

### **Background Note for Second Asian Conference on Biotechnology and Development\***

Asian countries have shown increasing competence in diverse field of biotechnology, and especially in agricultural and health biotechnology. The public sector allocations have grown up over the years in these sectors with multiplier effects, leading to enhanced private sector participation. The strategy being followed seems to mirror the strategic and selective support earlier extended to the information technology in the region. In this regard, the last decade bears witness to the transformation of several Asian countries from being labour intensive profiles to knowledge intensive economies.

RIS, one of the leading think tanks in India, is actively analyzing socio-economic implications of biotechnology for developing countries (see Annex 1 for details on RIS work programme on biotechnology). RIS organized the First Asian Conference on Biotechnology and Development in February 2002, to take a comprehensive look at above mentioned developments. This was extremely successful in terms of catalyzing and involving policy makers and various stake holders. The journal *Asian Biotechnology and Development Review* (ABDR), launched during the Conference, has also been well received. It has helped in developing an informal network of Asian researchers and policy makers involved in the biotechnology debate in the region and elsewhere. These initiatives have stimulated serious

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\* To be organized by RIS in support with UNESCO and Department of Biotechnology, Government of India at New Delhi in March 2004.

interest among UN and other international agencies, some of which have proposed varied joint activities with this network. Such complementarities and forums suggest wealth of ways to tap them for wider Asian gains in the field of biotechnology.

In an important follow-up RIS is planning a “Second Asian Conference on Biotechnology and Development”, scheduled for March 2004 in New Delhi, India. We propose to further promote the dialogue launched last year among the eminent economists, technology experts and policy-makers from Asia and abroad, apart from members of different networks such as MIRCEN, etc. This effort will help in further strengthening the network so as to make this as a vibrant forum for discussing biotechnology related issues concerning developing countries in general and Asian countries in particular.

## **II Issues for the Conference**

In Asia the rate of adoption of biotechnology varies across countries as per the socio-economic priorities. One of the important features of recent origin is the growing indigenous capability in this sector across the Asian countries. Clarity about its governance still provokes different ideas that need to be addressed on priority. In this scenario, the management of agricultural biotechnology occupies the centre stage. Adoption of biotechnology in industrial and other activities is a relatively recent phenomenon in Asia which has contributed to the acceleration of the pace at which biotechnology is being diffused across the sectors.

There are certain major issues that the, “Second Asian Conference on Biotechnology and Development” intends to address and thereby engendering a pragmatic work agenda for the Asian region apart from addressing the developmental concerns and the role of biotechnology in such endeavors that will spur Asian countries to further develop the capacity to acquire, select and manage most appropriate components of this technology for their advancements. The need for generating knowledge in the development of human resources through training, education and joint research programmes are some opportunities that need to be explored at the regional level. Some of the major issues for discussion are as follows:

## **II.1 Agriculture, Food Security and Economic Contribution of Biotechnology**

In most Asian countries biotechnology has been identified to play an important role in agriculture and for ensuring food security in the region. It is important to outline a statistical framework and database that allows the measurement of these industrial and developmental activities so that the policy makers may plan and formulate adequate responses. The database should provide statistical information to assess the changes in the growth, composition and structure of the organized manufacturing sector within biotechnology. Of late the industrial and pharmaceutical sectors occupy important positions in some of the Asian economies whereas in others countries it is the agricultural sector that plays a pivotal role in the economic development of the region. One of the major challenges is to select a common definition of biotechnology in the region such as that done by the OECD countries. Some consensus on definition of biotechnology *per se* is yet to be attempted in the region. Therefore, the nature of technology being supported under the chapeau of biotechnology, may probably lead to different sets of conclusions altogether. In one of the sessions these issues may be discussed along with issues like biotechnology related budgetary allocation including for R&D and other heads from national and other agencies including private sector allocations.

## **II.2 Public-Private Partnership in Financing of Biotechnology: Lessons from Bilateral and Multilateral Programmes in Asia**

In the area of biotechnology several countries are formulating their own guidelines and policies to facilitate financial growth in their markets which could be highly relevant and useful for the new comers in this race as they learn from the experiences of other countries. Resort to the venture capital and other instruments have emerged as a major source of funding for frontier technologies. Biotechnology has attracted a large number of commitments by different national and international agencies. Several Asian governments, such as Singapore, have encouraged establishment of venture funds that have played an active role in bringing around the best possibilities from a public private partnership model. Thus, it is important to pay attention to institutional structure and linkages at both the national and international

level with special consideration to public private partnership. Some discussion on financing of this technology in the region would also be part of the agenda before the Conference.

### **II.3 Biotechnology, Trade and IPR Related Issues**

In recent past trade in biotechnology goods has attracted lot of attention. The continued ban on imports of biotechnology goods by some countries has posed a major policy dilemma before the developing countries. Moreover, the developments in biotechnology have been accompanied by a strengthened intellectual property rights (IPR) regime. In fact, with the advancements in this domain stronger instruments are being used for the protection of technology that are highly exclusionist in their approach. This may pose severe challenges for the developing countries as advances in this technology are largely in the private sector and these new trends in the IPR regime seems to foreclose the entry of public sector research institutions. This is happening despite of the fact that a large number of developing countries have agreed to a relatively newer IPR regime at the WTO forum. In fact, coverage of agricultural sector through an IPR regime is a recent phenomenon in the developing countries. Again several issues pertaining to the role of government and space for public sector supported R&D in agriculture need to be analysed further. The patent related data management also needs a detailed discussion so as to facilitate inter-country comparisons. The database for patents has yet to be separately classified for the biotechnology patents. At this point, there is no provision for granting patents on microorganisms in several Asian countries.

### **II.4 Implementation of Biosafety Protocol, National Legislations and Other Regulatory Issues**

As the commercialization of biotechnology progresses biosafety and other regulatory issues pose a bigger challenge to all the countries. Since 11<sup>th</sup> September 2003 the Biosafety Protocol has also come into force. In order to bring greater harmony in national and international legislations sharing of mutual experiences and institutional capacity building are of prime importance. This may require consideration of new institutional arrangements. Even countries like the USA that are highly advanced in

biotechnology are now setting up new enforcement units to ensure that biotech companies are properly managing field trials of genetically engineered crops. Such unit will enforce rules that were revised and tightened earlier this year following the experience of a company engineering corn for use in pharmaceuticals, that resulted in mismanaged field trials in the US states of Iowa and Nebraska.

Therefore, the Asian countries will have to consider regional initiatives to identify institutions responsible for regulating, assessing and monitoring tests of genetically engineered crops. There has been a particular concern about crops designed for use in drugs or industrial products. The regulatory rules would also have to be redefined so as to cover the cultivation aspects for fields of pharmaceutical and industrial crops to ensure that there is no contamination of conventional crops. There also needs to be a focus on the economic gains and cost of the regulatory systems across the countries in the region.