



Concept Note

8th Asian G-WADI & 2nd IDI Expert Group Meetings Together with the International Workshop on “Adaptation to Water Scarcity and Basin-connected Cities”

10-12 December 2018, Mashhad-Iran



G-WADI as a Flagship Programme of UNESCO-IHP since 2003

UNESCO's programme for Water and Development Information for Arid Lands – a Global Network (G-WADI) was established in 2003 by Intergovernmental Council of International Hydrological Programme (IHP) to address the urgent need for increased regional and international cooperation on sustainable development of water resources in arid and semi-arid regions. Over the last decade G-WADI has grown into a worldwide network coordinated by a global secretariat and 5 regional networks, providing a catalyst to leverage relevant scientific knowledge for decision-making and practice. Centred around its website www.gwadi.org and its strong programme of regional activities, the network has focused mainly on the provision of interactive, data-based tools and methods to support evidence-based decision-making, such as the PERSIANN satellite-based gridded precipitation products, drought monitors for Africa and Latin America, and regional frequency analysis.

G-WADI's overall strategic objective is “to strengthen the global capacity to manage water resources in arid and semi-arid areas. Its primary aim is to build an effective global community through integration of selected existing materials from networks, centres, organizations, and individuals who become members of G-WADI. The network promotes international and regional cooperation in arid and semi-arid areas.”

GWADI continues to be of high importance within the framework of the Eighth Phase of IHP (2014-2021) “Water Security: Addressing Local, Regional and Global Challenges”. In particular, G-WADI plays a key role in the focus areas on “Addressing Water Scarcity and Quality” and “Water Related Disasters and Hydrological Changes”.

As far as water is concerned, arid and semi-arid countries face the most challenges in managing this resource. Thus such network was created to learn from each other's experiences and adopt best practices through this network for a successful water management.

G-WADI's track record shows its strengths as a global network supporting the science-policy interface, and catalyzing high-level research to address water management issues with direct relevance at the local level of management, planning, and policy. The PERSIANN system is a clear example of state-of-the-art research that is translated into a set of policy-relevant tools. The accompanying workshops and educational material are essential to foster uptake and catalyze lasting local impact. Based on this and similar success stories, this section reflects on a potential programmatic vision for G-WADI to maintain and increase further the impact and value of the programme.

It is clear that the regional networks play a crucial role in the success of G-WADI. Through their network and connections to local policy, they are best placed to identify specific bottlenecks for a sustainable development of arid and semi-arid regions. As such, they should set the agenda and ensure that the scientific process is optimally demand-driven, and is turned into tools and products that address those local demands, such as maps, datasets, simulation tools and predictions. The

regional centres are also ideally placed to identify training opportunities that address specific needs in relevant policy fields.

Under this program, a few representative areas have been selected for detailed study so that findings could be shared, discussed, improved and implemented in the best possible way. A series of meetings are therefore, held in the member countries to discuss the progress in the study as well as advances in the field of water sciences. Now 13 countries have joined the Asian GWADI network and many others are likely to join.

G-WADI Contacts

UNESCO-IHP Contact:

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Photo: 7th Asian G-WADI, 2017, India

IDI as a Flagship Programme of UNESCO-IHP since 2010

Droughts have several economic, social and environmental impacts, depending on their intensity and duration. Occurrence of droughts is a natural event and it is not specific to a region or climatic regime, and it can occur in different climatic and geographic situations. Unlike floods that have limited coverage areas, droughts usually affect vast regions, and this causes a more widespread and extensive range of impacts which last for a long time. Therefore, droughts affect a large number of populations in comparison with other natural disasters. The experiences in developed and developing countries on drought management has proved that besides the level of development, the impacts and consequences of this phenomenon is deep and considerable, even with different characteristics and nature. With no doubt, the occurrence of this phenomenon is one of the important obstacles in the development process of the countries. As the impacts of this event lasts for a long period, the countries and people who have been affected by this phenomenon are forced to spend extensive financial resources to encounter it during and after the event.

The impact of drought on water and food security cannot be ignored. There is a need for an enhanced and coordinated global movement to face and encounter the challenges of natural water-related disasters, especially droughts. The International Drought Initiative (IDI) as a UNESCO-IHP flagship programme has been approved at the 19th Session of the Intergovernmental Council in Paris, July 2010. The Regional Centre on Urban Water Management (RCUWM- Tehran) under the auspices of UNESCO, hosts the Secretariat of IDI (<http://rcuwm.ir/idi/>).

IDI aims at providing a platform for networking and dissemination of knowledge and information between international entities that are active working on droughts. IDI continues to be of high importance within the framework of the Eighth Phase of IHP (2014-2021) “Water Security: Addressing Local, Regional and Global Challenges”. In particular, G-WADI plays a key role in the focus areas on “Addressing Water Scarcity and Quality” and “Water Related Disasters and Hydrological Changes”. IDI intends to bring together concerted efforts of the governmental and non-governmental organizations for drought management. The initiative is open to other related entities interested in joining.

IDI main Objectives:

- To develop the methodology to prepare and compile policies and strategies related to drought adaptation, mitigation and management and encourage their inclusion in National action
- To facilitate research and compile practical strategies to minimize impacts of drought for addressing emergency situations
- To define the roles of stakeholders within the context of drought
- To create an inclusive mechanism for the Governments, UN agencies, and NGO's that promotes drought management synergies
- To facilitate creation of global drought warning systems and global drought watch, and

- To develop methodologies to assess damages and long-term impacts of drought, including environmental conflicts

IDI Contacts

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IDI Secretariat at RCUWM:

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Asian G-WADI since 2005

Asian G-WADI (<http://asian-gwadi.westgis.ac.cn>) was formed during 2005 with its first secretariat in India at National Institute of Hydrology, Roorkee. Asian G-WADI was established to confront the urgent need for increased regional cooperation for sustainable development of arid and semi-arid zones. The 1st meeting of Asian G-WADI was held in Roorkee, India on March 2005 and since then subsequent meetings were held in China, India and Iran where annual or bi-annual progress have been discussed. The last meeting was held in Hyderabad at CSIR-National Geophysical Research Institute, November 2017. Asian G-WADI includes the following members:

1. Afghanistan
2. China
3. India
4. Iran
5. Kazakhstan
6. Kyrgyzstan
7. Mongolia
8. Pakistan
9. Thailand
10. Tajikistan
11. Turkmenistan
12. Uzbekistan
13. Vietnam

The Asian G-WADI has formulated guidelines for proposing one or more basins as G-WADI pilot basins in a country, which can contribute to the knowledge base for the region. An evaluation, a standard peer review process by the Asian G-WADI Advisory Committee, of proposed G-WADI pilot basins would then be followed. The objective of a peer-review process is to encourage those committed to the cause of G-WADI program in their country and willing to share information, knowledge, and experience globally. Asian G-WADI has selected seven (7) pilot basins in Asian for further research activities and implementation of Asian G-WADI projects as follows:

1. Heihe River Basin (HRB), China
2. Jaisamand Lake Catchment (Gomti River Basin), India
3. Grantie Watershed in Krishna-Godavari basin, India
4. Kashafrud Basin/Mashhad, Iran
5. Taleghhan-Hashtgerd Basin, Iran
6. Chu River Basin, Kyrgyz Republic
7. Vakhsh River Basin (VRB), Tajikistan

Asian G-WADI Advisory Committee:

The Advisory Committee for Asian G-WADI for the years 2018-2020 is as follows:

China: Prof. Xin Li, Ex-officio Member, lixin@lzb.ac.cn

India: Dr. S.K. Jain, Director, NIH, Roorkee, India, s_k_jain@yahoo.com

Iran: Dr. Ali Chavoshian, Director, RCUWM, Tehran, chavoshian@gmail.com

Asian G-WADI Secretariat: Dr. Shakeel Ahmed, shakeelifcgr@gmail.com

Asian G-WADI Secretariat Contact:

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7th Asian G-WADI, 2017, India

The 7th Asian GWADI workshop was held by CSIR-National Geophysical Research Institute, Hyderabad, India with the support of National Institute of Hydrology & IHP Indian National Committee (Ministry of Water Resources, RD-GR, Govt. of India), Roorkee, India, November 26-30, 2017, Hyderabad, India

The Number of participants was around 45 (with 19 member countries from abroad, experts and UNESCO officials).

Outcomes / Achievements:

The outcome of this meeting was a document including guidelines to improve and test the methodologies to estimate various fluxes of the groundwater system for an Integrated Water Resources Management.



8th Asian G-WADI and 2nd IDI Expert Group Meetings, December 2018- Iran

The experience of arid and semi-arid countries dealing with water scarcity and drought related challenges will be shared and discussed among the Asian G-WADI countries during the 8th Asian G-WADI meeting.

The 8th Asian G-WADI and 2nd IDI expert group meeting is planned to be held in Khorasan Razavi Province (Holy City of Mashhad), 10-12 December 2018. These events will be hosted and organized by Khorasan Razavi Regional Water Authority in close cooperation with UNESCO Regional Centre on Urban Water Management and with the support of UNESCO HQs, UNESCO Field Offices in Tehran, Jakarta and New Delhi, the Ministry of Energy of I.R Iran, Iran Water Resources Management Company and the University of Ferdowsi, Mashhad.

8th GWADI Workshop Objectives

- Increase regional cooperation for sustainable development of arid and semi-arid zones
- Sharing national/regional experiences in water management and finding solutions for sustainable water harvest/extraction;
- Providing information on current UNESCO-IHP programmes in relation to water management in arid zones (G-WADI);
- Networking among the water institutions and specialists with regional water policy making authorities;
- Sharing knowledge on adaptation to water scarcity; strategies and approaches

2nd IDI Expert Group Meeting Objectives

- To develop synergies between the two programmes of UNESCO, namely International Drought Initiative (IDI) and UNESCO IHP Programme on Water and Development Information for Arid Lands–A Global Network (G-WADI);
- To further involve international organizations including FAO, WMO, etc in IDI projects and work plan;
- Establish IDI Advisory and Management Committee;
- Investigating potential projects and joint research activities;
- Sharing international/regional and national experience on drought issues to come up with proposals for future work in the region;
- Compiling a work plan determining the roles of the members

Language

The working language of both events (8th GWADI Workshop & 2nd IDI EGM) will be English. Workshop participants are encouraged to have a good command of the English language in order to benefit from discussions to the most.

Tentative 8th GWADI and 2nd IDI Expert Group Meetings:

8th Asian G-WADI Meeting, 10th Dec. 2018

9:30 – 10:00	Registration
10:00-10:30	Welcoming Speech <ul style="list-style-type: none"> • Rep., Ministry of Energy, I.R. Iran/ IWRM Co./Khorasan Razavi Regional Water Authority • Rep. UNESCO Headquarters • Rep., UNESCO Cluster Office in Tehran/ RCUWM-Tehran
10:30-11:00	Report from Secretariat, Asian GWADI – revisit the decision of the 7 th meeting
11:00-11:30	Keynote: Kashafroud River Restoration as a GWADI Project
11:30-12:00	Special findings from G-WADI Pilot Projects (2 items, each of them 15 Min)
12:00 -13:00	Lunch Break
13:00-14:30	Special findings from G-WADI Pilot Projects (6 items, each of them 15 Min)
14:30-14:45	Break
14:45-15:45	Round Table discussion to establish the network of the Asian GWADI study areas and the exchange mechanism as well as formation of the Expert Group(s) Identify priorities action for the Asian GWADI network
15:45-16:00	Wrap up and closing

2nd IDI Expert Group Meeting (EGM), 10th Dec. 2018

16:30-16:40	Start up <ul style="list-style-type: none"> • Rep., IDI Secretariat • Rep., UNESCO IHP for IDI
16:40-17:00	Report from the IDI Secretariat
17:00-17:20	Report from UNESCO Secretariat on IDI
17:20-18:20	Discussions on: <ul style="list-style-type: none"> • Further involving international organizations including FAO, WMO, etc in IDI • Establish the Advisory and Management Committee • Potential projects and joint research activities • Next IDI Expert Group Meeting, date and venue
18:20 -18:30	Wrap up and closing
19:30 -21:30	Dinner reception

Training Workshop on Adaptation to Water Scarcity and Basin-connected Cities

11 December 2018, Mashhad- Iran

Introduction:

Water scarcity is the lack of sufficient available water resources to meet demands of water usage within a region. This condition arises as consequence of a high rate of accumulated demand from all water-using sectors including agriculture, domestic, industry and environment compared with available supply, under the prevailing institutional arrangements and infrastructural conditions.

The international workshop on “Adaptation to Water Scarcity and Basin- connected Cities” is designed to bring together researchers and practitioners alike including governmental officials, private and public sectors, water managers, urban planners as well as decision and policy makers engaged in various aspects of water scarcity adaptation and the new concept on basin- connected cities.

Objectives:

- Charting practical solutions for water scarcity adaptation in different sectors;
- Providing best practices on demand management;
- Discussing basin-connected cities concept;
- Sharing advances in water security in human settlements;
- Providing information on Asian G-WADI and IDI activities.

Workshop Themes:

- Water scarcity adaptation strategies and practical solutions;
- Demand/consumption management;
- Inter/Intra- sectoral coordination;
- Multi/inter-disciplinary approaches;
- Basin-connected cities (why and how);
- Socio-economic considerations;
- Water scarcity adaptation success stories.

Language:

The official language of the workshop will be English with simultaneous translation.

Participants:

The participants of this training workshop will be relevant experts and managers from the Ministry of Energy, Iran, Regional Water Authorities, Water and Wastewater Companies as well as Khorasan Razavi Municipality.

Call for papers:

In addition to its relevant agenda, authors of qualified articles will be invited to present their accepted papers during the Workshop.

Tentative Workshop Schedule

Time	Description	Chair
8:00 - 8:30	Workshop Registration	
8:30 - 9:00	Opening Session <ul style="list-style-type: none">National Anthem and Quran RecitingWelcoming address (Provincial Governor/Municipality/ Ministry of Energy/ RCUWM/ UNESCO)	
9:00- 10:15	Session1: Keynote speeches on adaptation to Water Scarcity and Basin Connected Cities (2 international and 3 national speakers, 15 minutes each)	Rep.,Ministry of Energy
10:15- 10:30	Break	
10:30 -12:00	1 st session Panel (first session, 2 keynote speakers, 15 minutes each)	RCUWM
12:00-13:00	Lunch and prayers	
13:00- 14:30	Session 2: Presenting international and national experiences Adaptation to Water Scarcity and Basin Connected Cities (3 international and 2 national speakers, 15 minutes each)	UNESCO
14:30-14:45	Break	
14:45 -16:00	2nd session Panel (second session, 2 keynote speakers, 15 minutes each)	RCUWM/Provincial Governer, Mashhad Municipality
16:00 - 16:15	Wrap up and Closing	MoE, RCUWM, and Mashhad Municipality

Technical tour to Kashafrud River Basin, 12th Dec. 2018

Kashafrud River with the length of 374 kilometers is a seasonal river that flows from the Hezar Masjed Mountains in Khorasan Razavi Province. After passing from the vicinity of the cities of Radkan and Chenaran in Khorasan Razavi Province and then passing north and east of the city of Mashhad, Kashafrud joins Harirud River at the frontier of Iran and Turkmenistan.

However, it was full of water during last decades and was working as a main drain of catchment area and the most important source of agriculture needs. Unfortunately, in recent years due to very vast reasons, such as, booming of population, developing of factories and industries in suburbs, decline of groundwater, illegal housing in river banks, lack of clear and distinct laws, absence of a strong supervision, outspread studies by each part of liable, lack of integrated water management program, and many other reasons it moves to a natural sewage and flood channel.

One of the main reasons of Kashafrud River water pollution is discharge of sewage from villages nearby Kashafrud River. Flowing industrial sewage into the river is another reason for water pollution. Industrial sewage includes heavy metals that produced by mining activities without taking into account environmental impacts and as a result increasing suspended materials like minerals will result in water quality decline. Besides, agriculture sewage: poisons, dung and fertilizers are other harmful substances in water pollution.

In this respect an important project as “Kashafrud River Restoration” was carried out by evacuating domestic, industrial and agricultural areas around the river buffer zone.

Day 3, 12 Dec. 2018 (Wednesday), Field Visit and Technical Tour

8:30	Departure to Kashafrud River Basin
09:30~	Arrival at Kashafrud River Basin
09:30- 13:00	Visiting Kashafrud River Basin
13:30-14:30	Lunch
15:00- 17:00	Resting at the hotel
17:00- 19:30	Visiting the City and the holy shrine
20:00- 22:00	Dinner Reception

The participants will have the chance to visit this magnificent project carried out by Khorasan Razavi Regional Water Authority fully supported by the Judiciary, Legislature and Executive systems all committing themselves to implement this project by all means.

Annex I

Scientific Committee (SC):

Shakeel Ahmed (Asian G-WADI Secretariat, India)
Abou Amani (UNESCO-IHP)
Amit Chanan (City of Sydney, Australia)
Ali Chavoshian (RCUWM/IDI Secretariat, Iran)
Kamran Davari (Ferdowsi University Mashhad, Iran)
Toshio Koike (ICHARM, Japan)
Anil Mishra (UNESCO-IHP)
Behshad Mohajer (UNESCO Tehran Cluster Office)
Bruno Nguyen (W-SMART, France)
Hans Thulstrup (UNESCO Jakarta Office)
Banafsheh Zahraie (Ministry of Energy, Iran)

Local Organizing Committee (LOC):

Mohammad Alaei (Khorasan Ravazi Regional Water Authority)
Ali Chavoshian (RCUWM/IDI Secretariat)
Ahmad Ghandehari (Khorasan Ravazi Regional Water Authority)
Mohammadhadi Mahdinia (Mashhad City Council)
Alireza Salamat (RCUWM/IDI Secretariat)
Alireza Tabatabaee (Khorasan Ravazi Water and Wastewater Company)