National Knowledge Commission constituted

A press release issued by the Prime Minister’s office on 2 June 2005 refers to the constitution of the National Knowledge Commission by the Prime Minister. The composition of the Commission includes the Prime Minister, Dr. Manmohan Singh, as Chairperson, Shri S. Sam Pitroda, Vice-Chairperson, Shri Pratap Bhanu Mehta (Convenor), Dr. Andre Beteille, Dr. Jyoti Ghosh, Dr. Ashok Ganguly and Dr Deepraj Nayyar. According to the press release, ‘The Commission will advice the Prime Minister on matters relating to institutions of knowledge production, knowledge use and knowledge dissemination. The mandate of the Commission is to sharpen India’s knowledge edge’, in order that ‘India can promote excellence in the education system to meet the knowledge challenges of the 21st century; promote knowledge creation in S&T laboratories; improve the management of institutions generating Intellectual Property; improve protection of IPRs and promote knowledge applications in agriculture and industry. It will suggest ways in which the Government’s knowledge capabilities can be made more effective, making the Government more transparent and accountable as a service provider to the citizen. It will also explore ways in which knowledge can be made more widely accessible in the country for maximum public benefit. The National Knowledge Commission will be assisted by a Technical Support Group to be staffed by young recruits, hired on contract from premier educational institutions in the country. The Planning Commission and different Ministers would be involved in various activities of the Commission. ‘The Commission will identify its action programme by 2 October 2005 and complete its work by 2 October 2008’.

Medals for Indian students at Biology Olympiad

Indian students won one gold and three bronze medals at the 16th International Biology Olympiad (IBO) held in Beijing, China. The IBO was held from 10 July to 17 July 2005. 198 contestants from 50 countries participated in the event for young meritorious students in Biology. Anand Venkatraman from Chennai won the gold medal while Saurabh Kishore Mahajan from Nasik, Parijat Sen from Kolkata and T. A. Shanboob Azad from Thrissur won bronze medals. IBO started in 1990 and Indian participation in the event began in 2000.

A new initiative on genetics at Banaras Hindu University

Modern biology offers special tools as well as new opportunities for any country and well-trained students in this subject are necessary for further development. Genetics forms the basis of any biology curriculum because of its basic role in understanding life and also because of its varied applications for better health and food. The developments in molecular genetics and genetic engineering during the past few decades and the consequent unravelling of the human and other genomes have opened challenging prospects for the industry to more directly and profitably exploit the knowledge banks and expertise being generated in the universities. Keeping this in mind, the Department of Molecular and Human Genetics was established in August 2004 at the Banaras Hindu University (BHU), Varanasi with S. C. Lakhota as its Head.

S. P. Ray-Chaudhuri had established a strong group of genetics and cytogenetics in the Department of Zoology at BHU in the 1960s, which has continuously strengthened and diversified itself in the years to follow. This group, with support and active participation of teachers from other departments of Faculty of Science and from the Institute of Medical Sciences started a new two-year M Sc course in molecular and human genetics in 1999. In order to provide a stronger base for this emerging field, the university decided to establish an independent department which came into being in August 2004.

This M Sc course is unique in its quality and in its comprehensive nature of training. The course started with a voluntary collaboration among teachers drawn from different faculties of the university. UGC and DBT formally recognized this course subsequently. Following the spirit of the Founder of BHU, a separate building for molecular and human genetics was catalysed through public donations. This is a four-semester course (two semesters per year). The theory lectures are well supplemented with intensive laboratory work. Students in the fourth semester spend a substantial part of their time on a research project and are required to prepare and defend a research project proposal of their choice. The teaching programme provides an indepth exposure to diverse areas in genetics, molecular biology, clinical and human genetics. In addition, subjects like cell biology, developmental genetics, behavioural genetics, immuno-genetics, biochemistry, bioinformatics, etc. are also covered. Beyond the classroom lectures and related laboratory exercises, students also work in the out-patient departments of the hospitals at BHU and help medical doctors in molecular diagnosis of a number of inherited disorders.

In this department, research in all areas of basic and human, and other applied aspects of genetics will be initiated. It is anticipated that this new department will provide a forum for extensive interdisci-
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plenary teaching, training and research activities. The Institute of Medical Sciences at BHU will also benefit, not only in terms of collaborative research but also from the intensive training to medical graduates and other senior level personnel in molecular and human genetics. Such a collaboration is already in place and will become increasingly intense in the future. Similar collaborations are expected to develop with the Institute of Agriculture and the Institute of Technology at BHU in the near future.

In view of its comprehensive nature of training, this course has quickly become popular across the country. The course is open to graduates in any branch of science, agriculture and medicine. Students qualifying through this course are expected to be well trained to undertake high quality research in any area of modern biology. They are also well qualified to undertake R&D work in biotechnology, pharmaceutical industry. Because of the strong background in molecular biology, molecular genetics and bioinformatics, the Information Technology industry, which is looking for applications in bioinformatics, will also find these students useful. The medical laboratories involved in genetic diagnostics and/or assisted reproduction too can benefit from the knowledge and experience of these students.

ACKNOWLEDGEMENTS. Valuable inputs have been provided by Prof S. C. Lakhota, Professor of Zoology, and Head, Department of Molecular and Human Genetics, BHU.

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MEETING REPORT

National Water Convention*

At the Eleventh National Water Convention held recently, water resource engineers, scientists, academicians, NGOs and others deliberated and discussed about various pressing water-related issues. The convention was inaugurated by A. P. J. Abdul Kalam, President of India. The Secretary, Water Resources (WR), after welcoming the dignitaries, presented an overview of India’s water scenario and the constraints in water management. Improvement in water use efficiency, area development and management of surface and groundwater were discussed in detail. In this context interbasin transfer of water is important, he said.

The keynote address on the focal theme, ‘Water for life, with special reference to interlinking of rivers’ was delivered by C. C. Patel, Former Secretary (WR, GOI), and Ex-Vice-chairman, NTPC-ILR. He highlighted the indispensability of water for life and explained current water resources scenario of India. The impact of pollution and future potential of water for irrigation were discussed. The problem of water scarcity and disputes arising out of plenty vs scarcity, among different states were highlighted. The diminishing quantity of water at different river basins, and possible use of better watershed development in the upper reaches were discussed. Exploitation of water potential to the fullest extent at each basin is needed. He went on to clarify the misgivings of interlinking of rivers (ILR) so as to remove the roadblocks through a mediatory role of the Central Government, consensus amongst the concerned water-surplus and water-deficit states in the best interest and the best option available for sharing the water.

Jayaprakash Narayan Jadav, Minister of State for Water Resources, emphasized the need for interlinking of select rivers to manage the water resources equitably. National Water Development Agency (NWDA), having identified 30 points of interlinking of rivers, has to pursue the matter. He stressed on the issue of intra basin transfer of water to solve the problem. Priyaranjan Das Munshi, Minister for Water Resources emphasized the need for increased irrigation potential to 160 million hectares for all crops by 2050. Emphasizing the need to enhance production to meet the food demand of the increasing population, Munshi said that the conventional water resources developmental activities would be inadequate to meet the emerging situation. Other options, including interbasin transfer of water, have to be thought of to provide water and to overcome regional imbalances in water availability.

Abdul Kalam addressed the current water resources scenario and expressed the need of this resource for sanitation, irrigation, industries, etc. and the need to know water balance and minimum requirements. Snow-fed rivers in the north and rain-fed rivers in the south being the sources of water, regulation of flood water and harvesting are the major ways to solve the problem of scarcity. Planners have to take note of this and canalize and evolve long-term solutions. He emphasized the importance of rehabilitation of communities that needed compensation to be given on first priority. Environmental upgradation for enhanced precipitation and water availability followed by river-flow management need to be closely monitored using available technology, he said. Remote sensing technology is one such tool to study the pattern of flow and environmental profile. Water harvesting and recycling should be taken up as a mission – as done at Siulfluidi (near Coimbatore), where large-scale water harvesting is implemented. Kalam also suggested alternative practices to be followed for water budgeting to develop action-oriented plan.

In the first technical session with the theme ‘Interbasin water transfer, an important strategy in the development of water resources’, R. K. Sharma speaking on the current status of the ILR programme, explained the national perspective plan for water resources development and steps initiated to overcome apprehensions of the states in order to arrive at a consensus. The work carried out by the task force on