

INAUGURAL ADDRESS BY CHIEF GUEST

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Chairman

Pakistan Atomic Energy Commission (PAEC)

H.E. Mr. Idris Waziri, the High Commissioner of the Federal Republic of Nigeria to Pakistan,

Mr. Song Deheng, the Political Counsellor, Embassy of the People's Republic of China to Pakistan,

Dr. Hameed Ahmed Khan, Executive Director, COMSATS,

Ms. Zainab Hussain Siddiqui, Coordinator of the Meeting,

Leading Scientists, Ladies and Gentlemen

It is an honor for me to be here today, to participate in the meeting arranged by COMSATS. While the subject of this meeting is of extreme importance, first we must discuss and understand what is meant by the term '*Sustainable Development*'. This term was coined in 1987 by the then Prime Minister of Norway. According to him, it meant that whatever we do for development should not adversely affect our future.

The word 'Sustainable' has many meanings. Amongst others, it means self-sustaining — something that goes on by itself and is not dependent on others' inputs. These two together are the real sense of the term 'sustainable development' and this is what we should pursue. We should develop ourselves to influence our future. So many technologies have been developed, but we should learn to stand on our own feet and develop ourselves with our own capacities. This is the topic of my talk today.

I always wondered about life in remote villages in Pakistan, where people are at ease with their environment. They have children, some of whom die; this is a normal life pattern with them. They live, they are fed and clothed properly according to their own standards. The question is why do they need to develop. Now this is one way to live. But I think we must develop, so that our children and our children's children can live in this world as proud citizens. We must develop so that, when our children hear about the lifestyles of others, they do not feel deprived and

are able to safeguard our ideology, protect our borders and sustain our freedom.

Why have we been slow in developing and have not developed as yet? There are many answers to this question but I am going to talk about one aspect only. We are not 'developed' and are yet 'developing' because we have been unable to exploit, to our advantage, what we can dig and pump below the ground, grow on the ground and construct above the ground. We have been unable to exploit the naturally endowed gifts appropriately. In some cases, these are being exploited to the advantage of others and we feel sorry and disappointed over this phenomenon. Therefore, we have to develop whatever we have, particularly our capable manpower, so that we can exploit and utilize these facilities to our advantage. This is what sustainable development should concentrate on i.e. develop the right kind of manpower to help us develop.

There are a lot of problems in every country, both internal and external; however capable manpower can help resolve these challenges. To create a harmonious society, everybody needs to be motivated and satisfied, but this level of satisfaction varies from society to society. Politics and difference of opinion exist in all societies, but the focus should never derail us from the development of manpower.

To develop the natural facilities available to us, i.e. above, on and below the ground, we need science and technology and this is where the role of COMSATS comes in. We must build capacities in science and technology within our countries, we have managed to attain a significant level of competence during the last 6 to 7 years.

For further developing our S&T facilities we need COMSATS, to facilitate the process of building capacities. In the last decade or so, we have been successful in developing science & technology in various spheres and walks of life. But to develop our

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own natural facilities we need to concentrate on exploiting, to our benefit, what is on the ground, above the ground and below the ground.

The progress that we have achieved is the result of the tireless efforts and unparalleled contributions of the scientific community of our country. The national budget for the development of science and technology has been increased manifold by our President, as he realizes the importance of S&T, which is an open secret for progress and peace in the world.

Our prime focus must be to set our developmental priorities. We can't develop everything and must therefore choose and set priorities. Nevertheless, the choice is difficult to make. Either we can concentrate on flamboyant large-scale projects or on small grass-root level projects. I believe the answer lies in doing both and selecting them priority-wise, so that as we improve our education-system, certain achievements in higher technology are also realized. We should not wait too long to achieve that level and there should be the right mix of both.

Here I would like to give an example of *Pakistan Atomic Energy Commission (PAEC)*. As Dr. Khan said, he is proud to be the one who served at PAEC, I would join him by saying that all of us who are, or have been, in PAEC are very proud of ourselves. We owe this pride to our founding fathers who started off with the mission of setting up PAEC some 40 years ago. They were people with great vision, requisite education and know how. They believed that they were second to none in this world and knew that this country is bestowed with natural gifts that needed to be exploited to our advantage. They believed in what COMSATS is doing now.

I recall the first Centre of PAEC, not a very large building, though it looked very large at that time but now looks relatively small. Our leaders started off with few and small rooms, literally 30ft by 40ft and even smaller. Each room was given a separate name and divisions were assigned for medicine, nuclear chemistry, nuclear physics, nuclear engineering and nuclear technology. They were dedicated professionals who showed their commitment to work even at those small places. This is how we were groomed. We took small and definite steps and therefore realized enormous growth. Throughout our

careers at PAEC, there has been one phrase that we have been following: 'Indigenization and self-reliance'.

We believe that transfer of technology takes place naturally and normally. In order to have transfer of technology, there must be a recipient and we cannot blame the giver for not transferring it, as it is, for us to acquire. This is what we have done at PAEC, and have concentrated on developing capacities in many areas. We have achieved some success in all areas. We have developed the technique for extracting Uranium and other minerals from underground ores and for using them to generate electricity and to pursue other programmes. We are also operating in the field of nuclear agriculture, industrial technology and in advance sciences. Even though we are behind the developing world according to many benchmarks, we still have a standard and are moving on the road towards further success.

To achieve self-reliance and indigenization, one has to develop one's own manpower, and we at PAEC have done just that, right from the beginning. We have a university at present in Pakistan that is called *Pakistan Institute of Engineering and Applied Sciences (PIEAS)*, which started as a nuclear engineering school in 1961 and was established by our founding fathers. Dr. Inam-ur-Rehman was the leading founder of PIEAS. He took us young graduates and engineers and taught us what nuclear engineering was. At present, PIEAS has a good reputation, with the blessings of Allah, if not world repute. We have been able to set up training centres and have carefully chosen the subjects we want to teach our people.

We know that industrialization is very important and that S&T and industry have to be developed together. We need to have a vibrant industry to sustain the budget to develop indigenous S&T prowess. Accordingly, we have developed all our facilities. We have set up the Welding Institute because we know that, for meaningful industrial development, we must know the science of it. We have also set up training institutes to operate nuclear power-plants. Moreover, we have set up institutes to do Non-Destructive Testing, and have now established centres to indigenously design and manufacture components and nuclear-power stations, so that, in future, as time develops and as we develop our nuclear power technology, we can do more and more ourselves. We

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want to use our indigenously available manpower, which is much cheaper than that in the West. We must utilize this available manpower to replace what we buy from abroad at higher prices.

We want to generate nuclear-power and other technological products within Pakistan, so that our economy could develop. We have now become a good-sized manufacturing facility and are manufacturing and supplying equipment to various industries in Pakistan. In the context of sustainable development, I believe nuclear-power is the best source of clean-energy, as it does not generate any carbon dioxide gas and doesn't affect the environment. World wide, there have been no serious accidents after Chernobyl and there has been so much concentration on the safety of nuclear power that it has perhaps becomes the safest source of energy in the world.

The above ground-resource i.e. *Human Capability, Intelligence and Dexterity*, is what we require in the future. PAEC has been a success story in this context and I am proud of the fact that I have been involved alongwith my colleagues in this success story.

I would like to thank Dr. Khan for having arranged this very important meeting. I agree with His Excellency Mr. Waziri, the High Commissioner of Nigeria, that there are so many advantages that we are getting out of COMSATS and its frequently organized events, such as this meeting. H.E. Mr. Waziri comes from Nigeria, which is a developing country just like ours and Mr. Song comes from China, which has transformed itself from a 'developing' to a 'developed country'--an example for us. It is the greatness of the Chinese people to say that they are still developing. They have used resources and manpower efficiently and we are proud of them. We wish that all developing countries follow their example and become developed.

I have been following the progress of COMSATS, and its present Executive Director, Dr Khan is one of our very important scientists. He has an excellent track-record as a scientist at PAEC and he has done so much for COMSATS. I wish COMSATS success for the future under his able leadership.

Thank you.