

## **NATIONAL COMMISSION ON FARMERS**

**Consultation with Farmers on Draft National Biotechnology Policy held at NCF,  
September 22, 2005**

### **Organisation of and Attendance at the Consultation**

A Farmers' Consultation on Draft National Biotechnology was organised to assess farmers' perspectives for developing a national policy on this frontier technology which may help improve food, livelihood and economic security of the Indian farmer. The Consultation was held under the Chairmanship of Prof M.S. Swaminathan, Chairman, N.C.F on the 22<sup>nd</sup> September, 2005 at the Conference Room of the NCF.

2. **Heads of several national farmers' organizations**, namely, Shri Mahendra Singh Tikait, President, Bhartiya Kisan Union; Shri Krishnaveer Choudhary, Executive President, Bhartiya Kisan Union; Shri P. Chengal Reddy, President, Federation of Farmers' Association; Shri S.R. Pillai, President, All India Kisan Sabha; Shri B.S. Mann, President, Punjab Kisan Union; Shri Dinesh D. Kulkarni, All India Organising Secretary, Bhartiya Kisan Sangh; Shri Vijay Jawandhia, Chairman, Shetkari Sangathan; and 20 leading farmers growing biotech crops, particularly Bt. Cotton, participated. Experts from the Department of Biotechnology also participated.

### **Opening of the Consultation**

3. Prof. M.S. Swaminathan, Chairman, NCF, welcomed the participants and expressed happiness at the overwhelming response of the farmers' leaders/organisations and farmers from different parts of the country. Recalling that the rate of growth of food and agricultural production in recent years has slipped below the rate of population growth and reminding that farmers and their families constitute over 60 percent of the country's population and their livelihood is dependent directly on the state of agriculture, the Chairman stressed the need for mobilising cutting-edge technologies, such as biotechnologies, for sustainably and profitably enhancing agricultural production, productivity and farmers' income. The smaller the farm, the greater is the need for

enhancing productivity per unit of land and water, so that the farm family will have a reasonable marketable surplus.

4. Prof. Swaminathan pointed out that biotechnology may be grouped into two groups: (a) the non-transgenic and traditional biotechnologies yielding bio-fertilisers, bio-pesticides, tissue-cultured materials, etc. and non-GMO varieties/breeds/strains, and (b) the transgenics or GMO products, such as, Bt. cotton. He also pointed out that it is the GMOs which are often surrounded with controversies related to food, environmental and health safety. He stressed that a **balanced approach to harness the positive aspects of biotech and to minimise the negative effects should be adopted**. In this context, Prof Swaminathan referred to the ongoing exercise of the Department of Biotechnology for developing a National Biotechnology Strategy/Policy as well as to the Task Force Report (which he had chaired) submitted in 2004 to the Ministry of Agriculture on National Policy on Agricultural Biotechnology. He pointed out that **the policy framework should adequately address the issues of priorities, biosafety and regulatory aspects** and urged the farmers' leaders and the farmer achievers to put forth their experiences and views towards finalisation of the National Biotechnology Policy which may most effectively serve the farming community and the nation. Above all, our agricultural biotechnology policy and strategy should be pro-poor and pro-environment.

#### **Scope of the Consultation**

5. Prof. R.B. Singh, Member, NCF, alluded to the following five issues highlighted in the background paper and the handout at the Consultation and urged the participants to reflect on these fundamental questions which should constitute the pillars of the policy:

- (i) Value, usefulness and appropriateness of biotechnologies,
- (ii) Risk and biosafety aspects and their management,
- (iii) Equity and ethical dimensions, overall awareness and promotion of pro-poor features of biotechnologies,**
- (iv) Control of and access to biotechnologies; harmonization of various provisions, and**
- (v) Investment in research and other institutional supports and partnerships for Judicious and balanced harnessing of biotechnologies.**

6. Each participant was provided in advance with the following set of questions to be addressed, among other things, in his presentation/write-up /intervention:

- a) Why do you think that biotechnology is good for Indian farmers and India's agriculture? What specific role do you envisage for biotechnology? What percentages of farmers are aware of the role of biotechnology?
- b) In India, only Bt Cotton transgenics (GMOs) have so far been commercialized. Do you have any first hand experience with these varieties or are you aware of their performance in the farmers fields and in the market. If yes, please briefly narrate it in specific terms like yield, resistance against pests, crop condition like boll number, boll weight etc. savings in pesticides use and number of sprays, and net income gain over non Bt Hybrid or variety.
- c) In what other crops and for what characters would you like to have transgenics?
- d) Any health, food or environment safety problem encountered? Any effect on non-target insects or adjacent non-Bt cotton plantation? Do the farmers follow the recommended practices, such as planting of the **refugia**, Bt-based IPM, etc.
- e) Transgenics are just one of the several kinds of products and applications of biotechnology. What role do you see for biotechnology for diagnostics, germplasm conservation, tissue culture, biopesticides, biofertilisers and molecular breeding.
- f) Status of availability of quality seed and price, extension service, Intellectual Property Right (IPR) and Sanitary and Phytosanitary (SPS) regulations.

## Outcome of the Consultation

7. The participants made highly incisive presentations covering all the abovementioned issues and queries. The highlights of the discussions and conclusions are summarised below.

8. **Biotechnologies can offer new hope for increased productivity, sustainability and profitability, if the research priorities are right.** Tissue culture in banana and Bt cotton hybrid are the most widely adopted agricultural biotechnologies in India. Area under Bt cotton is expanding, having doubled from the last year acreage to over one million ha (under legally released Bt cotton hybrids) during 2005. Some participating farmers, cultivating Bt cotton for the last three years, reported additional net profit of at least about Rs.12,000 per ha, and about 40 to 50 per cent savings in the pesticide use and in the numbers of sprayings, while others reported failure due to drought and multiple pest epidemics. Moreover, the Bt hybrids were early maturing, thus enabling double cropping in otherwise single-cropped areas.

9. Awareness about biotechnology, especially transgenics/GMOs, varied from as low as 2% to as high as 80% in different cotton growing areas. However, genetic literacy was generally low as most of the Bt cotton farmers grew no **refugia** and did not provide recommended isolation distances needed for preventing cross-pollination between Bt and non-Bt strains so as to reduce the chances for the breakdown of resistance to bollworm in Bt cotton varieties. A general misgiving prevails, maybe partly due to aggressive advertisement by seed companies, that the Bt cottons need no pesticide application, forgetting that the Bt provides protection (often not 100 percent) only against bollworms. For controlling other pests, which at times assume serious proportions, such as aphids and white fly, pesticides will need to be applied as per recommendations. In fact, **IPM in Bt cotton fields is essential for durability of the resistance of the varieties.**

10. Although none of the Bt cotton farmers reported of any health, food or environmentally negative effects associated with Bt cotton, some of the farmers' leaders questioned the efficacy of Bt technology and expressed deep concern about possible risks, whereas several of them emphasised the need a cautious approach while exploiting

the technology and asked for a **science-based pre- and post-release testing and monitoring system**. Given the biodiversity richness of the country, the Consultation particularly emphasised that biotechnology should in no case be allowed to reduce naturally occurring biodiversity, instead it should be used to enrich and conserve indigenous biodiversity.

11. Inadequate testing under the major cotton growing agro-climatic conditions is a serious problem. At least three years testing should be done by ICAR to gather information on genotype x environment interaction as well as on isolation distances under a special All India Coordinated GM Crop Testing Project as recommended by the Swaminathan Committee. Special **National Demonstrations and Lab-to-Land programme** should be organised for such varieties.

12. **Awareness on biotechnology and genetic literacy should be enhanced.** While the private sector is active in popularising its products, the public sector is not doing enough to disseminate integrated information on various aspects of biotechnology. This gap should be bridged and the public sector should give high priority to increase the awareness of all stakeholders - farmers, private sector, extension agents, consumers, civil society and NGOs so that only science-based true information reaches all concerned, confusions are avoided and informed and well-considered decisions are taken at various levels. **All biotech products, especially those derived from GMOs, should be labelled. The precautionary principle should guide our policy.** Village Knowledge Centres, along with other information and communication channels, can play an important role in this regard.

13. “Illegal” Bt cotton is occupying almost as much area as occupied by “legal” Bt cotton varieties. With no quality assurance, no after-sale support and no answerability, this malady is bound to hurt all parties. **Farmers must be educated of the consequences and must shun the temptation of quick profit and should buy only certified seed. Clear guidelines for risk assessment and transparent and unbiased testing procedures and approval of GMOs are *sine qua non* for rational development and utilization of the technology. Unofficial release of transgenics must be prevented.**

14. The public sector, especially the ICAR and SAUs, have so far not been able to give any hardcore (based on r-DNA) crop biotech product in the hands of farmers. The system should respond to this serious gap and streamline and prioritise its biotechnology research and product development to serve the farmers as well as consumers. Due to a sort of monopoly, the hybrid Bt cotton varieties seed are priced highly, and are generally economically out of reach of resource poor farmers. **The public sector must come up with competitive Bt cotton hybrids so as to lower the seed cost and benefit resource poor farmers. Further, non-hybrid Bt cotton varieties should be developed** not only to further reduce seed prices, but also to enable the farmer to retain his own seed and to share it with other farmers. The Farmers' Rights provisions of the Protection of Plant Varieties and Farmers' Rights Act (2001) should be enforced without further delay.

15. The farmers identified the following areas for priority application of biotechnology: (i) tolerance to drought and other abiotic stresses, (ii) tolerance to saline conditions, (iii) nutritional enrichment, (iv) diagnostic kits, (v) resistance to diseases and pests, (vi) development of efficient bioagents - biofertilizers and biopesticides, (vii) **in vitro** culture for micropropagation and (viii) germplasm conservation and enhancement.

16. The extension system and Central-State linkages have generally been indifferent to biotechnology-led agricultural development. Extension personnel, particularly in those areas where commercialisation of biotech products, especially transgenics, is being promoted, should be adequately trained. **In Krishi Vigyan Kendras, a section on training in biotechnology should be introduced** to ensure safe and effective transfer of the technologies/products.

17. In congruence with CBD, Gene Treaty, National Plant Variety Act, Farmers' Rights, the proposed Seed Bill and the Food Safety Bill, the Biotechnology Policy must seek harmonization of the concerned 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. Syngenta's efforts to patent the rice genome and other such moves should be resisted.**

18. Since GM seeds are costly and the risk taking capacity of the majority small farmers is low, **insurance should be introduced alongwith GM seed sale, as recommended by the Swaminathan Committee.** Further, in order to curb production and distribution of spurious seed, if the crop fails due to poor quality and genetic infidelity of the seed, **the company must compensate the losses incurred by the farmer.**

19. The Consultation strongly endorsed the establishment of an autonomous **National Biotechnology Regulatory Authority as recommended by the M.S. Swaminathan Committee on Agricultural Biotechnology.** The Authority, steered by an Advisory Committee comprising scientists, representatives of public and private sectors, industry, CSOs, NGOs and farmers, should combine both advisory and regulatory responsibilities and coordinate and harmonise the various development aspects, including IPR, SPS and bioethical and biosafety norms.

20. Farmers in industrialized countries are supported by capital, technology and subsidy. In contrast, Indian farmers, a majority of whom cultivate 1 or 2 hectares or less are handicapped by a very unfavourable cost-risk-return structure in farming. Interest rates are high, drought is frequent and markets are not pro-small farmers. Hence, farmers can take to new technologies like biotechnology only if they are supported by appropriate packages of services and public policies. In a globalised world, we have to enhance our agricultural competitiveness through productivity and quality revolutions. Biotechnology can help, but only if it is pro-poor, pro-women and pro-environment.

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Consultancy on draft Biotechnology Policy  
(22<sup>nd</sup> September, 2005 at 10.00am)

List of invitees who finally participated

1. Prof. M.S. Swaminathan,  
Chairman,  
National Commission on Farmers ..... In the Chair
2. Shri Mahendra Singh Tikait,  
President,  
Bhartiya Kisan Union,  
Post – Gram Sisoli,  
Distt. Mujjafarnagar (U.P.)
3. Dr. Krishnaveer Choudhary,  
Executive President,  
Bhartiya Kisan Sangh  
A-1, Nizammudin West,  
New Delhi-110013.
4. Mr. P. Chengal Reddy,  
President,  
Federation of Farmers' Association,  
209, Vijaya Towers,  
Shanthi Nagar, A.C. Guards,  
Hyderabad-28.
5. Shri S.R. Pillai,  
President,  
All India Kisan Sabha (Gopalan Bhawan),  
4, Ashok Road,  
New Delhi-110001.
6. Dr. B.S. Mann,  
President,  
Punjab Kisan Union,  
1091, Phase V,  
Mohali (*Near Chandigarh*),  
Punjab.
7. Shri Dinesh D. Kulkarni,  
All India Organising Secretary,  
Bhartiya Kisan Sangh,  
1, Vinayak Bhawan  
A. P. Sen Marg  
Lucknow

8. Shri Vijay Jawandhia,  
General Secretary,  
Shetkari Sangathan,  
Sardar Bhagat Singh Marg,  
Ramnagar,  
Distt. & Post: Wardha,  
Maharashtra.
9. Shri Peddimalla Reddy,  
S/o Shri Janardhan Reddy,  
Gunturpalli Village,  
Hasanparthi Mandal,  
Warangal District,  
Andhra Pradesh.
10. Mr. M. Balasubramaniam,  
S/o Shri Marappa Gounder,  
5/213, Irrangkattu Thottam,  
Kempanaikam Palayam,  
K.G. Palayam (Post),  
Poganur – Via Annur, Avinashi – Tq,  
Coimbatore – Distt (Tamil Nadu).  
Pin: 641697.
11. Shri Appanna Allappa Badigar,  
Yelimanoli,  
Hukkeri Taluk,  
Belgaum District,  
Karnataka.
12. Shri S. Jayapal Reddy,  
Thallapucapalli (Village), Kesamudram (Mandal),  
Warangal District,  
Andhra Pradesh.
13. Shri Ashutosh A. Murkute,  
Nagpur
14. Shri Prithi Singh Godara,  
S/o Shri Nand Lal,  
Vill. & P.O. Muklan,  
Distt. Hisar (Haryana)
15. Shri RamnikLal Jerambhai Sangani,  
Village: Balmhadi,  
Taluka: Kalawad,  
Distt. Bharuch, Gujarat.
16. Shri Kailash M. Pansuriya,  
District Jamnagar  
Gujarat-361160

17. Shri Vijay Atmaramji Ingle,  
R/o Chittalwadi,  
Telhara,  
Distt.: Akola,  
Maharashtra.
18. Shri Rajendrasingh Tomar,  
Village: Atutbhikari,  
Distt. Khandwa,  
Madhya Pradesh.
19. Dr. Praduma Bhatnagar,  
Coordinator,  
HAU, Hisar.
20. Shri Krishna D. Majahan,  
District: Wardha  
Maharashtra.
21. Shri Vasantao Khande,  
Maharashtra.
22. Shri Sukhvir Singh,  
Village: Dattorh,  
Distt: Rohtak,  
Haryana.
23. Shri Angrez Singh,  
S/o Shri Kabul Singh,  
Vill: Bhagsar  
Tehsil: Abohor,  
Distt.: Ferozpur (Punjab).
24. Shri Rabash Singh Jakhar,  
S/o Shri Sucha Singh Jakhar,  
Village: Patranwali,  
Tehsil: Fazilka,  
Distt: Ferozpur (Punjab).
25. Shri T.V. Ramanaiah,  
Department of Biotechnology,  
Govt. of India
26. Dr. Renu Swarup,  
Director,  
Department of Biotechnology
27. Dr. K.S. Charak,  
Director,

Deptt. of Biotechnology.

28. Shri Yudhvir Singh,  
Executive Chairman,  
Bhartiya Kisan Union,  
A-87, Mahipal Pur, New Delhi-37
29. Shri Dharmender Malik,  
A-23, Circular Road,  
Rishab Vihar, Muzaffarnagar (UP).
30. Shri Ved Prakash Sharma,  
Agriculture Today
31. Prof. R.B. Singh,  
Member,  
National Commission on Farmers
32. Shri Y.C. Nanda,  
Member,  
National Commission on Farmers
33. Shri Atul Sinha,  
Member Secretary,\  
National Commission on Farmers
34. Shri S.K. Ojha,  
Adviser (Economic),  
National Commission on Farmers
35. Shri S.S. Prasad,  
Joint Secretary,  
National Commission on Farmers
36. Mrs. Mamta Shankar,  
Director,  
National Commission on Farmers
37. Ms R.V. Bhavani,  
OSD to Chairman,  
National Commission on Farmers
38. Dr. Laxmi Joshi,  
Research Officer,  
National Commission on Farmers
39. Dr. Ramesh Singh,  
Research Officer,  
National Commission on Farmers

40. Dr. Deepak Rathi,  
Research Officer,  
National Commission on Farmers

41. Dr. P.K. Singh,  
Research Officer,  
National Commission on Farmers

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## National Commission on Farmers

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### Farmers' Consultation on National Policy on (Agricultural) Biotechnology

*10.00am on 22 September, 2005  
at NCF Conference Room, Pusa*

#### AGENDA

1. Welcome and Opening Address *Prof. M.S. Swaminathan,  
Chairman, NCF*
  
2. Scope of the Consultation *Prof. R.B. Singh, Member, NCF*
  
3. Farmers' Presentations and Views *Farmers' Leaders/Representatives and  
Biocrop Farmers*
  
4. General Discussion
  
5. Any other item with the permission of the Chair.
  
6. Concluding Remarks *Prof. M.S. Swaminathan, Chairman, NCF*

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