

PAKISTAN ENGINEERING CONGRESS 68TH ANNUAL SESSION
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S. N. H. Mashhadi,
President 68th Session (1998 – 2000)
Pakistan Engineering Congress

ENGR. S. N. H. MASHHADI
PRESIDENT 68th Session (1998 – 2000)
PAKISTAN ENGINEERING CONGRESS

Born in October, 1931, at Ferozepur, (Indian Punjab), Engr. S. N. H. Mashhadi, the newly elected President of the Pakistan Engineering Congress and Managing Partner of an internationally renowned consultancy firm (M/s National Development Consultants) engaged in rendering countrywide consultancy services in water resources development projects, graduated as a Mechanical Engineer in 1953 from the Punjab College of Engineering and Technology, Lahore and followed it up with a degree in Civil Engineering in 1954.

He started his career with the Punjab Irrigation and Power Department in 1955. That was the crucial time when India had arbitrarily stopped irrigation supplies to the canals in Pakistan whose Headworks were left on the Indian side. Resultantly the Irrigation Department was seriously seized with the design and remodeling of the irrigation network to save the fertile-lands of south-eastern Punjab from turning barren. Technical progress of Engr. Mashhadi soon caught the eye of seniors and he was included in the group of talented engineers charged with the challenging design and remodeling works of irrigation system to tide over the imminent traumatic catastrophe. His dedication earned his accelerated promotion in 1962 and he was transferred to WAPDA in 1964 where he rendered commendable services in the design, contract administration and construction supervision of Taunsa-Panjnad Link, a major feeder channel as a component work of Indus Basins Project.

In 1972, he fell a prey to the political and unjustified anger of some highly influential people for not acceding to their illegal demands but when reinstated honourably he opted to leave public service. From 1972 to 1973 he worked for different organizations and in 1973 joined Noon Qayyum and Co., a Consultancy Firm. Soon after he became a Partner of another Consultancy Firm, Engineering and Technical Consultants. Not satisfied with the state of affairs obtaining there, he launched his own Firm in the name and style of National Development Consultants (Regd.) in 1977. With concerted efforts and coordinated devotion of the partners, the Firm has taken development strides to rank as one of the leading consultancy houses and has provided services to WAPDA, Provincial Governments and other Autonomous Agencies for more than 50 prestigious projects in water sector, funded interalia by Asian Development Bank, World Bank and European Community etc.

His service to Engineering Community is by no means insignificant. He has contributed about two dozen technical papers in the Pakistan Engineering Congress Proceedings, Engineering News Journal and other local and international journals. Engr. Mashhadi has been instrumental in enhancing the image of the Engineering Congress. For over 20 years he has been organizing Engineering Congress the set up in the capacity of an Executive Council Member, twice as Secretary, once as Vice President and almost in every session taking upon himself the voluntary role of acting as Convener Library and Publication Committees and Building and Fund Raising Committees. He always came up with all the resources at his command to make the Annual Sessions of the Congress a success by contributing financial and secretariat resources of his Firm.

Engr. Mashhadi has traveled widely in connection with his Consultancy Business to countries like U.S.A. U.K. Holland, Germany, France, Italy, Spain, Portugal, Phillipines, Thailand, Hongkong, Nepal, Dubai, Saudi Arabia etc.

Simultaneously serving the engineering fraternity as Executive Council Member of Pakistan Engineering Council; Member Board of Governors, Centre of Excellence in Water Resources Engineering UET; Executive Council Member, Institution of Engineers, Pakistan, and Fellow of the American Society of Civil Engineers, his services have very aptly been acknowledged by the Congress Members by electing him as President, Pakistan Engineering Congress for 68th Session to represent the Consultants turn.

ADDRESS

BY

ENGR. S. N. H. MASHHADI

Honorable General Parvez Musharraf,
Chief Executive,
Islamic Republic of Pakistan,

Respected Governor and Ministers,

Distinguished Guests, Members of Pakistan Engineering Congress

Ladies and Gentlemen;

Assalam-o-Alaikum!

It is a singular honour and a privilege for us, General Parvez Musharraf, to welcome you most sincerely at the 68th Annual Session of Pakistan Engineering Congress which you have very kindly consented to inaugurate today despite your multifarious engagements and extremely busy schedule. Fortunately, we will have an opportunity to share thoughts with your good-self and give a brief account of the activities and achievements of Pakistan Engineering Congress.

Your presence here today under-scores the importance your Government attaches to promote the engineering profession which is the back-bone for the development of a nation.

Pakistan Engineering Congress and its Objectives

Sir, Pakistan Engineering Congress is a multi-disciplinary body of professional engineers. It is a private professional non-Governmental and non-political Organization. Its Office Bearers are all professional engineers and work voluntarily during their tenures of Office. It was established in 1912, to promote the profession and practice of engineering; to afford members an opportunity for meeting periodically to discuss and pursue matters of professional interests.

In pursuit of these objectives it has been holding annual conventions, occasional seminars and workshops which provide opportunities to the engineers for presenting and discussing new developments in Engineering Sciences. Large engineering projects are appraised and reviewed at these fora. Proceedings of all the technical papers presented at these fora-are published and number 830. This ware-house of knowledge can be referred to at the archives of Congress and other national Libraries. The Congress runs its affairs through voluntary contributions from its members, engineering and industrial organizations and of late from the rent of the building that we have built in the Liberty Market, Gulberg, Lahore

Achievements of Pakistan Engineering Congress

Sir! you will be happy to know that the famous Lacey's Theory for "Design of Stable Channels in Alluvium" and the Khosla's Theory for the "Design of Barrages on Permeable Foundations" were developed from the Congress Technical Papers. The World's largest contiguous Irrigation System in Pakistan comprising huge Barrages and large Canals has been designed on the basis of these proven theories. The other parts of the world, we feel elated, have followed the suit.

Establishment of a Computer College

The Congress, in addition, has established a Computer College. It is successfully running for over the last Five years in its premises for the advancement of this latest technology. This college is being run on no-profit-no-loss basis. So far more than two thousand mixed students have successfully obtained diplomas in various computer courses upto Master's level.

Governments Priorities and Objective

Sir, Alleviation of poverty, improvement of the national economy and the life style of the common man, both in the rural and urban areas, reduction of dependence on foreign loans are some of the cardinal task for which your Government has launched major development programmes in different fields. The engineers of Pakistan fully support these laudable efforts and in all the engineering fields in which they are making a direct contribution may be construction, operation or maintenance.

In the implementation and execution of national development projects, we assure you, Sir, the engineering community, notwithstanding some discouragements and adverse developments, is determined to play its role and to do its best to achieve the desired results. We also assure you of our full cooperation to work towards the cherished goals of self-reliance, self-sufficiency and economic independence which your Government is seized with.

Bounties of Nature Bestowed on Pakistan

Sir, in one of your speeches you had mentioned about the bounties of nature bestowed on us. To reiterate, I take your permission to recount that Pakistan has high snow-laden mountains and glaciers which melt down into big rivers and drain along the slopes gradually, turning alluvial plains into fertile lands. Excellent variable climates during the year, are congenial for growth and maturing of various crops and fruits in some cases thrice a year. Above all, most hard-working and patriotic farmers till the lands dedicatedly. However, it is a tragedy that, despite pressure of the burgeoning population on land and water we are not making full use of the available natural and human potential. It is a pity that 35 to 40 MAP of fresh water of the Indus river and its tributaries, is allowed to flow into the sea untapped and unutilized during every monsoon season, while there are millions of acres of virgin unquenched lands in Balochistan, Thar, Cholistan and Thai for many centuries. Wasting of water eight times the storage in Mangla or four times in Tarbela is a heinous crime that God Almighty will never condone. It is the writing on the wall that for the missed opportunities by this generation will never be forgiven by the woebegone posterity.

No Storage / Dam Built after Tarbela in 1974

Sir, it is a pity that no new large water storage dam has been built in Pakistan during the last 26 years after Tarbela Dam. Tarbela and Mangla were built only to replace 33 MAP of water in the three eastern rivers i.e. Sutlej, Beas and Ravi which we lost to India and were not meant by any means for development purposes. Indus Waters Treaty of 1960 and the Inter-provincial Water Accord of 1991 held out assurances for building more developmental dams. Pakistan Engineering Congress, the Technical experts at home and abroad, the National Press and all the saner elements have been advocating for the construction of new storage dams since then. But alas their recommendations have been turned a deaf ear for fear of the exploitations of a small minority with politically vested interests.

Dams Built in other Countries

Sir, it is a sheer bad luck that while more than 28 dams are being built in India, 253 in China, 52 in Iran, 113 in Turkey and 97 in Japan, we have failed to launch even a single large water storage dam despite availability of abundant water.

Depletion of Capacities of Existing Reservoir due to Sedimentation

The capacities of Mangla, Tarbela and Chashma reservoirs on the contrary are, Sir, rapidly depleting due to sedimentation and huge under-water sand mountains (deltas) are coming up as a result of which we have already lost 25 percent storage capacity. The silt continues to flow into these reservoirs unabated as a normal phenomena.

Threats of Famine-like conditions due to depletion of Storages

Sir, we have failed to read the writing on the wall. The recent drought in Thar, Balochistan and Cholistan have forewarned us of, famine-like conditions of Ethiopia and Somalia if we did not tap available water resources. These warnings, if not attended to will take greater toll in the years to come.

Solution of Water Crisis lies in immediate commencement of Kalabagh

Sir, the only answer to this national water crisis lies in the construction of several new large storage dams. Fortunately Kalabagh is technically ready to be launched without any further delay. It was extensively surveyed, investigated, declared technically feasible and economically viable after several years of detailed studies costing over Rs. 100 crore. Had this Project been launched 20 years ago and completed by 1990, its cost would have been recovered within a few years from the stored water and hydel power production. The country could also have been saved from the present drought conditions, a calamity to assuage which the Government and the people of Pakistan are now spending billions of rupees. The long-term solution lies in the immediate construction of Kalabagh Dam, followed by Basha and other large and small dams.

Kalabagh Dam held in abeyance for want of National consensus

Though construction of Kalabagh Dam has been held in abeyance due to certain compulsions and some sort of lack of consensus yet it is of some comfort that the Government has already issued instructions to WAPDA to prepare technical feasibility reports of Basha and several other small dams in the country.

Why Consensus only Kalabagh Dam?

Regarding consensus, Sir, permit me to repeat an oft-heard observation that consensus was never sought before signing the Indus Waters Treaty in 1960 where we lost 33 MAP of our three eastern rivers or before constructing multi-billion projects like Pakistan Steel Mills, LBOD and the Motorways etc. One wonders as to why we should go in for consensus for a life saving Project of the country.

Implications of Taking-up Basha or any other Dam

Sir, it would be pertinent to explain that Basha Dam will take no less than 6 to 8 years for Detailed Investigations and Feasibility Studies before it is technically declared fit for construction followed by another eight years for construction. Sir, the nation cannot wait for another 16 years as drought of more severity will occur much earlier. We in the name of Allah, therefore, strongly recommend to you, Sir, to reconsider your decision and in the greater national interest order the immediate launching of Kalabagh Dam. The survey and detailed technical studies of Basha Dam and other small dams may also start simultaneously. All these actions need to be taken immediately in order to save the nation from further traumatic conditions.

Need for Hydro-power Development to solve Energy Crisis in Pakistan

Sir, the effects of current energy crisis on the national economy cannot be over emphasized. Pakistan, despite being endowed with large indigenous hydropower resources, has recently suffered a rapid switch-over to expensive thermal power development which has caused a significant rise in tariff for consumers. The ratio of hydel thermal power generation was about 60:40 in sixtees which now has been converted to 30:70. Due to drastic rise in tariff, major consumers have started to generate their own energy resources which is liable to give rise to another sort of crisis.

The energy demand has an inclining trend and the power shortfall will keep on accumulating causing future energy crises in the country. It is expected that the peak power demand in 2,018

will be 47,000 MW. It will result in shortage of about 32,000 MW required to be met through either hydel or expensive thermal development.

In view of the devastating effects of the current energy crisis on the national economy, Pakistan Engineering Congress held a symposium on "The Need for Development of Hydro power to Solve Energy Crisis in Pakistan" last year.

There we formulated the following recommendations and sent to the Government:

- That hydro-power output should not be surcharged with taxes and duties so that the benefit of low generation cost from God's free gift of flowing river water are passed on to keep down the energy cost to industry, agriculture and domestic consumers.
- There should be maximum reliance on hydropower to cope with future requirements effectively and efficiently. This, in fact, endorses July 1998 IPP Policy, which prescribes that all new power projects will be based on hydropower or indigenous coal.
- That Hydro-power development should through synergetic efforts of all concerned in the following manner:-
 - a) Construction of large projects on the main rivers and major tributaries, through multi-purpose storages in the public sector.
 - b) Construction of medium-sized projects involving small storages on tributaries, jointly by public / private sector.
 - c) Construction of small to medium-sized projects on the tributaries by the private sector.
- That taking up the multi-purpose Kalabagh Dam Project on priority basis followed by Basha Dam Project to lay firm foundations for systematic development of hydropower potential on the main rivers.

The Plight of Indigenous Consultancy and Construction Industry

Sir, the indigenous engineering consultancy and construction industry ranks next to agriculture and industry. Unfortunately this industry has not developed due to vested interests of foreign loan giving agencies, lack of understanding and due support by the Government and unhelpful State Bank regulations. About 80 percent share of big contracts is going to foreign construction companies and consultants. These companies heavily inflate costs and drain away bulk of the profits with the result that Pakistani companies have become only sub-contractors and sub-consultants. Only in some cases, the local firms of consultants and contractors are associated by them in the joint ventures but the bulk of the share is taken away by them. The growing practice of turnkey contracts to foreign companies is having deep adverse effects and needs immediate correction. The indigenous engineering consultancy companies and construction industry has a great economic and export potential and requires political, institutional and financial support from the Government. For instance South Korea, China, Japan and many other western countries vigorously promote their consultants and contractors for economic and political gains.

The Pakistani engineers have been warning the policy framers in the Government of dire consequences of increasingly heavy dependence on foreign loans, technical assistance, foreign consultants, multi-national companies and turnkey contractors which have their own priorities with the sole objective of maximising profit even at the cost of ever deteriorating economic conditions of the developing countries.

The two important activities which are fundamental to all development efforts are (1) Engineering and (2) Construction. These two go hand in hand with Engineering consultancy comprising planning, designing and other related activities, preceding construction. Together they cover a wide spectrum of inter-related technical services and play a significant role in the economic development of any country. In the developed and more industrialized countries, they account for as much as 10 per cent of the GDP whereas in the developing countries, these services contribute something like 2 to 7 per cent of GDP depending on the stage of development and status of these services. They also provide employment to a large segment of labour force ranging from engineers, technicians, skilled, semi-skilled and unskilled labour.

Importance of Construction Industry

The importance of Construction Industry can be judged from the fact that 30 to 70 per cent of a country's investment in its development programme is channeled through construction industry which in turn transforms various resources into economic and social infrastructure and facilities. These range from residential and non-residential buildings, dams, power plants, roadways, railways, irrigation works and other infrastructure. Similarly industrial development also needs construction of civil works and erection of machinery before it goes into production. Analysis of our Five-Year Plans shows that construction calls for almost 50 per cent of the total plan outlay. However the level of our infrastructure is far below the one required for the pace of development that we need or aim at i.e. the plan outlay involving construction should be higher than 50 per cent.

Engineering Services

Construction must of necessity follow Engineering Services, which are hardly 1 to 1.5 percent of the project cost over its economic life or 3 to 8 per cent of direct construction costs depending on the type, size and complexity of the project. Engineering Services have far reaching effects and are fundamental to the development of a country. Self-reliance in these fields is, therefore, synonymous with economic self-reliance. Nations which have attained self-reliance, realized this fact quite early in the day and today stand far ahead of us although at one stage some of them tried to emulate Pakistan in planning their development strategies. South Korea is one such example which in early sixties was sending delegations to Pakistan to learn from our experiences in development planning. It has now transformed itself into a developed country within a span of less than two decades. South Korea is exporting its services and goods to other countries since eighties. One of the reasons, perhaps the main one, for this transformation has been the conscious efforts on the part of South Korea to develop its Engineering Consultancy Services.

Planning and Investigation

Another very important issue is the continued activities in planning and investigation of development projects, particularly in the field of water and power resources. At present we do not have a portfolio of viable and feasible projects which could be undertaken at short notices. Had we continued to explore, investigate and plan more projects, we would not have come to the impasse that if, for one reason or the other, Kalabagh Dam is not taken up, we should have other projects to start immediately. It is, therefore, imperative that planning activities must always continue unabated not only in the field of Water and Power resources but also in Communication, Public Health etc. For this, a sizeable provision need to be made in the budget for planning new projects along side Research and Development in other specific areas.

Service Structure

Sir, the entire engineering community has since long been demanding the setting up of a Service Structure for all Graduate Engineers as has been done for the medical doctors and

lecturers. Before partition, the engineers had a separate Service Structure and they were the members of Indian Services of Engineers (I.S.E.) like Indian Civil Service (I.C.S.). On creation of Pakistan, a cadre known as Pakistan Service of Engineers (P.S.E.) was created which no longer exists for unknown reasons.

In the absence of a separate Service Structure for engineers, their service conditions are not being properly looked after and their promotions to the next grade are held up for years together. In several cases, the young Graduate engineers have to wait for 20 years to get their first promotion. This has been causing much frustration and unrest among the engineers resulting in brain drain to foreign countries which is rather an irredeemable national loss.

Sir, you will appreciate that the engineers play an important role in the economic development of the country as all construction works and their planning and designing rests on their shoulders. It is, therefore, strongly recommended that a 4-tier Service Structure for all engineers working in the Federal Government and the provinces is set up to win the confidence of the engineering community.

Heads of Technical Ministries

Sir, permit me to mention that till the period of Mr. Muhammad Khan Junejo as Prime Minister, almost 12 Technical Ministries were headed by Engineer Secretaries. Same was the position in the Provincial Technical Departments. It is an irony of fate that later on the Bureaucrats/non-engineers started taking over as Secretaries much to the disadvantage of Engineers.

In other developed and developing countries, the engineers are held in high esteem. They hold eminent positions in all Engineering Departments and are highly respected in the community. Even in the British rule in the sub-continent, the engineers enjoyed very important positions and they were even awarded high titles of Knighthoods and Khan Bahadurs. I may mention a few of them who were incidentally Presidents of the Engineering Congress and they were:-

Sir H.P. Burt; Khan Bahadur M.A. Hamid; Khan Bahadur K.A. Ghafoor; Sir Ganga Ram, Rai Bahadur W.C. Chopra, Rai Bahadur M.S. Dodhy; Rai Bahadur B.N. Singh, Rai Bahadur B.P. Varena and Rai Bahadur D.Khanna, etc.

We request you, Sir, that the Engineers are be given the same positions which they held 20 years ago i.e. Secretaries of Technical Ministries, Departments and Autonomous Bodies.

Some Engineers as Head of States

Even some Heads of States and Governments in other countries were and are the Engineers like Ahmed Soekarno of Indonesia, Suleman Demiral of Turkey, Anwar Saadat of Egypt and Mr. Yasar Arafat of Palestine. Several engineers are Cabinet Ministers in other countries.

Unemployed Engineers

Not oblivious of its responsibilities for the welfare of engineers, we in the Pakistan Engineering Congress are very much concerned and worried at the alarming rate of unemployment among the young Graduate engineers.

Sir, you will appreciate that the engineers are the real builders of the country but we are wasting this talent by keeping them out of jobs. This indifferent altitude on the part of trade and industry and also by the Government has resulted in growing frustration among the young engineers. As a result they are gradually switching over to other professions much to the disadvantage of the country and the nation. Several of these jobless engineers appeared in the Superior Services competitive examinations and were selected in the elite CSS cadre which is a proof of their high talent and intelligence. It might be a gain for the bureaucracy but certainly it is a great loss to the engineering profession and to the country as a whole. A number of jobless engineers have

sought lucrative jobs outside Pakistan and their high performance has often been acknowledged and appreciated by the foreign employers. Efforts must be made to stop this brain-drain.

The Pakistan Engineering Congress recently carried out an exercise and collected data of unemployed engineers through newspaper advertisements. We estimate that about 5000 to 7000 young graduate engineers are jobless in the country. On the other hand, the Engineering Universities continue to produce every year hundreds of engineers thus adding to the number of jobless engineers.

Recommendations of PEC for Employments of young Engineers

The Pakistan Engineering Congress, therefore, recommends that:-

- i) An ordinance be immediately promulgated making it mandatory on the Contractors, Consultants and engineering industry to keep a provision in their respective financial budgets/proposals for appointment of a certain minimum number of graduate engineers for on-job training. A minimum salary of Rs. 6,000/- per month should be offered to each trainee engineer for a period of two years. We believe this could absorb at least 2000 jobless engineers.
- ii) Pakistan Engineering Council may be directed to appoint Inspectors for monitoring the employment of qualified engineers with contractors, consultants and industry since there is already a provision in the law which is being violated.
- iii) We have reports that provincial Governments are planning to downsize various Technical Departments to the tune of 40 per cent of the existing strength. The downsizing of engineering posts be deferred for the time-being so that on-job engineers are not rendered jobless.
- iv) The Engineering Universities and Pakistan Engineering Council may be directed to keep proper track of their graduates. The Universities should ask their alumni and Council, their registered professionals to keep them informed about their job positions. These reports from the Universities and the Engineering Council could be adequately used by the Government in career planning and controlling the number of seats in the Engineering Universities as per the market demand.
- v) Arrangements be made in all Engineering Universities for career planning and counselling and the new entrants be advised about the scope of jobs in various disciplines. This arrangement of counselling in the Universities could also help the students in selecting the disciplines of their choice and also apprise them of job opportunities in such disciplines.
- vi) Opening of new private Engineering Universities and Colleges and admission of students therein should be controlled by the Government (may be through Pakistan Engineering Council or Ministry of Science and Technology) keeping in view the limited demand in the various technical departments and trade and industry.

Eradication of Corruption

Corruption is rampant these days in all walks of life. Generally speaking in all countries which got freedom in the last half century or so, Governments have failed due to corruption or internal conspiracies. The rulers who had to give freedom to these countries after the World War-II are now ranking them as No. 1 or No. 2 and so on in corruption. Sir! we in Pakistan Engineering Congress do not defend corruption but do feel that various Governments, which were later themselves proved corrupt had in their hey days sacked 303 or 1400 Government servants on charges of corruption and inefficiency. Most of such employees were declared innocent and

reinstated by successor Governments. No Government had the courtesy even to hold an impartial inquiry into the reasons for their corruption. We have been reading statements by some Heads of Government or past Finance Ministers that in such and such year so many billions of rupees had been pilfered by the Government servants but no inquiry was held or punishment given to anybody except occasional compulsory retirements of experienced bureaucrats and technocrats.

Sir! when we joined the Government service in fifties, the salary of Grade-17 Government servant was Rs. 250/- plus Rs. 48/- as dearness allowance i.e. a total of Rs. 298/- per month. Those of us who worked in the Design Offices or against Specialist posts would get an additional pay of Rs. 100/- per month. So hi a salary of about Rs. 400/- per month we could rent a house at Rs. 50/- per month and live comfortably with a family of four members. The price of gold was Rs. 85/- per tola at that time and we could purchase about 5 tolas of gold in our one month's salary. Sir! now the inflation in the last 50 years has gone so high that gold is selling at Rs. 5,500/- per ten grams which is less than a tola. With this international standard of keeping gold as the unit for exchange among nations, the salary of grade-17 officer should now be Rs. 25,000/- per month as against Rs. 6,000 being paid these days.

Sir! our observation is that with the present day prices of household consumables, bills for house rent, utilities, expenses of children's education, transport and medical, it is impossible for an officer to live within his salary. The Government must initiate an inquiry into the reasons for corruption and mal-practices in services and also prepare a reasonable budget for an officer with four to six family members and then fix the salaries in accordance with market price index. If anybody is found to indulging in corruption later on, he should be fired. According to Islamic injunctions, a hungry thief who steals a piece of bread cannot be punished with amputation of hands.

Sir! if you desire, Pakistan Engineering Congress can submit a detailed working paper on eradication of corruption from services.

Review of Progress of Nation-Building Organization

Sir! it has been customary in the past to review the progress of important Nation-building Organizations in our Address of Welcome. During the last one year you have been amply briefed by various formations and you have taken stringent remedial measures to improve the efficiency of various departments, I have, therefore, avoided to include the progress of these organizations in my main address. For academic record, however, I am annexing some details as Appendix-'A'

Conclusion

Sir! in this address I have resorted to some plain-speaking relying not only on your forbearance and graciousness but also conscious of the fact that in some of your speeches you have been inviting suggestions and criticism from the public and the Press. If necessary, Sir, the policies can be given by us in the right direction. Anyway, I request your good-self to please overlook anything where I may have wavered or where our thinking may be considered at variance albeit in good faith.

With this, Sir, I thank you for your patience for bearing with me for a lengthy Welcome Address.

**PAKISTAN ENGINEERING CONGRESS 69TH ANNUAL SESSION
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Engr. Ch. Muhammad Rashid Khan

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| 11. Engr. Anwar Ahmad | 29. Engr. M. P. Gangwani |
| 12. Engr. M. Habib-ul-Haq Randhawa | 30. Engr. Qaiser Zaman |
| 13. Engr. Syed Nafasat Raza | 31. Engr. Imtiaz Ahmad Paracha |
| 14. Engr. Sajjad Hussain Nasim | 32. Engr. Ch. Muhammad Shafiq |
| 15. Engr. Ch. Chuda Yar | 33. Engr. Muhammad Akhtar Ch. |
| 16. Engr. Rana Khursheed Anver | 34. Engr. Mian Saeed ud Din |
| 17. Engr. Muhammad Khalid Cheema | 35. Engr. Iftikhar Ahmad |
| 18. Engr. Pir M. Jamil Shah | |



Engr. Ch. M. Rashid Khan,
President 69th Session (2000 – 2004)
Pakistan Engineering Congress

ENGR. CH. MUHAMMAD RASHID KHAN, PRESIDENT, PAKISTAN ENGINEERING CONGRESS

Engr. Ch. Muhamad Rashid Khan, B.Sc. 1962, LL.B(PB), FIE (PAK), FIEE (PAK), MPCE (PAK), HON. FCSC (CANADA), MIEE (USA) is an eminent Engineer of international standing. He was elected as the President of Pakistan Engineering Congress, in 1998. He is also Chairman of Institution of Engineers, Pakistan Foundation as well as Secretary General Institution of Engineers Pakistan. In addition, he holds prominent positions in numerous national & international forums inter-alia.

- Vice-President, World Federation of Engineering Organizations under UNO (WFEO under UNO).
- Member, International Engineering Council. World Federation of Engineering Organizations (WFEO).
- Vice-President of Federation of the Institution of Engineers for South and Central Asia (FEISCA of SAARC countries).
- National Representative from Pakistan for Common Wealth Engineering Council.
- Member of Engineering institute of Islamic Countries (OIC Countries).
- Member Executive Council of Engineering Institute of South & Central Asia (FIESCA) SAARC Countries.
- Member of International Federation of Automatic Control (IFCA).
- Corresponding Member, International Association for Bridges & Structural Engineering (IABSE).
- Corresponding Member of Consortium of Affiliates of International Progress (CAIP).
- Member Institution of Electrical & Electronics Engineering, USA.
- Honorary Fellow Canadian Society of Civil Engineers, USA.
- Honorary Member American Society of Civil Engineers, USA.
- Member Executive Committee of Electrical, Electronics Engineers, USA (Section Lahore, Pakistan).
- Chairman of the Committee on Engineering & Environment (FEISCA).
- President, IEP Members Co-operative Housing Society, Lahore.
- Chairman, Engineers Club, Pakistan.
- Chairman, IEP Quaid-e-Azam Forum

Engr. Ch. Muhammad Rashid Khan is a widely traveled person and is a familiar face in the national & international seminars and conferences relating to engineering and allied matters and has contributed scores of papers in these forums. His immense contribution in the amelioration and welfare of Engineering Community and advancement and spread of engineering knowledge has been amply recognized both nationally and internationally.

- Permanently documented as one of the Five Hundred Leaders of influence by American Biographical Institute Inc.

- Conferred 20th Century Achievement Award for career achievements and social contribution as one of the Five Hundred Leaders of influence.
- Two times recipient of Gold Medal awarded by Institution of Engineers Pakistan for meritorious services to engineering profession.

Engr. Ch. Muhammad Rashid Khan had a distinguished carrier in Water & Power Development Authority (WAPDA) spreading over 37 years. He occupied prominent positions in the Generation, Transmission & Grid and Distribution Wings of WAPDA. His role in Electrification of Villages, Inventory Management and Energy Surveillance (i.e. Load Management etc.) was especially outstanding. In recognition of his outstanding and meritorious services, The Chairman WAPDA conferred upon him commendation certificate.

ADDRESS
OF
ENGR. CH. M. RASHID KHAN,
PRESIDENT 69th Session (2000 – 2004)
PAKISTAN ENGINEERING CONGRESS

Honorable the Chief Guest

Distinguished Guests, Members of Pakistan Engineering Congress,

Ladies and Gentlemen:

Asalam-o-Alaikum

It is an honour and privilege for us, to welcome you all at the 69th Annual session of Pakistan Engineering Congress. We are specially indebted to your Sir, for sparing some time from his busy schedule to be with us and inaugurate this session. Sir, your presence will provide us an opportunity to share thoughts with your good-self and to give a brief account of the activities and achievements of Pakistan Engineering Congress and its members.

Pakistan Engineering Congress and its Objectives

Sir, 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.

In pursuit of these objectives the Congress has been holding annual conventions, occasional 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. Proceedings of all the technical papers presented at these occasions are published and their total number has grown to 919. This ware-house of knowledge can be referred to at the archives of Congress and other national Libraries. 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.

Achievements of Pakistan Engineering Congress

Sir, you will be happy to know that the famous Lacey's Theory for "Design of Stable Channels in Alluvium" and the Khosla's Theory for the "Design of Barrages on Permeable Foundations" were developed from the Congress Technical Papers. The World's largest contiguous Irrigation System in Pakistan comprising huge Barrages and large Canals has been designed on the basis of these proven theories. Engineers from other parts of the world, we feel elated, have followed suit.

Pakistan Engineering Congress Library

The Library of Pakistan Engineering Congress which is basically a Research & Reference Library has 2489 books on Engineering and Computer Subjects, It is organized on Dewey Decimal Classification System and catalogued according to Anglo American Cataloguing Rules-II. The catalogue is fed in computer for scientific retrieval. Members visiting the Library have the facility of getting photo-copies of desired material.

Establishment of a Computer College

The Computer Center of Pakistan Engineering Congress was established in 1994 through a generous donation of computers by the then President of the Islamic Republic of Pakistan. It was later upgraded to an institute and was inaugurated by the then Prime Minister of Pakistan in 1997. Today, it offers IT courses ranging from the very basics to the most advanced which are specially 'designed for Engineers, Executives as well as for general public. Advanced programming and designing courses are also offered. Our faculty is mostly foreign qualified.

So far training has been imparted to over one thousand young engineers, engineering students and also to the youth with general education at a very nominal tuition fee. Generous concessions have been given to poor but deserving students.

Government Priorities & Objectives

Sir, alleviation of poverty, the building-up and renovation of infrastructure such as roads & highways, (especially in costal areas) medical institutions, mega-development Projects like Gawarder Port, Gomal Zam Dam, Mirani Dam, Kachhi, Raineer and Thai Canals, privatization of public entities and Banking Institutions, the exploration of Oil and Gas, the establishment of Micro Financing Banks, the focal attention towards spread of Information technology and above all Economic stabilization through enhanced exports and foreign exchange earnings are some of the cardinal goals being actively pursued by the present government. The engineers of Pakistan fully support these laudable efforts, and in all the engineering fields in which they are making, a direct contribution be it construction operation or maintenance.

Bounties of Nature bestowed on Pakistan

Sir, Pakistan has high snow-laden mountains and glaciers which melt down into big rivers and drains along the slopes gradually, turning alluvial plains into fertile lands. Excellent variable climates during the year, are congenial for growth and maturing of various crops and fruits in some cases thrice a year. Above all, most hard-working and patriotic farmers till the lands dedicatedly. However, it is a tragedy that, despite pressure of the burgeoning population on land and water we are not making full use of the available natural and human potential. It is a pity that 35 to 40 MAP of fresh water of the Indus river and its tributaries, is allowed to flow into the sea untapped and unutilized during every monsoon season, while there are millions of acres of virgin parched lands in Balochistan, Thar, Cholistan and Thai for many centuries. Waging of water eight times the storage in Mangla or four times in Tarbela is a crime that Allah Almighty may not condone. It is the writing on the wall that missed opportunities by this generation will never be forgiven by the troubled posterity.

No Storage / Dam Built after Tarbela in 1974

Sir, what a misfortune! that no new large water storage dam has been built in Pakistan during the last 29 years after Tarbela Dam although at least one dam was needed to be built after a gap of every 15 years. Tarbela and Mangla were built only to replace 33 MAP of water in the three eastern rivers i.e. Sutlej, Beas and Ravi which we lost to India and were not meant by any means for development purposes. Indus Waters Treaty of 1960 and the Inter-provincial Water Accord of 1991 held assurances for building more developmental dams. Pakistan Engineering Congress, the Technical experts at home and abroad, the National Press and all the saner elements have been advocating for the construction of new storage dams since then. But alas their recommendations have been turned a deaf ear for fear of the exploitation of a small minority with politically vested interests. Whereas, 312 dams of heights more than 50 feet are being built in adjoining countries like India, China, Iran, Turkey and Japan only three dams are under construction in Pakistan.

Depletion of Capacities of Existing Reservoirs Due to Sedimentation

The capacities of Mangla, Tarbela and Chashma reservoirs on the contrary are, rapidly depleting due to sedimentation and huge underwater sand mountains (deltas) are coming-up as a result of which we have already lost 25 percent storage capacity which is likely to increase to 30%. In terms of MAP, the capacity has been reduced from 17 MAP to 12 MAP (a reduction of 5 MAP of valuable water). The silt continues to flow into these reservoirs unabated as a normal phenomena. Also the underground Water Resources are being heavily taxed. The raising of Mangla Dam by Government is a welcome step and the engineers community whole heartedly support the Government.

Threats of Famine-like conditions due to depletion of Storages

Sir, we have failed to read the writing on the wall. The occurrence of drought in Thar, Balochistan and Cholistan have forewarned us of famine-like conditions of Ethiopia and Somalia, if we did not tap available water resources. These warnings, if not attended to, will take greater toll in the years to come.

Solution of Water Crisis lies in Immediate construction of Kalabagh Dam.

It may be pointed out that on the Colorado River in America, more than 200 water storage dams have been built to utilize every drop of its precious water but we are mercilessly wasting our unique bounty for which the posterity will never forgive for their misfortunes brought about by those elements who have been creating hurdles in the construction of Kalabagh Dam.

It may be pointed out that with the enforcement of World Trade Organization Rules in 2005, Pakistan would be confronted with a very difficult situation due to high power tariff. Our industries would not be able to compete with foreign markets as the cost of our products would be very high due to high rates of electricity. As such, early construction of Kalabagh Dam is of great national importance which will also produce 3600 M.W of economical Hydel power for industrial output besides extensive irrigation. Increased Hydel Generation will appreciably reduce the selling rates of electricity per unit which presently range between Rs.6 and Rs.7 per unit.

Implications of Taking-up Basha or any other Dam

Sir, it would be pertinent to explain that Basha Dam will take no less than 3 years for detailed investigation and feasibility studies before it is technically declared fit for construction followed by another eight years for construction. Sir, the nation cannot wait for another 10-12 years as droughts of more severity can occur much earlier. However, the detailed technical studies of Basha Dam and other small dams may also start simultaneously. These actions are needed to be taken immediately in order to save the nation from further traumatic conditions.

Need for Hydro-Power Development to Solve Energy Crisis in Pakistan

Sir, the effects of current energy crisis on the national economy cannot be over-emphasized. Pakistan, despite being endowed with large indigenous hydropower resources, has suffered a rapid switch-over to expensive thermal power development which has caused a significant rise in tariff for consumers. The ratio of Hydel vs Thermal power generation was about 60:40 in sixties which now has been converted to 30:70. Due to drastic rise in tariff, major consumers have started to generate their own energy resources which is liable to give rise to another sort of crisis.

Sir, you will be happy to know that in this Annual Session, the Pakistan Engineering Congress is also holding a Symposium on "Water Crises in Pakistan and its Solutions"

Five Tier Service Structure for Engineers

The engineers are recruited in BPS-17 and they get stagnated almost for 15 years in Grade-17 and hardly get one promotion in the position of BPS-18 as Executive Engineer and over 90% of engineers retire in BPS-18. The engineers are the cream of the nation who acquire engineering degrees after obtaining high positions in Matriculation, Intermediate and undertake arduous and expensive study/course of Four to five years in the engineering colleges. It is just unfortunate that this section of society which is responsible for the development of the nation has been ignored in Pakistan where the bureaucrats find their way from BS-17 to BPS-22 in a regular span of time of 4 to 5 years in each scale alongwith facilities honours and privileges of service. The engineering community has been struggling since long and several "Service Commissions" constituted by the government and recommended for professionalisation of services. However no separate group for engineers in the government was created for a service structure established for engineering ministries departments and organizations.

We take this opportunity to request the Government to accord following percentage in various pay scales to ameliorate their heart burning:

50% in BPS-17

34% in BPS-18

12% in BPS-19

3 % in BPS-20

1 % in BPS-21

Automatic Time Scale Promotion

In the absence of appropriate service structure for engineers and any service group for engineers, majority of engineers have been stagnating in different cadres without promotions for 15 to 20 years.

The Administrative Reforms of 1973 had compensated the professionals including engineers to some extent by granting uniform scales for all services. Six to Seven engineers were elevated to the position of Federal Secretaries and almost all Provincial Secretaries were engineers. However, the Bureaucrats in the succeeding years succeeded in reversal of the policy

To rectify the injustice done to the engineers for these long years Pakistan Engineering Congress requests the Government that time scale promotion as indicated below be allowed to engineers as is enjoyed by other service cadres:-

5 years from BPS-17 to BPS-18

7 years from BPS-18 to BPS-19

5 years from BPS-19 to BPS-20

5 years from BPS-20 to BPS-21

The promotion in BPS-22 should also be granted to engineers in line with the other services.

Executive Secretaries to be appointed as Heads of Engineering Departments

Sir, the country is at the threshold of a new era of economic development and needs a strong, honest and professionally competent administration that is accountable to the people and wholeheartedly dedicated to the development of the country and the service of its people. Permit me to say Sir, that in line with A.G.N. Qazi Committee Report of 1970, the Government of Pakistan decided in 1989 (as well as implemented)

- That secretaries in the Central Ministries, Secretarial Departments dealing exclusively with engineering subjects be filled with engineers.
- That for other posts dealing with technical and economic, engineers should be considered for appointment alongwith others.
- Purely Engineering Ministries, Departments and Organizations, should be manned by suitably qualified engineers not at the level of Secretaries but also at the level of Addl. Secretaries, Joint Secretary and Deputy Secretary.

In line with the policy mentioned above the Government posted engineers as secretaries of engineering departments etc. However in disregard of the laid down guide lines, presently most of the engineering departments are headed by non engineers. Resultantly, the engineers community's morale is at a low ebb. They find themselves bogged down at lower levels with channels of promotion blocked and their dedicated work un-rewarded.

Massive un-Employment of Engineers

Sir, permit me to bring out the plight of engineers in the country. The number of un-employed engineers (or for that reason any other professionals) reflects the level of economic and social development of a country. It will not be an exaggeration to say that the engineers (belonging to multi-farious disciplines) are the back- bone of the economic development. Sad though, the number of un-employed engineers has touched the all time high number of approximately 15000. and it is when the number of engineering Universities can be counted on the fingers and even they have very limited seats to offer engineering education, Sir, in mid eighties the Government partly tackled the problem by allowing Govt. Departments 15% of employed engineers as Trainees and leave reserve. They were provided training in different Govt. Departments and Organization and most of them (about a thousand) were absorbed in these very departments.

It can be made mandatory by the Government for utilities and consulting engineering firms, Industrial Organizations to employ as trainee a certain number of engineers for a period of 1-2 years to achieve the twin purpose of employment and creation of a well trained disciplined force of engineers. Pakistan's Foreign Missions, the Ministry of Commerce and Over-Seas employment can also be given specific targets for obtaining employment for Engineers in foreign Land.

World Bank Millennium Development Goals

The World Bank had laid down certain Development goals that were to be achieved by South-East Asian Countries including Pakistan by 2015. It inter-alia included:

- Poverty Alleviation
- Good Governance in Public Sector entities
- Access to clean water & sanitation
- Educational Targets at Primary & Secondary level of Education and elimination of gender disparities
- Improving Investment climate
- Substantial Institutional & Policy Reforms to accelerate growth

Sir, the problem of "Poverty Alleviation" was of paramount importance as almost 40-45 % of the country's population is mired in utter poverty and destitution with less then \$ One per day income. Sir you will appreciate that the country can not achieve any significant progress unless

the standard of living of the poverty stricken masses is improved. And to achieve this purpose, new channels of employment need to be opened-up both in the Public Sector and Private Sector. No doubt, privatization of sick public sector entities is inevitable. However, this does not IPSO-FACTO mean that new public sector projects should not be undertaken. Sir, small doses of capital infusion would not result in poverty Alleviation. It requires big capital inputs as well as harnessing foreign capital investment. The Government would have to make sizeable improvements in investment climate, foreign equity participation and foreign direct Investment (FDI) needs to be facilitated. The Business community feels that unless Tax-Payers are accorded due respect, the discretionary powers vested with the officers of Taxation Department are curtailed to the frequent changes in policies are eliminated, flow of foreign investment will remain an elusive object.

In the end I would like to thank you once again, for taking out your valuable time to be with us and inaugurate the 69th Annual Session of Pakistan Engineering Congress.

Pakistan Paindabad