THE FORESTS DIALOGUE
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Scoping Dialogue on Genetically-Modified Trees
17-18 October 2012 | Gland, Switzerland
Co-Chairs' Summary Report

by Chris Buss, Peter Kanowski, Päivi Salpakivi-Salomaa

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The Forests Dialogue (TFD) convened a second exploratory meeting—a "Scoping Dialogue"—of 28 leaders in the forest sector with an interest in the topic of genetically-modified (GM) trees, in Gland, Switzerland, on 17-18 October 2012. This meeting followed a similar one in New Haven, CT, United States, on 10-11 November 2011. , Participants (Annex 1) represented a diversity of interests, including forest sector corporations, other forest owners, non-government and civil society organisations (including representatives of Indigenous Peoples' organisations and forest certification schemes), research institutes, and universities.

The Scoping Paper prepared for this and the preceding meeting identified a number of reasons for TFD engagement with the topic of GM trees:

→ "on the one hand, there has been significant research progress relevant to the use of GM technologies in trees. Commercial plantations of GM trees have been established on a small scale in China, and the number of field trials of GM trees is increasing globally, principally in the Americas. Proponents of GM trees believe that their use offers benefits, and that there is considerable potential for and merit in their adoption;

→ on the other hand, as with GM agriculture, there has been substantial civil society concern directed at the use of GM trees. Opponents of GM trees believe the risks associated with their use, and perhaps even their testing, are too great. Some opposition to GM trees derives from opposition to industrial-scale, intensively-managed forestry as a land use and production system. As a result, there are strong debates about GM trees in th the scientific community and in civil society;

→ there is a window of opportunity, at a stage when there has been little deployment of GM trees, for open and productive dialogue about substantive issues associated with their further development and possible use."

The purposes of the Scoping Dialogue were to build shared understanding of the range of issues and perspectives on GM trees, to identify key areas of agreement and disagreement, and to explore the potential role and focus of any subsequent TFD engagement.

Co-chair Päivi Salpakivi-Salomaa

Co-chair Peter Kanowski

Co-chair Chris Buss
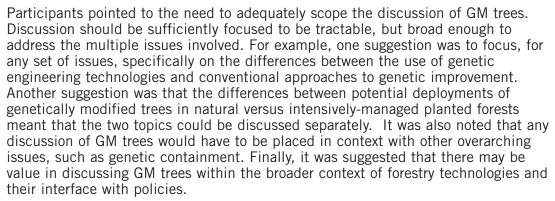

LaReesa Wolfenbarger

1. Agenda

The Dialogue began with a welcome, introductions and the presentation and discussion of the Scoping Paper. Four participants were then invited to give short presentations. Next, as part of a plenary session, participants worked to identify key issues and perspectives. Participants then broke into three randomly assigned working groups to discuss issues that emerged from the initial plenary. On the second day, the working groups reported on and discussed their progress with the whole group. Finally, a concluding plenary focused on issues worthy of further discussion.

2. Issues Emerging from Initial Discussion

A number of issues emerged from participants' opening remarks, their reactions to the Scoping Paper, and the plenary discussions. Many participants saw the observations of Gamborg and Sandøe cited in the Scoping Paper, "that if modern biotechnology is to stand a chance, three main conditions for public acceptance must be met: utility, low risk, and an assurance that the biotechnology is used in a decent way," as identifying the core issues in the discussion of GM trees.
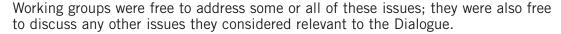
Participants pointed to the need to adequately scope the discussion of GM trees. Discussion should be sufficiently focused to be tractable, but broad enough to address the multiple issues involved. For example, one suggestion was to focus, for any set of issues, specifically on the differences between the use of genetic engineering technologies and conventional approaches to genetic improvement. Another suggestion was that the differences between potential deployments of genetically modified trees in natural versus intensively-managed planted forests meant that the two topics could be discussed separately. It was also noted that any discussion of GM trees would have to be placed in context with other overarching issues, such as genetic containment. Finally, it was suggested that there may be value in discussing GM trees within the broader context of forestry technologies and their interface with policies.

It was generally agreed that the paucity of current knowledge about many aspects of GM tree technologies has greatly constrained informed discussion. There was considerable discussion about the extent to which parallels between GM trees and GM crops were relevant, and in what respects. Improved knowledge and greater transparency were themes that recurred throughout the discussion.

On the basis of this initial discussion, the co-chairs suggested a number of topics that Working Groups might address:

➤ what are the expected benefits of GM trees?;

➤ what are the key "fracture line" issues associated with GM trees?;

➤ how to build the levels of information, knowledge, and understanding necessary for informed discussion about, and regulatory assessment of, GM trees?;

➤ what is necessary to provide "the assurance that biotechnology is used in a decent way"?;

➤ are there important distinctions—e.g., between natural and planted forests, or GE and other genetic technologies—that would help advance productive discussions?

Working groups were free to address some or all of these issues; they were also free to discuss any other issues they considered relevant to the Dialogue.

3. Workshop Group Discussion Outcomes

Major themes of discussion that emerged from the working group sessions fell broadly into three categories: knowledge and transparency, actual and perceived benefits, and actual and perceived risks of GM trees.

3.1. Knowledge and Transparency

A general lack of knowledge, knowledge sharing and transparency on GM tree technology was perceived to lead to the following:

1) difficulties in appropriately regulating and monitoring testing and potential use of GM trees;
2) mistrust between various stakeholders and actors; and
3) imbalances of power and influence between different interests.

It was suggested that information about GM tree technology and results from existing trials should be made more transparent and accessible to the public. That is, this information should serve to inform public as well as private understanding of GM tree issues, especially of their potential risks and benefits. In addition, spiritual and cultural concerns associated with the use of GM trees need to be understood and should not be marginalized in the debate. The need for continuing knowledge exchange on all aspects of GM tree development and deployment was repeatedly emphasised. Also, it should be noted that, throughout the discussions, different participants interpreted various terms (e.g., restoration and conservation) differently, and this also can cloud discussion of these issues.

Other concerns related to power imbalances in access to information and decision processes, and the potential for industry monopolies to form (as they had in agriculture) due to the high costs of development and the nature of patented (restricted) knowledge over specific genes and genetic technologies. The relevance of the principle of Free, Prior and Informed Consent in relation to GM tree testing and deployment, and of issues discussed in TFD's FPIC dialogue stream, was also noted.

3.2. Perceived Benefits and Related Issues

Participants mentioned the following potential benefits of GM trees:

1) the ability to meet growing global resource demands (e.g., through improving productivity and/or quality traits);
2) applications in landscape remediation (e.g., developing traits that are favourable in phytoremediation);
3) species conservation; and
4) increased flexibility to adapt to climate change.

Participants noted that the actual benefits of the technology were not yet well substantiated and required clarification. In addition, participants identified the need to understand the drivers behind the development and use of GM tree technology, and to what extent profit, altruism, or knowledge underlies these drivers.

3.3. Perceived Risks and Related Issues

Many of the risks mentioned by participants related to the current lack in understanding, and ability to predict outcomes of deploying genetically modified trees, which may lead to unforseen consequences. Risks and challenges include the following:

1) the difficulty of regulating gene flow, and the risk of contamination of gene pools of "natural" systems;
2) the potential for unforseen disruption of ecosystems related to pest and disease dynamics, water, nutrient cycles, and plant toxins;
3) the possibility of creating undesirable mutations that exhibit detrimental characteristics; and
4) insufficient scientific data to fully understand or address these concerns.

In addition, questions about the relevance of and need for genetic modification technology were raised. In particular, participants asked whether the same objectives for which genetic modification technologies are being developed could be met by conventional breeding systems.

Estebancio Castro Díaz

Teresa Presas

Ricarda Steinbrecher

Marc Hanewinkel

4. Concluding Session: Key Topics for Future Discussion

In the final session, participants were asked to identify what they saw as key issues for any future discussion, in any forum, about GM trees. The main categories of issues that emerged, and key points within each, are summarised below.

4.1. What Are the Motivations and What Is the Need for GM Trees?

Points made around this theme queried whether the needs for GM trees had been sufficiently demonstrated, and whether those needs justified pursuing GM tree technologies. Participants also wondered if there were special circumstances that warranted the use of GM trees. Finally, they recommended that companies considering the use of GM trees be clear and honest about their motivations for doing so, and they suggested that companies considering GM trees would need to demonstrate how they would deliver benefits beyond the company.

4.2. The Rights and Interests of Indigenous Peoples and Local Communities

Points made around this theme noted the distinct perspectives of Indigenous Peoples and local communities, their vulnerability to external forces, their rights to ownership of intellectual and physical property (including germplasm), and the contrast between their wealth of traditional and local knowledge and their frequent exclusion from modern, scientific knowledge.

4.3. Information and Knowledge about GM Trees

Points made around this theme noted the lack of adequate data and information about GM trees, including that necessary to better inform stakeholders and for good governance for any testing and deployment; suggested the need for a platform to exchange information and views about GM trees; proposed that the that companies proposing testing of GM trees needed to find ways to share information, and to directly address social issues and concerns; that companies in favour of or in the process of developing genetically modified trees needed to step forward with relevant information, and reach and maintain enhanced levels of transparency; and that the proactive and transparent provision of information by the companies in favour of or in the process of developing genetically modified trees industry was a prerequisite for further discussion of GM trees by stakeholders, and that this was an issue that some industry stakeholders were already prepared to address.

4.4. Issues That Might Be Explored in Future Discussions about GM Trees

Points made around this theme asked whether proponents of GM trees had any inherent right to their deployment; under what, if any, circumstances do approval processes for GM tree testing deny approval; questioned whether there is an economic case for GM trees; suggested the need to better understand the scientific context of GM technologies, including the use of GM technologies within the broader suite of genetic and bio-technologies; argued for a focus on governance and regulatory arrangements, including the advantages and disadvantages of regimes concerned with product rather than process; wondered whether further discussions might be facilitated by separating environmental risks from the broader suite of issues associated with various forms of tree growing and forest management.; and suggested the merits of emphasising public education and alternative models of forestry in future discussions.

4.5. Possible Ways Forward for Future Discussions

Many participants noted the importance of continuing the dialogue about GM trees. Some felt there was ample time for this, given the current state of plans for GM tree testing and possible deployment; others were concerned that the pace of technological change associated with GM trees meant that time was short, and argued that all parties needed to evolve their thinking to keep pace with this. It was suggested that discussions need to progress from the general and abstract to more field-based and location-specific information exchanges. These would also address

the difficulties of accessing data and the limitations of data availability, and would be informed by the consultative processes already taking place in applications for approval of GM tree testing. Participants agreed on the need for improved sharing of existing and emerging information and knowledge. It was also suggested that involving GM researchers and relevant government staff, to hear their perspectives and allow them to participate in the broader debate, was important.

It was argued that future discussions needed to be conscious of the boundaries and limitations of dialogue processes, and the limits of their influence, and explore instead approaches focused on the exchange of information, including relevant policy analysis and consideration of governance issues. Focusing on the technology-policy interface in general was suggested as one appropriate context for further discussion; it was also suggested that further discussion might be more tractable if it were able to identify and focus on the issues specifically associated with GM trees that overlap with other forums, such as TFD's 4Fs initiative, and that links to other discussion processes (e.g., the one hosted by FAO) should be fully explored.

Annex: Participants

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Adam Costanza	Institute of Forest Biotechnology (IFB)
Elizabeth de Carvalhaes	Brazilian Pulp and Paper Association (BRACELPA)
Achim Droste	Forest Stewardship Council International (FSC)
Gary Dunning	The Forests Dialogue (TFD)
Peter Gardiner	Mondi
Ben Gunneberg	Programme for the Endorsement of Forest Certification (PEFC)
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Chen Hin Keong	TRAFFIC
Joe Lawson	MWV Corporation
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Miriam Prochnow	Apremavi
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