

# **Workshop Report**

**The role of Public sector organization in Urban Groundwater challenges and policy reform, A case study of Asian giant city, Karachi, awareness, dissemination, and preparedness.**



**26 June, 2023**

## **Background**

A one-day workshop jointly organized by the Geological Survey of Pakistan, Pakistan Council of research and water resources and and University of Karachi under the auspices of INGSA-Asia aims to foster the policy formulation and awareness for the Urban groundwater challenges through case studies of Karachi Pakistan, This unique workshop held in Karachi that had particular emphasis to develop policy regulation for urban areas i.e Karachi.

## **Objectives of the Workshop**

1. Introduce INGSA and INGSA-Asia.
2. Updated and endorsed joint national /basin monitoring schemes and programs
3. To enhance capacities at state institutions for monitoring, including increased collaboration between national agencies
4. Initial database support sharing and dissemination.
5. Improved information-sharing platforms and mechanisms among key stakeholders, including institutional support for data exchange and database maintenance.
6. Disseminate information on groundwater importance among the common people and habitus for the conserve management of resources.
7. To agree upon developing unified groundwater maps, atlas, and inventory preparations .

## **Program Overview**

Date: Monday 26<sup>th</sup> June 2023

Time: 09:30am – 15:30pm

Mode: Hybrid (Online and Physical participation)

Venue: PCRWR Karachi regional office

## **Speakers**

The workshop had some of the leading practitioners as the speakers, including:

- a) Dr. Sardar Sarfaraz, Director General, Pakistan Meteorological Department, Karachi
- b) Dr. Arjumand Zaidi, Teacher, Senior Research Fellow, USPCASW, Mehran University of Engineering & Technology.
- c) Prof. Dr. Hamza Farooq Gabriel, Head of Department (WRE&M) NUST Institute of Civil Engineering, Islamabad.
- d) Dr. Sadaf Naseem, Assistant Professor, Department of Geology, University, Karachi.
- e) Prof. Dr. Ali Dad Chandio, Chairman, Materials and Metallurgical Engineering Department, NED University, Karachi.
- f) Dr. Ghulam Muratza, Regional Director, PCRWR, Karachi
- g) Ms. Yasmin Raza, Deputy Director, Geological Survey of Pakistan (GSP), Karachi
- h) Dr. Ali Asghar Mahesser, Deputy Director, Irrigation Department, Gos

## **Participants**

Approximately 45 people are registered (Physical and online) but 29 people participated in the workshop in the midst of major festival holidays at the end of the same week. The participants included members from academic, non-government, Government organizations, private sectors and NGOs.

## **Session Brief Details:**

The workshop commenced with an inaugural session that included welcoming remarks from the organizers and dignitaries. The importance of addressing urban groundwater challenges and the role of public sector organizations were highlighted. Emphasis was placed on the need for collaborative efforts among various stakeholders. Experts presented data on the declining groundwater levels, increasing salinity, and contamination issues. The complex interplay between urbanization, industrialization,

and groundwater depletion have been discussed.

The workshop was attended by 29 participants representing the Government sectors, Academia, universities and industries. The event was hosted by Director, PCRWR Dr. Ghulam Muratza who has a great experience running many workshops in the past on groundwater. The event was honored by the Director General, Pakistan Meteorological Dept.

<b>Inaugural session</b>	
0930-1000	Registration
1000-1005	Recitation of Holy Quran
1005-1010	Welcome Remarks
1010-1020	Welcome Remarks by Chief Guest
1020-1045	Key Note speech By Prof. Dr. Hamza Farooq, Director, RCWTTI
1045-1100	Tea Break
<b>Technical session</b>	
1100-1130	Temporal change in Malir river basin Karachi By Dr Arjumand Zaidi
1130-1200	Climate Change & Role of Technologies (Prof. Dr. Ali Dad Chandio, Chairman), Materials and Metallurgical Engineering Department, NED University, Karachi.
1200-1230	Groundwater Quality Assessment Using Geo-spatial and Statistical Tools: A Case Study of Badin District, Coastal Belt of Sindh (Dr. Ali Asghar Mahesser, Deputy Director, Irrigation Department, Gos)
1230-0100	Ground Water Salinity Issues in Karachi City (Dr. Sadaf Naseem, Assistant Professor, Department of Geology, University, Karachi.
<b>Lunch</b>	
0130-0200	Sea Water Intrusion along Coastal Belt of Karachi (Ms. Yasmin Raza, Deputy Director, Geological Survey of Pakistan (GSP), Karachi
0200-0230	Groundwater Quality Monitoring in Sindh (Dr. Ghulam Murtaza, Regional Director, PCRWR, Karachi)
0230-0245	Group discussion/Question answers

<b>Closing session</b>	
0245-0300	Conclusion Remarks by Dr. Javed Mustaqim CEBM, University of Karachi
0300-0320	Shields and certificate distribution
<b>Networking session</b>	

(PMAT) as chief guest expressed gratitude to the organizers for pioneering this workshop, which showcased the intersection of policy and science. He provided valuable insights into government-level policy formulation, specifically addressing its inadequacies amidst current climate change conditions.

Following this, Ms. Yasmin Raza, Deputy Director and core lead of workshop, delivered a succinct overview of the scientific aspects underlying urban groundwater dynamics, emphasizing the mismanagement prevalent in mega metropolitan cities like Karachi and underscoring the necessity for a dialogue on science policy. Subsequently, Dr. Hamza Farooq Gabriel, Head of Department (WRE&M) NUST Institute of Civil Engineering, Islamabad, delivered an online video speech on a case study of his research which focused on groundwater policies and regulations in Karachi. He identified gaps and limitations within the current framework and advocated for integrating international best practices into groundwater governance.

The program proceeded with a series of lectures/talks by distinguished speakers. Dr Arzumand Zaidi, Teacher, Senior Research Fellow, from USPCASW, Mehran University of Engineering & Technology presented a case study on the Malir river basin in Karachi, emphasizing the crucial nature of recharge patterns and highlighting ground pollution concerns.

The next speaker, Dr. Prof. Dr. Ali Dad Chandio, from NED University provided interesting insights on the broader impact of climate change on water and other natural resources, emphasizing the collaboration between academia and the public sector for a holistic approach to scientific policymaking.

Dr. Ali Asghar Mahesser, Deputy Director in Irrigation Department, Government of Sindh, stressed the significance of robust coordination between provincial and federal authorities, drawing from his extensive experience in addressing groundwater salinity in Sindh.

Dr. Sadaf Naseem, PhD in groundwater from University of Karachi was the next speaker who had expertise in groundwater hydrogeology. He shared case studies from Karachi, underscoring mismanagement and pollution issues in urban areas due to lack of active governing policies.

Subsequent speakers included Ms. Yasmin Raza, who has been serving in the Federal Government Dept. Geological Survey of Pakistan, Karachi as Deputy Director with 13 years of professional experience. She presented her research on seawater intrusion along Karachi's coastal aquifer due to climate change and anthropogenic activities, especially extraction of groundwater. She further shared her insights on the challenges faced by the researcher and proposed some potential solutions.

The last speaker, Dr. Ghulam Muratza, Director of PCRWR, highlighted ongoing work on quality of groundwater monitoring in various parts of Sindh and Karachi. He emphasized the huge gap in scientific work and its effective implementation in policy formulation at government level and the role of public sector organizations in addressing these challenges through policy reform and sustainable practices.

The ceremony was ended by the closing remarks by Dr. Javed Mustaqim, Professor at Marine Science Dept. of the University of Karachi. He summarized key takeaways and recommendations. He reiterated commitment to continued collaboration among public sector organizations, civil society, and academia. The need for sustained efforts in policy reform, groundwater management, and awareness initiatives was also emphasized.

## **Group discussion**

The workshop provided an excellent networking opportunity and group discussions to brainstorm actionable steps for to be implemented in future. These steps included the establishment of groundwater monitoring networks, implementation of water-efficient technologies, promoting rainwater harvesting, and fostering partnerships among government agencies, NGOs, and academia. Experts discussed strategies for raising awareness among the general public, stakeholders, and decision-makers about the critical groundwater situation. The role of public sector organizations in conducting educational campaigns, workshops, and community engagement activities was explored. The importance of multi-stakeholder collaboration emerged as a recurring theme.

## **Lesson learned**

The workshop successfully brought together stakeholders to discuss the critical role of public sector organizations in addressing urban groundwater challenges in Karachi. By raising awareness, disseminating knowledge, and fostering preparedness, the event marked a significant step toward sustainable groundwater management and policy reform. Continued efforts and collaboration will be essential to ensure the long-term viability of Karachi's groundwater resources.

## **Conclusion**

In the end souvenirs and shields were awarded to the honorable worthy speaker, guest and organizers. The organizers are thankful to INGSA for financial support and guidance for making this event possible.

## **Expenditure**

Item	Description	Expenses (PKR)	Expenses (EURO)
<b>Expenses</b>	Lunch, Tea break, water bottles	76,000/	241
	Projector, Sound system Internet, Power backup (Portable generator with fuel)	45,675/	145
	Stationary (Note pad, pen) Printed Beds(for 30 participants) Pamphlets, Banners, social media campaign	98,910/	314
	Honorarium shield and table flowers, bouquet	33,000/	105
<b>Indirect Expenses</b>			
	Miscellaneous	22,000/	70
	Local Travelling (Meeting organizers for Kickoff meetings and resources persons)	30,870/	98
<b>Total</b>		<b>306,455/</b>	<b>973</b>

P.S (1 Euro equal to 315 PKR, June 2023)

## Attachments

1. Photographs and testimonials (Google drive)
2. Recordings of the session

Submitted by



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