

**Address of Welcome**  
**By**  
**Engr. R. K. Anver\***  
**Vice President**  
**Pakistan Engineering Congress**  
**On**  
**World Water Day 24<sup>th</sup> March, 2012**  
**At**  
**“Mashhadi Hall” of Pakistan Engineering Congress**

**Honorable Chief Guest**

**Executive Council Members**

**Fellow Engineers**

**Ladies & Gentlemen!**

It is the importance of water in the life of individuals and nations that the United Nations Conference on Environment Development (UNCED) held in Rio de Janeiro in 1992 declared 22nd March as “World Water Day”. Since then, it is being celebrated the world over. At the occasion of World Water Day, experts on “Water Resources” speak on the theme and related issues specified for that particular year.

The theme for this year is:

**“Water and Food Security”**

**Ladies & Gentlemen!**

The Allah TabarakwaTa’ala Himself through numerous verses in the Holy Quran signifies about the crucial role played by “Water” in the socio-economic life of mankind.

**“And He is Who created the Heavens and the Earth in six days and His Throne was on water”. (Sura Hud)**

**“He showeth you the lightening for a fear and for a Honor sendeth down water from the sky and thereby quenchenh the earth after death”. (Sura Rome)**

**“It is He Who sends down (rain) drinking water and from which (grow) trees among which you graze your cattle”. (S. 16 Al-Nahl i.e. The Ant)**

**“He grows thereby crops, olives, palms, grapes and every kind of fruit for you; surely in this is a sign for people who ponder”. (S. 16 Al-Nahl i.e. The Ant)**

These are some of the verses from the Holy Quran taught to the mankind fourteen hundred years ago, and what **“Economists and Water Resources”** icons are emphasizing today i.e. :

- Water is essential for the survival of individuals / communities, is the harbinger of socio-economic advancement and should be valued and given due importance.

\* Former Secretary to Government Irrigation & Power Department Punjab.

- That this precious / free bounty of nature should be used economically and conserved (through construction of canals, barrages, dams).
- That efforts need to be made to augment the production of food and fibers as well as stored / preserved for future use in times of droughts, floods and Lean years of production.

### **Ladies and Gentlemen!**

Let us go a little deeper to evaluate the situation in our Country:-

### **Population Explosion**

The world population has reached 7-billion (to reach 9-billion mark by the year 2050) out of which 2.9-billion are concentrated in China, India, Pakistan, Bangladesh.

The present population of Pakistan is 180 million and with growth of 2.05 percent a year would touch 210- million mark by the year 2020. The family planning people visualize the population will be a staggering 342-million by 2050 (162 million increase in the next 38 years). In China, there will be 24-million increase by 2020. 21-million increase in India by 2035. To sum all, 1-billion increase in China / India / Pakistan and Bangladesh alone in about 25-years from now.

### **Food Insecurity**

Spiraling population in Pakistan is creating issues of Food and Fiber inadequacy / insecurity. The following report will be an eye-opener:-

“Despite being an agricultural country, the food insecurity in Pakistan is 58 percent of which 28.4 percent population faces food insecurity 19.8 percent are food insecure with moderate hunger and 9.8 percent are insecure with severe hunger”.

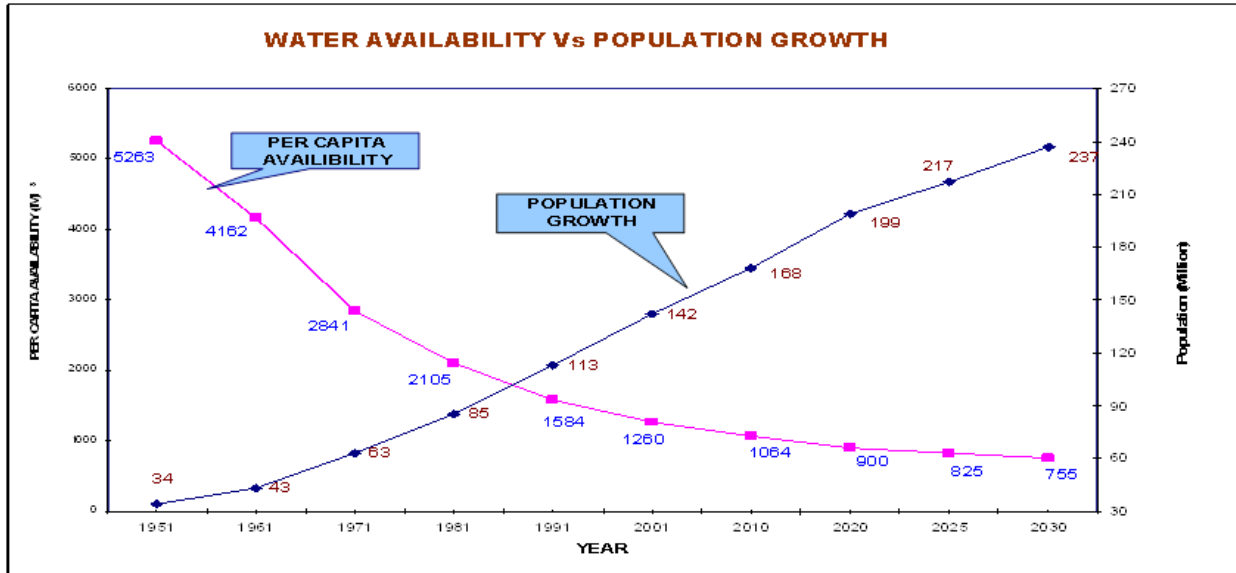
The country will also be facing vegetable shortage in a decade. A report about India suggests 410 million food insecure people. In terms of hunger index, India is at 66 number amongst 88-countries which would need Rs. 2.7 billion in subsidized food supply. Pakistan is at 37 number in the context of hunger index. There are about 1-billion people the world over facing severe hunger problems.

Experts have estimated that inquiries of the ever growing surge in population and to fight-out the hazards of drought and flooding, food supplies have to be augmented by 70 percent to 100 percent in the next 25-30 years from the existing land under cultivation.

### **Pakistan Water Scenario**

In 1951, per capita water availability was 5260 (Cubic Meter) which has steeped down to 1038 (Cubic Meter) in 2010, of course a very disconcerting position. With the country's population increased from 34 million to 180 million and now projected at 342 million by 2050, the country will be a severely water scarce country with per capita water availability reduced to a miserable 575 (Cubic Meter) an alarming and distressing scenario indeed.

A diagrammatic presentation would further clarify the position :



Year	Population (million)	Water Availability (m <sup>3</sup> )	Global Criteria
1951	34	5263	1000 m <sup>3</sup> per capita is the threshold value (Falkenmark & Wedstrand 1992)
2010	168	1064	
2020	199	900	
2025	217	825	

What are the reasons behind this woeful fate and what is in store for us in future?

The people at the helm of affairs of the country as well as the planners of socio-economic development schemes without exception have shown gross indifference towards building-up of water reservoirs. Almost 3-precious decades have been wasted away in political wrangling about the construction of Kalabagh Dam – a shock absorbing mega project sacrificed at the altar of political expedience.

In this connection, the following figures of constructed Dams unravel the poignancy of tragedy highlighting the gross failure of planning on part of the people at the helm of affairs.

Sr. No	Country	Number of Dams
1.	China	26000
2.	India	4050
3.	Turkey	673 (146 under construction)

4.	Iran	588 (137 under construction)
5.	Pakistan	71

In order to ensure adequate and timely supply of water for domestic, agricultural, industrial purposes, it is imperative to make all out efforts to conserve water. This is because with limited rainfall, over exploitation of underground water resources as well as the surface water resources, there is a dire need of building storages for meeting the seasonal demands, to fight out drought and period of lean rainfall. And above all, this would minimize power outages which have hitherto crippled the economy of Pakistan. However, now we have awakened for exploitation of Hydroelectric potential, but the speed is not commensurate with the urgency of the situation and leaves much to be desired.

**Major projects under execution with storage capacity of 4.725 million acre feet:-**

Sr. No.	Name of Project	PC-I Cost (Rs. in Million)	Storage Live (MAF)	Power (MW)
1.	MANGLA DAM RAISING	101,384	Additional 2.880	644 GWh Additional
2.	GOMAL ZAM DAM	12,829	0.892	17.4
3.	SATPARA DAM	4,480	0.053	17.36
4.	KURRAM TANGI DAM	17,205	0.900	83.4
	Total		4.725	118.16 MW & 644 GWh

**Major Hydropower Projects under execution that will generate 1422 MW of electricity during 2011-2012 :**

**HYDROPOWER PROJECTS**

Sr. No.	Name of Project	PC-I Cost (Rs. Billion)	Hydropower (MW)
1.	DUBER KHWAR Kohistan, KPK	16.324	130
2.	ALLAI KHWAR – Battagram, KPK	13.835	121
3.	JINNAH HYDROPOWER, JINNAH BARRAGE	13.546	96
4.	NEELUM JHELUM Neelum, AJK	84.502	969
5.	GOLEN GOL Chitral, KPK	7.035	106
	Total	135.242	1422

**New Hydropower Project with storage capacity of 9.4 MAF to be completed by 2020-21 :**

**NEW HYDROPOWER PROJECTS**

Sr. No.	Project	River	Capacity (MW)	Storage (MAF)	Estimated Cost (US \$ Million)	Expected Completion
1.	DIAMER BASHA – Gilgit Baltistan	Indus	4500	8.1	11178	2020-2021

2.	TARBELA 4 <sup>TH</sup> EXT. – Khyber Pakhtunkhwa	Indus	1410	–	826	2016-2017
3.	MUNDA – FATA / KPK	Swat	740	1.3	1401	2019-2020
				9.4		

### **Recommendations**

- There is no substitute of mega dams for conservation of water and power supplies and have to be implemented on war footings.
- Resurrect Kalabagh dam on fast track mode, technically the most feasible option but presently relegated to oblivion for political expediency.
- Construction of small/medium dams all over the country to ensure safe water supplies to rural population.
- Govt. is establishing a “National Water Council” comprising of stakeholders to take a multipurpose view of Country’s water requirements, infrastructure etc. It should start functioning.
- Water courses lining to be conducted under “NPIW” (National Programme for Improvement of Watercourses) – to check wastage of water.
- Drip irrigation needs to be adopted on an extended scale.
- Proper management of rangelands, so important for exploiting agricultural potential / arresting degradation of these lands.
- Mangrove forests are source of agriculture, supply of cheap fire wood, marine food as well as checks intrusion of sea water. Mangrove forests cover has declined from 604870 hectares to 104000 hectares which is a cause of great concern and needs to be reversed.
- Waste water after treatment is being used for irrigation of almost 20-million of crop land the world over. It is estimated that 10 percent of world population is being fed by food produced through use of waste water. Pakistan also needs to use its waste water prudently to bring more land under cultivation. However, it is to be used with caution.
- Increase rain fed land productivity by 15 percent to 25 percent.
- Regulate exploitation of groundwater resources (being over-exploited).

### **Ladies and Gentlemen!**

I would like to thank you all once again for being with us.

**God bless you all**

**Pakistan Paindabad.**