BACKGROUND NOTE

Regional Centre for Biotechnology

9/3/2014

REGIONAL CENTRE FOR BIOTECHNOLOGY

1. INTRODUCTION

- The Regional Centre for Biotechnology (RCB), is an institution of education, training and research established by the Govt. of India through the Department of Biotechnology, Ministry of Science & Technology, Govt. of India under the auspices of United Nations Educational, Scientific and Cultural Organization (UNESCO) as a Category-II institution.

- The need for establishment of the Regional Centre for Biotechnology was felt because biotechnology is recognized globally as a rapidly advancing science wherein molecular techniques and processes are employed to develop health care solutions for human and animal sector, for agriculture and environment technologies.

- This would require development of high quality human resource in multi-disciplinary and interdisciplinary areas by engaging students in research by integrating science, engineering and medicine.

- Similarly, interface amongst agriculture or veterinary sciences and engineers and environmental biologists, ecologists and engineers for agricultural and environmental technologies respectively would also be necessary for molecular breeding, bio-energy and green technologies.

- For this purpose, it is necessary to create physical infrastructure in critical platform technologies to support interdisciplinary education, training and research in biotechnology.

2. BACKGROUND

- The Govt. of India in a proposal to UNESCO by June 2003 decided to set up a Regional Centre for Biotechnology education, training and research in India with an objective to facilitate enhancement of knowledge and potential in the interdisciplinary areas of Biotechnology in India, SAARC Region and the Asia-Pacific Region.

- The Union Cabinet accorded 'in principle' approval, on 22nd September 2005, for the establishment of the Regional Centre for Biotechnology Training and Education, at Faridabad, Haryana, under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) as a Category II Centre.

- The UNESCO passed a resolution in their 33rd General Conference held in Paris during 3-21 October, 2005 (Item 27 of the Programmes).

- Accordingly, the Govt. of India through the Department of Biotechnology, Ministry of Science and Technology, Government of India and UNESCO

signed an agreement on 14th July 2006 for establishment and operation of the said Regional Centre, defining the terms and conditions for its governance and support.

- Subsequently, the Union Cabinet accorded its approval on 20th November 2008, for establishment of the Centre as an autonomous Centre of DBT,. The Centre is presently functioning through an Executive Order dated 20th April, 2009.

3. AGREEMENT SIGNED BETWEEN UNESCO AND INDIA

- As per the Agreement signed between UNESCO and India, the Regional Centre shall be an autonomous institution at the service of Member States of UNESCO which, by their geographical proximity to the Regional Centre and their common interest in its objectives in the field of biotechnology, desire to cooperate with the Regional Centre.

- The Agreement specifies the objectives and functions of the Centre which are to be pursued in close collaboration with other relevant regional and international networks.

- The Agreement also specifies the governing structure, the financial arrangements, legal status and the privileges and immunities.

4. CATEGORY- II CENTRE: COMMITMENT TO UNESCO

- **Category-II** institutions and centres under the auspices of UNESCO are entities which are not legally part of the Organization, but which are associated with UNESCO through formal arrangements approved by the UNESCO General Conference.

- UNESCO is to contribute through capacity-building, exchange of information in a particular discipline, theoretical & experimental research and advanced training, etc.

- Category II centres contribute to the technical cooperation among developing countries to a large extent.

5. CURRENT STATUS OF THE CENTRE

- The Centre is functioning from its interim campus at 180, Udyog Vihar, Gurgaon in a rented building since June 2010

- Executive Director has been appointed.

- Minimal required infrastructure and resources have been established.

- Construction at the required facilities at the permanent campus site in Faridabad has been nearly completed.

6. ENACTMENT OF THE LEGISLATION

- A National Expert Group in a meeting held on 18th May, 2007 at New Delhi, recommended that the Centre should have an independent autonomous status.

- The Centre will be an autonomous body under a Statute of Parliament, as an institution of national importance for Biotechnology Education, Training & Research.

- RCB Bill 2011 was placed in the XVth Lok Sabha. However the Bill was not passed due to sine die of the Lok Sabha.

- The RCB Bill for the proposed legislation is to be enacted, introduced in the parliament and will enable the centre to attain status of a University.

6. SALIENT FEATURES OF THE LEGISLATION

- The proposed legislation, namely the Regional Centre for Biotechnology Bill, 2014, aims at creating an autonomous institution, under the auspices of the UNESCO to undertake research, training and education in the field of Biotechnology.

- The legislation, would, *inter alia*, provide for the following objectives of the Regional Centre:

    (i) to disseminate and advance knowledge by providing instructional and research facilities in such branches of biotechnology and related fields as it may deem fit including technology policy development;

    (ii) to provide capacity-building through education, training, research and development in biotechnology and related academic fields for sustainable development objectives through regional and international cooperation;

    (iii) to facilitate transfer of knowledge and technology relating to biotechnology at the regional level;

    (iv) to create a hub of biotechnology expertise in the countries in South Asian Association for Regional Cooperation (SAARC) region, and more generally in the Asia region, and to address human

resources needs in the region;

(v) to promote and strengthen international cooperation to improve the social and economic conditions and welfare of the people; and

(vi) to promote and facilitate a network of satellite centres in the region as well as within India.

- The Regional Centre shall pursue its objects and discharge its functions in close collaboration with other national, regional and international centres including those located in the member States of, the UNESCO;

7. DETAILS OF THE ACADEMIC PROGRAMMES

(i) Education

- The design and processes of the education at this Centre will be such that it will generate technology savvy solution finders/creators; science entrepreneurs/knowledge economy entrepreneurs and research and development leaders.

- Interdisciplinary PhD programme of the Regional Centre for Biotechnology aims at producing a highly specialized cadre of scientists capable of translating laboratory research to clinical practice with detailed knowledge of both medicine and practice of scientific investigations.

- The goal of this interdisciplinary PhD programme is to educate students at the interface of engineering, physical sciences and the biomedical sciences via a flexible structure that permits explorations at the intersections of these disciplines.

- A flagship Master's programme in Medical Sciences is under preparation. The framework has been designed with an objective to provide knowledge in Life Sciences with emphasis on human biology, clinical & translational research.

(ii) Training Programme

- Post-doctoral programme is introduced in a modest way for mentoring young scientists below the age of 35, in the areas of active interest at the Centre, for mentoring talent towards the leadership role in biotechnology.

- The center will be open to industry for enhancing their skills in specific areas. Domain-specific programmes are also being designed in gap areas such as nanotechnology, implants and devices, vaccine development and stem cell biology in order to create a cadre of highly specialized scientists for technology development in these areas.

- Important focuses of expertise building include regulation, product development, scale up, manufacturing science and bio-entrepreneurship.

(iii) Research

- The Centre has been undertaking and promoting multi-disciplinary innovative research in biotechnology. Contemporary research at the interface of disciplines with integration of science, engineering and medicine and emphasis on the relevance to the region is being undertaken. Broad range of areas synergizing with biotechnology is being will be pursued:

    - Biomedical Sciences
    - Molecular and Cellular Biology
    - Bioengineering and Devices
    - Biophysics, Biochemistry and Structural Biology
    - Climate science, Agriculture and Environment
    - Biotechnology Regulatory Affairs, IPR and Policy

8. UNIQUENESS OF THE CENTRE

- The proposed centre will be the **first ever inter-disciplinary university in life science**s **and biotechnology** in India with unique international outlook because of its UNESCO linkages.

- It will offer unique and innovative courses on issues relating to regulation, toxicology, technology transfer, biological engineering, molecular breeding, drug discovery, imaging techniques, nano-medicine, PhD programme for clinicians & physicians (something that is missing in the country today), IP management in life sciences, and related areas in which there is currently a crying need in the country.

- The Centre would function under the aegis of UNESCO and be governed by a body which would have representations from UNESCO and the member countries.

- The member countries would identify a premier institute within their country to act as a satellite to the Regional Centre.

- This would allow international networking, exposure to international education, regulations and policies.

- The UNESCO Regional Centre would be the first of its kind in India with a networked educational system.

9. MUTUAL KNOWLEDGE SHARING BETWEEN MEMBER COUNTRIES

- Training/ workshops/ seminars would be conducted in areas of agriculture, biosafety, bioethics, intellectual property rights, clinical research and such others, in-house and through regional networks.

10. INDIA ADVANTAGE

- Allows freedom to us to ensure that over 90% of scientists are Indian.

- Indian students will have world class education and training at their doorstep.

- IPR generated through research in this Centre will belong to India, no matter who produces, the same.

- Category II centre of UNESCO ensures full control of the sponsoring country, and subjected to the rules & regulations of the host country.

- India will create its own asset of first rate centre with state of the art facilities & infrastructure.

- Other co-locating Institutions at Faridabad such as Translational Health Science & Technology Institute (THSTI), National Institute of Plant Genome Research (NIPGR), National Brain Research Institute (NBRC) and National Institute of Immunology (NII) (Campus will have synergistic relationship and will be able to share the common facilities among them.

- The centre is expected to produce highly trained and skilled manpower, capable of delivering low-cost effective healthcare, agricultural and veterinary technologies.

- The centre would serve as a window for showcasing Indian competence in global market for economic gains.

11. FUNDING

The Regional Centre shall receive funds from the Govt. of India and contributions from the member states of UNESCO within the region.

12. CURRENT STATUS OF THE BILL

- The Bill was introduced in the XVth Lok Sabha could not be considered.

- The Department has now initiated the stipulated process during the current Lok Sabha for consideration and passing of this pending Bill.

- This is important as this is an international commitment by the Indian Government to UNESCO towards establishment of this Regional Centre for Biotechnology as a Category-II institution with emphasis on education, training & research, not only to cater the needs of our country but to the countries in the larger Asia pacific region.

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