



International Commission on Irrigation and Drainage (ICID)
African Regional Working Group (AFRWG)



Second African Young Water Professional's Forum (Af-YWPF)

Summary Report

A 3-Day Capacity Development Training Workshop



20 - 24 October 2019, Cairo, Egypt





Report on

Second African Young Water Professional's Forum (Af-YWPF)

Innovative Systems to Respond to Water Scarcity
20 - 24 October 2019, Cairo, Egypt

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Introduction

The International Commission on Irrigation and Drainage (ICID) has taken the initiative of establishing the Young Professional's Forum aimed at building the capacity of young professionals and creating a new generation capable for facing future water challenges, and this Forum is now an international platform for young irrigation and drainage professional with more than 650 members; mainstreaming youths towards the abundant lucrative opportunities in irrigation and agriculture.

Under the platform of first Cairo water week 2018, the African Regional Working Group (AFRWG) of the International Commission on Irrigation and Drainage (ICID), organized the first meeting of the African Young Water Professional forum. It was a great opportunity to discuss the forum's objectives and mandate and launch the establishment of the forum with the objective of bringing together Africa's future leaders from the private sector, research and government institutions around the central theme of water conservation for sustainable development.

Owing to the great success of the 1st Af-WYPF, the forum has grown to attract more than 1000 members from all African countries, thus becoming an important platform on the African continent for capacity development of Africa's future leaders in water-related sectors.

Based on the fruitful collaboration and coordination between the 1st Cairo Water Week and 1st AfYWP's Forum last year, the Ministry of Water Resources and Irrigation of Egypt (MWRI), ICID and AFRWG decided to continue the success and to organize the 2nd African Young Water Professionals Forum (2nd AfYWP-Forum) under the platform of the 2nd Cairo water week 2019.

The 2nd Af-YWP-Forum was held from 21 -23 October 2019 by the African Regional Working Group (AFRWG) of the International Committee on Irrigation and Drainage (ICID). The forum was supported by Ministry of Water Resources and Irrigation of Egypt (MWRI), International Commission on Irrigation (ICID), Economic and Social Commission for Western Asia (ESCWA), Islamic Development Bank (IsDB), Institute of Geographic Sciences and Natural Resources Research (IGSNRR) - Chinese Academy of Sciences, Ningbo Yaofeng (Chinese company), Zhong Guanshun (Chinese company) and as well as the Italian National Committees on Irrigation and Drainage. The aim was to create awareness among Young Professional's on water resources, irrigation and drainage challenges and capacity development to facilitate sharing of experiences between the Young Professional's (YP's) in water, irrigation and drainage related fields. The forum was mainly focusing into two themes those are climate change impacts on agricultural productivity and advanced irrigation technologies.

The Forum brought together 37 African future water leaders from 14 African countries including Egypt, Ethiopia, Chad, Ghana, Kenya, Malawi, Mauretania, Morocco, Nigeria, South Africa, Sudan, Tanzania, Tunisia, and Zambia. A full three days were utilized for the different activities of the forum, which included opening session, pre-Workshop Evaluation, nine training sessions, panel discussion sessions, and closing session. The training program was designed to facilitate more interaction between YP's and the experts. It allowed the YPs to contribute to the training by pitching their studies through short presentations during all the sessions which was followed by keynote speeches by international experts, open discussions and a summary by the session rapporteurs.

The opening session of the 2nd AfYWP Forum was honoured with the attendance of HE Mr. Jan Thesleff - Swedish Ambassador in Egypt, Dr. Felix Reinders, President of ICID, Dr. Ashwin B. Pandya, Secretary General of ICID, VPH Dr. Mohamed Wahba, Chairman of African Regional Working Group of ICID, Mr. Ziad Khayat – First Economic Affairs Officer-UN-ESCWA, and Eng. Sami Ahmad Faruqi, Head of Social Infrastructure Global Practice IsDB.

The Forum was officially instated with a brief visit by H.E. Dr. Mohamed Abdel-Aty, Minister of Water Resources and Irrigation of Egypt who had extended greetings and felicitations as well as a group photo with the young professionals, speakers and distinguished guests of the Forum.

During the three days, the YP's were trained in two important topics: the first is Climate Change Impacts on Agricultural Productivity, which was split across six (6) sessions, using case studies based on field experiences to discuss how climate change impacts agricultural productivity and explore innovative technologies that can support inclusive and sustainable agriculture and benefit vulnerable groups. The second focused on the advanced Irrigation Technologies, which was split across three (3) sessions which drew from experts across industries and academia to focus on goals of high quality, high and stable yield, water saving, efficient utilization of fertilizers and control of agricultural non-point source pollution, using advanced irrigation technologies which have become the fundamental trend of irrigation development in the world.

Conclusions and recommendations of the forum

- ✓ The forum was an excellent opportunity to highlight the great challenges of climate change and its impacts on agricultural productivities as one of the main constrains for achieving the SDG's and the roles of advance irrigation technologies for facing these challenges and filling the gaps for the food security in African countries.
- ✓ The success of the forum was achieved with the valuable support from the partners of the forum, Ministry of Water Resources and Irrigation of Egypt, organizing committee of CWW, International Commission on Irrigation (ICID), Economic and Social Commission for Western Asia (ESCWA), Islamic Development Bank (IsDB), Chinese Academy of Science, Ningbo Yao Feng (Chinese company), Zhong Guanshun (Chinese company) and as well as the Italian National Committee on Irrigation and Drainage

The forum ended with the following recommendations:

- ✓ Demonstration farms for the application of advanced irrigation technologies are highly recommended for a better future in African countries
- ✓ Regarding the available agricultural technologies, there is a need to couple these with application of policies and regulations such as providing subsidies to promote these technologies.
- ✓ More attention should be given to the concept of deficit irrigation and how it helps to optimize the use of water in irrigation and about the availability of modern systems that contribute to the irrigation management.
- ✓ It is required to have good monitoring networks with open source and remote sensing data that will help in bridging the productivity gap by better water management and planning.
- ✓ There are obstacles that restrain the role of young professionals, such as the gap between the seniors and young professionals in the experience and the lack of knowledge transfer as one obstacle and the gap between the scientists and the policy makers when it comes to implementation of the innovative systems proposed by the young professionals.

- ✓ Efforts to combat the effects of climate change are crucial for development planning in the region on the adaptation side where climate change projections show that climate change will reduce water availability, change agricultural production patterns, threaten livestock production in livestock exporting countries, adversely impact forests and wetlands, and increase the vulnerability of people to water scarcity, agricultural employment loss and heatwaves.
- ✓ There is a need for better use of scientific outputs to inform policy positions, such as findings on climate change impact and vulnerability assessment, resilience building and adaptation and mitigation strategies formulation such as the Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic (RICCAR).
- ✓ Youth – as the decision-makers of the future – are often marginalized as the immediate development needs of the present are oftentimes prioritized by politicians above the needs of future generations.
- ✓ Climate action interventions should also consider the needs of women, youth, vulnerable groups, etc. Disaggregation of data (by sex, age, etc.) is recommended when developing indicators for assessment of vulnerability of various sectors due to climate change.
- ✓ There is a need to highlight success stories on indigenous/local climate change adaptation stories by youth, women farmers, water user associations to manage irrigation water at the farm level and reuse of water resources and rainfall harvesting by building small dams and storages in desert areas by local inhabitants as these users are key actors in water resources management and climate change adaptation.
- ✓ There is a need to activate some platforms and to support the National committees of ICID in some African countries.
- ✓ All distinguished YP's participants of the forum are required to disseminate all the outcomes and materials of the forum to YP's in a collaborating way with the National Committee at their national level.
- ✓ A yearly evaluation for the contributions of the coordinators of the forum to be done and it is preferable to rotate coordination responsibilities among YPs.
- ✓ Owing to the success of the 2nd forum, all the great partners are invited as the main sponsors of Af-YWP-forum activities to continue their support to the 3rd African Forum which will be held back to back to the African Regional conference on Irrigation and drainage 16-19 March 2020, in Marrakesh, Morocco.
- ✓ All the YP's are invited to submit an abstract for the first African young professional workshop in the 5th African regional conference.
- ✓ For future training for YP's, it is recommended:
 - i. To include some presentations about the on-going or completed irrigation projects in various African countries in addition to the research projects outputs.
 - ii. To include field visits for successful irrigation projects and social tours within the host country might be included in the programme if possible.
 - iii. All young professionals should present (Short presentations) during the training if possible.
 - iv. In addition to the great efforts during the forum to make more interactive, more time is needed to give participants the opportunity to learn from each other.

1. Activities of the Three-Day Training Workshop

1.1. Day One: October 21st, 2019

1.1.1. Opening Session of the 2nd Af-YWPF

The opening session of the 2nd African Young Water Professional Forum (2nd Af-YWP Forum) was attended by HE Mr. Jan Thesleff – the Swedish Ambassador to Egypt, Dr. Felix Reinders, President of the International Commission of Irrigation and Drainage (ICID), Dr. Ashwin B. Pandya, Secretary General of ICID, VPH Dr. Mohamed Wahba, Chairman of African Regional Working Group of ICID, Mr. Ziad Khayat – First Economic Affairs Officer-UN-ESCWA, and Eng. Sami Ahmad Faruqi, Head of Social Infrastructure Global Practice IsDB.



Speakers of Opening session of the Forum

Dr. Ashwin B. Pandya SG of ICID started the opening session and spoke about the importance of young professional capacity building in the water sector to achieve the SDGs and their targets.



Opening remarks by Dr. Ashwin B. Pandya SG of ICID

Then, with open remarks from Dr. Mohamed Wahba the Chairman of the AFRWG of the ICID who welcomed all the honoured guests and distinguished YP's on behalf of HE Dr. Mohamed Abdel-Aty Minister of Water Recourses and irrigation of Egypt, who could not attend due to unforeseen commitments. Dr. Wahba addressed the role of ICID in strengthening the Young professionals and their capacity building, and the role and mandate of AFRWG. Dr. Wahba indicated that owing to the success of 1st forum last year, the forum has grown to attract more than 920 members from all the African countries and the number of participants involved in the AF-YWP increased from 24 from 12 countries in the 1st forum to 37 from 14 countries in the 2nd Forum. Also Dr. Wahba invited all honoured guests, all distinguished YP's and international organizations to attend the 5th African Regional conference on Irrigation and drainage 16-19 March 2020 and at the end he expressed his full confidence that this forum will provide future leaders capable to face future challenges.



Opening Remarks by Dr. Mohamed Wahba the chairman of the AFRWG of the ICID

There is a marked interest from his Excellency the Swedish ambassador to Egypt about the importance of achieving the SDG 6 in MENA region and Africa, and the capacity building of young professionals.



Opening Remarks by HE Mr. Jan Thesleff - Swedish Ambassador to Egypt

Otherwise, the first Economic Affairs Officer, UN-ESCWA, Lebanon Mr Ziad Khayat talked about a framework for moving towards water security in the Arab region that considers the regional systemic conditions through a sustainable development lens combined with a human rights-based approach and the constraints identified by the Arab countries to IWRM implementation also about the RICCAR platform, which has as main objective, to assess the impact of climate change on freshwater resources in the Arab Region through a consultative and integrated regional initiative that seeks to identify the socio-economic and environmental vulnerability to climate change impacts on water resources based on regional specificities.



Open Remarks by Mr. Ziad Khayat – First Economic Affairs Officer-UN-ESCWA

In wrapping up with the keynote speeches for the opening session of the second workshop of AF-YWP, Eng. Sami Ahmad Faruqi -the Head of Social Infrastructure Global Practices, Islamic Development Bank (IsDB) - spoke about the opportunities offered by the IsDB to the communities in term of Water and Sanitation.



Opening Remarks by Eng. Sami Ahmad Faruqi, Head of Social Infrastructure Global Practice IsDB



Group photo after the opening session of the Forum

1.1.2. Facilitated pre-Workshop Evaluation and Group Dynamics

Prior to the commencement of the training workshop, a pre-workshop evaluation and group dynamics was conducted using a virtual case study given as annexed to this report. The virtual case study was designed with focus on approaches that were scheduled to be discussed during the training workshop. It was however necessary to evaluate the understanding of the participants on the use and application of these approaches with relation and prior to the training workshop. This was achieved by dividing Young Professionals into six (6) working groups within which they were first required to identify the problem with the given case study and proffer solutions to the identified problems based on their experiences. Each group posing as a consulting firm selected a representative to present their views and opinions on how to assess the given case study.

Based on the virtual case given and representative views by Young professionals, the following problems and potential solutions were identified.

The challenges facing the basin were widely attributed to:

- Bad management practices with respect to water use in the basin.
- Lack of basin-wide coordination among water users.
- Inappropriate choice of crop types and cropping pattern leading to high water consumption crops.
- Reduced soil fertility problems in addition to climate change impacts on the basin's water resources.
- Weak irrigation infrastructure in the basin and lack of maintenance practices.
- Poor adoption of policies and lack of communication among water users.



Eng. Amali – the facilitator of opening session



Working group of Young Professionals during the session

Suggested Solutions:

- Thorough feasibility study of the scheme for detailed business plan development.
- Scheme problem assessment by administration of structured questionnaires.
- Conduct proper cost-benefit analysis, scheme level irrigation performance assessment as well as assessment of scheme level irrigation efficiency.
- Stakeholder engagement (WUAs) and capacity development of stakeholders in the scheme.

- Promoting of climate smart irrigation agriculture and use of drought as well as saline tolerant crops.
- Adoption of efficient irrigation, drainage, soil, and water conservation systems.
- Improved water harvesting to prevent over-reliance on surface water.
- Improved irrigation practices through adoption of advanced irrigation technologies, crop choice, as well as cropping pattern with less water consumption
- Strong policy adherence in the scheme and provision of incentives and government subsidies to promote adoption of water efficient irrigation systems.

Although the participants worked in groups to identify the problematic and then suggest plausible solutions, it can be inferred that besides their expectation of the training workshop, their knowledge how to address the problems remained peripheral. Although the ideas were known, the responses did not indicate any in-depth knowledge of the training topics to be explored. The evaluation of the participant’s knowledge base thus provided a good benchmark for the training workshop which introduced tools and technologies that can be used in addressing the case study. In general, the insights provided by the evaluation into already existing knowledge sets a good stage for training workshops of this kind. It also shows their strengths as well as weakness and indicates where their interest lies. In addition, it simplifies the work of trainers by directing them to areas needed to focus their training efforts.



Participants YP's during the session

1.1.3. Official opening of the Forum

The Forum was officially instated with a brief visit by H.E. Dr. Mohamed Abdel-Aty, Minister of Water Resources and Irrigation of Egypt who had extended greetings and felicitations as well as a group photo with the young professionals, speakers and distinguished guests of the Forum.



H.E. Dr. Mohamed Abdel-Aty, Minister of Water Resources and Irrigation of Egypt during the official opening of the forum



Group photograph of participants with H.E. Dr. Mohamed Abdel-Aty, Minister of Water Resources and Irrigation of Egypt

1.1.4. Training Session 1: Climate Change Impacts on Agricultural Productivity

1.1.4.1. Mainstreaming Youth development in water sector, by Ms. Sharia Walker

After opening remarks were made by the chair of the session, a brief presentation was given on the topic of **Mainstreaming Youth Development in Water Sector** by Ms. Sharia Walker from Islamic Development Bank (IsDB). The presentation by Ms. Sharia highlighted the urgency of the issue of water security given the increasing pressure on natural resources because of the increasing global population and rising demand for water. Moreover, it has been underlined that the SDG 6 aspiration towards achieving water security would not be realized without the active and continuous involvement of multi stakeholders at all levels, leaving no one behind', especially the youth, as a dynamic and innovative arm of society.



Ms. Sharia Walker from Islamic Development Bank (IsDB).

1.1.4.2. YP Presentation: Water harvesting structure sustainability

Next, presentation was entitled **Water harvesting structures sustainability** by **Mr. Marne Ramadan**, Young professional participant. In this presentation, a case study from Chad was discussed and different best practices of water harvesting were shared as one strategic option to augment water supply and reduce the pressure on surface and ground water bodies.



Mr. Marne Ramadan, Young professional participant.

1.1.4.3. Training Workshop 1: Regional climate modelling outputs

The first session of the main Training Workshop was held having the first presentation given on the subject of *Regional climate modelling outputs developed for RICCAR and Africa CORDEX* by **Dr. Marlene Tomasziewicz** from ESCWA. The purpose and importance of using regional climate outputs instead of global data sets was explained, the need for further improvement of the quality of these outputs by integrating it more with observed data as well as continued advancement in bias correction was highlighted. Moreover, the presentation covered the techniques of accessing and use of important filters for an easy access of the online data sets. Finally, interactive discussion was facilitated by the chair and explanation was given by Dr. Marlene for the questions raised by participants, and closing remarks were made by co-chair.



Interactions of YP's during the session

1.1.5. Training Session 2: Climate Change Impacts on Agricultural Productivity

1.1.5.1. YP presentation: Evaluation and monitoring of the SDGs of Agricultural water use efficiency using remote sensing

In the second half of the first workshop day, the second session of training continued on the topic of climate change impacts on agricultural productivity. The first presentation of this session was entitled "*Evaluation and monitoring of the SDGs of Agricultural water use efficiency using remote sensing*" and was given by Young Professional **Ms. Sinafekesh Wolde**. In this short presentation the role of remote sensing in understanding climate patterns and variability as an input for improving agricultural water use efficiency and its crucial application for the evaluation and monitoring of the SDGs was briefly covered.



YP Ms. Sinafekesh Wolde.

1.1.5.2. Training Workshop 2: NetCDF and climate data analysis using GIS platform

The second main training workshop was then delivered on the topic of NetCDF and climate data analysis using a GIS platform and Accessing climate datasets as a continuation by **Ms. Marlene Tomasziewicz** from ESCWA. The session was started by some important side-topic remarks from Ms. Marlene on the trend of world population food wasting and increasing plastic waste disposal into the natural environments and our potential to contribute in minimizing the collective and individual level foot prints based on her onsite observation during lunch services in the workshop and conference venue. After the quick remarks about reducing food wastage, the main training program had started by a presentation, followed by interactive discussion facilitated by Dr. Marlene on how to use climate outputs in NetCDF format in different platforms such as GIS and on how they can be applicable for use in water resources planning and management. How data sets in this format can be converted into different file formats and made suitable as an input for different computational models. The session was closed by having interactive discussion through questions and answers, and important reflections and remarks by the session chair.

1.1.6. Panel Discussions on innovative systems for managing water resources.

The first day of the training workshop was then finalized with an interactive session of panel discussion about innovative systems for managing water resources in a mixed composition between senior and young professionals and facilitated by **Ms. Catherine Constantinides** (*South Africa*).

The panel included the panellists:

1. Engr. Felix Reinders, (*President ICID*)
2. Ms. Ines Gasmi (*WYN & MedYWat*)
3. Ms Phyllis Chibisa (*YP from Malawi*)
4. Mr Richard Lee Hay (*YP from South Africa*), and
5. Ms Sharia Walker (*IsDB*)



Honoured Experts and Distinguished YP's -Panel session

In facilitating the panel discussion, a series of introductory and contextual presentations were given beforehand.



Ms. Catherine Constantinides Chairing panel discussion

1.1.6.1. YP: Introduction about Water Youth Network, By Ms Ines Gasmí

Ms. Ines Gasmí gave an introductory speech about the Water Youth Network (WYN), an important international youth network and the Mediterranean Youth for Water Network (MedyWat), which considered the most important youth network in the Mediterranean region, both networks are working for the same goal of engaging more young professionals and making them active in the global initiatives and actions with regard to water resources management and water security.



Ms. Ines Gasmi giving a briefing about the Water Youth Network

1.1.6.2. The role of social media in Agricultural Intensification” By Mr Richard Hey

By **Mr. Richard Hay**: The role of social media in Agricultural Intensification was presented in terms of capturing the valuable indigenous knowledge of the farmers to be considered in the science and research developments and vice versa.



Mr. Richard Hay giving presentation

1.1.6.3. Keynote: “The need for innovative systems for water management’ by ICID president Eng. Felix Reinders

Eng. Felix Reinders discussed the need for innovative systems for water management and their significant role in improving water use efficiency and productivity, both crop and water productivity. After the presentations, a facilitated panel discussion was held where in the process each panellist was asked questions tailored to the portfolios and presentations of each of the panellists.



Keynote speech by ICID President - Eng. Felix Reinders

Final closing remarks and idea summarization was done by the Chair as the closing of day-1 of the training workshop.



Interactions of YP's during the session

1.1.7. Social Event and Gala Dinner

At the end of day one all the participants of 2nd African Young Water Professional Forum with all the participants of Cairo Water Week attended the great show of lights and sounds in the pyramids area in Giza city and then all were invited to the Gala dinner organized by the organizing committee of CWW near the pyramids area.



Gala dinner at the pyramids after lights and sounds show

1.2. Day two (22nd October 2019)

1.2.1. Training Session 3 – Climate Change Impacts on Agricultural Productivity

The second day of the workshop consisted of four different sessions addressing the two main themes of the training workshop those are climate change impacts on Agricultural productivity and the advance irrigation technologies with contributions from 5 YPs pitching their researches. The day started with a brief reflection on the activities of the first day addressed by the chair of the first session **Mr. Richard Hay** interactively with the young professionals.



Mr. Richard Hay facilitating interactions among the young professionals.

1.2.1.1. YP Presentation: Assessing the Sustainability of Drainage System in Irrigated Agricultural Land: Case Study of Kano River Irrigation Scheme in Nigeria

The session started with **Mr. Bayero's** pitch that addressed the research done to assess the sustainability of drainage systems in irrigated agricultural land. **Mr. Bayero** provided some figures about the irrigation, drainage and crop yield over the world and then he explained the objectives

and approach of the study that involves impact assessment, economic analysis and participatory irrigation management. He also shared key findings such as increase in the agricultural production and the Guidance note for the operation and project managers.

1.2.1.2. YP Pitch: IWRM: An Approach for Enhancing Water Governance in the Republic of Sudan

The session continued with another pitch from **Ms. Safaa Idriss, MWRI, Sudan**, where she presented an IWRM approach to enhance water resources governance in the republic of Sudan. **Ms. Safaa** discussed the importance of IWRM as an approach to achieve better water resources governance, the different phases of the project that is still under progress in Sudan and its expected outcomes.



Ms. Safaa Idriss giving a pitch

1.2.1.3. Training Workshop 3: Introduction to AquaCrop and AquaCrop data requirements - ESCWA

The training session by **Dr. Marlene Tomasziewicz** was an introductory training to the young water professionals on the AquaCrop software developed by FAO and its data requirements, presented on behalf of the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD). Dr. Marlene started the training session by engaging the young professionals in a discussion about how climate change has affected their respective countries where some of the solutions suggested for climate change adaptation such as construction of flood protection infrastructure and introduction of non-conventional water resources such as fog collection that has been adopted in Morocco, among others.

Dr. Marlene described the general concepts of the software, its practical applications and data requirements. The discussion highlighted the main applications of the software which are crop water requirement calculations, irrigation management and crop yield. It was also showed that

the software has the capability to be linked with other hydrological models, GIS and other platforms. At the end of the session Dr. Marlene provided time to the YPs to access AQUACROP website to download the software, install and open it to be familiar with its interface.

1.2.2. Training Session 4 – Climate Change Impacts on Agricultural Productivity

1.2.2.1. YP Pitch: How can remote sensing data be useful for water quality monitoring?

The YPs pitches continued with the fourth session of climate change impact on agricultural productivity, during this session **Dr. Ismail Karaoui** has pitched a case study on how remote sensing data can be useful for water quality monitoring. He combined Sentinel-2 images as a remote sensing product and in situ measurements acquired over Bin El Ouidane dam (Morocco) to build models for estimating surface WQP through stepwise regression technique, and based on those models and stratification correlation we deduce the rest of levels WQP concentrations. During the pitch Dr. Ismail was highlighted that the correlation between simulated and observed parameters values showed an R^2 (regression coefficient) greater than 0.67. Leave-one-out cross validation method was performed to assess the models' accuracy and stability.



Mr. Ismail KARAOUI – Morocco

1.2.2.2. Training Workshop 4: Climate change impacts upon crops using AquaCrop - ESCWA

During the fourth training workshop which was dedicated to learn the different impacts of climate change using the AquaCrop software. During the session Dr. Marlene showed the steps of preparation of climate change data, she presented also the preparation of the project in order to simulate a climate change impact on yield for Madaba wheat up to 2050 and she highlighted the case study of the impact of climate change on yield for Madaba wheat. The workshop wrapped up with a fruitful discussion between the mentor and the young professionals which showed a big interest on what the software can simulate which helps to estimate crop yields with all the different impact of climate change.



Dr. Marlene Tomasziewicz - ESCWA

1.2.3. Training Session 5– Advanced Irrigation Technologies

1.2.3.1. YP Presentation: Unlocking Finance for Advanced Irrigation Technologies in Chad

During the first session of advanced irrigation, the young water professional **Mr. Oumar Al-Farouk Brahim Mahamat** from IsDB/PAUWES presented a case study on unlocking Finance for Advanced Irrigation Technologies in Chad. During the Speech, Mr. Brahim showed the 5 pillars of his activity: Building partnerships between governments, the private sector and civil society through Public Private Partnerships; Adding value to the economies and societies of developing countries through increased skills and knowledge sharing; Focusing on science, technology and innovation led solutions to the world’s greatest development challenges, through boosted connectivity and funding, and a focus on the UN’s Sustainable Development Goals; Promoting global development that is underpinned by Sharia compliant long term sustainable and ethical financing structures, as global leaders in Islamic Finance; and fostering collaboration between our members nations in a uniquely non-political environment, as we come together to focus on the betterment of humanity.



Training Session 5– Advanced Irrigation Technologies



Mr. Oumar Al-Farouk Brahim Mahamat

1.2.3.2. Training Workshop 5: new irrigation technologies to estimate crop water requirement accurately

Dr. Ragab Ragab, ICID VPH, Principal Research Scientist and Water Resources Management Specialist, Centre for Ecology and Hydrology, Lancaster University, UK, gave a lecture during the fifth training workshop on the new irrigation technologies to estimate accurately the crop water requirement and how it can be helpful as a good climate change adaptation methods. Dr Ragab

Ragab opened the lecture by talking about the irrigation water efficiency and how we can ensure it. Then he explained the Partial Root Drying (PRD) method by alternating the wet and dry sides of the plant roots, and he showed that the comparison between RDI and PRD methods, the yield obtained by PRD was equal or significantly less than RDI. Although, Dr. Ragab mentioned in his lecture to the YPs a new approach using new technologies for the estimation of crop water requirement without the crop coefficient, such as using the COSMIC-RAY soil moisture observation system (COSMOS), SALTMED model (ETP, plant water uptake, water and solute transport under different irrigation systems, leaching, soil nitrogen dynamics, soil temperature, drainage and groundwater levels, crop yield-water use relationship and crop rotation). Finally, Dr. Ragab wrapped up the lecture by sharing with YPs different sources of information concerning SALTMED model application, e-courses, YouTube videos concerning common error messages and low costs irrigation systems.



VPH Prof. Ragab Ragab



Interactions of YP's during the session



Interactions of YP's during the session

1.2.3.3. Training Session 6– Advanced Irrigation Technologies

1.2.3.4. YP Presentation: Solar Pumping System for rural water supply and small-scale irrigation schemes

The Young water professional **Mr. Frank Prosperous Gatawa, PAUWES**, presented a case study on water pumping systems powered by solar energy for rural water supply and small scale irrigation scheme in Africa, in order to assess and identify the social, technical and economical sustainability, to bridge the knowledge gap in current practices and to equip the IsDB and staff members with necessary skills and information in order to plan, design and install solar water pumping systems. The presentation was started by highlighting the challenges facing the solar water pumping systems with the conceptual framework to end with presenting the key finding of this study which is a complete project cycle and implementation plan.



Mr. Frank Prosperous Gatawa

1.2.3.5. Training Workshop 6 by Dr. Marco Arceri– ITALCID & Mr. Yong rui Yu (SHUNXIN)

Dr. Marco Arcieri started his talk during the sixth training workshop by giving a lecture on the lessons learnt from ancient civilization and the main historical events that showed an intense impact of climate change and the climate key role in the rise and fall of civilizations. He talked also about the unsustainable irrigation during the Mesopotamian civilization which was the principle cause of the collapse of this civilization, overexploitation of natural resources in the Anasazi civilization, the negative impact of the climate change in the Greenland Norse and the Maya civilization which declined by a prolonged and severe drought.

Dr. Marco Arcieri during his second lecture talked about many innovative irrigation water management software which help to decrease the irrigation water quantity always with increasing yield production. Dr. Marco opened the lecture by presenting the great challenges facing the modern agriculture which is the fast increase of world population by 2050 (less than 2 ha of land per person) and the negative impact of climate change (floods, drought, rise of sea level, hotter and drier summer). Dr. Marco highlighted during his lecture the challenges related to water and food security, by presenting the Italian experience and as a learned lesson to protect food production ***“modern use of irrigation must necessarily be carried out by improved irrigation efficiency”*** by improving the efficiency in water conveyance and distribution, the efficiency in irrigation system and the efficiency in irrigation scheduling which is consolidated by the technical assistance IRRIFRAME which is an assistance system for irrigation scheduling developed with the support of UE funds, providing each farmer with information on crop water requirement and irrigation interval and frequency.



Dr. Marco Arceri– ITALCID

Mr. Yong rui Yu the director of Beijing office of SHUNXIN Irrigation Company, presented the history of the company and his work which represented mainly the agricultural ecology

construction (irrigation water saving, high standard farmland construction, construction and development of ecological fields such as pastoral complex, characteristic towns, water conservancy projects, river management, soil and water conservation and restoration, sewage treatment, gardening and environmental engineering), industrial operation, water resources management (water resources collection and management, irrigation informationization and intellectualization, modernization of irrigation district and safe drinking water), and finally by the international trade (they are committed to providing supply chain services for agriculture, minerals, energy and other products. From raw material production, transportation, trade to logistics, processing and sales, from upstream to downstream, a complete industry chain has been established, forming our unique competitiveness). Mr. Yong highlighted also the past and future collaborations between china and Africa in order to support the African countries to face water scarcity.



Mr. Yong rui Yu giving presentation about SHUNXIN Irrigation Company



Interactions of YP's during the session



Interactions of YP's during the session

1.3. Day three: 23rd October 2019

1.3.1. Training Session 7: Advanced Irrigation Technologies

1.3.1.1. YP Pitch: Development of a new Software Model to Evaluate and analyse Irrigation Projects Performance

The YP **Mr. Ahmed E. Elshaikh, MWRI - Sudan**, pitched the development of a new software model to analyse and evaluate irrigation projects performance, with the highlight of the principal elements of performance evaluation (soil, crop, water and human). Then, Mr. Ahmed finalized his pitch by the following recommendations: development of extended framework that linked the irrigation system with external environment; adaptation of the Model to other regions; the model has good potential for the future (Big Data); and YWP should focus on technology to improve water management.



Training Session 7: Advanced Irrigation Technologies



Dr. Ahmed E. Elshaikh presenting a pitch

1.3.1.2. YP Pitch: Urban irrigation water and vegetable farming: Assessing health risks from two contrasting lenses in urban Ghana

Mr. **Abdul W. Arimiyaw**, **KNUST Ghana**, pitched his work on assessing the health risks of urban irrigation water and vegetable farming by presenting two contrasting lenses in urban Ghana. The pitch started by a linkage between urbanisation and achieving the SDG 2 and 6. Then, Mr. Abdul Wahid shared the results of the study with the following recommendations: farmers who comply with safety standards can be incentivized by the government or Ministry of Food and Agriculture (MoFA); there should be improved ways of disseminating researches by the MoFA and the information's ministries to ensure that the farmers are educated to change their inefficient farming practices, and the respective District Assemblies should support farmers in the form of wells that are well protected from the surrounding polluted effluent-laden streams



Mr. Abdul Wahid Arimiyaw giving presentation



Mrs. Adey Mersha – Chair of the session

1.3.1.3. Training Workshop 7 by Prof. Kang –Institute of Geographic Sciences and Natural Resources Research (IGSNRR) - Chinese Academy of Sciences, Mrs. Sabrina Zhang (YAO FENG)

Prof. Yaohu Kang from the Institute of Geographic Sciences and Natural Resources Research (IGSNRR)-Chinese Academy of Sciences animated the seventh training workshop by giving two lectures. In the first lecture in advanced micro irrigation technology, he started presenting the research fields of his team and the different experiment and demonstration stations. Prof Kang explained the advantages of micro-irrigation (surface and subsurface irrigation, micro-sprinkler irrigation and bubbler irrigation), also highlighted the major issues related with this irrigation method. During the presentation and based on his team research results Prof Kang showed the effects of irrigation frequency on crop growth and water use and the effects of controlling soil matric potential on crop growth and water use. Then he explained the best irrigation scheduling for efficient use of water and the irrigation scheduling for both purposes of irrigation and salt leaching. Finally, he spoke about developed micro-irrigation systems for the different group of users such as “family-by-family irrigation” model, “group-by-group irrigation” model and “Unified irrigation by specialized operator” model.

The second lecture of **Prof. Yaohu Kang** with the topic “Drip Irrigation Technology with Saline Water” highlighted two main points: 1) How to achieve efficiently salt leaching during irrigation to prevent salt accumulation and 2) What technology is more convenient operation but more precision for practice use, especially for farmers of developing countries?

Prof Kang presented the different effects of saline water on soils and plants and how crop respond to excessive salinity and he followed up by presenting the safe use of saline water by using an efficient salt leaching coefficient. Moreover, Prof Kang showed the advantages of using the drip irrigation with saline water and effects on the soil and the plant and he consolidated all these information by experimental results.



Prof. Yaohu Kang giving presentation and facilitating the workshop

Ms Sabrina Zhang from YAO FENG, wrapped up the session by presenting the smart irrigation company IrriRich with 41 years of experience (1978-2019), which has 3 different branches in Beijing, Shanghai and Ningbo. The company is working mainly to produce SOLENOIDES, drip Irrigation, complete solutions for smart irrigation and sprinkler irrigation. Moreover, this company has a complete chain service (design, commerce, construction, financial, informatization and after sale).



Ms Sabrina Zhang from YAO FENG,



Interactions of YP's during the session

1.3.2. Training session 8: Climate Change Impacts on Agricultural Productivity

In this session three main topics were presented. First topic is about virtual irrigation academy that aims for improving irrigation productivity presented by **Mr. James Mwepa**. The other two presentations were by **Dr. Marlene Tomasziewicz** that discussed the irrigation scheduling and vulnerability assessment results done by RICCAR.

1.3.2.1. YP Pitch: Virtual Irrigation Academy to Improve Water Productivity in Malawi

Mr. James Mwepa presented the experience of using the virtual irrigation academy in Malwai that resulted in increase in agricultural productivity through better water, nutrient and salt management. The online platform (via.farm) provide farmer friendly tools to learn how to manage water more efficiently. It also provides automated reporting and assessment of irrigation schemes performance. The main findings of this research showed increase in the yield, reduced conflict over water use.



Mr. James Mwepa giving a pitch

1.3.2.2. Training Workshop 8: Crop water requirements and Irrigation Scheduling by Dr. Marlene Tomasziewicz - ESCWA

Dr. Marlene Tomasziewicz continued in this session, on behalf of ACSAD, providing detailed information and explanation of main parameters to calculate the reference evapotranspiration which is a main step to estimate crop water requirements. She went through other factors required also for irrigation scheduling. She explained the steps to be followed for the same purpose using AquaCrop software.

The concept of deficit irrigation and supplementary irrigation were also discussed during the presentation. In the second part of the session, **Dr. Marlene** disseminated some of the results of the integrated vulnerability assessment in MENA region carried out by RICCAR where regional climate models and regional hydrological models were applied.

She discussed the used indicators in different dimensions such as exposure, sensitivity and adaptive capacity. She also explained the methods of selecting the different indicators, processing of these indicators and the final maps showing the vulnerability scale.

At the end of the session some points were raised by the participants for discussion that are the use of remote sensing data in the absence of ground evapotranspiration data to determine crop water requirement and irrigation scheduling, the use of normalization to relate the vulnerability assessment results to the reality of the situation. Participants also discussed the limitation of having data for the different units for the vulnerability assessment indicators.



Dr. Marlene Tomasziewicz



Eng. Bakhodir - IsDB

1.3.3. Training session 9: Climate Change Impacts on Agricultural Productivity

During the final training session of the workshop; the last two presentations provided by **Dr. Marlene** about case studies on climate data analysis and agricultural productivity. The session was concluded by an interactive round discussion facilitated by **Mr. Ziad Khayat** on possible applications and use of tools based on the training workshop.



Dr. Marlene Tomaszewicz

1.3.3.1. Training Workshop 9: Case studies in the Arab Region on climate data analysis and agricultural productivity by Dr. Marlene Tomaszekiewicz- ESCWA

During this session **Dr. Marlene** went through the FAO Regional Knowledge Platform that contains large processed data and maps and monitoring of different parameters that relate to water resources, drought, agriculture and others. **Dr. Marlene** showed the steps for browsing the website, accessing, understanding and downloading the available data to be used for different applications and climate change models. Afterwards she focused on the modelling of “*The Impact of Climate Change on Crops Productivity and Crops Water Requirement in Some Arab Countries*” that was carried out considering different climate change scenarios that were linked with AquaCrop to assess these impacts of climate change on agricultural productivity and the required management measures against such impacts were also discussed. The different results of the models were discussed amply with the participants comparing the different results in different regions where there are positive impacts on the agricultural productivity in some regions while negative impacts are expected in other regions.

1.3.4. Interactive Discussion moderated by Mr. Ziad Khayat

As a wrap up for the training sessions; **Mr. Khayat** facilitated a discussion with the participant on the possible applications of the material and tools offered during the training. Participants are interested in detailed training on AquaCrop modelling software and application of RICCAR model.

1.3.5. Closing Session of the Second Af-YWP Forum

The closing session of the forum consisted of a keynote from **Ms. Catherine Constantinides** followed by panel discussion involving four young professionals and then another keynote addressed by **Ms. Fatimatou Sall Ndiay**. Closing remarks were given by **Dr. Mohamed S. Wahba** and **Dr. Eman Ragab**. Finally, the workshop was wrapped up by presentation of certificates of participation and appreciation.

1.3.5.1. Keynote by Ms. Catherine Constantinides

A short speech was focused on the lessons learnt from the experience of South Africa going through water scarcity and Day Zero. The City of Cape Town has officially announced that day zero (the day the city expected to run out of water) will not come! Cape Town has experienced an excellent early winter rainfall and the overall dam storage capacity for the City of Cape Town is nearing 50% compared to this time last year when dam levels were at a critical 23.4%. Rainfall this winter has been consistently good and together with on-going water conservation efforts by the city and residents, current dam levels will see the city safely through Summer 2018 and through 2019.



Ms. Catherine Constantinides

1.3.5.2. Panel Discussion

This session was moderated by **Ms. Wafa Misrar**. She started introducing the four panellists from the young professionals and giving a brief summary of the aim of the panel discussion that focused in summarizing the key messages to take home from the workshop. Four questions were discussed by the panellists as follows:

Question 1: What is the state-of-the-art in irrigation water management for improved agricultural productivity and climate adaptation?

Panellists' discussion: **Mr. Bayero** highlighted the concept of deficit irrigation that was discussed during one of the training sessions and how it helps to optimize the use of water in irrigation. **Ms. Sina** also added a point about the availability of modern systems that contribute to the irrigation management such as 'irriframe'.

Question 2: How can we close the farming system productivity gaps to achieve efficient use of resources for a water secured world?

Panellists' discussion: **Mr. James** mentioned that this farming system productivity gap can be reduced by implementing efficient irrigation systems that are suitable for each case and involving the farmers by using friendly tools. In addition to that **Ms. Hana** addressed the problem of the data scarcity which was discussed by many participants during the sessions, and hence it is required to have the ground monitoring networks with open source and remote sensing data that will help in bridging the productivity gap by better water management and planning.

Question 3: What financial/institutional instruments are available or will be required to leverage the available technologies and potentials among Young Professionals?

Panellists' discussion: The panellists discussed that the availability of some financial supports for the young professionals and the capacity building programs, however there is a need to activate some platforms of ICID in some countries. Regarding the available agricultural technologies there is a need to application of policies and regulations such as providing subsidies to promote these technologies.

Question 4: What are some of the obstacles that may inhibit young professionals from fulfilling their role in initiating systems approach for a systematically simplified, innovative management of water resources?

Panellists' discussion: The panellists emphasized that there are obstacles that restrain the role of young professionals, they mentioned the gap between the seniors and young professionals in the experience and the lack of knowledge transfer as one obstacle. They also discussed the gap between the scientists and the policy makers when it comes to implementation of the innovative systems proposed by the young professionals that most of the times can be hardly accepted by the policy makers.

1.3.5.3. Short speech by Ms. Fatimatou Sall Ndiay about WWW9: Road to Dakar

Ms. Fatimatou in her short speech explained the preparation of World youth organizations contributions and activities in the 9th World Water Forum in Senegal 2021 and how the AfYWP Forum can join and cooperate in this important event



Ms. Fatimatou Sall Ndiay

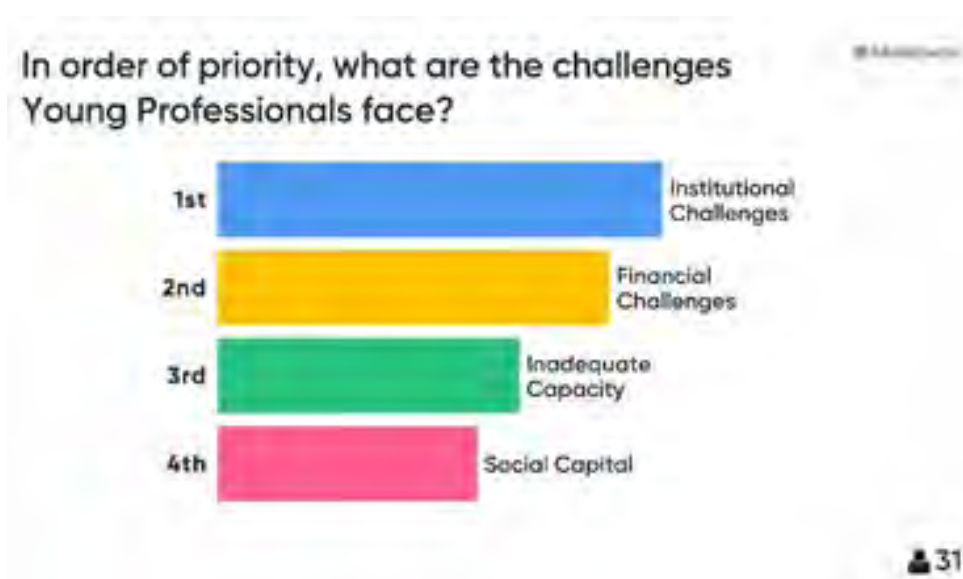
1.3.5.4. Final Training Evaluation

During the closing session an interactive evaluation of the three days training workshop was carried out by participation of all YPs using Mentimeter platform. The evaluation included different aspects such as: YPs' challenges, the organization of the workshop, quality and time allocated for the different sessions and topics among others.



Eng. Amali Amali facilitating final evaluation

Regarding listing the challenges that YPs are facing, the institutional challenges got first ranking followed by financial challenges, inadequate capacity and social capital based on YPs votes as shown in the figure below. The responses about the most interesting part of the training varied among the different presented topics of the workshop (Climate change modelling, modern irrigation technologies, etc.).





1.3.5.5. Closing remarks by Dr. Mohamed S. Wahba (Chairman of the AFRWG of the ICID)

In his closing remarks, Dr. Wahba started by congratulation for the success of the forum, then he thanked all the participants and the distinguished guests for their valuable contributions in the forum and he expressed his deep special thanks to all the great partners who supported this forum and made the success possible. Dr. Wahba invited all the YP's to submit abstract for the 5th African regional conference which will be held in Morocco 16-19 March 2020 and at the end he expressed his wish for all guest and participants to have a safe and enjoyable trip back home and to see all again in their second home Egypt.



Dr. Mohamed Wahba in his closing remarks

1.3.5.6. Votes of thanks by Dr. Eman Nofal, Coordinator of the forum

Then a vote of thanks by Dr. Eman Nofal, Coordinator of the forum and small gifts form ICID was given to the representatives of partners and international experts.



Dr. Eman Nofal – during votes of thanks

1.3.5.7. Presentation of the certificates to the young Professional participants

The presentation of the certificates to the young professional participants was given by the President of ICID, Chairman of AFRWG, Chair of ENCID, Vice president of ICID, representatives of ESCWA, IsDB and Chinese academy of science. After the presentation of certificates, group photos were taken with all certificates of YP's.



Group photo for all YP's after presentation of certificates

2. Conclusion and Recommendation

2.1. Conclusion

- ❖ The forum was an excellent opportunity to highlight the great challenges of climate change and its impacts on agricultural productivities as one of the main constraints for achieving the SDG's and the roles of advanced irrigation technologies for facing these challenges and filling the gaps for the food security in African countries.
- ❖ The success of the forum was achieved with the valuable support from the great partners of the forum, Ministry of Water Resources and Irrigation of Egypt, organizing committee of CWW, International Commission on Irrigation (ICID), Economic and Social Commission for Western Asia (ESCWA), Islamic Development Bank (IsDB), Institute of Geographic Sciences and Natural Resources Research (IGSNRR)-Chinese Academy of Science, Ningbo Yao Feng (Chinese company), Zhong Guanshun (Chinese company) and as well as the Italian National Committee on Irrigation and Drainage.

2.2. Recommendation

The forum ended with the following recommendations:

- ❖ Demonstration farms for the application of advanced irrigation technologies are highly recommended for a better future in African countries.
- ❖ Regarding the available agricultural technologies, there is a need to couple these with application of policies and regulations such as providing subsidies to promote these technologies.
- ❖ More attention should be given to the concept of deficit irrigation and how it helps to optimize the use of water in irrigation and about the availability of modern systems that contribute to the irrigation management.
- ❖ It is required to have good monitoring networks with open source and remote sensing data that will help in bridging the productivity gap by better water management and planning.
- ❖ There are obstacles that restrain the role of young professionals, such as the gap between the seniors and young professionals in the experience and the lack of knowledge transfer as one obstacle and the gap between the scientists and the policy makers when it comes to implementation of the innovative systems proposed by the young professionals.
- ❖ Efforts to combat the effects of climate change are crucial for development planning in the region on the adaptation side where climate change projections show that climate change will reduce water availability, change agricultural production patterns, threaten livestock production in livestock exporting countries, adversely impact forests and wetlands, and increase the vulnerability of people to water scarcity, agricultural employment loss and heatwaves.
- ❖ There is a need for better use of scientific outputs to inform policy positions, such as findings on climate change impact and vulnerability assessment, resilience building and adaptation and mitigation strategies formulation such as the Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic (RICCAR).
- ❖ Youth – as the decision-makers of the future – are often marginalized as the immediate development needs of the present are oftentimes prioritized by politicians above the needs of future generations.
- ❖ Climate action interventions should also consider the needs of women, youth, vulnerable groups, etc. Disaggregation of data (by sex, age, etc.) is recommended when developing indicators for assessment of vulnerability of various sectors due to climate change.

- ❖ There is a need to highlight success stories on indigenous/local climate change adaptation stories by youth, women farmers, water user associations to manage irrigation water at the farm level and reuse of water resources and rainfall harvesting by building small dams and storages in desert areas by local inhabitants as these users are key actors in water resources management and climate change adaptation.
- ❖ There is a need to activate some platforms and to support the National committees of ICID in some African countries.
- ❖ All distinguished YP's participants of the forum are required to disseminate all the outcomes and materials of the forum to YP's in a collaborating way with the National Committee at their national level.
- ❖ A yearly evaluation for the contributions of the coordinators of the forum to be done and it is preferable to rotate coordination responsibilities among YPs.
- ❖ Owing to the success of the 2nd forum, all the great partners are invited as the main sponsors of Af-YWP-forum activities to continue their support to the 3rd African Forum which will be held back to back to the African Regional conference on Irrigation and drainage 16-19 March 2020, in Marrakesh, Morocco.
- ❖ All the YP's are invited to submit an abstract for the first African young professional workshop in the 5th African regional conference.
- ❖ For future training for YP's, it is recommended:
 - i. To include some presentations about the on-going or completed irrigation projects in various African countries in addition to the research projects outputs.
 - ii. To include field visits for successful irrigation projects and social tours within the host country might be included in the programme if possible.
 - iii. All young professionals should present (Short presentations) during the training if possible.
 - iv. In addition to the great efforts during the forum to make more interactive, more time is needed to give participants the opportunity to learn from each other.

3. Appendices

3.1. List of Participants

No.	Name(s)	Gender	Nationality	E-mail Address
1	Abdul Wahid Arimiyaw	Male	Ghana	wahidarim@gmail.com
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35	Saloua Elfanssi	Female	Morocco	elfanssi90@gmail.com
36	Sinafekesh Girma Wolde	Female	Ethiopia	sinafekesh_girma.wolde@smail.th-koeln.de
37	Wafa Misrar	Female	Morocco	misrar.wafa@gmail.com

3.2. Participants' profiles



Amali Abraham AMALI (Nigeria) AA.Amali@outlook.com

Amali is an early stage researcher in hydrological modelling for agricultural applications. He is currently enrolled as a graduate student of IWRM with the Institute for Technology and Resources Management in the Tropics and Subtropics, TH Köln University of Applied Sciences, Cologne, Germany. He holds a Bachelor's in Engineering from the University of Maiduguri, Nigeria.

I am hopeful that this workshop will present an excellent opportunity for Young professionals to network within themselves and experts in the field of agricultural water management to build collaborations and expand their network. I plan to reflect the knowledge gained in my research work and condense the information appropriate to a non-specialist audience.



Eman Ragab Nofal (Egypt) emanragab29@yahoo.com

Dr. Eman Ragab Nofal is a researcher at the National Water Research Center. She has more than 15 years of working experience hydrogeology, groundwater, numerical modelling, aquifer exploration and sustainability of water uses and demands across sectors. She holds a Ph.D. and a Master's Degree in Civil Engineering from Irrigation and Hydraulics Department, Faculty of Engineering, Cairo University.

I hope to enrich my experience and exchange my knowledge in all water resources management aspects. ICID provides a wide platform to exchanging knowledge and up to date techniques in the field of water resources, irrigation, and drainage between all members of the ICID community. I want to share the knowledge gained with my network through exposing them to the material and new techniques learned through the training workshop. Also, by joining more YPs to our group to increase the awareness and commitment of people at the water and irrigation sector.



Adey Nigatu MERSHA (Ethiopia) adeyelbeth@gmail.com

Ms. Adey works as an Associate Researcher at the Water and Land Resources Centre, Addis Ababa University, Ethiopia. She is currently a final year PhD researcher at IHE Delft Institute for Water Education, The Netherlands. Since 2015, she has been a joint coordinator of ICID Young Professionals e-Forum (IYPeF) as well as the African Young Water Professionals Forum (Af-YWPF).

I am hopeful that this workshop will create an opportunity for an exchange of diverse and up-to-date knowledge and experience in fields of Irrigation management, and Climate change adaptation and mitigation as well as broadens professional network with young and senior professionals from all around the world. I plan to use formal and informal communication with professionals in existing networks such as organizing seminar at workplace, sharing training materials and important documents and information for future similar events, most importantly to young professionals.



Richard Lee HAY (South Africa) richardleehay@gmail.com

I am a research assistant at the University of Pretoria, looking at how farmers use social media to form online communities and share information. Our aim is to improve the transfer of scientific knowledge between research institutions and agrarian communities. I am also a joint Coordinator of the African Young Water Professionals Forum, with a passion for advocating for agricultural sciences.

Through interacting with other young professionals from across the continent I hope to widen my global perspective of the challenges our sector faces. I believe this has tremendous benefit to young researchers in that it helps us strive to ensure our research is relevant at a global scale. As an assistant lecturer, I'll be able to take the knowledge I've gained from this workshop and incorporate it into my teachings to our undergraduate agricultural science students. The knowledge will also assist in creating future content for my Ingesta: Farming for the Future platform.



Marwa Faisal Salman MOHAMED (Sudan)
marwa.faisal1313@gmail.com

Marwa Mohamed is a water resources engineer; have B.Sc. in Hydraulics from Sudan Uni of Science & Tech and M.Sc. on water resources from Khartoum University and started working with the Ministry of Irrigation & Water Resources in 2009. Marwa worked at Nile Water Directorate for six years and as a counterpart in the Project of "Enhancement of the IWRM for the Republic of Sudan", sponsored by JICA since 2016.

This training is an opportunity to enhance my knowledge on managing irrigation water by using the most effective & modern irrigation techniques, beside learning how to adapt with the variability in climate and assuring high productivity despite all the circumstances. The gained knowledge could be shared with my colleagues through presentations.



Aya Mohammed Hassan ELKHOULY (Egypt)
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Manager of the Technical Office,
Ministry of Water Resources and Irrigation Egypt.
Joint Coordinator of the African Young Water Professionals Forum

Abdul Wahid ARIMIYAW (Ghana) wahidarim@gmail.com



I am a Research Assistant at the Department of Geography and Rural Development, Kwame Nkrumah University of science and Technology, Ghana. My research spans the areas of Climate change, Wastewater usage in agriculture, and strengthening small-holder farmers against water scarcity. I am very passionate about the role of drainage and irrigation in the promotion of agriculture and food security.

In my current position a research assistant, this training will equip me with the current knowledge skills in irrigation and Drainage activities and it will also guide my researches and training of small-holder farmers in Ghana. I believe, to effectively solve the current irrigation and drainage water challenges, there is the need for knowledge and skill sharing. After this training program, I plan to train other young professional and farmers within and outside my community.



Ahmed Mohamed YAHIA (Egypt)
engineer_ahmed_yahia@yahoo.com

I am a Civil engineer in the Egyptian public Authority for drainage projects. My tasks in job: Supervising the drainage projects such as the implementation of Subsurface drainage projects, Syphons, Coverings, retaining walls, of drains etc. Preparing for the drainage projects contracts. I like to increase my knowledge in the field of Irrigation and drainage by attending significant courses.

Surely this Workshop benefits me so much as its themes are about my field in Irrigation and drainage, in discussion such as water scarcity, climate change challenges, knowledge sharing and exchange between colleagues. It is a great chance to get knowledge and experience through attending this Workshop. I see it is easy to save the knowledge as a software and share through Facebook group or WhatsApp group and if there are a conference to attend, we can promote our knowledge to others.

Ahmed Elsiddig ELSHAIKH (Sudan) ahmedhayaty@live.com



I am a Researcher in hydrology and water resource engineering, focusing on water resources management and development. The intention is to produce water management practices and policies that associated with rural development and natural resources sustainability. My current main research is on Performance Evaluation of Irrigation Projects, which aim to achieve sustainability for irrigation projects in developing countries, focusing on food and water security as tool for rural development.

I hope to improve my technical and theoretical background through sharing knowledge and experiences from different parts and can share the knowledge gained through workshops and training courses. Through our unit, a similar training will be organized in Sudan for young irrigation professionals to share the knowledge.



Almutaz Abdelkarim Abdelfattah MOHAMMED (Sudan)
almutaz.a@gmail.com

Almutaz has a Master's Degree in Water Resources Development from Indian Institute of Technology Roorkee, he is a researcher at Hydraulics Research Center (HRC), at MIWR. He has been involved in many researches in Sudan and the region such as "Satellite and Weather Information for Disasters Resilience in Eastern Africa"(SAWDREA) with ICPAC in Nairobi, and ENTRO's Flood Forecasting Program.

By discussing water related issues with water resources experts, then we can formulate research proposals on how to tackle these issues. I hope to share knowledge gained by organising seminars, workshops and training courses.



Amira Salaheldin MOHMMED ALI (Egypt)
eng_amirasalah26@yahoo.com

I am Amira Salaheldin Mohammed Ali, a chemical engineer and I have a master's degree in materials science; specifically, nanocomposite membranes for water desalination. My first paper is in press in "Water Treatment and Desalination" journal. Now I am a PhD student at Materials Science Department, Institute of Graduate Studies and Research, Alexandria University, Egypt.

The training workshop will introduce me to new colleagues caring about water issues with different backgrounds which will reflect on me will increase my experience, will open doors for cooperation in our research and to have new contacts which will enhance my research quality to solve real problems. I hope to share the workshop experience in my work, between colleagues in my PhD study and specifically in my PhD research to find the gaps and consider it for solutions.



Betelhem Wondimneh DEMEKE (Ethiopia) bettywond@gmail.com

I am Betelhem from Ethiopia. I graduated with B.Sc. degree in Civil and Environmental Engineering in 2015 from Addis Ababa Institute of Technology. I got my master's degree in Hydraulic Engineering in 2017 from the same institute. I am currently broadening the scope of my skills as an academic and researcher by lecturing courses on hydraulics and water resource at the same institute since 2015.

Attending this training will not only give me a chance to bring new ideas to the table but also learn from other bright members of the cohort who are striving to thwart the detrimental effects of Climate change in the world. I consider all the events conducted through Addis Ababa Institute of Technology as golden opportunities to exchange ideas.

I plan on taking advantage of networking opportunities to share my ideas while passing on the information to my students during class lectures and discussions.



Edwin Kimutai KANDA (Kenya) kandaedwin@gmail.com

I am a civil engineer by profession. I am currently working as a Lecturer in the Department of Civil and Structural Engineering at Masinde Muliro University of Science and Technology in Kenya. I hold a PhD with bias in irrigation engineering and MSc in Water Engineering and MSc. Project Management. I have interest in water resources engineering, sanitation and irrigation engineering.

The Workshop will help me network with other young water professionals from Africa. I will also gain knowledge on prudent management of water resources in countries facing water scarcity. Exposure on irrigation practices in the continent and particularly in Egypt will be of paramount importance. I intend to organize a seminar in my University where I will share the experience with the participants. Furthermore, any skill learnt will be incorporated in the learning activities for both post and undergraduate students.



Frank Prosperous Gatawa (Tanzania) frankprosperous@gmail.com

Frank has a degree in Municipal and Industrial Services Engineering from Ardhi University, Tanzania. He recently graduated from Pan African University Institute of water and energy Sciences in Algeria with a MSc. In Energy Engineering.

He did his research in the area of Solar water pumping system under IsDB. He has a solid work background in Water treatment technologies at household level. The training will help me to showcase my findings in the areas of solar water pumping systems for small scale irrigation and water supply systems in Africa, getting different views and opinions based on the best practices across Africa and the world.

I hope to share my workshop experiences through presentation of my work, group discussion and one on one discussions.



Hana Altom Ahmed MOHAMMED (Sudan) hana.tom19@gmail.com

Ms. Hana Altom A. Mohammed is an Assistant Research Engineer working for the Hydraulics Research Center in Sudan. She has strong research potentiality and acquired good experience from the different research projects that she was involved in. Currently, she is studying for M Sc degree in Integrated Water Resources Management at Cologne University of Applied Sciences, Germany.

The workshop will provide me with knowledge in the current status of irrigation and climate and other related issues, in addition to the exchange the experience with other young professionals. I will share the knowledge with my network through different platforms such LinkedIn and other face to face discussions.



Inimfon Godwin ARCHIBONG (Nigeria)
inimfon.archibong@yahoo.com

I am a Civil/Irrigation Engr. who is positive about every aspect of life. There are many things I like to do, to see and to experience. I like to read, write, listen and think. I also dream to excel in the field of Engineering through dedication and devotion in accordance with highest quality standard. I appreciate nature, I like charity works, I like traveling and delicious food etc.

The training workshop will be of benefit in so many ways such as; to address weaknesses and enhance my knowledge in the sector of water, field of Irrigation & Drainage and Agriculture etc. Increase innovation in new strategies and products, adherence to quality standard in the water sector. The knowledge gained from the workshop will be impacted to my colleagues through seminars, power point presentation, workshop, more research and team building.



Ines GASMI (Tunisia) gasm-ines@hotmail.fr

Ines is an early career researcher. She comes from a country that suffers from water shortage and the direct impact of climate change, Ines was always trying to find solutions to protect water resources by getting involved in different water networks, and she is currently enrolling her PhD in Agricultural Sciences with specialization in Desertification, Environment and Climate change. Since my PhD problematic is how to find the best irrigation practices in arid lands. this training will help me to learn more from the expert and will help me to exchange idea in a multinational environment especially that all African countries suffering from the same issues.

I am an active member in two water networks (the Mediterranean Youth for water Network and the Water Youth Network). So, I am planning to share my gained knowledge by organizing webinars. Also, as a researcher I will share it with my students.



Ismail KARAOU (Morocco) i.karaoui@usms.ma

I am PhD in hydrology and remote sensing from morocco (I obtained my PhD recently in July 2019). Interested in water resources management strategies. Before I start my PhD studies, I was working in a civil engineering company where I conducted many studies on hydrology, hydraulic simulation, sanitation planning and hydraulic structure dimension. During my PhD and until now, I'm working as a contracted professor in my university where I teach bachelor and master students many technical courses. I think your workshop will give me an opportunity to learn other skills that I will transmit to student and/or use it in my professional career.

I plan initially to present my new knowledge that I will gain from Cairo water week in front of my research team members, then transmit it to master and bachelor's students.



Jamal MABROUKI (Morocco) jamalmabrouki@gmail.com

Jamal is a Researcher and expert in water science and technology. He is also engineer in environment and climate. Jamal is working on a DAAD project with a coloration between Tunisia and Morocco. Jamal also offers students training in facilities on reuse, composting of solid waste and its effects on climate change. This event entrusted to me will be the opportunity to exploit my theoretical knowledge and practical knowledge to accomplish the tasks at my disposal.

My experiences in the environment and energy have allowed me to acquire a good command of various instruments and devices for analysis. Before the exchange, remember to get in touch with your contacts to know their levels of expertise and understand their specific needs or expectations.



James Gomezgani MWEPA (Malawi) jamesmwepa@gmail.com

I am currently pursuing a BSc in Irrigation Engineering at the Lilongwe University of Agriculture and Natural Resources. I am a holder of a Diploma with Credit in Irrigation Technology. I have three years working experience as a Research Assistant with the Virtual Irrigation Academy. I believe the best people to come up with solutions to challenges facing Africa are Africans. Malawi is highly dependent on Agriculture and Irrigation has become an integral part of the country's development. This is an opportunity to share my experience and learn something new and brainstorm ideas that will help my country and Africa. My professional network will be enlarged as well.

I will schedule some time to share what I have learnt with other young professionals. Digital copies will be shared which has been made easier in this technological era and workshops will be conducted. A knowledge fair will also be organised in which an interactive presentation would be done.



Lehlogonolo Benedict MOTSOLO (South Africa)
lbmotsoko@gmail.com

I am a hardworking irrigation scientist responsible for establishing new irrigation schemes in South Africa. Additionally, my expertise ranges from irrigation development (planning and design) to irrigation management (operation and maintenance). I am currently conducting research work to promote water use efficiency in smallholder irrigation schemes. The training will give me knowledge to carry out my responsibility, considering the different continental experiences and approaches to various agricultural irrigation issues.

Moreover, the technical approaches towards the climate change pandemic and transforming irrigation technologies in Africa.



Hiba Mohammed Ali Eisa (Sudan) hibaelabas@yahoo.com

I plan to share with young professionals in Zambia via social media platforms like; Facebook and WhatsApp.

The knowledge will be shared through the Technical staff knowledge sharing presentations forum, SANCID symposiums, Social media briefings and Farmers days meetings.

I am civil engineer and I did my MSc in Water resources Engineering development and management, I work at the ministry of Irrigation and Water resources, Nile Water and Dams General Directorate, Dams administration.

Water balance modelling and agricultural demand calculations are basic items in my task.

This training will help me for better understanding of water accounting and climate change adaptation. I plan to implement the newly acquired knowledge as small training to my colleagues in the office, I will all the topics of the training.



Hind Massoud Hamed ELNEEL (Sudan) hind-massoud@hotmail.com

Eng. Hind Hamed Elneel works at the Ministry of Irrigation and Water Resources from 2003. MSc. Water Resources Engineering working from 2003 - 2016 Nile Water Department and from 2016 till now in Enhancement of Integrated Water Resources Management in Sudan Project sponsor by JICA. I hope this workshop will benefit me in my work experience and plan to share my information by small workshop in our Project.



Loubna BOUHACHLAF (Morocco) loubnabouhachlaf18@gmail.com

I am PhD student in environmental chemistry in the Laboratory of Spectroscopy, Molecular Modelling, Materials, Nanomaterials, Water and Environment at Mohamed V University, working on treatment of wastewater. By exchanging experiences and skills with the candidates who will participate in this workshop, I hope to improve my experience.

Participation in workshop through conferences and participation in discussions lectures will be avenues to share my workshop experiences.



Mwenya SAMPLULE (Zambia) sampuletech@gmail.com

I am an Agricultural Engineer by profession and working as Irrigation Engineer in the Ministry of Agriculture. Through this workshop, I hope to enhance my knowledge and skills in water resources management in relation to irrigation development.



Maiada Mohamed ELOKKA (Egypt) maiada_ma@hotmail.com

Hi, I'm Eng. Maiada Mohamed Anwar from Egypt, obtained my BSc degree in civil engineering in 2003 and has accumulated over 16 years of professional experience in water resources, water quality, and environmental aspects. Recently I finished a post graduate program in "A Shared water resource diploma" in Cairo University 2018-2019. This training will equip me to be an expert and professional and to be more qualified, advancing my knowledge about my area of work through linkage between research assignments and learning from established experts. To achieve goals of dissemination (Awareness, Understanding, Action) through;

Mailing Lists of key people to receive materials and information about the course, a website that allows easy access to information about the training course.

Decide on the best type of presentation, seminars & workshop



Mame Semou NIANG (Mauritania) mam.i.cloue1@hotmail.com

I am a young Mauritanian, Administrative and Financial Manager/Communication Officer in an NGO in the name of AISER/CITIZENSHIP AND HUMAN RIGHTS a leader and actor of the civil society who works for the community development, the respect of the rights and the volunteering with the breasts local NGOs. This training workshop will be beneficial to me because it will allow me to reinforce my capacity on the newly used techniques for a better water management and I will have the chance to meet the young participants to share their experiences and exchange our knowledge.

The knowledge learned will be shared by a feedback to the NGO's breasts and through the forums and training workshops that we have used with young people to enable them to better develop their intellectual abilities.



Muhammad Tukur BAYERO (Nigeria) bayeroten10@gmail.com

Muhammad Tukur holds a bachelor's degree in Water Resources and Environmental Engineering and a Master's Degree in Water Engineering. He worked with a consortium of UNICEF, UKaid, USAID, and Rural Water Supply and Sanitation Agency (RUWASSA) as a Site Supervisor. Currently, he is a Research professional at the Islamic Development Bank (IsDB) Headquarters in Jeddah, Saudi Arabia.

A dedicated workshop of this nature tailored towards knowledge sharing and training by the thematic experts will no doubt expand my knowledge and widen my scope of understanding related to irrigation and drainage. I will equally benefit from other Young Professionals as we work together. The knowledge gained during the workshop will be disseminated in the University and various water associations particularly in Nigeria via workshop, seminars and media.



Nagla Barakat Abdalla MOHAMMED (Sudan)
naglamadani.nm@gmail.com

Nagla Barakat Abdallah Mohammed works at the Ministry of Irrigation and water resources at the General Directorate for design projects, under study PhD in Water Management Gezira university, I have Msc.in Water Management, Water Management and Irrigation at University of Gezira, I have Diploma Program at the shared Water resources from Cairo university and B.Sc. Civil Engineering. I look forward to increasing my knowledge, gain new information with experts professional from different parts of the world.

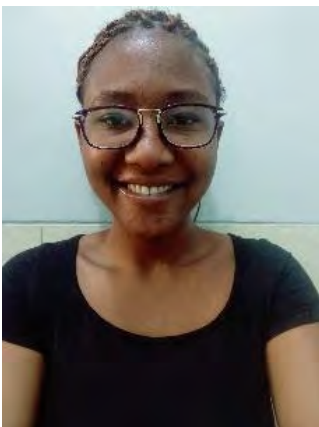
After my return, I plan to organise training sessions to share my gained experience with different fellows and go ahead to meet every month to activate the Program of the ICID in my country Sudan.



Oumar Al-Faroukh Brahim MAHAMAT (Chad)
brahim.alfaroukh@gmail.com

Oumar Alfaroukh Brahim Mahamat is a graduate student in Water Policy from the Pan African University Institute of Water and Energy Sciences (PAUWES), Algeria with a background in Civil Engineering and Hydraulic. He is currently a Research Professional, under the specialized Capacity Development Framework for water sector professionals at the Islamic Development Bank (IsDB). It is an opportunity for me to build my capacity and gained new knowledge on the thematic of water scarcity from various perspectives.

The outcome from the conference will contribute to the current Good Practice Note that I am developing for IsDB on the thematic of advanced irrigation technologies. The knowledge gained can be disseminated among youths and local community through conferences and workshops that will be organised by our NGO ECObalady in Chad.



Phyllis CHIBISA (Malawi) phyllis.phyl.07@gmail.com

I hold a BSc in Irrigation Engineering from Lilongwe University of Agriculture; Bunda College. I am motivated and am passionate about water supply, access to safe water and construction of water supply structures working towards the development and enhancement of the food production sector as well as the proper sanitation and hygiene of others in my country

I am looking forward to networking with the different professionals from the irrigation sectors from around Africa. As someone who is still new to the practice, I look forward to learning how I can better perfect my craft and how I can give back to the irrigation sector in my country.

I plan on sharing what I learn through my social media pages and social media platforms such as the Af- YWPF e-forum which has proven to be a beneficial tool where young professionals can interact and share their knowledge and experiences.



Ramdan MARNE (Chad) mohametramzy@gmail.com

RAMADAN MARNE has a master's degree in Water Engineering from the Pan African University Institute for Water and Energy Sciences (including Climate Change). He just completed a research work on Water Harvesting Structure Sustainability in Chad. He is currently looking for opportunities to build his career.

This training workshop will give me the opportunity to develop new professional relationships, building new relationships and gain skills and knowledge that is beneficial to my future aspiration in sustainable development projects.

The knowledge gained will be shared through workshops so that the stakeholders in Chad will have a new approach in their development projects.



Safaa Abdelwahab Mohammed IDRIS (Sudan)

safawhab09@gmail.com

I have Master's degree on Integrated River Basin Management from Mekelle University in Ethiopia and BSc on Civil Engineering from Sudan. I hope to update my knowledge on the newest techniques on adapting climate change and how to mitigate its impacts for Water, so the workshop will offer this opportunity especially now I that I am engaged on Project for enhancement IWRM in Sudan (2016-2020).

I hope to share my knowledge through Group discussions, disseminating documents, encourage them to participate on the next workshop and direct apply acquired knowledge on the project I engaged in IWRM project (2016-2020).



Saloua ELFANSSI (Morocco) elfanssi90@gmail.com

Saloua holds a PhD Environmental Engineering, and currently a Researcher at the National Center for Studies and Researches on Water & Energy. She is the Vice-President, Association Anaroz for Environment & Development. Saloua has over 20 peer-reviewed international journal papers, a reviewer at International Water Association, and has served on the organizing board member for 10 international conferences and workshops.

Regarding the actual situation of my region where the availability of water resources is a key factor in the development of the agricultural sector that the basis of our economy. Contribution this training would greatly help me in formulating my ideas and skills to real projects.

I will deepen the required skills and apply the knowledge acquired during the training in my professional work, adopt a new work strategy and encourage the sense of creativity in my colleagues, and ultimately share the knowledge acquired through training courses.



Sinafekesh Girma WOLDE (Ethiopia) sinafekeshg@gmail.com

Ms. Sinafekesh has a Bachelor of Science degree in Civil Engineering and a Master of Science degree in Integrated Water Resources Management. She has worked as a Site Engineer for 3 years focusing on the construction and implementation of large-scale rainwater harvesting systems in different parts of Kenya and as an emergency WASH program officer in a South Sudanese refugee camp for 1 year.

The workshop will broaden my knowledge of sustainable agricultural water management and different practices from around the world. It will also provide the platform to engage and network with the young water professionals from Africa so we can share our knowledge and experience with each other. I will mainly use social media to share my experience and knowledge acquired from the workshop with my peers and professional networks.



Wafa MISRAR (Morocco) misrar.wafa@gmail.com

A Moroccan PhD student at Cadi Ayyad University. I'm currently working on a thesis about the purification of wastewater using ceramic based membranes. I have a strong research background in materials chemistry. I have a greatest interest for the new technologies using natural products to solve the environmental issues and I am also passionate about the SDG's, mostly (Clean water and Sanitation).

This opportunity will allow me to acquire new knowledge, meet people working on the environmental issues, especially wastewater treatment and finally to exchange our different experiences, create new networks and collaborations. Through presentations to my colleagues and supervisors and by using the social media (LinkedIn...), I hope to share the knowledge gained from this workshop.



Ermias T. DEMESSIE (Ethiopia) ermias.teferi@aau.edu.et

Currently I am working at Addis Ababa University as an Assistant Professor at the Center for Environment and Development. My interest in attending the training workshop emanates from the deadly cycle of drought and famine that my country experienced several times and the poor water management manifested in food and energy sectors of Ethiopia.

The training workshop will benefit me in terms of creating water professional networks, obtaining new insights about water and climate change. I will try to share the knowledge acquired by conducting seminar to staff members and presentation to my graduate students my home university of my home university.

3.3. Profiles of Trainers and Instructors



Ms. Sharia Walker
Senior Youth Development Specialist at the Islamic Development Bank (IsDB)

Sharia Walker describes herself as a “curious global citizen”. She is the Senior Youth Development Specialist at the Islamic Development Bank (IsDB), and has led substantial Youth Development initiatives at IsDB: including finalising the Bank’s first Youth Development Strategy, mainstreaming youth development and empowerment throughout the Bank’s projects and programmes, including water and agriculture programmes, and setting up the first Youth Development Working Group, an international knowledge sharing platform committed to supporting and advocating youth development issues and opportunities with partner

MDBs, UN agencies and IFI’s. Sharia has a MA in Education Management and a second MA in Peace and Justice with a specialisation in Conflict Management and Resolution and is a California certified mediator.

I hope to contribute to the discussion by sharing the experience of the Islamic Development Bank in mainstreaming youth development across its projects and operations and its efforts to engage with youth to tap into the most innovative ideas that might offer solution to the water scarcity challenges faced by many of our member countries. Therefore, I am especially curious to hear from youth about their experience and work in the field of water scarcity management, irrigation and drainage.



Eng. Bakhodir Mirzaev
Senior Global Water Resources Specialist of the Social Infrastructure Global Practices, Islamic Development Bank (IsDB).

Bakhodir serves Water Global Practice and involved in the Bank’s 57 member countries in Asia, Africa, MENA, and Latin America. He is working in a multidisciplinary team and leading the preparation, implementation, and evaluation of project/programs in the field of irrigation and drainage, groundwater management, water harvesting, flood protection and integrated water resources management planning (IWRM).



Dr. Felix B. Reinders - Keynote Speaker
President, International Commission on Irrigation and Drainage (ICID)

Dr Felix specialises in Water resources management and Irrigation engineering in the Agricultural and Civil Engineering field, including research, design, training and mentoring.



Dr. Ashwin B. Pandya - Keynote Speaker
Secretary General – ICID

Presently Dr Pandya is engaged with Governments of Gujarat, Andhra Pradesh and Orissa, WAPCOS, the World Bank for various hydropower and other projects involving design and construction of large underground caverns and other geotechnical structures in India and abroad.



Eng. Sami Ahmad Faruqi – Keynote Speaker
Head of Social Infrastructure Global Practices, Islamic Development Bank (IsDB)

Eng. Sami Ahmad Faruqi is presently heading the Social Infrastructure Global Practice, covering core business sectors of Water Resources, Urban Development, Health and Education in the Islamic Development Bank, headquartered in Jeddah, Saudi Arabia.



Mr. Ziad Khayat – Training Officer
First Economic Affairs Officer, UN-ESCWA, Lebanon

Mr. Ziad Khayat serves as Economic Affairs Officer in the Water Resources Section in the Sustainable Development Policies Division at the United Nations Economic and Social Commission for Western Asia (ESCWA) in Beirut. He focuses on implementing regional initiatives and efforts to support Arab States in the areas of IWRM, transboundary water resources management, the WEF nexus, and the water-related (SDGs).



Dr. Marlene Ann Tomaszkiwicz – Training Officer
Economic and Social Commission for Western Asia (ESCWA),

Marlene Ann Tomaszkiwicz serves as Regional Advisor for Geographic Information Systems for Climate Change Analysis at the Economic and Social Commission for Western Asia (ESCWA), working in the Water Resources Section in the Sustainable Development Policies Division.



Eng. Mazen Naaman – Training Officer
The Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD)

Mazen Naaman currently works as a water resources expert for the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) located in Damascus, Syria. He also acts as head of the data analysis section and database administrator for the Water Resources Information Center (WRIC) for the Lattakia (Syria) Water Resources Directorate.



Prof. Yaohu Kang – Training Officer
Institute of Geographic Sciences and Natural Resources Research (IGSNRR) - Chinese Academy of Sciences

Prof. Kang is distinguished Chair Professor of the Chinese Academy of Sciences, Professor at the University of Chinese Academy of Sciences, Vice Chairman, Micro irrigation Branch, China Association of Irrigation Area and Pre-Director, Key Laboratory of Water Cycle and Related Land Surface Processes.



Prof. Dr. Ragab Ragab – Training Officer
Principal Research Scientist & Water Resources Management Specialist, Centre for Ecology & Hydrology, Lancaster University, UK

Dr. Ragab is an expert in catchment hydrology, drought management, irrigation, drainage, soil hydrology, water use efficiency, use of poor-quality water for crop production, urban hydrology, impact of land use and climate change on water resources.



Dr. Marco Arcieri – Training Officer
Vice president of ICID (2018-2021) and Secretary General – Italian Committee of International Commission on Irrigation and Drainage (ITAL-ICID) – ICID.

Dr Marco is the ICID Permanent Observer to UN Agencies FAO and IFAD and since April 2017, 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.



Dr. Eng. Mohamed A. Shehata Wahba – Training Officer Chairman of the African Regional Working Group of the ICID

Dr. Wahba is currently an International Visiting Scientist with the Chinese Academy of Science. He is also a Senior Researcher with the Drainage Research Institute, NWRC, MWRI-Egypt and a Vice President Honoraria (VPH) of the ICID.



Mr. Yong Rui Yu – Industry Representative
Director of Beijing office, Zhongguanshun Xinhualin Company

Mr Yong is responsible for compiling more than 100 state-level major land improvement projects, provincial-level land improvement projects, high-standard farmland construction projects, irrigated areas construction projects, agricultural land production capacity accounting projects, linking the increase and decrease of cultivated land, migration relocation and ecological restoration projects, and homestead reclamation projects.



Ms. Sabrina Zhang – Industry Representative
Deputy General Manager, Ningbo Yaofeng Hydraulic Electrics Co., Ltd.

Sabrina is involved in the development and management of irrigation projects and irrigation digitization. With 10-years' experience as of technical manager of IRRIFRANCE China.



International Commission on Irrigation and Drainage (ICID)
African Regional Working Group (AFRWG)

Second African Young Water Professional's Forum (Af-YWPF)

Innovative Systems to Respond to Water Scarcity



