ON 3 January 2013, the Prime Minister announced the new Science, Technology and Innovations (STI) policy to a packed audience at the 100th session of the Indian Science Congress held in Kolkata. The policy seeks to increase applications of research and development through new methods of public private participation, increase participation of youth in scientific development of the country and promote the spread of scientific temper among various sections of the society.

The fourth science policy of the country that is expected to change the way science education, research and innovation is done in the country received its fair share of limelight given that it was announced at the centenary celebrations of the oldest science event in the country. The limelight gives the public an opportunity of scrutinizing the policy.

**Focal Theme Panel Discussion**

Announcing the aspirations of the policy to position India among the top five global scientific powers by the year 2020, the Prime Minister threw open the panel discussion on what should be done to ensure that science plays a crucial role in shaping the future of India.

John Beddington, the Chief Scientific advisor of the Government of UK emphasized that India needs to take steps to deal with climate change that is likely to affect India severely in the long run. He said that for doing so, energy security and disaster management were two of the most crucial issues that need to be addressed.

Elaborating on the steps that need to be taken to tackle problems like food security in the climate change era, Prof. M.S. Swaminathan, Emeritus Chairman of MS Swaminathan Research Foundation, pointed out that new technology is necessary to cope up with the change and robust and transparent regulatory mechanisms should be set up to evaluate such technologies and monitor their evolution.

Dr R. Chidambaram, chief scientific advisor to the government of India, elaborated on the relevance of developing alternative energy sources to tackle these changes while Dr K. Rastirangan, member of the planning commission, highlighted the ambitious nature of the 12th five year plan in this context.

Prof. Samir Brahachari, Director-General, Council of Scientific and Industrial Research, stressed that encouraging young leaders in science would help in generating new ideas that are necessary to solve the complex nature of problems science is expected to solve today.

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The 100th annual session of the Indian Science Congress was held this year during 3-7 January 2013 in Kolkata, from where it started a hundred years back. The focal theme of the centenary session of the Indian Science Congress was “Science for Shaping the Future of India”.
While summing up the session MS Jaipal Reddy, the minister for science and technology, however, pointed out that given India’s track record in the 11th plan, it was not very difficult for India to try and reach the target. He stressed on focusing on development of innovative ecosystems.

It is with the objective of attracting young talents to develop innovative ecosystems that the congress deliberated on ways of reforming universities to shape such talents.

**Excellence in Science Research and Education**

At the D S Kothari session on the role of universities in shaping the future of India, experts criticized India’s policy of promoting research institutes at the cost of Universities and said that this has deterred promotion of excellence that emerges from fresh products of Universities.

“Priority given to research institutions has led to lack of recognition of excellence among universities,” said Subhash Chandra Lakhotia, Emeritus Professor of Benaras Hindu University. “It has led to neglect of the teaching institutions and poor fund allocation and infrastructure in universities,” he added highlighting that this has led to laboratories of such low standards that do not cater to basic teaching.

Deepak Pental, former Vice Chancellor of the Delhi University agreed. “Research Institutes separated from the University systems cannot be run properly because they specialize in one or two areas and create fragmented knowledge. With the boundaries of subjects becoming increasingly blurred, we need more of interdisciplinary research, which these stand-alone research institutes are not able to provide. Hence we should stop building such stand-alone research institutes,” he stressed.

“What we need are comprehensive universities. In the developed countries research is conducted in universities, which is why we have such a lot of interdisciplinary research there. They do not lay as much stress on research institutes at the cost of Universities like we do,” he pointed out.

Prof. Seyed E. Hasnain, former Vice Chancellor of Hyderabad University, stressed on the need to re-prioritise higher education funding to promote excellence. He elaborated that all state universities should not be seen in the same light for fund allocation. Good state Universities like Jadavpur University should be given adequate support in line with that given to central universities so that they can develop their infrastructure and also actively participate in research. He added that in selecting the best of the lot, state, central and private universities should not be discriminated against.

Hasnain pointed out that the government should adopt the Navratna University model suggested by the National Commission on Higher Education and Research in 2011 which will select nine best universities on the basis of a host of parameters like developmental, environmentally sound, and all-inclusiveness, and allocate substantial funding to develop these universities. This funding will be above the University Grants Commission funding available to Universities.

He also said that innovations related to funding should be available to Universities and the number of Universities tagged under Unique Potential for Excellence increased along with the funds available to them.

**Children’s Science Congress**

The platinum jubilee session of the congress had published a special brochure titled “Indian Science Congress Association – Growth & Activities” which talked about the extension of the activities of the Indian Science Congress Association and its further diversification to generate scientific temper and popularize science. In line with this objective, the congress started the Children’s Science Congress and the Science Communicator’s Meet.

The Children’s Science Congress inaugurated this year by Dr. A.P.J. Abdul Kalam attracted a large audience. Kalam asked the young buds present on the
Dr Kalam referred to the recent development by two teams at the CERN Laboratory towards the discovery of an elementary particle called Higgs Boson.

occasion to take science as a life mission and strive to work to their utmost potential. “I would like to focus on importance of two great needs: value to science and scientific magnanimity,” Kalam emphasised.

He also spoke about the necessity of building a scientific temperament. “History has proven that those who dare to imagine the impossible are the ones who break all human limitations. In every field of human endeavor, whether science, medicine, sports, the arts, or technology, the names of the people who imagined and achieved the impossible are engraved in our history. By breaking the limits of their imagination, they changed the world,” Kalam said inspiring the students who had gathered.

The former president also shared his interaction with students at the State Children Science Congress (2012), Uttar Pradesh State Science Congress at Barabanki, Southern Regional Science Congress at Coimbatore, Tamilnadu, Mega Science Fair at Darbhanga (Bihar) and National Children Science Congress at Varanasi.

Dr Kalam also referred to the recent development by two teams at the CERN Laboratory towards the discovery of an elementary particle called Higgs Boson, named after Peter Higgs. Kalam aspired that some of the students gathered at the congress would be instrumental in finding such sub-atomic particles by embracing fundamental physics as a research area for their scientific pursuits and would play a vital role in discovering more about this unique area of particle physics.

The interaction of school children with Nobel Laureate Yuan Tseh Lee brought up interesting questions from the students. They asked him why he took up science and whether he was forced into taking it up or he did so by volition.

Several Shanti Swarup Bhatnagar awardees described their journey into the world of science to the students.

Science Communicator’s meet

While several speakers underscored the increasing relevance of science communication, the sixth science communicator’s meet witnessed a healthy participation, especially from a young crowd. However, the quality of the science communicator’s meet has been under question from several quarters.

At the 99th session of the science congress too reports had mentioned that the presentations and the posters at the communicator’s meet did not have anything to do with the problems or prospects of science communication. An examination of the themes and abstracts of the presentations this year once again revealed that the trend still continues.

Some of the presentations like ‘Use of natural oxidants: a remedy to develop healthy India’ and ‘Phytotherapeutic antihelminthic drugs to combat helminth infection in livestock’ could merit a place in a meet on health or traditional medicine while one on ‘Dynamics of ethnic groups in Manipur’ could be well appreciated in a seminar on social sciences. However, their relevance in a science communicator’s meet was not clear.

The organizers acknowledged the problem but said their hands were tied because the regional chapters chose the topics.

Recommendations of the Congress

The five-day deliberations each year lead to a set of recommendations on what should be done to improve the role of science in shaping the future of the country. The list released this year included:

1) Special efforts to attract talent and develop human resource, encourage youthful leadership in the science sector,
2) Readjust governance system of universities to rejuvenate research in the academic sector,
3) Link discovery processes to problem solving responsibilities,
4) New models for international collaborations,
5) Suitable strategy and roadmap for meeting the challenging needs of food nutrition, energy, environment, water and sanitation.

The recommendations also included enhancing the public outreach of science through effective communication with a focus on political and public understanding of science and the ramifications of new and emerging technologies of relevance to social problems.

The recommendations were discussed in detail in a session on networking and governance. It emerged that some of the students gathered at the conference that the media takes interest in, reflecting that the interest of the common people in the conference remains undiminished even after 100 years. The congress can take advantage of this and reorient itself to improve the quality of deliberations and make it interesting and relevant to the practicing scientist also. Only then will the initial objective of promoting science with which it was set up be served.

Ms Archita Bhatta is a freelance science writer. Address: 103 Silver Tower, Royal Legacy, Vasundhara Sector 18, Ghaziabad-201012; Email: architabhatta@gmail.com