

Inaugural Address of the Hon'ble Minister for Science and Technology and Earth Sciences and Overseas Indian Affairs at the Summit of South Asian Academies, Indian National Science Academy, 6 September 2012

- a. Professor Krishan Lal, President Indian National Science Academy, all members on the dais, Secretaries to the Government of India, Academicians, Presidents of Academies and guests from abroad, participants of the Summit, representatives of the Media, I am delighted to participate and inaugurate this Summit of South Asian Academies. As the Indian Minister in charge of Science and Technology as well as Overseas Indian Affairs, I welcome all of you to this Summit. Yesterday, we observed Teacher's day in commemoration of the birth anniversary of our second President, Dr S. Radhakrishnan. We are meeting today to open this regional Summit of Academies. It transcends the strict geographical division by including important countries like Mauritius, Iran and the pan-African Academy of Sciences. This is truly a week of science and education.
- b. As a Minister in Charge of both Science and Technology and Overseas Indian Affairs, I attach a special importance to this summit. The other day, Professor Lal, the President of the Indian National Academy of Science approached me and briefed me about the spirit of the joint deliberations of the Summit. I agreed readily to his request for inauguration. Regional cooperation among the South Asian countries and Africa in the key knowledge sector covering Science, Technology and Innovation is not just valuable but in my opinion, it is necessary too. There is an emotional connect between people of Asia and Africa over centuries. In the case of India, Gandhi is an everlasting bridge between the two continents.
- c. Geography of global science is changing. Asia is no longer a mere observer of developments of science taking place elsewhere. Asia is steadily increasing its share in scientific outputs. The impact of some countries in Asia in select areas of research and development is increasing rapidly during the last two decades. In the global landscape of science, Asia is emerging as a major force. Africa with its enormous potential is waiting on the side lines.

- d. The public perception of science is changing from an ivory tower intellectual activity to one of a reliable source of solutions to social problems plaguing the national development. Public understanding of science is increasing in this region. People expect science to deliver solutions to social challenges
- e. I am happy that leaders of several science academies from our immediate neighbourhood in south Asia have assembled together in Delhi today. Science Academies enjoy niche status in building connections between science and national public policies. Interface of public policy with science is of crucial importance. Science can no longer remain an ivory tower activity unmindful of the social challenges awaiting scientific solutions.
- f. The founding fathers of modern India, notably Pt. Jawaharlal Nehru underlined that the efforts of nation building have to rest on the solid foundation of science and technology. He was a great champion of science and scientific temper. Our country is reaping benefits of his great initiatives in setting up a chain of national laboratories under Council of Scientific and Industrial Research, establishing infrastructure for harnessing nuclear power for development, space science Indian Institutes of Technology and other sectors in science. He ensured the first in-depth look at education that laid the road map for strengthening the range and depth in education sector. It was his patronage that the Academy had its own premises and was designated as the premier apex body of science in the country. The Academy cherishes him as one its most distinguished Fellows.
- g. The subsequent great leaders also strengthened the science base and formulated science and technology policies. Shrimati Indira Gandhi, in particular showed deep concern and provided moral and material support. . She had turned to science for addressing the problems of food shortage and unaffordable health care costs. Green Revolution in the 1960s, blue revolution in the 1970s and followed by the white revolution led to improvements of lives of people of India at all levels. Subsequent communication revolution in the 1980s, IT revolution in 1990s and connectivity revolution in 2000s are all examples where science policy interface has delivered solutions in India. I am happy to note that Indian

National Science Academy had also elected Shrimati Gandhi as a Fellow. Through election to the Academy fellowship of top Indian leadership the Indian science sector revealed a message that science-policy interface is critical for the development of a Nation. Academies like this Academy in particular, bear a responsibility to connect science to public policy.

- h. That India has emerged as one of the major players in manufacture of bulk drugs and vaccines is a result of the science and technology base laid early in India. Key science related policy decisions have impacted our national development processes in various times.
- i. During the last ten years or so, we have been investing more significantly in S&T. Positive results flowing from such investments are now manifesting. Our publication and patents outputs are registering annual growth at 14 and 20%, respectively. India is one of the key growth centres in the world of science currently. Our region bears vast untapped potentials in science, technology and innovation.
- j. The culture of science needs to be shared and spread through active cooperation in the region in my opinion. I can warmly recall great strides made in arena of science by other countries in ASEAN region. Singapore, Malaysia and many other countries in the region are investing into science for coupling more strongly to the emerging knowledge economy of the world.
- k. In the economic development of countries in this region, science, technology and innovations are accorded important space currently. In other words science sector has entered central stage in the development processes in the region. Therefore, this summit assumes high relevance.
- l. This regional summit is both timely and highly relevant in the social circumstances of countries in the region. Countries represented in this summit share common histories, connecting cultures, similarity of challenges and closely linked economies. Sometimes even our diseases and the manner in which our bodies respond to medicines are similar. Far too many things in the region are common.
- m. The talented youth power is a great strength for all our countries. Supply chain of creative people for undertaking research and development is rich.

This is not the case in many parts of the developed world with ageing population. They tend to invest into our young people for supporting their Research and Development agenda. Our youth might then be developing Intellectual Properties for rich economies. This could result in the drain of talent force from this region to other places.

- n. In fact as also the Minister in Charge of Overseas Indian Affairs, I am trying to create a circulation of India brains and create a Diaspora Brain bank. This is to set up a cooperative framework among people of Indian origin regardless of where they live and practice their profession. The cooperation needs to extend beyond nationalities. Regional cooperation in science for people has become even more important. I am aware that this Academy has taken steps to create Chairs for most distinguished scientists from anywhere in the world to spend two weeks or so in our research centres. Similarly, chairs for very active middle level scientists will enable them to spend up-to three months in our R&D laboratories. These would also attract outstanding NRIs to establish lasting professional links with India.
- o. Competitive excellence in research and development has remained a global norm for long. Many Nations have been investing significantly into R&D, competing with each other to gain competitive advantages in the market place. I do understand the need for global competitiveness in some areas. We should also learn to cooperate in some areas where science and technology could address social and public goods.
- p. I speak in favour of collaborative excellence in areas of science and technology which are directly related to solving social problems like water, energy, environment, food security and mitigation of natural disasters etc. Whenever a human life needs to be saved and served, the cause of benefits to all should overwhelm other priorities. Gandhi's model of "Benefits to all" is even more relevant today than before.
- q. It is in the context of connecting expertise and knowledge for solving problems of the people in the region, this summit derives its highest significance.
- r. I am truly impressed with choice of themes for deliberations in this Summit. All themes are relevant and topical. Energy options for south

Asia, combating infectious diseases, strengthening science education, connecting innovations to entrepreneurship and facing common challenges like urbanization and climate change are vital themes. The Governments of this region are all grappling with the challenges and looking for science derived solutions. If the summit could come with recommendations of solutions for implementation through cooperative endeavour there will be support from the national governments.

- s. Developmental challenges for our countries are daunting. Energy demands are increasing continuously. Burden of infectious diseases in tropical climate of the region is large. Links between innovation and enterprise sectors are weak. Urbanization and climate change impact in the region are likely to mount. Needs for new tools for science education are common.
- t. India has mounted a National Solar Energy Mission. We have succeeded in gaining special space in the area of vaccines with a global share of nearly 45% of global production. This helps in combating some infectious diseases. Recently, an indigenous drug for malaria was launched commercially. This was a product of PPP in which my ministry was the lead partner. India has launched a National Inclusive Innovation Fund to connect inclusive innovations to social enterprises. National Action Plan for Climate Change has been formulated and total of eight missions mounted. My Ministry is involved in the implementation of two of the eight missions. My Ministry of Science and Technology is implementing a programme called Innovation in Science Pursuit for Inspired Research INSPIRE for attracting talent to science. I am glad that this Academy has also taken up some responsibility in this scheme. We are also developing a programme for Building Educators for Science Teaching. On the whole, there are some useful experiences of India in the areas selected for deliberations in this summit. We have started to witness some positive trends and incremental changes.
- u. We can pool our knowledge. We can learn from each other in these areas. We could synergize our efforts. Regional cooperation through the tool of science could be seeded by the science academies. I see a high value for this summit.

- v. You could become agents of change and champions of regional cooperation. When the challenges are common, solutions could also be similar. Cooperation could become the new mantra for sustainable development of countries in the region. We would very much like the science academies to become the catalysts for such cooperative actions.
- w. Churchill once said that future empires of the world would be controlled by those who command knowledge. Countries in this region could generate new knowledge and command our own destinies of the future.
- x. Science for shaping the future of nations and the Asia-Africa region is a common theme of value. I am reminded of the French saying. If you want travel fast, go solo. If you want to travel far, go together. We, the countries in this region and Africa should travel far and deep. Therefore, in my view, we need to travel together. For this long journey, science is a happy medium. Science being global, it is a great connector. Science Academies could bond Governments and people in the region.
- y. In the end I congratulate Professor Krishan Lal and the Indian National Science Academy for this timely and well thought out initiative. I am delighted to inaugurate the Summit and wish you all great deliberations during the course of the week. While you are here, I would welcome our guests to visit our historical monuments and feel our cultural heritage. India is a great country to visit even though she is difficult to understand fully. Let this Summit open a “window to the world” that brings the wind of a next science culture where collaborative excellence forms the new grammar. Wish you all a great time and safe journey back home.
- z. Thank you. Good day.