

**WELCOME ADDRESS**

*By*

**ENGR. HUSNAIN AHMAD**

**President**

**Pakistan Engineering Congress**

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# PAKISTAN ENGINEERING CONGRESS

## SYMPOSIUM

### ON

## “CHANGING ENVIRONMENTAL PATTERN AND ITS IMPACT WITH SPECIAL FOCUS ON PAKISTAN”

Welcome Address by:

**ENGR. HUSNAIN AHMAD**

**President**

**Pakistan Engineering Congress**

**The Honorable Chief Guest,**

**Distinguished Delegates,**

**Members of Pakistan Engineering Congress,**

**Ladies & Gentlemen,**

**Aslamoalaikum**

I feel it my privilege, on behalf of the Pakistan Engineering Congress, to extend a very hearty welcome to you, Madam and other distinguished guests, for sparing time from your busy schedule and to grace the occasion with your presence. Your presence here today, Madam bespeaks of the keen interest evinced by you in the professional activities of engineering bodies.

**Madam,** Pakistan Engineering Congress is a multi-disciplinary body of professional engineers. It is a professional, non-governmental and non-political organization. Its office bearers are all professional engineers and they work voluntarily during their tenures of office. It was established in 1912 to promote the profession and practice of engineering, to afford its members an opportunity for meeting periodically to discuss and pursue matters of professional interest.

The cherished objectives of this august body are:

- a. To promote science, profession and practice of engineering.
- b. To afford, its member's opportunities for meeting periodically, to discuss propagate and pursue matters of professional interest.
- c. To have a code of Ethics that governs the professional conduct of its members.

The Congress works on all Pakistan basis, it started with a membership of 92 in 1912 and over the decades it has now grown to nearly 4472 members from public & private sectors in its fold.

In pursuit of these objectives the Congress has been holding annual conventions, seminars and workshops, which provide opportunities to the engineers for presenting and discussing new developments in engineering science. Large engineering projects are appraised and reviewed on these occasions. The Congress also holds symposiums on the most burning issues being confronted by the country. Papers are presented on the issue by eminent engineers of relevant fields and a panel of experts formulates strategies to solve the problem which are furnished to Federal/Provincial Govt. Departments for implementation. Proceedings of all the technical papers presented at these occasions are published and their total number has grown to 963. This ware-house of knowledge can be referred to the archives of Congress (**Congressweb-site-[www.peCongress.org.pk](http://www.peCongress.org.pk)**) and other national libraries. The Congress runs a reference library which has more than 4000 books on engineering and computing subjects. It also runs a computer college and offers I.T technical courses to engineers at subsidized fee. The Congress also publishes a quarterly journal "Engineering News" containing articles on engineering subjects by eminent engineers. Recently, Pakistan Engineering Congress also contributed Rs. 10-Million to Prime Minister's Flood Relief Fund. The Congress runs its affairs through voluntary contributions by its members, engineering and industrial organizations and of late mostly from the rent of the building that we have built in the Liberty Market, Gulberg-III, Lahore over the years.

This august body has always been presided over by eminent engineers of standing e.g. R.S. Maclagan, M/s. Walton, Griffin and Sir Ganga Ram. Important Schools, Roads, Hospitals, Philanthropic Institutions and Lift Irrigation Schemes like that of Ranala-Khurd are reminiscent of their contributions for the betterment of the lot of public at large. After independence, it was presided over by icons like C.A Hamid, Ashfaq Hassan, Dr. Mubashir Hasan, S.I. Mehboob, Sh. Ahmad Hassan and other prominent engineers. The Congress has been equally fortunate in having been addressed at its Annual Sessions by the Presidents, Prime Ministers and Governors of the country. At the floor of this august gathering, I feel proud and happy to claim that most of the theories and formulae for the design of channels, barrages, regulating structures and cross drainage structures which altogether constitute the largest contiguous irrigation system of the world, were indigenously developed by the local irrigation engineers like M/s. Kennedy, Lacey, Montague, Foy, Inglis, Kanwar Sain, Khawaja Ghafoor, S.I. Mehboob, Pir Ibrahim, Sh. Ahmad Hassan and Dr. S.S. Kirmani etc.

In fact, it would not be inappropriate for me to mention here that, if Pakistan has made any progress in the field of Agriculture, Industry, Communication, Oil, Gas, Electricity, Water, Health, Education, Urban/Rural Development, Food, Storages, Construction of Monumental Indus Basin works under 1960 Treaty in a record time, Atomic Energy or Defence Production and lately of putting Pakistan in the elite group of nations of the Atomic Powers, Engineers of Pakistan, have all along acted as a vanguard.

**Madam,** some major problems addressed by the Engineering Congress at its symposia heretofore have been:

1. Housing Problems of West Pakistan, 1957.
2. Floods in West Pakistan, 1958.
3. Water logging and Salinity in West Pakistan, 1959.
4. Engineering Education in Pakistan, 1960.
5. Planning and Execution of Engineering Projects in Pakistan, 1961.

6. Sedimentation Problems as a Result of Indus Basin Works, 1962.
7. Water logging and Salinity in West Pakistan, 1963.
8. Consulting and Contracting Practices in Pakistan, 1965.
9. Role of Engineering Research in Developing Economy of Pakistan, 1966.
10. Bridges, 1968.
11. Water Resources Development, 1969.
12. Problems of Engineering Profession in Pakistan, 1971.
13. Planning for National Objectives, 1972.
14. Utilization of Natural Resources in Pakistan for Self-Reliance, 1974.
15. Tarbela Dam Problems and Solutions, 1975.
16. Low-cost Structures, 1978.
17. Engineer's Role in Planning, Execution and Management of Projects, 1982.
18. Rural Development, 1985.
19. Energy Crisis, 1986
20. Quality Control and Materials, 1987.
21. Hydel Power in Pakistan, 1988.
22. Operation and Maintenance of completed Projects, 1989
23. Flood Management in Pakistan, 1994.
24. Management of Hill Torrents in Pakistan, 1995.
25. Impact of Power Policies on Social and Productive Sectors, 1996.
26. Environmental Protection and Resource Conservation, 1998.
27. Need for Hydropower Development to Solve Energy Crisis, 1999.
28. Transportation Engineering and its related issues, 2001.
29. Water Crisis in Pakistan & its Solutions, 2003.
30. Urban Development with focus on Housing, 2006.
31. Procurement and Contract Management, 2008
32. Genesis of Power Crises and its Management in Pakistan, 2009
33. International Workshop on Floods in Pakistan-2010 Lessons Learnt & Way Forward, 2011

**This year the burning topic all the World over with grave implications for Pakistan is:-**

**“Changing Environmental Pattern and its Impact with Special Focus on Pakistan”**

Throughout its long history, Earth has warmed and cooled time and again. Climate has changed when the planet received more or less sunlight due to subtle shifts in its orbit, as the atmosphere or surface changed, or when the Sun’s energy varied. But in the past century, another force has started to influence Earth’s climate: humanity.

The global rise in temperatures due to increasing emission of greenhouse gases (resulting from burning of fossil fuels) is being further aggravated by the fast pace of deforestation and degradation of forests.

Climate change and its accompanying killing effects, Rising Sea levels, Floods, Droughts, un-timely Rains, Water Shortage, Migrations from Habitats, etc. pose the most daunting challenge for humanity. The signals are loud and clear.

- Sea rise between mid-nineteenth & mid-twentieth century is 3mm / year.
- Warmest years were during 1995-2006.
- Global Humanitarian Forum of United Nations has predicted that by 2030, the number of people affected by the global climate change will increase from the present 325 million to 660 million.
- Kenya, in East Africa has suffered the worst drought and the affected people distinctively called climate change refugees. Ten million people facing food shortages.
- Climate change and man-made damage to the natural environment are resulting in increased levels of destructive flooding causing loss of property and human life. For example, within the UK there are currently over a million properties at risk and sea levels are about 10 cm higher than they were a few hundred years ago (\$ 100 billion assets are at stake).

- The residents of urban areas are worst sufferers of high rise temperatures as the buildings store heat. Urban Heat Island effect (VHI) as quoted by Kate Henderson in article on “**Adapting to Changing Climate**”.
- In Tibet climate change, melting glaciers, deforestation and increasingly polluted water from mining projects pose immense health problems for the people.

**The repercussions of climate change have been graphically explained in an article published in Newsweek by Thomas C. Schelling Nobel Laureate under the caption of “The Economics of Global Warming” and I quote:**

*“The real global challenge facing us will be organizing to reduce carbon emissions and provide help to poor countries coping with climate change. The worst, but not the most likely, consequences of climate change could be rising sea levels; there is grounded ice in Antarctica that, if loosed from its moorings, is worth five or six meters of sea level, enough to sink Stockholm, Manhattan, or London, or to oblige them to build levees to escape inundation, and to oblige millions of Bangladeshis and others to abandon their homes and work places and to migrate. (Levees cannot save Bangladesh; they leave no escape from the fresh water floods that need to reach the ocean.)”*

*“The most likely consequences of climate change will be severe impacts on food production in the developing world. We can worry about urban heat waves, polar bears, and forest fires, but the worst effects are almost certainly going to be on food production in the poor countries, where half or more of the population depends on growing its own food.”*

**The assessment of this environment change at the Copenhagen accord was as under:-**

- Unless the levels of “carbon emissions” were drastically reduced there will be earth shattering 2- degree Celsius increase in global temperatures by 2050. Even, if Copenhagen formulations are implemented, the increase would be contained by not more than 1- degree Celsius.

- A study by “Sustainability Institute” of USA revealed that “Copenhagen” proposals will result in 3.9 degree Celsius increase in global temperatures.
- The UNEP’s Chief spokesman “Nick Nuttal” said “**it becomes increasingly difficult to achieve reduction and increasingly costly if you wait**”.

The menace of rising temperatures / climate change is being spear-headed by the industrially advanced countries and the fast emerging economies of China, India, Brazil etc. In order of their contribution in the list of CO<sub>2</sub> emitters China is at the top with 22.3% followed by USA with 19.91%, European Union with 14.04% and India as fourth largest offender with 5.50%.

The awareness regarding degradation of environment has also accelerated the efforts to conserve the environment but with little results so far. Several treaties, protocols and accords in this regard have been signed. Some of these agreements even lack fairness e.g., as per **Cancun (Mexico) Accord** it was agreed that:

- About 16% of reduction in the emission of greenhouse gases vis-à-vis 1990 levels. The recommendation by experts was 25% to 40% from 1990 levels in 10-years.
- Reduction of Per Capita emissions down to 2-tons per person by 2050. (in 40 years). This will call for 20 gigatons reduction from the present 40 gigatons, not a small target.
- 2-degree Celsius reduction in the temperatures.
- No individual country wise targets have been fixed. Angela Merkel, the Chancellor of Germany has rightly pointed-out that every person in the world has the right to an equal and restricted volume of CO<sub>2</sub> emissions.
- Industrially advanced societies (as well other countries) which emit more greenhouse gases than their fair share could do so after instituting an open and verifiable scheme or after receiving emission credits from others.
- A “**Green Fund**” of Dollars 100 billion a year (as agreed at Copenhagen) is to be mobilized to help developing world go green starting from 2020 (after 10-year from now), a far-fetched dream.

**It is important to understand that such accords are at times not very fair like Cancun Agreements are unfair to the South's vulnerable people, and soft on the North. They are bad for the world.**

**Writes Praful Bidwal in an article in the News International December 20, 2011:-**

*"Now some of its substance has been resurrected in the UNFCCC's Cancun Agreement (CA), just reached in Mexico. The CA has been welcomed by some of defending "multilateralism" and called "forward-looking", "a new beginning" and a prelude to an effective agreement with binding targets next year. The crucial question is: Will the CA prevent catastrophic climate change through the necessary 40 percent emission cuts by the North by 2020, which limit global warming to 1.5 to 2°C- the maximum that Planet Earth can tolerate?"*

*"The answer is a resounding no. Under the CA, global temperatures will probably rise by 3 to 4-plus degree C, causing irreversible breakdowns in the climate system, leading to ecological devastation, colossal economic damage, millions of deaths and thus threatening humanity's survival".*

In terms of Annual CO<sub>2</sub> emissions of the World, Pakistan contributes a negligible 0.53%. However, its coastal area as well as hinterland is highly vulnerable to global warming / climate change. In 4-days from July 27 to July 30, 2010, a huge deluge of 253.9 inches of rainfall took place. This along with the rains in the catchment areas of Indus Basin rivers resulted in Biblical floods that submerged vast land mass, made millions homeless and shattered the entire socio-economic structure of the Country. The total loss has been estimated between 30-43 billion dollars (Rs. 2580-3698 billion) with \$ 10 billion needed for immediate restoration and re-habilitation.

Pakistan Engineering Congress held an International Workshop on Floods-2010 "**Lessons Learnt & Way Forward**" on March 12, 2011 at its auditorium with active participation/support of Govt. of Pakistan, ICID: PANCID, WWF. In all 12-papers were presented by Pakistan's and Foreign luminaries of the phenomena

of floods / management of floods. The recommendations formulated by the panel of experts have been furnished to all the concerned Federal / Provincial Government departments/agencies. These are also on Congress website: [www.pecongress.org.pk](http://www.pecongress.org.pk) and ICID website: [www.icid.org](http://www.icid.org).

**Some of the measures that I may suggest to combat environmental issues include:**

1. Pakistan ought to create a **“National Climate Fund”** as has been done in Indonesia and Bangladesh.
2. Not more than 3% land mass of the Country is under forests a very disappointing position vis-à-vis a minimum benchmark of 25%. Hence, vast potential for expanding forest resources and earning cash credits.
3. Proper planning for massive plantation of trees on the lines in China where 35 billion saplings are being planted in 4500 km greenbelt.
4. Proper plan of earmarking land for plantation of trees for;
  - (i) Production of timber and (ii) Conservation as done in Malaysia where 57% has been allocated for production and 43% for conservation of forests.
5. Effective management of Hill Torrents.
6. Water storages, both on-channel and off-channel, have to be built to attenuate the flood peaks.
7. All river works; especially flood protection works and barrages should be given due importance and priority in resource allocation; irrespective of flood frequency.
8. All the flood bunds in the country should be redesigned to meet the latest requirements.
9. Mangrove forest are a source of livelihood for the people of coastal areas, a source of cheap fuel wood, fodder for the livestock, a barrier for intrusion of sea water and must be preserved at any cost. However, the position is out of control and the Timber and Land mafia is destroying it and unbalancing the eco-system.

10. The flood warning and forecasting systems all over the country need extension and improvement. The capacity building both in terms of equipment (weather radars), software, and human resources need immediate attention.

I understand that today when learned speakers will present their papers we shall be much wiser than before and hopefully shall be in a position to formulate and forward comprehensive recommendations for policy makers and implementing authorities for their kind consideration and needed actions. Therefore, I would like to conclude my address of welcome by thanking you all for granting me very patient hearing.

**Pakistan Paindabad.**

