

# Coalition for a GM-Free India

28<sup>th</sup> January 2016

To:

Dr Aravind Panagariya,  
Vice Chairperson,  
NITI Aayog,  
Govt of India.

Dear Dr Panagariya,

**Sub: The 16<sup>th</sup> December 2015 Occasional Paper of Niti Aayog titled “Raising Agricultural Productivity and Making Farming Remunerative for Farmers” - reg.**

Greetings! This is with regard to an Occasional Paper brought out by Niti Ayog, and the section related to GM crops in particular, that we write to you. Coalition for a GM Free India is a large network of organizations and individuals from across India, campaigning and advocating to keep India GM-Free, and to shift our farming towards a sustainable path.

We have noted the fact that a disclaimer has been put on the very first page stating: *“This paper is based on the work of the Task Force on Agricultural Development constituted by the National Institution for Transforming India (NITI) Aayog, Government of India in March 2015. The paper does not represent the views of either the Government of India or the NITI Aayog”*. Despite such a disclaimer, we would like to point out that this sort of an unprofessional and amateurish paper does bring discredit and disrepute to NITI Aayog as well as academics like you and Dr Ramesh Chand who have been part of the Task Force. We would like to explain why this is a blot on rigorous academic standards that we think NITI Aayog should be upholding, even in a disclaimer-ridden occasional paper.

The issues identified in the paper and by the Task Force to make farming remunerative and attractive, like remunerative prices, legalized land leasing, adequate relief measures against natural disasters etc., are indeed relevant as well as urgent and important to be addressed as top priority. However, the arguments around productivity enhancement are outdated whether it be related to “modern technologies” and “technological breakthroughs” or bringing Green Revolution to Eastern India. The fact that NITI Aayog is not keeping pace with the evolving post-modern discourse on the subject is indeed distressing. We say this based on in-depth study of the S&T options for agricultural development by

**Coalition for a GM-free India**

**Website: [www.indiagminfo.org](http://www.indiagminfo.org), email : [indiagmfree@gmail.com](mailto:indiagmfree@gmail.com), Facebook/Twitter – GM Watch India**

processes like the IAASTD, by agencies like the FAO, IFAD, UNCTAD, World Bank and others and we could present the NITI Aayog with relevant reports on this front.

Raising productivity to accelerate growth – GM and Other Technologies: After discussing Irrigation, Seeds, Fertilisers and Pesticides, the Paper focuses on “(3.3) New Technologies” and within that “(3.3.1) GM and Other Technologies”, with more than 3 pages devoted to the same. Here, the Paper begins with a conclusion that GM seeds are a powerful new technology promising high productivity and lower use of fertilisers, weedicides and pesticides, and that they are likely to play an increasingly important role in addressing many of the current problems in agriculture. **The rest of this section, oblivious to actual evidence including with Bt cotton in India, tries to fit itself into this preemptive unfounded conclusion.**

(a) A graph on cotton yield in terms of kilograms per hectare is presented arguing that after Bt cotton seeds were introduced in 2002, yields rose continuously and touched a new peak of 532 kg/ha in 2013-14. The paper goes on to assert that the success in cotton has made an important contribution to the success of agriculture in general in Andhra Pradesh and Gujarat, without mentioning why Maharashtra has not been included in this “fair assertion”, though it is mentioned as a state with a large gain for cotton farmers in the very earlier sentence. Another conclusion is firmly stated: “*Between 2001 and 2010, Bt cotton helped reduce the use of insecticides by more than fifty per cent*”, **with a reference thrown in to a PIB press release, that too accessed in April 2013, years before this Occasional Paper was ever drafted!**

(b) Seeking to preclude any rigorous as well as nuanced analysis on the matter of cotton yields in the past 15 years or so, the paper goes on to acknowledge that the increases in yields predate the spread of Bt cotton. Without providing any evidence as to HOW, it goes on to assert that Bt cotton *surely* contributed to the rise in the yield from 186 kg/ha in 2001-02 to 362 kg/ha in 2005-06, and that it played a *critical role* in reversing the trend of declining yields! May be the authors do not need any rational explanation when they conclude so, but critical readers certainly do. The second argument presented to say that Bt cotton has increased yields is around Bt cotton adoption and spread, with a conclusion that it is inconceivable that yields under the conventional varieties could have reached as high as 499 kg/ha. Both these “two points” that this NITI Aayog paper makes, as though it is a significant contribution to the discourse in understanding Bt cotton experience in India, are shockingly pedestrian coming as they do from India’s new national think tank. Having argued these two baseless points, the paper terms Bt cotton a success and a testimony to the potential of GM technology in giving a *major boost* to productivity. **Please do go through evidence that shows otherwise, in the next section of this paper.**

Coalition for a GM-free India

Website: [www.indiagminfo.org](http://www.indiagminfo.org), email : [indiagmfree@gmail.com](mailto:indiagmfree@gmail.com), Facebook/Twitter – GM Watch India

- (c) It claims that no evidence of detrimental effects of Bt cotton has been produced, and goes on to make a case for Bt brinjal bringing down pesticide usage, ignoring all official evidence on Bt cotton. **By doing so, it ignores the volumes of evidence on Bt brinjal's lack of safety that the crop developer's own biosafety dossier has thrown up, and may be the student interns or non-scientists or whoever else who wrote this Occasional Paper may be asked to go through this material?**
- (d) The authors of the paper then make a false claim: that the Supreme Court had decided to implement a moratorium on field trials for 10 years on all GM research! Really? **May be the authors can produce a reference for the same, so that the public can be made aware of this SC decision?**
- (e) The next assertion is in the form of the following statement: “no compelling evidence supporting either of the twin fears that GM technologies may harm humans consuming the resulting produce or that they may have adverse effects on biodiversity has emerged more than two decades after the original introduction of GM foods in 1994”. “On the contrary, GM technology has proven useful in curtailing the use of pesticide and insecticide in combating pests and diseases”, the paper asserts. **We ask you to please look at the next section in this letter to prove how wrong the authors are. This is also an opportune time to remind you that one of our members Ms Kavitha Kuruganti who participated in a consultation did present a hard copy book which is a compilation of scientific evidence on adverse effects of GM crops to NITI Aayog at the end of the consultation, and the Aayog should refer to hundreds of peer reviewed published studies before making any conclusions that there is no compelling evidence on the subject.**
- (f) The next paragraph refers to a NITI Aayog consultation with “scientists, farmers and a journalist”. Given that the ‘journalist’ being referred to in this mail is Kavitha Kuruganti, a Member of this Coalition, and is not a ‘journalist’ besides being trained in journalism, and given that you chose to invite a select set of scientists and two big farmers who are not even representatives of farmer unions to legitimately claim that they represent many citizens, while the ‘journalist’ indeed represents thousands of citizens in this case, this consultation and its conclusions and minuting are in no way representative of what citizens, including scientists, have to say about GM crops. ‘Farmers uniformly protested being deprived of a technology that promised to give them higher yields and therefore, better lives to their children’, the paper says. We are aware that NITI Aayog is talking about **two** farmers selectively invited by you “uniformly” saying so, while the largest farmers’ unions in India are indeed uniformly saying NO to GM crops as well as their field trials! ‘The journalist offered arguments against the technologies but did not persuade

Coalition for a GM-free India

Website: [www.indiagminfo.org](http://www.indiagminfo.org), email : [indiagmfree@gmail.com](mailto:indiagmfree@gmail.com), Facebook/Twitter – GM Watch India

the scientists and farmers present during the consultation', it is stated. *Well, it so happens that the scientists and farmers present during the consultation did not persuade the 'journalist' either!* The purpose of the consultation in any case was not to persuade each other but weigh the evidence that exists, and material circulated in terms of invitation to the 'journalist' and questions raised for the consultation are an evidence to this. **At the end of this letter we repeat the evidence that exists in the public domain with regard to Bt cotton in India, as well as biosafety of GM crops, and challenge the NITI Aayog to conclude anything other than what the evidence is pointing to.**

May be newcomers in NITI Aayog are not aware of the drubbing that six national science academies received in 2010 when they attempted a similar unscientific retro-fitting into a pre-decided stance related to GM crops, including using plagiarized PR material. **If NITI Aayog is to keep up its credibility as a policy thinktank for the nation and the government in particular, it is important that it remains credible in the eyes of the general public who can sieve through biased and unbiased as well as scientific and unscientific analysis.**

- (g) After quoting from some letter by two scientists to the NITI Aayog Vice Chairman (it needs to be noted here that many letters from hundreds of scientists do exist with the PMO, with the Environment Ministry and others on the same subject and this selective invoking of one letter from two scientists is once again pedestrian to say the least!), the paper concludes this section on GM technologies by saying that "India must return to permitting proven and well-tested GM technologies with adequate safeguards....It will be worthwhile to explore the possibility of GM technology in raising oilseeds and pulses output as conventional technologies have not helped in raising output to keep pace with country's requirements....Recognising the general sensitivity to permitting multinationals to sell GM seeds, it may be prudent for the government to proceed with domestically sourced GM seeds only".

### **OFFICIAL EVIDENCE ON BT COTTON IN INDIA**

- **Yields:** Bt cotton was officially introduced in India in 2002, and by 2014, 1500 Bt cotton hybrids have been approved for commercial cultivation in the country. 95% of cotton area is under Bt cotton by 2013 (2002: 0.4%; 2003: 1.2%; 2004: 5.7%; 2005: 11.5%; 2006: 40.5%; 2007: 68%; 2008: 79.7%; 2009: 81.5%; 2010: 90.6%; 2011: 91.14%; 2012: 93.5%)<sup>1</sup>. However,

---

<sup>1</sup> Dr Keshav Kranthi (December 2015): Presentation titled "Bio-Technologies for Cotton Production", Slide 11, citing CAB data from [www.cotcorp.gov.in](http://www.cotcorp.gov.in); Presentation accessed from Cotton Association of India website, [http://www.caionline.in/download\\_event\\_publications/56](http://www.caionline.in/download_event_publications/56) on 9th December 2015. Another

Coalition for a GM-free India

Website: [www.indiagminfo.org](http://www.indiagminfo.org), email : [indiagmfree@gmail.com](mailto:indiagmfree@gmail.com), Facebook/Twitter – GM Watch India

productivity increases from 2002 onwards till 2007 saw a decline for 3 years, before picking up in 2010, then a drop in 2011 to below 500kg/ha, an increase in 2012 and again a drop in 2013. The graph in this slide clearly shows that the most impressive/steep yield increases were in years when Bt cotton has not expanded beyond 40% in Indian cotton area.

- **Agri-Chemicals:** Insecticide use, reported as Kilograms per hectare (which is the intensity of use per unit land, and not just overall consumption which is often discounted on the grounds that cotton area itself has expanded significantly in India's total cultivated area in the recent past) had the most significant/steep/dramatic drop from 1.3 kg/ha in 2003 to 0.5 kg/ha in years when Bt cotton was occupying only 38% of total cotton area. **Today, the insecticide use has gone up to 1.0 kg/ha, which is more than the intensity in 2002, when Bt cotton was officially introduced in India.** (Slide 13). Meanwhile, fertilizer use in Metric Tonnes has been increasing significantly in India in the recent past. Where cotton crop consumed 1470 million tonnes in 2000, by 2013, it has reached 2300 million tonnes<sup>2</sup>.

Both the above belie and break the crucial myth and falsehood being spread on Bt cotton when it is claimed as a success, and this is the false claim on which NITI Aayog's entire justification of GM crops in this occasional paper is based!

### **GM CROPS' BIOSAFETY:**

A compilation of scientific evidence which in itself is somewhat dated (2013), while more evidence has emerged since the publication of this compilation is available here: <http://indiagminfo.org/wp-content/uploads/2013/11/Sci-ref-complete-book-2nd-edition.pdf> This has already been shared with NITI Aayog, but the authors of this Occasional Paper chose to ignore any such evidence simply because they want to retrofit their recommendations into a biased conclusion that they have already made.

The ten years of the ongoing Supreme Court PIL on GMOs (Writ Petition 260 of 2005) has seen the petitioners present various evidences about the adverse impacts of GM technologies and it is simply untrue to claim that no evidence of such adverse effects exists. The majority report of the Supreme Court Technical

---

presentation by Dr Keshav Kranthi of CICR, dated October 2015 in a ICAC Regional meeting, which can be accessed here <https://www.icac.org/getattachment/tech/Regional-Networks/Inter-Regional-Cooperative-Research-Network-on-Cot/Twelfth-Regional-Meeting-Documents/K-Kranthi.pdf> has data on insecticide costs per hectare also shooting up for cotton farmers.

2 *Ibid* All data on agri chemical usage in cotton is from the above cited presentation.

Coalition for a GM-free India

Website: [www.indiagminfo.org](http://www.indiagminfo.org), email : [indiagmfree@gmail.com](mailto:indiagmfree@gmail.com), Facebook/Twitter – GM Watch India

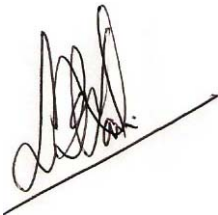
Expert Committee also cites numerous studies as the basis of its recommendations to the Court.

### **IMPROVING PRODUCTIVITY THROUGH NON-GM MEANS:**

While it is not true that there have been no improvements in the productivity of oilseeds and pulses through conventional means (the Oilseeds Mission in the 1980s for example belies this conclusion), it is also true that there are many non-GM, non-conventional agro-ecology based approaches that are showing enormous and impressive results in terms of improving productivity and profitability for farmers. This includes System of Root Intensification for instance, which is acknowledged in its limited application to System of Rice Intensification in some parts of this Occasional Paper. It is obvious that the authors did not even scout around for evidence to see if transgenics is the only option on this front, and it would be useful if rigorous, indepth examination of issues is taken up by the Task Force as well as authors of Occasional Papers of NITI Aayog.

We conclude this letter to you by pointing out once again that such pedestrian pieces by NITI Aayog are indeed a disservice to the nation and its food producers, on controversial matters like transgenics. We do hope that NITI Aayog will refrain from even disclaimer-prefaced Occasional Papers if it cannot adopt rigorous facts-based analysis.

Yours Sincerely

A handwritten signature in black ink, appearing to be 'Sridhar Radhakrishnan', written over a diagonal line that extends from the bottom left towards the right.

Sridhar Radhakrishnan

Co-Convenor

**Coalition for a GM-free India**

**Website: [www.indiagminfo.org](http://www.indiagminfo.org), email : [indiagmfree@gmail.com](mailto:indiagmfree@gmail.com), Facebook/Twitter – GM Watch India**