

FOREWORD

By

Engr. Iftikhar ul Haq

ON

WORLD WATER DAY HELD ON 22ND MARCH-2014

For a long time, since creation of earth, millions of years ago, availability of water has not been an issue of any significance due to sparse population. Now as population on earth has grown astronomically, combined with adverse / climate changes, scarcity of water has become a very serious issue. The world at large and international bodies including the U. N. have at last realized that water on earth is becoming scarce and there is a need to seriously address the issue at the global level.

It was due to this realization that in 1992 the International Community held "United Nations Conference on Environment and Development (UNCED)" in Rio De Janeiro for observation of World Water Day starting on 22nd March of every year from 1993. U. N. O. during its 58th Session declared the period from 2005-2015 as the International Decade for Action on "Water for Life". World Water Day on 22nd March 2005 marked the start of this action. The water of life decade 2005-2015 was intended to boost the chances of achieving international water goals including those given the U. N. in Millennium Declaration.

Aspects of available water resources, their conservation and usage are manifold. Every nation is now engaged in addressing the issue in its own perspective requirements. Seminars / Symposia on the topic proposed by UNCED are held every year on this day where technical papers on various aspects of the issues are presented and discussed to enlighten and educate the engineers, scientists, other professionals and the public at large. All these efforts are being made to create awareness about looming shortage of water in the world.

Present Pakistan population of 180 million is projected to become 220 million by the year 2025. Hence, without addressing the issue of shortage of water and its conservation by optimum usage and by building additional storage dams sooner than later, it would not be possible to feed the growing population of the country. Immediate measures would be required to start construction of dams such as Kalabagh, Basha and Akhori etc. Kalabagh Dam has unluckily been shelved by various Governments due to non-consensus among the provinces. Pakistan is

already listed amongst the water deficient countries. Per capita water availability which was over 5000 cm about 40 years ago, has now fallen down to about 1000 cm per capita. Pakistan Engineering Congress has been making pioneering efforts to create awareness about storage of water, its appropriate uses and its conservation.

Since 2005 Water Days have been observed by Pakistan Engineering Congress, every year where Technical Papers have been presented, on various subjects related to water.

The first Symposium on World Water Day held on 22nd March, 2005 by Pakistan Engineering Congress in collaboration with Water and Power Development Authority (WAPDA). The topic was Water for Life. Six technical papers by eminent engineers and experts were presented on the diverse fields from Large Dams to Drinking and Related Public Hygienic Care.

At the World Water Day held on March 22, 2006 eight technical papers were presented, the topic was Water and Culture. Engr. Syed Jamaat Ali Shah presented his paper on "Water as instrument of peace, the Vision of Indus Water Treaty 1960". In his paper Engr. Syed Jamaat Ali Shah, Pakistan Commissioner of Indus Water dwelt at length on the pros and cons of the historical treaty where three Eastern Rivers of the system i.e. the Sutlej, the Beas and the Ravi were apportioned to India and the remaining three western rivers, the Chenab, the Jhelum and the Indus were given to Pakistan with the proviso that India could use run of the river water from these rivers for generation of Hydropower. India has already constructed more than 60 Dams for water conservation and diversion to meet its own water usage requirements.

The main topic of the seminar held in March, 2007 was Scarcity of Water where eight technical papers on the related subjects were presented, discussed and finalized.

In the year 2008, nine technical papers were presented and discussed on the subject of Waste Water and Solid Waste Treatment and Recycling for Combating Environmental and Public Health Hazards etc.

In the year 2009 World Water day was observed on March 28, 2009. The theme of the seminar was "Transboundary Waters" which was considered as the most relevant of all the Seminars held thus far in the context of Indo-PAK conflict on arbitrary and irrational hold-up of the Chenab and the Jhelum waters by India. Six very convincing and logical papers on the subject were presented and deliberated.

In the year 2010, the World Water Day was convened on March 22, 2010. The theme for the Seminar was “Communicating Water Quality Challenges and Opportunities”. Ten Technical Papers were presented by learned speakers on various subjects.

Lists of Topics and numbers of papers presented at various seminars on World Water Days are listed in the table below.

Year	Topic	No. of Technical Papers presented
2005 World Water Day	Water of Life	Six
2006 World Water Day	Water and Culture	Eight
2007 World Water Day	Scarcity of Water	Eight
2008 World Water Day	Sanitation	Nine
2009 World Water Day	Transboundary Water, Shared Water Shared Opportunities	Six
2010 World Water Day	Communicating Water Quality Challenges and Opportunities	Ten
2011 World Water Day	Water for Cities – Urban Challenges	Eleven
2012 World Water Day	Water and Food Security	Nine
2013 World Water Day	Water Cooperation	Fifteen

In 2014 World Water Day was observed on 22nd March. Following fourteen papers were presented at the Seminar on the topic of Water and Energy.

No.	Subject	Author / Authors
1.	Water and Energy	Dr. Izhar ul Haq
2.	Water and Energy : Synergic Multi-Purpose Development of Surface Water Resources	Engr. Riaz Nazir Tarar
3.	Water Resources Development in Pakistan – A Revisit of Past Studies	Engr. Abdul Khaliq Khan
4.	Minimums Flows of Hydropower and Dams Projects	Engr. Kamran Yousaf Kazi, Engr. Imran-ul-Haq and Ms. Fatima Hashmi
5.	Water Footprints of Bottled Water in Pakistan	Dr. Asad Sarwar Qureshi and Atif Nawab
6.	Last Opportunity to Project Groundwater Deterioration in Lower Bari Doab Canal	Dr. Muhammad Nawaz Bhutta

7.	Nuclear Desalination Demonstration Plant (NDDP) at Kanupp	Engr. Ahsan Ullah khan
8.	Impact of Global Warming on Flows in the River Indus and the River Jhelum in Pakistan	Dr. Ishtiaq Hassan, Abdul Razzaq Ghumman and Hashim Nisar Hashmi
9.	Water and Energt Efficiency Potential in the Textile Sector with Best water Management Practices (BWMPS) in Pakistan	Sohail Ali Naqvi, Ali Hasnain Syed and Ms. Saba dar
10.	Studies on Snowmelt Metamorphosis vis-à-vis Sediment Loading in Upper Catchment	Engr. Usman-e-Ghani
11.	Water and Energy	Engr. Muhammad Jabbar
12.	An Overview of Groundwater Recharge Potential in Irrigated Areas of Punjab and Khyber Pakhtun Khwa	Engr. Muhammad saeed, Engr. Syed Javed Sultan, Engr. Asim Saeed Malik and Muhammad Mumtaz
13.	Irrigation-Drainage and Water Logging Salinity Issues in Lower Indus an their Possible Solutions	Dr. Muhammad Basharat, Dilbar Hassan, Engr. Akbar Ali Bajkani and Syed Javed Sultan
14.	Solar Energy in Pakistan – Potential, Current Status and Future Prospects	Irfan Yousaf and Syed Aqeel Hassain Jafri

To meet with the increasing demand from the Pakistan Engineering Congress Members and Scientists, the Volume containing the above papers is being published in a bound booklet for distribution amongst Members of Pakistan Engineering Congress, Engineers, Environmentalists and other Professionals.

Papers published in this volume are open for discussion where Engineers, Scientists and others are welcomed to take part. The issue of water merits continuous attention of the Engineers, Professionals as well as Decision Makers to meet their obligations towards water uses and water availability in future.