

Three-day Conference on Water problems in Pakistan and their solutions
15-17 April 2019, Pakistan Academy of Sciences, G-5/2, Islamabad

Organized by:



In collaboration with:



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1. Introduction:

Water availability, storage, supply and its quality are among the major issues, which the world is facing at present. With respect to Pakistan, water related issues have been highlighted by the Government of Pakistan, in general, and Chief Justice of Pakistan, in particular. Pakistan needs to have a strategy to fully exploit viable sources of water and manage its storage, in order to ensure that Pakistani population will be able to meet its water requirements, in the long run. Additionally, the power short-fall can be reversed through hydroelectric power production.

Apart from water availability, there are problems of potable and agricultural water supply, which are related to health and food security issues. It is the need of the day to address these issues and find out their solutions. Critical analysis of existing water quality is of utmost importance and in this connection water quality surveillance, monitoring strategies, selection of most appropriate technologies and processes to supply safe and drinkable water is essential. Specially, the nuclear water desalination, membrane based water purification and other processes to treat the brackish, sea and contaminated water have to be critically analyzed for suitable and economic solutions of the water quality problems.

Cost is an important factor in view of the limited national financial resources. An analysis of the sources of funding and strategies for optimal use of funds are required to ensure safe and affordable supply of water at the door steps of common man. Available energy sources and their economical use to treat and desalinate water at coastal areas plus the brackish water in high TDS zones are the other major challenges to be addressed. Apart from economic and technical considerations, the political dimensions of the water scenario cannot be ignored.

In view of the inter-dependence of matters related to water, environment, food, power, health, and socio-economic conditions, a holistic approach is essential for addressing the water issue.

2. Objective:

The main objective of this conference is to seek input from experts on multiple aspects of water-related issues and frame viable solutions and recommendations for the Government, national and international agencies and general public in Pakistan, at large.

3. Scope of the Conference:

It is envisaged that conference speakers will cover the following themes with emphasis on viable solutions and recommendations.

- **Water Resources**

Assessment of fresh water availability; storage capacity in dams and barrages; ground-water recharging; drinking water supply and control; coastal area water availability; water cycle monitoring through GIS and telemetry.

- **Water and Nuclear Industry**

Nuclear techniques for water resource evaluation; radiochemistry for pollution monitoring; isotope hydrology; reverse osmosis with nuclear energy; hydrogen production with nuclear reactors; water requirements of nuclear power plants.

- **Water Quality**

Water quality assessment with analytical techniques; implementation of water quality standards; monitoring of water pollution through natural and industrial sources in rural and urban areas; water desalination, especially through nuclear and solar power; new processes for water purification including nanotechnology.

- **Water Users' perspectives**

Domestic; agricultural; commercial; industrial; thermal power plants; CPEC projects, including Gawader port.

- **Water Conservation**

Drip irrigation; recycling of sewage water; water losses during supply; water wastage by domestic users, businesses and industry; new technologies for water conservation in agriculture.

- **Cross-disciplinary areas**

Water and sanitation; water-borne diseases; water, power and land nexus; water and environment; water cost economics; water sector management; role of international organizations and NGOs; hydro-politics; water commerce; water diplomacy; water and media.

4. Call for papers and posters

Papers and posters are invited from the water experts, scientists, researchers, university students and professors, NGOs and INGOs, professionals of the related fields in public health departments, water treatment plants, water supply and clean drinking water companies at Federal as well as provincial level, including Azad Jammu and Kashmir and Gilgit-Baltistan.

The abstracts of papers should be of 100 to 200 words in Arial font of size 12, bearing the title and the names of authors, indicating corresponding author, his/her institution/organisation and email address along with phone number submitted to the

Chief Organiser by 28th February 2019. The full text paper is required to be submitted by 30th March 2019 for publication in the proceedings of the conference.

The papers will be peer reviewed with special consideration given to:

- *Reliable data*
- *Viable solutions*
- *Precise recommendations*

5. Organisational Support

The Pakistan nuclear Society (PNS) as the main organizer is being supported by the following departments and organizations:

- *Pakistan Atomic Energy Commission (PAEC)*
- *Pakistan Council for Research in Water Resources (PCRWR)*
- *Pakistan Academy of Sciences (PAS)*
- *Pakistan Science Foundation (PSF)*

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6. Registration for the speakers and the participants:

The participants from different institutes, organisations and universities may register online by filling the participation form at web-site: **www.pns.org.pk**

Registration Fee:

The registration fee for the participants is as under:

- Organisations/Institutions/Companies, other than Conference collaborators :
Rs 50,000/- (with stall facility and up to five complementary participants)
- Participants : Rs. 5000/- (US \$300 for foreign participants) per person
- PNS Members : Rs. 1000/-
- Students : Rs. 1000/-

Payable through crossed cheque in favour of Pakistan Nuclear Society.

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