

To:

November 8<sup>th</sup> 2013

The Hon'ble Prime Minister,  
Government of India.

Respected Sir,

**Sub: Request to accept the Final Report submitted by the Supreme Court-appointed Technical Expert Committee (TEC) on modern-biotechnology regulation**

Greetings.

Never in the history of agriculture has a technology been so controversial as Genetic Engineering (GE)/Genetic Modification (GM) of crops. The **unpredictability and irreversibility** of Genetic Modification (GM) as a technology and **the uncontrollability of GMOs** (Genetically Modified Organisms) in the environment, coupled with scientific studies pointing at the **potential risk to human health and environment, has resulted in a controversy across the world around the safety as well as the very need for introducing such potentially risky** organisms into food and farming systems. These concerns, incidentally, have been raised **first and foremost by scientists who are free of vested interests, on scientific grounds.**

As scientists and experts in our respective subjects we endorse and share concerns related to the irreversible impacts of science and technology of GMOs in our food, farming and environment. There are, in addition, socio economic and other concerns to which, as scientists, we should not be oblivious. The concentration of control of the most important input in agriculture, namely seeds, through a technology implemented with rigidly enforced Intellectual Property Rights is a matter of concern in view of the ease with which tinkering at the level of genes allows exclusive monopolistic rights to accrue to commercial entities. Since most such IPRs on important components and processes of GM are already in the hands of a handful of MNCs, this will inevitably lead to their monopolistic power over Indian agriculture over time. In the Indian context, there are also concerns on massive displacement of farm labour if Herbicide Tolerant (HT) GM crops are introduced. Given that the world is heavily tilted against the introduction of this controversial technology at this point of time, with a majority of nations not opting for it, this also raises serious issues of impact on India's agricultural exports. The Honourable Supreme Court in a Public Interest Litigation on concerns related to environmental releases of GMOs, has set up a Technical Expert Committee to look into relevant issues for India pertaining to biosafety and other aspects/impacts of GMOs.

We welcome the fact that many relevant issues pertaining to GMOs have been appropriately taken on board in the Final Report of the Technical Expert Committee appointed by the Court. This Final Report has been submitted as a unanimous report to the Supreme Court by 5 independent experts of the TEC who have expertise on "safety science" related to GMOs and have been looking into the matter from May 2012. We are of the view that the separate report submitted by the sixth member, appointed into the TEC in November 2012, an agricultural scientist who unfortunately has an objectionable conflict of interest notable of which is the fact that the organisation he heads is funded by the Biotech seed companies like Monsanto, Mahyco, etc, lacks the soundness of content of the Final Report. It is ironic that even this SC appointed committee has had to face such conflict of interest situation, given that this has been the case with almost all GM-related issues in India so far.

The sixth member's approach of equating 'environmental release' of GMOs only as commercial cultivation is not tenable, as every use of GMOs outside any containment, such as in field trials, constitutes a deliberate environmental release. The sixth member

is echoing the same arguments as the Agriculture Ministry on food security whereas it has been shown quite convincingly that food security, even in its narrow interpretation, could actually get jeopardised with transgenics, as experience from elsewhere shows. Many of us have in the past written to the Minister for Environment and Forests on this subject.

From the separate report submitted by the sixth member, it appears that he believes that the current regulatory system with its various guidance procedures is mostly satisfactory, whereas the 5 independent members of the TEC have most convincingly shown with their painstaking work on biosafety analysis that even the most basic capabilities related to biosafety assessment are missing in India, and that the regulatory processes are grossly inadequate.

We write this letter to endorse the Final report of the TEC for the reasons given below:

1. The Final Report rightly recognizes that bringing out GMOs into any open air environment constitutes an environmental release, irrespective of the misleading terminology used in Indian regulatory parlance, where the term 'environmental release' is used only for commercial cultivation, whereas every open air trial even if it is called a 'confined field trial', is actually a deliberate environmental release of GMOs. Moreover when it comes to trials, the GMOs are yet unassessed and their impacts unknown.

2. Further, the Report has clearly understood that not all GMOs are the same in terms of the risks they pose, nor are they needed in the Indian context except when no other options exist. The same approach was adopted by the MS Swaminathan-led Task Force on Agricultural Biotechnology, whose report was accepted by the Government of India in 2004, and which stated *inter alia* that the transgenic approach should be "*resorted to when other options to achieve the desired objectives are either not available or not feasible*".

3. Having considered the available options, risks and benefits, the Final Report has wisely recommended against the deployment of Bt food crops in India until their safety is established, and recommended the avoidance of Herbicide Tolerant GM crops. The Report also recommends a ban on genetic modification of crops for which India is the Centre of Origin/Diversity. These recommendations rightly include any open air field trials.

4. When it comes to sequencing of risk assessment, the Final Report is scientifically sound in recommending that "*the sequence of testing should be carried out in order of increasing environmental exposure required to perform the test. Tests should be done under the minimum conditions of exposure required for the test. The testing therefore proceeds in a progressive manner that increases confidence regarding safety, with increasing exposure*".

5. Importantly, from their perusal of the biosafety dossiers for GM applications that the Indian regulators had already cleared as safe, the five independent TEC members have once again confirmed the dismal state of regulatory affairs in India. While the Bt brinjal moratorium decision by the Government of India in 2010 indicated something similar, the TEC's own painstaking work on this front is a vindication of the Government of India's decision at that time to stop the commercial cultivation of Bt brinjal. It is also in line with the unanimous report of the Parliamentary Standing Committee on Agriculture tabled on 9th August 2012, after three years of indepth study of GM food crops in India. The TEC main report therefore rightly points out that "***it is apparent that there are major gaps in the regulatory system. These need to be addressed before issues related to tests can be meaningfully considered. Till such time it would not be advisable to conduct more field trials***". As experts specialising in various fields pertinent to biosafety and sustainable livelihoods, we endorse this important recommendation from the 5 independent members of the TEC.

6. The report makes an important recommendation on maintaining the independence (and therefore, scientific integrity) of regulation: Conflict of interest in terms of the location of the regulatory body needs to be avoided. The suggestion of the TEC that the regulatory bodies be located in the MoEF (environmental safety) and the MoHFW (health safety) is correct. It should always be ensured that all members of the regulatory bodies are also free of conflict of interest.

7. We are also of the view that stakeholder participation, need assessment, socioeconomic considerations, sustainability and societal impact should be some of the dimensions to be incorporated in the risk assessment and this should be done at an early stage in the risk assessment process.

8. Other recommendations of the Final report, including asking for assessment of inter-generational and chronic impacts, or the need for the regulatory regime to be open to new scientific information that may have a bearing on risk assessment even after deregulation of a product, or for India to establish a strong, state-of-the-art biosafety regulatory system are all most welcome and their implementation is, in fact, long-overdue.

The sincere implementation of the recommendations of the Final Report submitted by the 5 eminent and independent members of the Supreme Court appointed Technical Expert Committee will go a long way in restoring societal confidence in science-based independent regulation of GMOs in India.

We urge the Government of India to accept the recommendations of the TEC Final report as it is based on sound science, principles of sustainability and intergenerational justice. We sincerely hope that vested interests would not be allowed to prevail and prevent the acceptance of this scientifically sound report. We look forward to the Union of India accepting these recommendations in full in the Supreme Court and thus ensuring the speedy delivery of justice based on the recommendations of these five eminent scientists of unimpeachable credentials.

Sincerely,

Sd/-

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187. Dr S Sankar, Programme Coordinator (Forestry and Human dimension),  
Kerala Forest Research Institute, Peechi, Trichur, Kerala
188. Dr S Somasundaram, Research Associate, Green Future Foundation, New  
Delhi
189. Dr Sagari R Ramdas, Veterinary Scientist and Animal Breeding and  
Geneticist, Director, Anthra, Hyderabad, Andhra Pradesh
190. Dr Sanjay Kumar, Associate Professor in Physics, St Stephen's College,  
University of Delhi, New Delhi
191. Dr Santhi, Ecologist, Trivandrum, Kerala
192. Dr Santosh M. Tungare, Environmental Chemistry Expert, Mumbai,  
Maharashtra
193. Dr Sarala Panickar, Entomologist (Retd), Kerala Agriculture University,  
Kerala
194. Dr Sasikumar Menon, Drug Toxicology and Molecular Techniques Expert,  
Institute for Advanced Research in Interdisciplinary Sciences, Mumbai,  
Maharashtra
195. Dr Satnam Singh, Agriculture Scientist, Ajnala, Amritsar, Punjab
196. Dr Seema Javed, Environmental Chemistry, New Delhi
197. Dr **Seema Purushothaman, Professor (Development Studies) at Azim  
Premji University, Bangalore, Karnataka**
198. Dr Sehajpal, Dept. of Micro Biology, Guru Nanak Dev University, Amritsar,  
Punjab
199. Dr **Shaila Wagh, Child Health Care Expert, Mumbai, Maharashtra**
200. Dr Shaji, Fisheries Expert, Formerly Scientist, Kerala State Biodiversity Board,  
Kerala
201. Dr **Shaju Thomas, Professor and Head, Department of Zoology,  
Nirmalagiri College, Muvatupuzha; Kerala**
202. Dr Shalini Sharma, Environment and Development Studies, Tata Institute of  
Social Sciences, Guwahati, Assam.
203. Dr Shambhu, Potato Research Station, Patna, Bihar
204. Prof Shambu Prasad, Science, Technology and Society Studies expert,  
Bhubaneswar, Odisha
205. Dr Shantilal Kothari, President of Academy of Nutrition Improvement, Nagpur,  
Maharashtra
206. Dr Sharad Lele, Bangalore, Karnataka
207. Dr Shashikala Gulpur, Director, Symbiosis Law School, Pune, Dean, Faculty of  
Law, SIU, Instructor: Masters Course on Biotechnology Law, Pune, Maharashtra
208. Dr Shefali Bharti, Environment Scientist, Podar International School, Mumbai,  
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209. Dr Shree Ram Padmadeo, HoD, Botany & Coordinator Department of  
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210. Dr Shri Ram Parihar, Principal, Govt. Girls Postgraduate College, Khandwa,  
Madhya Pradesh
211. Dr Soma Sundar Marla, Principal Scientist (Bio-Informatics) and Member, Task  
Force DBT, NBPGR, ICAR, New Delhi
212. Dr Srijit P, Asst Professor, Dept of Zoology, University of Kerala,  
Thiruvananthapuram, Kerala
213. Prof Sudarshan Iyengar, Vice Chancellor, Gujarat Vidyapith, Ahmedabad,  
Gujarat
214. Dr Sudha Vasan, Environmental Sociology, Associate professor, Dept of  
Sociology, University of Delhi, New Delhi
215. Dr Suhas Kolhekar, Molecular Biologist, Convenor, National Alliance for People's

Movements, Maharashtra

216. Dr Sujata Goel, Molecular Biologist, WAPRED, Madikeri, Karnataka
217. Dr Sujatha Byravan, Geneticist, Chennai, Tamilnadu
218. Dr Sujay Basu, Former Professor, Jadavpur University, Calcutta. Vice-Chairperson, State Council of Biotechnology, West Bengal
219. Dr Sujoy K. Das Gupta, Professor, Dept. Of Microbiology, Bose Institute, Kolkata, West Bengal.
220. Dr Sukhdev Kundu, Associate Professor, Dept of Environmental Science , DAV University, Jalandhar, Punjab
221. Dr Sultan Ahmed Ismail, Expert in Soil Ecology, Biology and Ecology of Earthworms, Former Head of the Department of Biotechnology of The New College, Chennai. Presently MD Ecoscience Research Foundation, Chennai, Tamilnadu
222. Dr Suman Sahai, Geneticist, Chairperson, Gene Campaign, New Delhi
223. Dr Surendra C. Thakurdesai, Head & Associate Professor, P.G. Department of Rural Development, Jogalekar College, Ratnagiri, Maharashtra
224. Dr Suresh Verma, Retired Principal, Jabalpur, Madhya Pradesh
225. Prof T K Ghose, Bose Institute, Kolkata, West Bengal
226. Dr T K Maqbool, Professor in Zoology, Calicut University, Kerala
227. Dr T N Vijayakumar, President, Malabar Natural History Society, Calicut, Kerala
228. Prof T Pradeep, IIT Madras (Chemistry, Materials, Nanoscience and Nanotechnology), Chennai
229. Dr T S Channesh, Science journalist and columnist, Bangalore, Karnataka (*formerly*, Fellow at Karnataka State Council for S & T, Indian Institute of Science, Bangalore. Head of Department of History of Sciences, Kannada University, Hampi. Research Director, MCC Centre for Scientific Research and Advanced Learning, Bangalore. Scientist, Krishi Vigyan Kendra, University of Agricultural Sciences, Chintamani)
230. Dr T V Sajeev, Scientist (Entomologist), Forest Health, Kerala Forest Research Institute, Thrissur, Kerala
231. Dr Tarak Kate, Biologist, Chairman, Dharamitra (an Eco-Technology Resource Centre for Sustainable Development), Wardha, Maharashtra
232. Dr Tenneti Madhu, Principal, Swarnandhra Institute of technology and Engineering, Narsapur, Andhra Pradesh
233. Dr Thara K G, Head, Disaster Management Centre, Institute of Land and Disaster Management, Govt of Kerala, Thiruvananthapuram, Kerala
234. Dr Thomas Varghese, Soil Scientist (Retd.), Kerala Agriculture University, Ex-Chairman, Kerala State Agriculture Prices Board, Kerala
235. Dr Uma J Vinod, Scientist (Conservation and Research on Ornithology and Wildlife), Crow Foundation, Palakkad, Kerala
236. Prof Umesh Mishra, Retired Professor of Physics, Sharda Colony, Brahmapuri, Distt. Chandrapur, Maharashtra
237. Dr Usha Balram, Professor and Head (Retd.), Dept of Zoology, All Saints College, Trivandrum, Kerala
238. Dr Utkarsh Ghate, Agri-business expert, Covenant Centre for Development, Durg, Chhattisgarh
239. Dr V N Shroff, Genetics and Plant Breeding, Former Dean, College of Agriculture, JNKVV, Indore, Madhya Pradesh
240. Prof V R Raghunandan, Associate Professor and Head of the Department, Department of Dairy Science, College of Dairy Science and Technology, Kerala Veterinary and Animal Science University, Mannuthy; Trichur, Kerala
241. Dr V T Sundaramurthy, Entomologist & Formerly Project Coordinator, All India Coordinated Cotton Improvement Project (ICAR), Coimbatore, Tamilnadu
242. Dr V V Robin, Fellow, National Centre for biological Sciences, Bangalore, Karnataka
243. Dr Valsaladevi G, Curator, Dept of Botany, University of Kerala, Thiruvananthapuram, Kerala.
244. Dr Vanaja Ramprasad, Founding Director of Foundation for Genetic Resource,

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245. Dr Vandana Shiva, Navdanya and Research Foundation for Science, Technology and Environment, New Delhi
246. Dr Venkatesh Krishnamurthy, Dr B.C Roy Awardee, Chairman and Founder of NU Hospitals, Bangalore, Karnataka
247. Dr Vibha Taluja, Chemist , Scientists for Ecology & Safe Food, Chandigarh, Punjab
248. Dr Vijaya Venkat, Health Activist, Nutritionist, pioneer in Natural Living, Founder of The Health Awareness Centre, Mumbai, Maharashtra
249. Dr W R Deshpandey, Former Joint Director, Extension. JNKVV, Indore, Madhya Pradesh
250. Dr Yuvasenthilkumar R, Asst Professor Horticulture, Vanavaryar Institute of Agriculture, Coimbatore, Tamilnadu
251. Dr Zakir Hussain, Agriculture Scientist, Centre for Sustainable Agriculture, Hyderabad, Andhra Pradesh