video lectures, webinars, assignments, quizzes, hands-on activities, and face-to-face online interactions with the course faculty to earn an international certificate that will add value to their professional credentials.

**Prospective Beneficiaries:** The course is intended for those professionals who are working in the area of AWM and the current students in the academic programs oriented towards broader aspects of AWM.

**Course URL:** https://icid.moodlecourse.com/

**Course Fee:** This year participation in the course for a limited number of qualified individuals is free. You will have access to course lectures/videos, international webinars, and reference material. If you require the International Certificate of successful completion of the course, you will need to pay a fee of US$100 to cover the cost of your personalized online evaluation through assignments and quizzes. The customized certificate will be mailed to you in PDF file. Instructions for secure online payment of the fee will be mailed to you.

Currently, in the 1st batch 165 participants are enrolled from all over the world.

For queries and expression of interest, please write to Dr. Sahdev Singh-Director (Knowledge Management) at sahdevsingh@icid.org and icid@icid.org.

---

**Online Certificate Course on Dam and Network Safety Assurance**

International Commission on Irrigation and Drainage (ICID) in collaboration with the Aqua Foundation Academy is organizing an online certificate course on Dam and Network Safety Assurance. The faculty team includes renowned industry stalwarts who have witnessed situations firsthand and provides mentorship for requisite skill sets in view of the growing importance of an assured delivery of water to the beneficiaries and continued assurance of performance worthiness of the components involved.

A brief description of the course is given below:

**Course Focus:** The course is meant for the professionals directly engaged in the works of maintaining and managing the irrigation and multipurpose projects having headworks in form of storage structures of various sizes and associated water distribution networks for providing water to the beneficiaries. The course aims at
improving the skills of the professionals entrusted with the responsibility of directly managing the facilities and ensuring their safety as well as reporting the status to a higher level of management. The works of such nature require exposure to the basics of the sciences and technologies that go into designing and operationalizing such facilities, deteriorations that can be expected over long years of usage, implications thereof towards continued safety of operators, and hazard levels posed to the downstream communities, possible field and laboratory investigations techniques for identification of problems and reporting the observations to the expert personnel scientifically and lucidly so that the status at the field level is fully appreciated while planning the remedial measures by them.

Course Content: The course content has been designed for fresh and practicing engineers who are involved with the dam operations, surveillance and safety assurance works and dam portfolio managers responsible for setting up dam safety programs.

SECTION 1
This section will expose the participants to the following areas:
- Overview of Dam Safety Aspects
- Legislative Provisions of Dam Safety-Existing and Future
- Overview of Basic Design Philosophy of Dam, Defense Measures Safety Features
- Documentation for Dam and Network for Safety Assessment
- Overview of Basic Design Philosophy for Conveyance Networks and Associated Structures-Canals and Pipelines
- Overview of Flood Risks and Handling them in Real Time, Effect of Flood
- Operations on the Safety and Upkeep of Dams and Networks
- Geotechnical Investigations of Existing Dams
- Durability of Concrete Structures
- Behaviour and Performance Observation Programme
- Specialised Materials and Techniques for Repairs and Rehabilitation-Introduction
- Preparing and Carrying Out On-Site Inspection of a Concrete/ Masonry and Earth/ Rock fill Dams
- Hydromechanical Equipment and Dam Safety
- Evaluation of Different Types of Energy Dissipating Arrangements, and Remedial Measures
- Under Water Inspection Techniques
- Use of Hand-Held Mobiles, GPS and Remote Sensing Techniques for Network Status Assessments and Mapping
- Efficiency Measurement of Conveyance Network
- Network Status Assessment Using Mobile Technologies
- Dam Safety Instrumentation Monitoring in Dams and Allied Structures
- Rock Mechanics Investigations for Dams and Reservoir Slope Stability Problems
- Geomembranes for Seepage Control in Dams
- Latest Format being used for Writing Inspection Reports for Dams in India

SECTION 2
This section will expose participants to the latest investigation techniques in the following areas:
- Geophysical Techniques for
- Use of Temperature and Strain Sensing for Dams
- Latest Developments including Optical Fibre Sensors
- Geophysical Investigation Techniques

Course Delivery Mechanism: The course will be delivered through a Learning Management System (LMS), where pre-recorded lectures, videos, presentations, reading material, etc. will be uploaded, so that participants can go through these at their own pace, within the time frame of 6 months. Live sessions also will be organized wherein participants can directly interact with experts and raise their queries.

For detailed course structure, registration process, free structure, and industry collaborations, please visit https://www.damsafety.co/

Contact Details — ICID: Mr. Harish Kumar Varma, Executive Director,ICID, Tel: +91-11-26115679, +91-11-26116837, E-mail: icid@icid.org, Website: https://www.icid-ciid.org; AF ACADEMY: Ms. Praggya Sharmaa, Secretary General, AF Aademy, Email: info@aquafoundation.in; praggya@damsafety.co

A new batch is being launched shortly!
LAST DATE OF REGISTRATION FOR BATCH II WAS 15 DECEMBER 2020.

Please register at: https://www.afacademy.org/dam-andnetwork-safety
**IMPORTANT ANNOUNCEMENTS**

**71st International Executive Council (IEC) Meeting**

71st IEC meeting of 2020 was held virtually in two Sessions on 07-08 December 2020 – First Session on Monday, 07 December 2020 from 18:00-20:00 Hours (IST) and Second Session on Tuesday, 08 December 2020 from 18:00-20:00 Hours (IST).

ICID Central Office created a dedicated page on the ICID website. For more information regarding the virtual conduct of the IEC meetings, Pre-Council meetings, agenda notes, please visit [http://icid-ciid.org/home](http://icid-ciid.org/home)

**72nd IEC Meeting and 5th African Regional Conference (AFRC)**

72nd IEC Meeting and 5th African Regional Conference (AFRC) will be held during 22-29 September 2021 at Marrakesh, Morocco. Confirmed dates and procedures 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.

**73rd IEC Meeting and 24th ICID Congress**

73rd IEC meeting and 24th ICID Congress will be held during 8-14 March 2022 at Adelaide, Australia, hosted by Irrigation Australia Ltd., and Irrigation Australia's Committee on Irrigation and Drainage (IACID).

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

IAU/ 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.

Please note that the deadlines of the following stand extended.

- Submission of ‘Extended Abstracts’ (500-600 words)
- Notification of Acceptance of Extended Abstracts
- Submission of Full Papers
- Notification to Authors (oral/poster/presentation)

Final deadlines and procedures will be shared as and when available. In the meantime, should you wish to withdraw or edit your submission, you may do so at the portal [https://icidevents.org/](https://icidevents.org/tech) management for 24th Congress, Symposium, and Special Sessions.

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

10th International Micro Irrigation Conference (10MIC) will be held in September 2022, at Agadir, Morocco. 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.

---

**Galilee International Management Institute – Israel**

Since its establishment in 1987, Galilee International Management Institute (Israel) has received a global reputation as a leading management institute. The goal is to provide accessible education, enhance human connections and cooperation, provide knowledge and assist in its implementation. At GIMI, they empower people and enable them to create positive change in their communities, by encouraging them to think differently, take risks, cooperate, lead changes – we create leaders. Their online courses share the renowned Israeli knowhow in a wide variety of areas:

- Agriculture, Environment and Water
- Transport and Maritime Studies
- Strategic Studies
- Innovation

For more details, visit their website at [https://www.galilcol.ac.il/](https://www.galilcol.ac.il/)
National Water Mission (NWM), India has initiated a lecture series called ‘WATER TALK’ to promote dialogue and information sharing among participants on a 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 the sharing of knowledge and experience. NWM organized the Eighteenth Water Talk virtually on 16th October 2020. ICID officials from the central office attended the session.

Eighteenth Water Talk was conducted digitally due to Covid-19 caused disruptions. The speaker for the event was Honourable Union Minister Mr. Gajendra Singh Shekhawat, Ministry of Water Resources, India. At the outset, he congratulated the National Water Mission on the success of the ‘Water Talk’ lectures series and for its commitment to provide a platform for experienced water experts, activists, and academicians to discuss and debate on various topics related to the vast subject of water. He added that such open dialogues would facilitate the designing of future water policies.

He asserted that India receives adequate rainfall and the focus needs to be shifted to managing the available water more efficiently. Adequate measures need to be taken to collect and save every drop of water that falls on the rooftop and into the traditional bodies like ponds, wells, and step-wells to recharge underground aquifers. With the growing population and increasing pressures on water resources, the water demand is going up. Alongside the water losses already occurring through evaporation and in the form of non-harvestable water, India hardly manages to save about 10% of the water in its entirety. There is an urgent need to therefore initiate public awareness campaigns and movements like a People’s Movement or ‘Jan Andolan’ directed towards water conservation.

Advancing towards the subject of water availability, the Minister cited the example of Israel successfully turning itself into not just a water-secure nation, but a water surplus nation through efficient water management. Israel is the world’s first country to filter ocean water, desalinate it and transport it within borders and outside through trunk-line. The successful water model of Israel has equipped the country to also supply water to its neighboring countries. Israel’s successful mission is inspirational and commendable as is the Israeli people’s commitment towards water management. There are thousands of similar examples globally wherein individuals, communities, and certain groups have accomplished in making their villages, cities, and towns water-secure through public movements. The Hon’ble minister urged the audience to draw inspiration from these success stories and replicate good practices in their respective areas. He concluded his talk by reiterating the significance of public participation and community efforts for making India a water-secure nation.

The talk was followed by a session of questions and answers wherein members from the audience were invited to discuss their queries with the Hon’ble Minister. The webinar had some interesting and unique questions posed by the attendees. The webinar witnessed participation from more than 650 participants from various sectors, independent researchers, school students, university graduates, engineers, several NGOs, international organizations as well as the government officials from across the country.

**Women, Water, Climate: Tackling the Challenges**

A two-day conference on the theme of “Women, Water, Climate: Tackling the Challenges” was organized between 2-3 November 2020. Women for Water Partnership (WiWP) in conjunction with its partners NetWater and Soroptimist International of the South West Pacific (SISIWP) organized the conference with support from Sri Lanka National Committee of ICID, SEI Asia’s Strategic Collaborative Fund, which aims to foster regional cooperation and policy dialogue for sustainable development and environmental sustainability, through capacity building, knowledge sharing and increased collaboration. Six related webinars were also organized during October in collaboration with global sector experts. Find out more at https://www.womenforwater.org/
Uzbekistan National Committee (UzNCID)

According to the Decree of the President of the Republic of Uzbekistan, the functional responsibilities of the National Committee on Irrigation and Drainage are fully transferred to the Ministry of Water Resources of the Republic, the Ministry established a Department under the Information and Analytical Resource Center for the implementation of functional responsibilities of UzNCID, which was headed by former Secretary-General UzNCID, L. Mukhamednazarov. The office address remained unchanged, uzncid@minwater.uz.

With support from the Islamic Development Bank by the Agency for Project Implementation, the Ministry of Water Resources of the Republic of Uzbekistan is implementing the project “Improvement of water resources management in Surkhandarya region”. The total cost covered is US$122.72 million which encompasses the reconstruction of the Right bank, Topalang-Karataq, Hazorboq, and Okkapchigay canals. The project also envisages the reconstruction of the canal to the Sherabad highway and the construction of Tangimushsay facilities, the introduction of drip irrigation, and other water-saving technologies with the rehabilitation of R-1 and R-2 canals. Negotiations are under-progress with the State Development Corporation of the Russian Federation, the Asian Development Bank, and the European Investment Bank to continue similar work in other areas.

Within the framework of the EU-funded project “Strengthening Technical Capacity” implemented by the UN Development under its program, “Sustainable Management of Water Resources in Rural Areas of Uzbekistan” a new equipment called SonTek S5 Doppler-profilograph water meter was implemented in the Lower Syrdarya Basin Department of Irrigation Systems. The SonTek S5 Doppler-profilograph water metering device is used to obtain accurate online information about water consumption in the Central Network, Right Network, Left Network, and other channels in the Syrdarya region. This saves the hydrometer staff time and increases productivity. It is used in large canals, rivers, and water bodies up to 15 meters deep. It allows getting accurate information online about the flow rate, direction, water consumption. It also determines the amount of turbid accumulation at the bottom of the canal and reservoirs.

Vice President Hon. Prof. Dr. Xu Zhifang

We were extremely saddened and shocked to hear the sad news of the passing away of Vice President Hon. Prof. Dr. Xu Zhifang, whose memorable association with the International Commission on Irrigation and Drainage began three decades ago, when he had been elected as a Vice President of the Commission for the term 1990-1993.

VPH Prof. Xu Zhifang was a highly respected scholar among the Irrigation and Drainage fraternity, as an author of several books and technical papers and a member of a large number of professional committees and organizations. The Commission cherishes his immense contributions as Vice President during his term of office as well as the Chairman of the Chinese National Committee on Irrigation and Drainage (CNCID) during 1991-1996. Besides, Prof. Zhifang had conducted and guided research in the fields of hydraulics, agriculture, irrigation, and flood control and accomplished himself as a technocrat and professor in the Ministry of Water Resources and Wuhan University of Hydraulic and Electric Engineering since 1956.

On behalf of ICID fraternity, we express our deep sympathy and condolences to the bereaved family and the Chinese National Committee. We wish strength and peace to his near and dear ones at this time of grief. May his soul rest in eternal peace!

Vice President Hon. Dr. Fatma Abdel-Rahman Attia

We were extremely saddened and shocked to hear the sad news of the passing away of Vice President Hon. Dr. Fatma Abdel-Rahman Attia, whose memorable association with the International Commission on Irrigation and Drainage began three decades ago, when she became a member of ICID’s Working Group on Irrigation and Drainage Performance, and Working Group on Environmental Impacts of Irrigation, Drainage and Flood Control Projects in the 1990s.

VPH Dr. Fatma Attia was a highly respected member of the entire ICID family and served the Commission as its Vice President during the term 1993-1998. Her services were immense not only to the Egyptian National Committee but also to ICID, at large. The Commission cherishes her great contributions as Chairman of Permanent Finance Committee (1997-2003) when ICID had successfully undertaken the modernization and additional construction of ICID Central Office building, Country Policy Support Program (CPSP), etc. which demanded considerable financial resources. Besides, she was involved in several projects in collaboration with bilateral agencies and acted as Advisor and Consultant to international organizations, while serving as the Director of RIGW and Director of Dutch-Egyptian Project on environmental management of groundwater resources.

On behalf of ICID fraternity, we express our deep sympathy and condolences to the bereaved family and the Egyptian National Committee. We wish strength and peace to her near and dear ones at this time of grief. May her soul rest in eternal peace!
Increasing the benefits and sustainability of irrigation through the integration of fisheries (FAO, WorldFish, and IWMI)

There is increasing recognition of the need to bring about changes across the full spectrum of agricultural practices to ensure that, in the future, food production systems are more diverse, sustainable, and resilient. In this context, the objectives of irrigation need to be much more ambitious, shifting away from simply maximizing crop yields to maximizing net benefits across a range of uses of irrigation water, including ecosystems and nature-based solutions. One important way to achieve this is by better-integrating fisheries into the planning, design, construction, operation, and management of irrigation systems. Irrigation – a major contributor to the Green Revolution – has significantly improved agricultural production worldwide, with consequent benefits for food security, livelihoods and poverty alleviation.

Today, irrigated agriculture represents about 21% of cultivated land, but contributes approximately 40% of the total global crop production. Many governments continue to invest in irrigation as a cornerstone of food security and rural development. Investments in irrigation often represent a pragmatic form of adaptation to changing climatic conditions. This guide jointly published by FAO, the International Water Management Institute, and WorldFish, focuses on how to sustainably optimize and broaden the range of benefits from irrigation development - not only economic but also social and environmental benefits. It emphasizes the opportunities that fisheries could provide to increase food production and economic returns, enhance livelihoods and public health outcomes, and maintain key ecosystem services. The guide considers possible trade-offs between irrigation and fisheries and provides recommendations on how these could be minimized.

For the full report, please visit http://www.fao.org/documents/card/en/c/cb2025en

Exploring the many perspectives on Irrigation Efficiency

An effective placement of irrigation efficiency in water management will contribute towards meeting the preeminent global water challenges of our time such as addressing water scarcity, boosting crop water productivity, and reconciling competing water needs between sectors. However, although irrigation efficiency may appear to be a simple measure of performance and imply dramatic positive benefits, it is not straightforward to understand, measure, or apply. A new paper on irrigation efficiency has been published in one of the world’s leading sustainability journals; ‘Global Environmental Change’. The paper is open access and can be found here: this https://www.sciencedirect.com/science/article/pii/S0959378020307652.

The paper invites a broad discussion on irrigation efficiency by allowing its many different perspectives to be placed within a framework. The framework is called the ‘Irrigation Efficiency Matrix’ (IEM) – see the figure.

The Case for Investing in Water

Water is essential to the production and delivery of nearly all goods and services. Many businesses are reliant on a sufficient flow of clean water to operate and realize their growth ambitions. Overconsumption of water, water pollution, environmental degradation, and changing climatic conditions are making clean water an increasingly scarce resource. As the world population grows and competition for water resources between industry sectors intensifies, nations are set to experience a 40% shortfall in water by 2030.2 As these demands for clean water increase, companies involved in water-related business activities stand to grow in the coming years. Water allocation can be systematically captured by rules-based, transparent index construction. Market participants could utilize index-linked water strategies to gain exposure to water, manage water risk, express their sustainability views, or allocate as part of a broader natural resource theme.

The S&P Global Water Index is designed to track 50 of the largest publicly traded companies involved in water-related business activities through two distinct clusters: Water Utilities & Infrastructure and Water Equipment and Materials. For more information on the S&P Global Water Index, please refer to the index methodology and our recently published paper, Investing in Water for a Sustainable Future. For the full report, please visit: https://www.spglobal.com/en/research-insights/articles/the-case-for-investing-in-water