

nature biotechnology

Off the rails

To restore its scientific credibility, the International Assessment of Agricultural Science and Technology for Development (IAASTD) should rethink its vision for biotech.

A process intended to provide a grand unifying vision for how agriculture will meet the needs of the world's 850 million poorest over the next 50 years has developed astigmatism so severe with regard to genetically modified organisms (GMOs) that it comes close to blindness.

The IAASTD is unprecedented in scale, appropriately so, perhaps, given its lofty ambition to provide the world's leaders with a roadmap for mobilizing agricultural knowledge, science and technology to reduce hunger and poverty and encourage sustainable development. With "900 participants and 110 countries," the three-year, multimillion-dollar process was launched in 2005 under the auspices of five United Nations agencies, the World Bank and the World Health Organization. It is led by Bob Watson, former chair of the Intergovernmental Panel on Climate Change, which with Al Gore won a Nobel Peace Prize last October.

In recent weeks, the IAASTD issued its 'synthesis' report—in essence a 126-page executive summary of five separate regional reports—that will be debated line by line by government experts at the IAASTD plenary meeting in April in Johannesburg, South Africa, with ultimate publication scheduled for November.

Unfortunately, its conclusions about biotech are at best equivocal and at worst downright negative.

The IAASTD's GMO myopia was of the early-onset variety. The original plan was to have an entire chapter devoted to a "Focus on Transgenics," sharply identifying genetic modification as an important theme. As a result of lobbying by Greenpeace and others, however, the focus was muddled to a "Focus on Biotechnology," where the definition of biotech is so broad it's virtually meaningless. The chapter now endeavors to cover in 10 pages "conventional biotechnology" (meaning breeding techniques, marker-assisted breeding, tissue culture, cultivation practices and fermentation) as well as GMO approaches. Organic farming is thrown in for good measure.

The unfocused chapter then proceeds to devalue almost entirely the potential contribution that GMO technology might make. It states that the adoption of GM technology has been modest, citing a statistic that 90% of GM crops are grown in only four countries—the USA, Canada, Brazil and Argentina. This may be true, but it is also true that those four countries together with India and China between them represent over 53% of world cereal production, according to the Food and Agricultural Organization, and 93% of soy bean production.

Virtually every mention of GM crops is grudging and hedged about with doubts unsupported by data. In January, the Public Research & Regulation Initiative (PRRI), an international forum for public researchers involved in biotech, posted an open letter that cites nearly 20 instances of this kind of equivocation in the synthesis report. On environmental implications, for instance: "Long-term data [...] are at best deductive or simply missing and speculative." On cost-benefit: "the poor tend [...] to receive more of the costs than of the benefits." And

on admixture: "Seed supplies may be put at risk when they become mixed with [GM seed]..."

In short, the report and perhaps the entire IAASTD exercise appear to be an attempt to blind world leaders to any potential positive contribution from GM crops. Although this just about might be arguable with regard to the achievements of the past 10 years, the IAASTD process is supposed to be dealing with a 50-year timescale.

No surprise, then, that industry and scientific groups are crying foul. Two companies, Monsanto (part of global industry federation CropLife International that was an IAASTD donor) and Syngenta (which was represented on the IAASTD's steering committee), have quit the assessment because they feel the potential of GM technology has not been adequately reflected in the draft document.

The PRRI is backing the companies' decision. It concludes that the biotech chapter "is written from a perspective that is so fundamentally different from what we believe should have been the perspective of such an evaluation, that a submission of comments on the many technical omissions and errors would not be meaningful." It urges the IAASTD to completely rewrite the biotech section of the report. In February, The Scientific Alliance, another nonprofit organization of scientists and non-scientists, also pitched in, lamenting the report's "negative attitude toward technology, compounded in this case by a visceral dislike of international capitalism."

The major problem for the science and industry groups—and incidentally for the World Bank and US Department of Agriculture, both of which are reportedly angry at the anti-corporate stance of the report—is that they didn't engage with the process early enough or in the right manner. The IAASTD steering committee is crowded with bureaucrats and representatives from nonprofit organizations, most of whom have little reason to be knowledgeable about, and some of whom are ideologically opposed to, 'top-down' biotech solutions. It was this committee that oversaw the creation of the IAASTD reports and the process of author selection.

One author of the biotech chapter, Deborah Keith of Syngenta, dropped out during the report's preparation, citing a lack of time and dissatisfaction with the text. Of the remaining four, Jack Heinemann, Tsedeke Abate and Angelika Hilbeck have expertise in ecology, pest management and gene transfer and Doug Murray is a sociologist, with a focus on fair trade issues in the developing world. Hardly a group representative of the broad church of scientific thinking on GM crops. No surprise, then, that the synthesis report presents biotech from a highly skewed viewpoint.

When the IAASTD meets in Johannesburg, it needs to thoroughly revise its vision for biotech to include the views of industrial and public plant science researchers. Industry, which didn't keep its eye on the ball in the first place, needs to come back to the table. And the NGOs need to put aside their prejudices and not discount an approach that might just have quite a bit to offer to agriculture in the next 50 years. **LB**