

Improving the Quality of Human Resources for Development

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Mr. Chairman, Honorable Minister, Governor, distinguished guests, and colleagues from industry, government, and academe.

I am truly honored to stand before all of you to deliver the keynote address for this grand event today -- the Second Asia Pacific Conference on Art, Science, Engineering and Technology. I would like to extend sincere thanks to the Organizing Committee for allowing me to express my thoughts to the distinguished participants in attendance from the government, industry, and the academe.

Born and raised in a small farm in the mountain region of Nepal, I have been a student of agricultural sciences for more than 35 years. I have studied and worked on both sides of the world: the developed world and the developing world. So, in some ways, I feel that I am destined to speak today about my perspectives on the challenges facing our society and my vision for improving the quality of human resources for sustainable development.

I will divide my talk into four distinct areas. First, I will share with you some facts about our world, its population and the challenges we face to maintain our quality of life. Second, I will highlight the changes taking place in our society as a result of the adoption of technologies in our daily lives. Third, I will discuss the need for quality of human resources for sustainable development in the 21st century. Specifically, I will focus on challenges facing the system of higher education. Finally, I will outline strategies for educating the new generation and how we should proceed toward human capacity development in the 21st century.

Our World

In 1900, the world population was about 1.6 billion people. By 2000 there were more than 6 billion people. The population is growing by 360,470 persons every day, 15,020 every hour, 250 every minute, or 4.2 every second. According to the United States Census Bureau, the world population is expected to reach 9 billion in another 50 years. This means that, although the population has begun to stabilize, we need to prepare to feed, house and provide care for an additional 3 billion people.

A new trend has emerged in the distribution of world population. About half of the world's population will be urban in 2008 (People and Planet, 2008). Cities and urban areas are gaining some 60 million people every year and urban population of the developing world is growing rapidly.

Of course, progress has been made to feed and cloth the growing population. Extreme poverty has been receding, though hunger still persists in many parts of the world. However, I draw your attention to the following questions: Can we supply food to our growing population at affordable prices? How can we ensure a regular food supply in

light of the worldwide rise in energy costs? What has been done to reduce inequality and unemployment? What are the consequences of rapid population growth in housing, water and energy supplies? What are its consequences to our schools, universities, healthcare facilities, businesses and industries? How will it impact on our lakes, rivers, forests or fishing areas? What are the consequences of rapid urban population growth of residential housing and factories into previously prime rice-growing land?

Science, Technology and Society

Scientific discoveries and advances have influenced almost every aspect of our lives. The wave of change has been very significant in the past 40-50 years. To illustrate some examples-- many of us in this room were not born in a hospital. We did not receive the immunizations and vaccinations our children receive today. Many of us attended elementary school where only one teacher taught the entire school under a tree or a one-room school house. We were mostly boys attending school; our sisters stayed home working on the farm or helping our parents at home. We walked to our school crossing rivers and swamps under the hot sun or the rain. We had no radio, television, computer or the cell phone. Today, we are raising our children in an environment which is much different from that of our time. The way of life has changed so much that our own children have a hard time believing us. They frequently ask, "Oh, really?"

Our society has experienced tremendous change in the past 50 years. Through adoption of scientific discoveries and technologies, we have increased food production, processing and distribution. We have built new polytechnics and universities; modernized our health care systems, built infrastructures such as roads, bridges, waterways and airports; established communication networks in radio, television and the Internet; and we have opened up and expanded trade and commerce with other nations. New democracies following a new governance system have emerged. As a result, today we live in a highly interconnected and interdependent world.

There has been an explosion of new knowledge. Artists, scientists, engineers and educators are working tirelessly to generate new knowledge and develop new technologies. Educational leaders, development planners and policy makers, entrepreneurs of businesses and industries, and decision makers serving our governments – all are constantly developing or adapting policies and programs so we can harness the benefits from the evolving knowledge and technology.

Change has been the buzzword in every aspect of life—new software, new medicine, new construction material, new textbook, new food product, new fashion, new music and so on. Political leaders, social workers, educational administrators, healthcare professionals, business entrepreneurs, policy makers, scientists and engineers—all are seeking change. We are at the cross-roads of change. It is important to note, here, that it is our human resource which is the driving force for all the change we are experiencing today and will continue to face tomorrow.

Human resource is shaped by our educational system. The quality of our educational system needs to improve so that our human resources can sustain the progress we have

made, and lead into the new era of development. I believe this is essentially the theme of this conference, so let me outline few strategies for the improvement of the quality of human resources.

Improving the Quality of Human Resources: Challenges and Opportunities

Human resource is the basic and most important factors in a nation's development. In an era of globalization, a high quality human resource is mandatory for every nation. The quality of human resource of a nation will determine their competitiveness in the world economy. The well-equipped and skilled human resources will contribute to the individual, organizational and national development through improved performance (Osman-Gani and Tan, 1998). A nation's development is not sustainable unless it is supported by a well-trained workforce of her own people.

Several terminologies have been used to describe human resource development, e.g., manpower development, workforce development, people development, training and skills development, human capital development and capacity building. National planning commissions or national development boards are given the responsibilities to develop policies and formulate plans for human resources development. Governments have made major investments in establishing schools, polytechnics vocational training centers, colleges and universities. Businesses and industries have established trade schools and workforce development or training centers. Private entrepreneurs have made investments in establishing schools, technical colleges and universities. Despite such massive investments, the quality of human resources in many countries is poor and we see a need to strengthen our educational system.

Mr. Chairman, Ladies and Gentlemen,

Let me now focus on the challenges and opportunities facing the quality of human resources development in the Asia Pacific Region. Despite achievements in literacy rates in the past 40-50 years, our educational system is facing a serious crisis. Let me summarize that crisis.

Our students: Our student population is increasing. Our schools have not been able to keep up with the growing student enrollment pressure. Classrooms are crowded, playgrounds have shrunk, and student-teacher ratio has gone up.

We have increased the overall educational participation, but we need to address the high school drop-out rate. For example, in Indonesia, about 15% of the students drop out at the elementary school level; 63% enroll in secondary school; and 17% enroll in the tertiary level (EdStats, 2007). This indicates that a small proportion of the population complete college degree and only few continue to advanced graduate or professional education.

What are the implications of these statistics for national development plans? How can the development planners and policy makers use this information to shape up our educational system? How can we be competitive in the global economy and job market? What kind of jobs should be created for those who did not complete high school?

We see a need for massive reform in our educational system. First, we need reform in our basic education delivery system—popularly known as K-12 education. The goal should be to equip students with basic reading, writing, math and social skills. Social skills include dealing with citizenship and pride in nationalism, preserving our arts and culture, and serving as stewards of our landscape. This education should be made accessible to all people.

Second, we need to strengthen and enhance our technical and vocational training in order to develop employable skills of our labor force. Vocational training enables working adults to acquire employable skills. It also helps re-skill our labor force to fill in job vacancies requiring new skills. Technical and vocational training is essential for workforce development and address the problem of unemployment or under-employment.

Third, our businesses and industries, in order to stay competitive, need to modernize their operation and management. The changes taking place in technology means that job skills and requirements are changing. As a result, they need to constantly upgrade the skills of their employees. They need to initiate worker training and retraining schemes at our production facilities, factories and industries to upgrade them with skills needed for use of new technology. This is an area in which I see a need for new linkages between the businesses or industries and polytechnics or universities. National governments should develop policies to promote collaboration.

Fourth and the most important, we need reform in our higher education system in order to equip our graduates with scientific knowledge and skills needed to discover new technologies, adapt policies to disseminate these technologies to benefit humankind and guide change in harmony with our societal values. The higher education system is the engine driving manpower development. It is higher education that trains our school teachers, civil servants, engineers, doctors, lawyers, businessmen, and many other types of service providers. The quality of human resources of a nation depends on the quality of higher education—its faculty, curricula, research, and outreach programs.

Challenges and Opportunities to Reform Higher Education

Mr. President, let me spell out few challenges facing our higher education system and opportunities to reform or address these challenges:

1) **Student enrollment pressure:** Our colleges and universities are facing tremendous pressure for student enrollment. As colleges and universities have limited resource, i.e., classrooms, laboratories, faculty and staff support, some colleges have imposed a system such as an entrance examination to admit students. Unfortunately, this system can hurt a student who comes from a remote rural village simply because he or she may be unable to compete with suburban school graduates in entrance examinations in which math, science and probably English skills are tested. This may lead to a weaker human resource base required for sustainable rural development.