

International Training Workshop on

Water Accounting

Concepts and Tools

23-26 February 2019 – Iran (Tehran and Ahvaz)

Organized by: IRPID-IRN




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The Workshop Intended to

- Introduce **recent experiences and lessons learned** from a number of international pilot projects on water accounting
- Discuss **challenges in developing and implementing** water accounting frameworks at national level
- Highlight the need to **implement water accounting frameworks** at different geographical scales (farm to catchment)
- **Draw the attention of decision-makers** to the use of new concepts and tools in monitoring water consumption in different sectors

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About the workshop



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Three themes were considered for the workshop

1. The Water Accounting Frameworks and National Experience Overview
2. Water Accounting: Concepts, Methodologies, and Pilot Experiences
3. Hands-on Water Accounting Exercise around Real Case Studies Presentations of the

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- **First joint professional collaboration organized between FAO, ICID, and IRPID-IRN.**
- This workshop is partially funded from FAO's project "Implementing the 2030 Agenda for Water Efficiency/Productivity & Water Sustainability in NENA" (GCP/RNE/009/SWE, Donor: Swedish International Development Agency)

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OBJECTIVES

- The main objective of this workshop was to **discuss WA concepts from different dimensions to create awareness about the added value of implemented WA systems and lessons learned from the international pilot projects.**
- Provides an atmosphere for transferring the knowledge shared between countries which implemented WA.

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PARTICIPANTS

- High-level decision-makers, academics, and professionals from industry and university administrators in the water, agriculture, and environmental sectors attended the workshop. Inviting a broad range of audiences was an effective way to capture diverse opinions.
- More than 370 experts participated from several countries and international organizations including ICID, FAO, representatives of the Embassies of Netherlands, Sweden, and IRPID-member countries (Islamic Republic of Iran, Russia, Georgia and South Korea).

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Day 2

Day Two (Sunday, February 24th) in Ahwaz

Theme: Water accounting: concepts, methodologies and experience

Audiences are authorities and key decision makers from Khuzestan province which is a strategic region in the Southwest Iran which plays an important role in water resources management and agriculture productivity of the region. Also, Iranian agriculture, environment, and water resources experts will also participate Day Two to prepare for Day Three.

Objectives are to introduce global experiences, description of tools and models and how water accounting analysis supports stakeholders and local water managers for their practices.

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Workshop Program

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Main Speakers and Facilitators

Pasquale Steduto (Ph.D. - Global Water Expert) Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa (RNEA) pasquale.steduto@fao.org	Banafsheh Zahraie (Ph.D. in Water Resources Management) Director, Office of Water Conservation Management and Productivity Improvement banafsheh.zahraie@wri.ac.ir
Domitille Valee (Senior Expert in Public Procurement and Agriculture) Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa (RNEA) valee.d@fao.org	Saeed World (Ph.D. in Water Resources Management) Head of Water Resources Department of Water Engineering, Research Institute (WRRI), Shahrood University of Technology, Tehran, Iran world_saeed@shu.ac.ir
Amgad Elmehdi (Ph.D. in Water Resources Management) Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa (RNEA) elmehdi@fao.org	Majid Delavar (Ph.D. in Water Resources Engineering) Associate Professor, Water Resources Department, Shiraz University delavar@shirazu.ac.ir
Amgad Elmehdi (Ph.D. in Water Resources Management) Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa (RNEA) elmehdi@fao.org	Majid Delavar (Ph.D. in Water Resources Engineering) Associate Professor, Water Resources Department, Shiraz University delavar@shirazu.ac.ir
Amgad Elmehdi (Ph.D. in Water Resources Management) Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa (RNEA) elmehdi@fao.org	Ashkan Farokhtia (Ph.D. in Hydrology) Water Research Institute farokhtia_ashkan@wri.ac.ir
Margus Zahradu (Ph.D. in Hydrology) Head of the Regional Water Science International Research Program for Irrigation and Drainage (RPI-IDB) zahradu@wri.ac.ir	Amgad Elmehdi (Ph.D. in Water Resources Management) Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa (RNEA) elmehdi@fao.org

Speakers and Instructors of the workshop are well-known and experienced researchers and senior experts within the field of water accounting.

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Day 1

Day One (Saturday, February 23rd) in Tehran

Theme: An overview of water accounting to support sustainable development

Audiences are high-level decision-makers, policy analysts, and water resources authorities from Iran Ministry of Energy, Ministry of Agriculture, and Water Resources Management Institute.

Objectives are to introduce water accounting concepts and world experiences for decision-makers based on projects that are led by international organizations and research institutes in different part of the world. The focus of the day would be on general concepts, rational, and state-of-the-art of knowledge and tools on water accounting.

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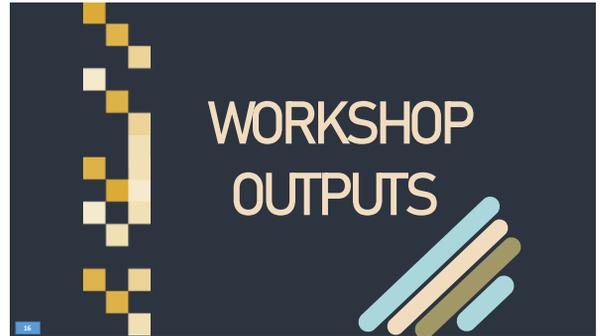
- **Pasquale Steduto** "Water accounting for sustainability - An overview"
- **Domitille Valee** "Counting & accounting for water: step by step approach of FAO"
- **Amgad Elmehdi** "Australian national water accounting system and tools"
- **Banafsheh Zahraie** "Actions and activities undertaken for WA in Iran and its future perspectives"
- **Saeed World** "Water accounting for good water governance and policy evaluation"
- **Ali Bagheri** "Local applications of SREWA-Water in the Iranian case studies"
- **Majid Delavar** "Implementing water accounting plus (WA+) in Iran: challenges, opportunities, and experiences"
- **Poolad Karimi** "Case studies of water accounting from different regions in the world (Urmia Lake Basin)"
- **Jiro Arjyama** "Water Budgeting for the Sacramento and San Joaquin River Delta, California"




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Day 3

Day Three (Monday, February 25th) in Ahvaz

Theme: Hands-on water accounting exercise around real case studies

Audiences: water resources experts which provide analysis regarding essential information of water availability and different uses of water (consumptive and non-consumptive). Technical experts, researchers, and students in water resources engineering and management are also invited.

Objective is to help the participants to be familiarized with rapid water accounting approach through working with actual case studies. The participants will understand the process of rapid water accounting, different terminologies used in water accounting, also how to avoid common errors in water accounting through the exercises.

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- the workshop used the international experiences on good practices in WA systems. This workshop covered both theoretical and practical aspects of water accounting. There were a number of topics thought by professionals to have hands-on water accounting exercise around real case studies. The expected result of the training program was to reach to a mutual understanding of sufficient, detailed, accurate, and reliable information for multi-stakeholder policy makers.
- The workshop will raise the awareness among other water related sectors regarding water consumption issues and data uncertainties. Other achievements of the workshop included analysing the effects of WA in improving governance, establishing new water policies, familiarity with concepts, methodologies and challenges of WA systems at the national and international levels.

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Day 4

Day Four (Tuesday, February 26th) Shushtar

One-day Technical/Cultural tour to Shushtar is organized on request. Shushtar is located in the north west of Khuzestan plain is located in the height of 65 meter above the sea level. It has a traditional, specific and compacted architecture. This city is full of complex structures such as bridges, networks, mills and waterfalls beside the various attractions. Shushitars Historical Hydraulic System, inscribed as a masterpiece of creative genius, can be traced back to Darius the Great in the 5th century B.C, and is still in use providing water to the city of Shushtar via a series of tunnels that supply water to mills.

The collection of mills and waterfalls in Shuster is one of the unique monuments that has been registered in the World Heritage List. This work reflects the knowledge of water engineering in the past, and delivers valuable information about the ways of their performance on how to use water and its inhibition at that time.

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Objectives of the Practical Training on Day 3

- To develop water budget correctly
- To understand the differences of consumptive vs. Non- consumptive uses and beneficial and non-beneficial uses
- To learn how to identify uncertainty in RWA

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- On the third day, a train-the-experts session was held, where around 70 selected experts from various national organizations and IRPIR-IRN member countries including Russia and Georgia were participated in the event. This one-day training aimed to help the participants to become familiarized with RWA through working with actual water accounting case studies. Jiro Ariyama and Husain Najafi were the two main facilitators for the third day of the workshop. Domitille Vallee, Amgad Elmahdi helped in explaining the RWA exercises during the practical session.
- Participants practiced how to develop water budget correctly, understood the differences between various types of water uses and discuss how to identify uncertainties associated with water accounting calculations. Through case studies at different geographic scales, participants learnt the various differences in water accounting approaches dependent on the scale (farm and river basin).

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- **IRPID Mandate:**
- International Research Program for Irrigation and Drainage-Iran Regional Node (IRPID-IRN) is conceptualized as a program for developing and implementing research agenda in the irrigation and drainage sector to meet the challenges of water and food security. IRPID-Iran Regional Node 3-year Action Plan Framework and mission is to enhance research activities on science, technology and management aspects of irrigation and drainage, and capacity development in this regard within the member countries.

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- **Water accounting** is the process of communicating **water** resources related information and the services generated from consumptive use in a geographical domain, such as a river basin, a country or a land use class; to users such as policy makers, **water** authorities, managers, etc.

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