SPEECH BY THE PRESIDENT OF INDIA, SHRI PRANAB MUKHERJEE AT THE INAUGURATION OF THE COMMONWEALTH SCIENCE CONFERENCE

Bangalore,Karnataka : 25.11.2014

I am happy to participate in the inaugural ceremony of the Commonwealth Science Conference being organized by the Royal Society for the first time in India.

The Royal Society is one amongst the great science academies of the world. It is not only one of the oldest but also an academy with a great history of accomplishments. The Royal Society has represented quality and defined directions in science for long decades. For a person to be elected Fellow of the Royal Society is a signal achievement and honour. Many of independent India's best scientists have been elected Fellows. A star amongst them is Professor C. N. R. Rao, one of the principal organizers of this meeting. India is particularly proud of Prof. Rao and his contributions to science and institution building. In recognition of his services to science and the nation, he was awarded earlier this year, our highest civilian honour - the Bharat Ratna.

It is wonderful that Bangalore, India's IT hub and home to many scientific institutions is host to this Commonwealth Science Conference. I understand that several of the more recent Fellows of the Royal Society from India are from Bangalore's Indian Institute of Science and the Tata Institute's National Centre for Biological Sciences. The headquarters of the Indian Space Research Organization, whose scientists are the pride of India is also located here. The ISRO's most recent achievement of Mangalyaan or mission to Mars has been described by the Time magazine as one amongst the top 25 inventions of the year and something which portends well not just for our space programme but for science in general. India is the fourth in the world to reach the Mars. It is also the first to attain this goal in its very first attempt and at a cost of US $ 74 million, a fraction of the money spent by others.

Distinguished guests, ladies and gentlemen,

The Commonwealth is a unique international organization. It straddles the North-South divide in the world with an immense diversity of races, religions, cultures, geographical spread and stages of development. The bulk of its membership comes from 31 small states with a population size of 1.5 million or less. The larger member states at the same time share many similarities with them. Thus, the Commonwealth is a very useful forum for dialogue, promoting understanding on global issues and forging consensus on international action.

India is a founding member of the Commonwealth and its largest member state, being home to nearly 60% of the total population of the association. India is the fourth largest contributor to Commonwealth budgets and programmes. It is second only to the UK in providing technical

experts to Commonwealth Fund for Technical Cooperation for the purpose of extending assistance to developing Commonwealth countries.

Ladies and Gentlemen,

India is strongly committed to the fundamental values and principles of the Commonwealth. It believes the Commonwealth, has the potential to play an even greater role in relation to contemporary challenges facing the world and can be a bridge builder between the developing and developed countries. It is our view that the Commonwealth, with its diverse membership and democratic style of functioning based on consensus and informality, is well placed for global advocacy on contemporary issues. It is therefore important that all Commonwealth countries get together not only to discuss contemporary issues related to science and technology but also to explore how best science can be used to address the pressing challenges that confront humanity.

India, under the guidance of our first Prime Minister, Jawaharlal Nehru, adopted science and technology as a priority from the early days of our independence itself. The creation of new educational and research institutions began from 1950 itself. As early as 1951, the country decided to set up an Atomic Energy Commission which has enabled India build her own reactors. The space programme was also soon started enabling us launch rockets and satellites into space. At the time of Independence, our agriculture sector was under-developed and we were a net importer of food grains. It is the synergy between science and public policy which resulted in technologically upgrading our agriculture system. The excellence of our scientists and toil of our farmers, together led to the Green Revolution of the sixties, which made our country self-reliant in food and also, a major exporter today. Such a transition has few parallels in human history. In the years that followed, India based research led to the emergence of a strong pharmaceutical industry followed by more recently the Biotechnology and Information Technology industries.

We in India see our future as inextricably linked to the progress we can make in the field of science and technology. ICT and the digital revolution is rapidly transforming our lives. The number of mobile phone users in India was around 930 million at the end of September 2014 which is the second highest in the world after China. Our mobile phone density of 74.55 compares favourably with other top ranking countries. India also ranks third after China and the USA in terms of number of internet users. At the same time, the penetration of internet use as a percentage of our population is only around 19.2% at present indicating the huge potential that exists for further growth.

The Parliament of India adopted in 1958 a science policy resolution which promised to "foster, promote and sustain" science in all its aspects. In 2013, a Science, Technology and Innovation Policy was initiated by the Government aiming to shape the future of an aspiring India. Today, we are determined and committed to continued investment in basic science even as we use science to transform our society.

Indian scientists were proud partners in the discovery of the Higgs Boson particle in 2012. We were part of global collaborations in life sciences which resulted in a low-cost vaccine against Rotavirus, which will soon be introduced in our national immunization programme. The Indian

scientific community has been also part of projects such as the Facility for Antiproton and Ion Research (FAIR), Darmstadt, Germany; Macromolecular crystallography and high pressure physics beam line at the Elettra Synchrotron Facility, Trieste, Italy; Neutrino Experiments at Fermilab, USA; the Thirty Metre Telescope (TMT) Project at Mauna Kea, Hawaii; the Square Kilometre Array (SKA) Project, South Africa and Australia; and experiments at the LargeHadron Collider (LHC) at CERN, Geneva. We hope to soon also launch international collaborative programmes in disease biology, marine biology and bioinformatics.

Nanoscience and Technology is another area of focus. An umbrella programme, called the 'Nano Mission' has been launched to promote research and development in this emerging and active area. India today is placed third in the world in terms of scientific publications in this area. The 'Nano Mission' is a good case study as to how capacity and capability in a specific field of Science can be strengthened through focused Government initiative. Professor C.N. R. Rao has led this successful effort. I take this opportunity to congratulate him for this wonderful initiative.

Many new initiatives are also on the anvil in the fields of solar energy, electric mobility, high-energy physics, astronomy, vaccines and drug discovery, marine biology etc., to name only a few.We hope to focus in the future on three types of scientific efforts:

(1) Blue sky research dealing with the important developments in fundamental science, including advanced materials and medical biology.

(2) Research and development related to man's pressing problems such as water and diseases specific to India.

(3) Areas where India can emerge as one of the leaders in the world. We hope to identify such areas and support them adequately.

Ladies and Gentlemen,

I understand building scientific capacity in developing nations is one of the important topics which will be discussed in this Conference. I am also happy to learn about the initiatives the Royal Society is taking to stimulate science in Africa. The collaboration of young scientists from Commonwealth countries with leading laboratories of the world must be enhanced. There is also need to improve teaching and teacher quality at every level, especially schools. I believe this Commonwealth Science Conference can be transformative for our future if concrete programmes of action can be evolved in these areas.

I understand one of the goals of this Conference is to recognize and encourage young scientists. I also see that young scientists have been invited to participate in the meeting and present papers. The attraction of talented students to study science and pursue a career in science is a big challenge in many developing countries and indeed the world over. Young boys and girls from every social and economic context from every corner of the world must have the opportunity to learn the rigorous tools of science to fulfill their dreams to understand the mysteries of our planet and the universe. I am happy to inform you of a major initiative of my Government in this regard called the Innovation in Science Pursuit for Inspired Research scheme or INSPIRE which is

being implemented through our Ministry of Science & Technology. Over the past five years, more than a million students have been provided awards from which more than 230 innovations are being processed for provisional patenting.

Commonwealth nations must join hands in bilateral and international 'Mega Science' initiatives. Because of their scale and technical complexity, such 'Mega Science' projects are manifestly multi-agency, multi-institutional and, most often, international in character. I encourage the Royal Society to develop programmes of international collaboration which could stretch from the West Indies to Australia, with support from national funding agencies and private philanthropy. Together, the brilliant intellects gathered in this room can promote science and the scientific method to young people worldwide and make the world a better place. India would be happy to collaborate in whatever manner possible, especially to strengthen the scientific base and research capabilities of the smaller countries of the Commonwealth.

Distinguished guests, ladies and gentlemen,

Science is one of the creative endeavours of human mind. Science seeks universal and fundamental truths. Science plays a vital role in the advancement of human life and its study is central to technological progress. Modern societies and nations must be built on scientific knowledge. A scientific culture and logic must determine the choices and decisions made by individuals, societies and nations.

Let me conclude quoting Prime Minister Jawaharlal Nehru who often pointed out: (quote) "The future belongs to science and to those who make friendship with science" (unquote).

I call upon all of you gathered here to do your utmost to ensure that the Commonwealth Science Conference acts as a platform for the flowering of ingenious ideas that benefit the common man.

Thank you, Jai Hind