

International Conference on Biotechnology for Sustained Productivity in Agriculture

November 1-2, 1999 Hyderabad, India

Conclusions and Recommendations

**Jointly organized by
International Life Sciences Institute (ILSI) – India
ILSI International Food Biotechnology Committee
Department of Biotechnology, GOI
In Cooperation with FAO**

**Supported by
Department of Science and Technology, GOI
Ministry of Food Processing Industries, GOI**

**In association with
Ministry of Agriculture, GOI**

CONCLUSIONS AND RECOMMENDATIONS AS ADOPTED BY THE PARTICIPANTS

The International Life Sciences Institute - India (ILSI-INDIA), ILSI International Food Biotechnology Committee and the Department of Biotechnology, Government of India (GOI) jointly organized the International Conference on “Biotechnology for Sustained Productivity in Agriculture” on November 1-2, 1999 in Hyderabad. The Conference had the cooperation of FAO and was supported by the Department of Science and Technology, GOI, Ministry of Food Processing Industries, GOI and had the benefit of association of the Ministry of Agriculture, GOI. A number of corporates also lent support.

The Conference was addressed by technical experts, policy makers and representatives of industry and consumer and farmer organisations.

The Conference was organised in the context of productivity lags in agriculture. While the green revolution more than doubled agricultural output in India in less than 20 years, lately there were indications that productivity has stagnated. Unless new technologies are introduced the country will pass from self-sufficiency in food to dependency on food imports. This will place a heavy drag on development.

Genetic modification has provided a new tool to improve agricultural productivity by preventing losses and increasing yields. Already, in twelve countries including US, Canada, Argentina, Mexico, South Africa and China commercialisation of this technology has taken place. For the present, the predominant transgenic traits have been herbicide tolerance and pest resistance. These alone can prevent substantial loss, reduce pesticide use and promote environmental protection.

The research agenda with respect to genetic traits to be engineered should be prioritised in the context of national needs. Considering the vast tracks of low productivity land in the country, it is important that crop varieties are developed which will have high drought resistance, salinity tolerance or can grow in water logged areas. Such transgenics will enable vast wasteland areas to be put to productive use, thereby increasing production.

Further, considering the persistence of “hidden hunger”, it is incumbent that genetic modification be utilised to improve the nutritional content of foods. In particular, genetic modification of food grains, like rice and wheat, to contain Vitamin-A and iron would prevent many health problems the country is facing today.

It is recognised that there are some genuine public concerns which need to be addressed. For this reason, it is necessary to draw up a balance sheet of risks and benefits arising from transgenic agriculture. This will enable transparency and independent assessment of the issues involved. Subject to the necessary precautionary measures the country should launch the next step of commercialisation after providing for safety aspects for farmers, to derive benefits from transgenic technologies and rapid progress on genomes.

It is important that the risks of transgenics are understood and minimised and for this purpose the regulatory mechanism in place should be strengthened. The Institutional Biosafety Committee (IBSC), Review Committee for Genetic Engineering Apex Committee (GEAC) have to give adequate representation to relevant stakeholders. There is need to strengthen state level expertise to monitor developments in the area and facilitate and support transgenic research and field experimentation under the overall guidance of central committees. Active involvement of State Agriculture Universities (SAUs) for field demonstrations would be extremely useful.

A biosafety coordination cell should be set up to ensure speedy clearance of proposals for experimental field trials, maintain proper data bases, help technology assessment and offer information to prospective users.

A full-fledged science-based public awareness and information programme with adequate budgetary support to inform the public about biotechnology application should be launched.

Research in India and abroad has provided sufficient information to test transgenic food for toxicology and allergenicity. While avoiding duplication increased support should be provided for the development and standardisation of experimental methods/protocols on environmental and food safety aspects of emerging transgenic traits. Animal studies should be done when scientifically justified.

The private sector should be encouraged to undertake research in and commercialisation of crops of national/regional importance which have not yet received the benefit of genetic modification.

The guidelines for laboratories, plant breeders and cultivators in safeguarding environment and protecting public health should be continuously reviewed to keep abreast of scientific developments.

It is recognised that GM foods ultimately have to be acceptable to consumers. While these foods have been marketed by many countries, consumers should have the option to exercise their choice.

It is appreciated that Government of India has a well reasoned approach to promote research and development and institution of proper biosafety guidelines. It is equally necessary to discuss issues objectively and disseminate information through interactive Conferences/Seminars/Workshops involving scientists in government institutions, research organisations, universities and private industry as also the different interest groups.
