SOUTH ASIA
BIOSAFETY PROGRAM

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SABP

The South Asia Biosafety Program (SABP) is an international developmental program initiated with support from the United States Agency for International Development (USAID). The program is implemented in India and Bangladesh and aims to work with the local governments to facilitate implementation of transparent, efficient and responsive regulatory frameworks that ensure the safety of new foods and feeds, and protect the environment.

Over the next three years, SABP will work with its in-country partners to:

- Identify and respond to technical training needs for food, feed and environmental safety assessment.
- Develop a sustainable network of trained, authoritative local experts to communicate both the benefits and the concerns associated with new agricultural biotechnologies to farmers and other stakeholder groups.
- Raise the profile of biotechnology and biosafety on the policy agenda within India and address policy issues within the overall context of economic development, international trade, environmental safety and sustainability.

BIOTECHNOLOGY AND SOUTH ASIAN REGIONAL COOPERATION: POLICY OPTIONS

Dr. Sachin Chaturvedi, Fellow, Research and Information System for the Developing Countries (RIS), New Delhi (views are personal)

In the recent past, biotechnology has been accepted as an instrument for addressing food security concerns and as an important component in the poverty reduction strategy in South Asia. The first meeting of the Technical Committee on Science and Technology under the reconstituted South Asian Association for Regional Cooperation (SAARC) Integrated Programme of Action identified biotechnology as an important area of joint activity in Delhi 2001 (SAARC News, January 2001). Biotechnology is being seen as a major force for economic development in South Asia. In the last decade or so almost all the countries in the region have initiated some activities in biotechnology.

These programmes are largely designed to keep agriculture sector at centre stage. However, even within this sector, national requirements and needs are effective in their own way. For instance, in Nepal food security is the stated objective of biotechnology policy while Bhutan is attaching more importance to the efficacious *ex-situ* conservation of biodiversity through Renewable Natural Resource Centers (RNRCs). Sri Lanka has very high emphasis on ethical aspects of biotechnology research.

However, it seems that the South Asian region faces a major biotechnology governance challenge. The regulatory aspects of biotechnology need urgent attention in the region. Biosafety regulations in some countries are not in place while others have to work further on the gaps between the Cartagena Protocol on Biosafety and their national legislations for effective management of biosafety. The SAARC secretariat has provided a forum to exchange experiences, knowledge and expertise for the combined technological advancement of the region. It has also helped in working towards harmonization of biosafety and other regulatory issues. This forum should be used in a more effective manner.

There are certain major challenges which the region will have to address as a priority. Trade in GMOs is a major area which needs urgent attention. Though this is being addressed in various committees of the WTO, it would be in the interest of the region to work out a common position concerning conservation of biodiversity in the sub-continent. The South Asian region also needs to consider issues like whether the Convention of Biological Diversity (CBD) should prevail over WTO as has been proposed by several other developing countries. The trends in the IPR regime within biotechnology also need to be analyzed from the perspective of access to technology in the region. There are certain areas listed below which may be addressed on priority for regional cooperation:

1. Research Priority for Food and Nutritional Security

In terms of ensuring nutritional security in the region it is important that research plans address issues like increasing vitamin A, iron and other nutrients in the edible portion of various plants and crops. It is desirable that South Asian countries come together to address these constraints and economize on the selection and application of various techniques in biotechnology.

2. Harmonization of Biosafety Regulations

The Biosafety Protocol has yet to be ratified by some of the member countries in the region. This puts South Asia on uneven ground in terms of implementation of regulatory governance of biotechnology in the region. The biosafety protocols from all member states except two have been exchanged. Follow up action is being taken by respective member states. Depending on the outcome of ongoing WTO discussion on labelling and segregation of GMOs, it is important that a regional approach is developed in this important area. A lesson should be learnt from OECD countries where debate on monitoring of GMOs after release into the natural environment has further intensified.

3. Cooperation for Human Resource Development

It is important to realize that some of the South Asian countries are facing trained manpower constraints in first-generation biotechnology. At present, there are not enough capable scientist with adequate exposure to advance biotechnology. Agriculture and forestry are key sectors where even preliminary biotechnology can help in a major way. Some other members like India and Sri Lanka are moving towards new biotechnology from first generation biotechnology.

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CALENDAR OF EVENTS (INDIA)			
Event	Organization	Date	Place
International Conference on Biotechnology: Approaches for Alleviating Malnutrition and Human Health	University of Agricultural Sciences	January 9 to 11, 2006	Bangalore, Karnataka, India
National Seminar on Transgenic Crops in Indian Agriculture: Status, Risks and Acceptance	National Society of Plant Sciences, in collaboration with Department of Plant Breeding, CCS Haryana Agricultural University	January 28 and 29, 2006	Hisar, Haryana, India
Training Awareness programme for senior custom officials	Ministry of Environment and Forests (MoEF). Contact: Dr. M. Hota, e-mail hota@nic.in	January 2006	
Training Awareness programme for school children and teachers	Ministry of Environment and Forests (MoEF). Contact: Dr. M. Hota, e-mail hota@nic.in	January 2006	
Training programme on LMO detection at NBPGR, Delhi	Ministry of Environment and Forests (MoEF). Contact: Dr. M. Hota, e-mail hota@nic.in	January 2006	

INDIA BT COTTON DOCUMENTARY NOW AVAILABLE

The International Service for the Acquisition of Agri-biotech Applications (ISAAA) and the South Asia Biosafety Program (SABP) have released "The Story of Bt Cotton in India". This 20-minute documentary captures the history of India's first commercial approval of a genetically modified crop. It focuses on the roles of various stakeholders in bringing Bt cotton to farmers' fields and recounts the experiences of farmers, including an objective treatment of some of the challenges and opportunities that have arisen with the deployment of Bt cotton.

In addition to English and Hindi, the video is available in six other regional languages: Punjabi, Gujarati, Marathi, Tamil, Telugu and Kannada.

For copies, please contact Bhagirath Choudhary of the ISAAA South Asia office at b.choudhary@isaaa.org or Purvi Mehta-Bhatt of SABP at P_Mehta_Bhatt@rediffmail.com.

BIOTECHNOLOGY FOR BETTER NUTRITION

The modern era of science and technology is constantly providing us with new tools to improve every aspect of human existence, nutrition being no exception. Among technologies, biotechnology is most relevant to food and nutrition. New varieties of food crops are being developed; existing varieties are being improved with better characteristics to enable better nutrient deliveries. Biotechnological advances have been made in food processing, dairy, microbial technology and other sectors. In parallel, apprehensions also exist.

These were the topics of discussion for the SABP-sponsored symposium "Biotechnology for Better Nutrition" during the recent XXXVII Nutrition Society of India Annual Meeting held at the National Institute of Nutrition, Hyderabad on November 18-19, 2005. The theme of the conference was "Good Technology – Better Delivery – Best Nutrition". The "Biotechnology for Better Nutrition" symposium focused specifically on an update of the various biotechnologies which, when appropriately applied, could revolutionize food production and nutrient delivery. Presentations were: "Biotechnological production of nutraceuticals" by Dr. G.A.Ravishankar, CFTRI; "National Priorities in Biotechnology for Better Nutrition" by Dr. B. Sivakumar, NIN; "Development of genetically improved varieties of wheat" by Dr. Suresh Bhagvath, Bhabha Atomic Research Centre; and "Biotechnological processing of waste land fruits for better nutrition and for sustainable economic rural transformation" by Dr. V.N. Pawar, Marathwada Agricultural University.

FARMER CONSULTATION ON DRAFT NATIONAL BIOTECHNOLOGY POLICY

In September 2005 the National Commission on Farmers held a consultation meeting with farmers on the Draft National Biotechnology Policy under the chairmanship of Prof M.S. Swaminathan. The meeting was organized to assess farmers' perspectives on the national policy. It was attended by the Heads of several national farmers' organizations (such as the Bhartiya Kisan Union; the Federation of Farmers' Association; the All India Kisan Sabha; the Punjab Kisan Union; and Shetkari Sangathan), 20 leading farmers who grow transgenic crops and experts from the Department of Biotechnology.

(continued on page 4 - see Farmer Consultation)

The Proceedings of the conference

Foods Derived from Genetically Modified Crops: Issues for Consumer, Regulators and Scientists

are now available online at

http://www.agbios.com/sabp_main.php?action=ActivitiesPage

CALENDAR OF EVENTS (BANGLADESH)		
Event	Date	Place
Awareness Building on the Recent Advances in Agricultural Biotechnology and Biosafety: Organized by SABP.	February 1-2 2006	Dhaka Division
Regional workshop on Awareness Building on the Recent Advances in Agricultural Biotechnology and Biosafety: Organized by SABP.	February 5-6, 2006	Chittagong Division

GRANTS PROGRAM ON BIOTECHNOLOGY AND BIODIVERSITY INTERFACE (BBI) REQUEST FOR PRE-PROPOSALS

The Biotechnology and Biodiversity Interface (BBI), a component of the Program for Biosafety Systems (PBS), competitive grants component will fund research aimed at addressing the effects of agricultural biotechnology, particularly transgenic organisms, on natural biodiversity in developing countries. The geographic focus of the program is on all developing countries in Asia and Africa, excluding those that are not eligible for USAID funding.

BBI grants will support research that:

- Provides information needed to assess the potential effects of agricultural biotechnology products on wild biodiversity, and /or provides information needed to develop strategies for managing any identified risks in the context of agricultural and wild ecosystems found in developing countries.
- Focuses on the express needs of developing countries.
- Assists developing country regulatory bodies in making science-based decisions, relying on scientific data on the effects on wild biodiversity associated with the deployment of transgenic crops and animals in those countries or regions.
- Builds collaboration between agricultural research and environmental conservation communities.
- Builds capacity among developing countries to conduct research in assessing and managing risks to wild biodiversity.

The research that will be funded under this program must address the interaction and impact of transgenic organisms on wild populations or species of macro-organisms outside of agriculture.

Up to $1 million will be available in fiscal year 2006. The range of awards is expected to be between $50,000 and $300,000, for research of three to four years' duration.

The BBI Grant Program will support research on the potential risks and benefits of using agricultural biotechnology products in developing countries. In particular, it will support research to assess the risks or benefits of transgenic organisms on wild biodiversity (the variety within and among types of macro-organisms, the numbers of each particular type present, and the role of organisms in wild ecosystem function), and if risks are identified, research on managing those risks. Research or activities in one or more of the areas of crop plants,animals, recombinant vaccines and access to existing information are eligible for funding.

For more information on the program and, more specifically, application criteria, pre-proposal format, submission of pre-proposals, pre-proposal evaluation and programmatic contacts please go to http://www.ifpri.org/themes/pbs/pdf/BBIRFA_2006.pdf

Or contact one of the following people:

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SABP CO-SPONSORS 3RD INTERNATIONAL BOTANICAL CONFERENCE

The 3rd International Botanical Conference was held at the Department of Botany, University of Dhaka, Bangladesh on December 9-11, 2005.

The conference consisted of a plenary session on the theme "Plant Resources for Human Development" and eight scientific sessions including one poster session. Session topics included plant biotechnology and biosafety; microbiology, mycology and plant pathology; ecology, forest and environment; plant physiology and plant biochemistry; plant taxonomy and ethno-botany; cytology, cytogenetics, genetics and plant breeding; plants in health care.

South Asia Biosafety Program (SABP) sponsored the session on biotechnology and biosafety and invited seven speakers to address different issues on the recent advances on agricultural biotechnology and biosafety. At the beginning of this session, Prof. M. Imdadul Hoque, Country Coordinator, SABP gave an overview of the activities of SABP in Bangladesh.

The 300 participants at the conference were the plant scientists working in universities, research institutes, private/government colleges and also in various non-governmental organizations in Bangladesh and abroad.

The SABP-sponsored session was well received by the participants because it gave them the opportunity to find out about recent developments in agricultural biotechnology. Many, especially the college level teachers and graduate students, thanked the SABP Country Coordinator for organizing this session.

Policy Options - *continued from page 1*

4. Data bases and Networking

South Asian countries should also consider pooling resources to facilitate online Internet searches for scientific literature and helping scientific institutions overcome the high cost of purchasing scientific journals. In order to access such facilities at the regional level through an intranet, availability of broadband will minimize internet expenses to a considerable extent.

4. Joint Research in Other Key Areas

It is important to link up various research projects funded at the bilateral and multilateral levels to converge so as to yield regional gains. There are some major challenges in making better agro economic practices available, which modern biotechnology together with traditional plant improvement methods may help to overcome. In many parts of South Asia salinity and drought resistance are some of the traits which have to be addressed on priority.

4. Activate Joint Forum for Private Sector

Developments in biotechnology are largely driven by multinational cooperation. It is important that small national companies get regional support in terms of access to technology and resources. In this regard, firms working in the area of biotechnology in South Asia should become more active at a joint forum to provide their inputs for policy formulation and for working toward joint stands in international negotiations.

4. Regional Biodiversity Conservation Fund (RBCF)

The region needs a financial mechanism for conserving and managing biodiversity. Efforts should be made to establish a Regional Biodiversity Conservation Fund (RBCF). The SAARC member countries should consider various instruments to tap resources for this fund. The fund may be used to support collective initiatives such as inventories of the germplasm collected for SAARC gene banks; setting up a crisis management group for any kind of biohazard and collective monitoring of biosafety protocols for checking transboundry movement of genetically modified organisms.

Farmer Consultation - *continued from page 2*

Prof. Swaminathan stressed the need for mobilizing cutting-edge technologies, such as biotechnology, for sustainable and profitable agricultural production. He stressed the need for a balanced approach to harness the positive aspects of biotechnology and to minimize the negative effects that might result from the adoption of new crops. He introduced the Department of Biotechnology's draft National Biotechnology Policy and the Task Force Report on National Policy on Agricultural Biotechnology, which he had chaired and submitted to the Ministry of Agriculture in 2004. He urged the farmer leaders and farmer achievers to put their experiences and views into the development process to ensure a National Biotechnology Policy which would serve the farming community and the nation. He stressed that the agricultural biotechnology policy and strategy should address needs in a manner that benefits the poor and the environment.

The National Commission on Farmers provided a background paper that asked the farmers to focus on five fundamental areas which should form the pillars of the policy:

- Value of products,
- Risk assessment and management,
- Equity and ethics,
- Control and access
- Investment in research

Each participant was provided with a set of questions which they addressed through their interventions. Out of these interventions came the following points:

- Biotechnology can offer new hope for increased productivity, sustainability and profitability, if the research priorities are right.
- Awareness about transgenic crops was generally low and the public sector should give high priority to increasing stakeholder awareness with science-based, truthful information. Village Knowledge Centres, along with other communication channels, could play an important role in this regard.
- Most of the Bt cotton farmers do not grow refugia. Integrated pest management (IPM) in Bt cotton fields is essential for durability of the resistance of the varieties. Although no farmers reported any health, food or environmental negative effects associated with Bt cotton, some of the farmer leaders questioned the efficacy of Bt technology and expressed deep concern about possible risks. They requested science-based pre- and post-release testing and monitoring systems to help ensure safe products.
- To address concerns about inadequate testing, the delegates endorsed the All India Coordinated GM Crop Testing Project, as recommended by the Swaminathan Report.
- Delegates suggested that all biotech products, especially those derived from GMOs, should be labelled.
- Delegates agreed that the precautionary principle should guide national policy on biotechnology.
- Farmers raised concerns about illegal cotton seed distribution and recommended that unofficial release of transgenics should be prevented.
- The public sector, especially the ICAR and SAUs, needs to produce insect resistant cotton hybrids and non-hybrids to improve competition between seed producers, reduce seed prices and enable poor farmers to keep seed.
- Priority applications for biotechnology were identified: (i) tolerance to drought, saline conditions and other abiotic stresses, (ii) nutritional enrichment, (iii) diagnostic kits, (iv) resistance to diseases and pests, (v) development of efficient biocontrol agents, biofertilizers and biopesticides, (vi) micropropagation for improved planting material and (vii) germplasm conservation and enhancement.
- Large scale biotechnology training in State extension systems and Krishi Vigyan Kendras are needed.
- The Biotechnology Policy must seek harmonization of standards and guidelines, especially of sanitary and phytosanitary measures and Codex Alimentarius provisions.
- Farmer-friendly IPR provisions and trade and legal literacy should be promoted.
- Crop insurance should be introduced along with GM seed sale, as recommended by the Swaminathan Report, to compensate for losses due to poor quality seed.
- The delegates endorsed the establishment of an autonomous National Biotechnology Regulatory Authority as recommended by the Swaminathan Report.

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