



# THE FORESTS DIALOGUE

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## Information Sharing Meeting on Genetically Modified Trees Meeting Summary Report

31 October – 1 November 2013 | Farncombe Estate, Gloucestershire, England

### CONTEXT

This was TFD's third meeting to explore the challenges posed by the development of Genetically Modified Trees (GMTs). Two previous "Scoping" Dialogues held in New Haven, USA, in 2011 and in Gland, Switzerland, in 2012 had revealed quite polarised views about GMTs and left participants with divergent opinions on how best to proceed. However, one proposal was to convene a small information-sharing meeting to elucidate key forest product industry policies and plans as they relate to current and future development of GMTs.

The primary purpose of the meeting was to explore what specific information about GMT development forest product companies were willing and able to share. TFD invited the Forest Peoples Programme and FERN to co-host the meeting and lead in the development of the draft questionnaire that would list the main questions some civil society organisations (CSO) and some indigenous peoples' organisations (IPO) have for the forest products industry on GMTs (see annex 2). This draft was then shared with the participants from the prior scoping dialogues for their comments and revisions. The draft was then sent to industry representatives prior to the meeting so they could come prepared to clarify whether and how they could reply to the questions.

The meeting was attended by 15 persons from CSOs, IPOs, Intergovernmental Organisations (IGOs) and the forest products industry (Annex 1) and was run under the Chatham House Rule (of non-attribution). At the opening of the meeting, all the organisers emphasised that no output, outcome or further engagement from the meeting was pre-determined. The facilitator urged participants to be open, frank and focused on developing responses to the questionnaire.

### DISCUSSION ON QUESTIONNAIRE

The meeting participants found the draft questionnaire useful as it lays out, at least in an introductory way, some of the main issues of concern to CSOs and IPOs. The companies represented in the meeting agreed that they could reply to all or nearly all the questions as currently posed. They also offered to make their responses publically available (see next steps below).

In discussion, participants noted that the questionnaire is aimed at companies and thus does not fully probe issues that are being addressed by other stakeholder groups, notably government roles in the regulatory environment for GMTs. Although these issues were also being addressed in different fora such as the Convention on Biological Diversity and FAO, it was suggested that TFD may want to consider engagement with regulators in the future, should a future process be agreed.

While the purpose of the meeting was not to answer all the questions, the industry representatives did respond to some of the questions selected by the CSOs. This was intended to give all participants an idea of the type of information the companies would share in the questionnaire.

The discussion also highlighted several themes that this or other fora may wish to explore further:

- Use of the most stringent risk assessment internationally available or in place;
- Risk assessment of GMT in relation to other breeding technologies, plantation forestry as such, introduction of exotic species and consequences of not using the technology;
- Wider implications of GMTs for ecosystems and biodiversity;
- Implications of the technology for indigenous peoples' livelihoods and traditional knowledge systems;
- Time and space needed for indigenous peoples to follow their own practices of deliberation and decision-making;
- Engagement with government regulation, and the tenurial and political environment;
- Monitoring impacts;
- Assessing uncertainty;
- Details of the gene sequences inserted, their integration sites and other relevant molecular information and testing.

There was some consideration that the replies to the questionnaire could lead to the development of more refined and specific questions. A final decision on this possibility was not taken at the meeting.

## ***FURTHER DISCUSSION***

A wider set of issues, also brought to light by the discussions, are briefly summarised in the following paragraphs.

### *Potential Uses of GMTs*

Whereas the main proposed uses of GMTs is to further the strategic interests of the forest products industry to meet expanding societal demand for traditional (timber, paper, packaging) and “new” applications (bioenergy, biomaterials), it is important to note that GMTs are also being developed for other purposes such as creating disease-resistant varieties of native trees in New Zealand (Kauri tree) and in the USA (American Chestnut).

However, commercial users explained that they anticipate GMTs being mainly developed for strategic purposes to increase growth rates, yield, tolerance to pests and diseases, or reduce plantations' use of water, energy, chemicals and land and further to optimise fibre production (e.g. trees with reduced lignin content); and to make plantations possible where temperatures, salinity or water conditions currently prevent them. It was also pointed out that new varieties also continue to be primarily developed by traditional, and genomically-informed, plant-breeding systems which do not use genetic engineering.

### *Certification*

Currently both Forest Stewardship Council and PEFC certification schemes exclude the certification of GMTs. It is unclear how and whether this will affect company plans.

### *Development Models*

Concerns were expressed that the discussion of GMTs was being held without addressing underlying differences of view about the most appropriate development models. The existing challenges with large-scale monocrop tree plantations were already severe in some areas, as the TFD dialogue

Initiative on Intensively Managed Planted Forests had already concluded. The scope for alternative models of plantation development was discussed, such as those being explored by WWF's New Generation Plantations initiative with leading forest products companies.

### *Social, Socio-economic and Cultural Concerns*

Some participants noted that, if the use of GMTs implied yet further intensification of plantations, then this could imply greater risks of negative social impacts in terms of: displacement of indigenous peoples and local communities; workers' rights; increased dependency on plantations and mills, even for out-growers; reduced water availability and; lowered levels of water tables with consequence to farming/ peasant farmer communities. It was suggested that the social challenges of GMTs be a primary focus of any further discussions including adaptive approaches and models.

### *Invasive Species*

The risks of GMTs becoming invasive species remain to be fully appraised. There is concern that presently, non-invasive introductions of exotic species may become invasive as processes within the organism occur to make them invasive. Such processes and their triggers are still little understood.

### *Dealing With Uncertainty*

The meeting agreed that there are still a large number of uncertainties and unknowns about GMTs. A distinction was made between information that a developer/company may know, or obtain and knowledge that is unknown at present (e.g. ecological impacts). There were thus divergent views about what could be done in this context. For example, there was discussion about a moratorium (i.e. the application of the precautionary principle). It was clear that participants had very different perceptions of the meaning, extent and consequences of a moratorium in this context, including whether this would apply only to commercialisation or would prevent research as well. Some were concerned that research would be starved of funds if commercial applications were not in prospect. It was suggested by some that the fact that GMTs have, by and large, not yet been applied at commercial scales provides an important opportunity to "get things right" before GMTs become commercially available.

## **CONCLUSIONS AND NEXT STEPS**

Many participants expressed their appreciation of the meeting's open spirit and the expressed desire to share information as transparently as possible. While some progress had been made in furthering the exchanging of information, equally, substantial areas of uncertainty remain to be clarified and more information still needs to be shared.

In the concluding session of the meeting, the following was agreed:

- ➔ A short note of the meeting would be written up and agreed by all and made publicly available (this note) along with the list of participants (Annex 1) and the current draft questionnaire (Annex 2) on the TFD website.
- ➔ The companies represented in the meeting will send their answers to the draft questionnaire dated 31 October to TFD. A working group of participants will then write a one-page cover note to these responses. The aim will be to publish the cover note, with all the company responses annexed in full, on the TFD website by the end of 2013.

Other possible follow up options were suggested but not agreed both for lack of time and as the options will likely depend on the results of the questionnaire. They will be the focus of attention for the advisory group for this initiative, steered by TFD. These options included the following:

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- ➔ The questionnaire could be revised and amplified by CSOs and IPOs based both on the inputs to the meeting and reflections on the companies' responses to the current draft, which are likely to suggest further questions;
- ➔ A further information sharing engagement could be organised (either through email exchange, skype or face-to-face meeting) to discuss the responses to the questionnaire and agree next steps;
- ➔ Definitions and terms used could usefully be clarified and agreed;
- ➔ Case studies could be developed by the companies themselves, by independent academics or by a multi-stakeholder group which could visit and review a specific programme. One company specifically made the invitation to host an on-site case study as a forum for another discussion;
- ➔ Or the scoping process could result in no commitment to follow up discussions.

## ACKNOWLEDGEMENTS

This summary report was originally drafted by Marcus Colchester, Saskia Ozinga, Gary Dunning, James Mayers and James Griffiths. All meeting participants had the opportunity to review and comment on the report before it was made publicly available. However, while every effort was made to take account of all the comments received, it should not be inferred that all participants agree with everything said during the meeting, nor with everything written in this summary report.

The Forests Dialogue would like to thank the Forest Peoples Programme (Marcus Colchester, Julia Overton) and FERN (Saskia Ozinga, Sam Colchester) for hosting the event and working with TFD's Secretariat on planning and coordination. TFD would also like to give a very special thank you to James Mayers for help in developing the agenda and facilitating the meeting. Finally, TFD would like to thank all of the meeting's participants for their willingness to engage and the desire to seek information and understanding on these challenging issues.

## REFERENCES

<sup>1</sup> See <http://tfd.yale.edu/initiatives/GMT> for information on TFD's Genetically Modified Trees Initiative

### ANNEX1: PARTICIPANT LIST

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<b>Estebancio Castro Díaz</b>	IAITPTF
<b>Marcus Colchester</b>	FPP
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<b>Chris Lang</b>	REDD Monitor
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<b>Mike May</b>	Suzano
<b>Ken Munson</b>	International Paper
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**The Forests Dialogue**

### IN SUPPORT

<b>James Mayers</b>	IIED ( <i>Facilitator</i> )
<b>Gary Dunning</b>	TFD
<b>Julia Overton</b>	FPP
<b>Sam Colchester</b>	FERN/FPP

## ANNEX 2: DRAFT QUESTIONNAIRE

The Forests Dialogue

Questionnaire on:

“What NGOs want to know from industry about Genetically Modified Trees (GMT)”

Preliminary Version

COMPANY \_\_\_\_\_ Date Completed \_\_\_\_\_

### **1. Overall GMT development plans**

Q 1.1 Is your company currently developing or planning to develop GMT?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.2 Does your company have a written policy on GMT?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.3 Can you share the risk assessment methods you used (or plan to use) prior to developing GMT?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.4 Can you share the findings from these risk assessments?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.5 Can you tell us the tree species or polyploids you are currently developing or seeking to develop as GMT?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.6 Do you expect to continue producing new, faster-growing, higher-yielding trees by means of GM into the coming decades?

Company Answer:

Company notes/assumptions/discussion points:

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Q 1.7 Could such advances be made with the most advanced (non-GM) breeding programmes?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.8 Is there any evidence that faster growing trees take pressure off forests?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.8-1 If so, will you abstain from replanting land freed by faster growing trees?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.9 Can you tell us for what purpose(s) you plan to develop GMT?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.10 Can you tell us the exact sites or general locales (countries, states) to test or pilot GMT?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.11 What plans do you have to develop GMT on an industrial scale?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.12 Can you tell us the exact sites or general locales (countries, states) where you are growing or plan to grow GMT on an industrial scale?

Company Answer:

Company notes/assumptions/discussion points:

Q 1.13 What details can you share about these plans?

Company Answer:

Company notes/assumptions/discussion points:

## **2. Biosafety issues**

2.1 Genetic issues

2.1.1 What details can you share about the genes you are planning to splice in or out of GMT?

Company Answer:

Company notes/assumptions/discussion points:

2.1.2 Will the resultant varieties be fertile?

Company Answer:

Company notes/assumptions/discussion points:

2.1.3 How will they be propagated?

Company Answer:

Company notes/assumptions/discussion points:

2.1.4 What precautions have you adopted to ensure that no cross-breeding occurs between GMT and related natural species?

Company Answer:

Company notes/assumptions/discussion points:

2.1.5 How will you avoid escapes of the GMT, or the genetic modifications themselves, into natural ecosystems?

Company Answer:

Company notes/assumptions/discussion points:

2.1.6 What details can you share about how these precautions are made effective?

Company Answer:

Company notes/assumptions/discussion points:

2.1.7 What precautions do companies developing GM trees hope to put in place to prevent what happened in China? GM trees were released in China about a decade ago. GM trees were on sale in tree nurseries and no records have been kept about where they have been planted. (Some nurseries also mislabelled non-GM trees as GM trees in order to sell them for more.) Do any of the companies have any further information about how many GM trees have been planted in China, and what the impacts of these GM trees has been?

Company Answer:

Company notes/assumptions/discussion points:

2.1.8 Are you pursuing effective transgene containment mechanisms which don't sacrifice the pollen, seed, fruit, flowers or cones of trees?

Company Answer:

Company notes/assumptions/discussion points:

2.1.9 Can you ensure sterility in the face of transgene silencing and stability issues?

Company Answer:

Company notes/assumptions/discussion points:

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2.1.10 What kind of civil society participation do you anticipate in the development of these precautions?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2 Chemical and mechanical issues

2.2.1 Will the GMT you are developing require specialist chemical or other treatments?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.2 Do you expect to grow the GMT along with any special treatments or use of chemicals to enhance growth or protect from pests etc?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.3 What precise details can you share about these chemical or other treatments? (i.e. names and descriptions of the chemicals or treatments to be used)

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.4 Have you already tested for the positive and negative effects of such treatments?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.5 Can you share the results of such tests?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.6 What do you know about the possible effects of these treatments on the environment, on animal welfare and on human health?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.7 What measures and policies do you propose to nullify or mitigate any negative impacts?

Company Answer:

[Company notes/assumptions/discussion points:](#)

2.2.8 What details can you share about how these measures and policies are made effective?

Company Answer:

[Company notes/assumptions/discussion points:](#)



2.2.9 What kind of civil society participation do you anticipate in the development of these measures and policies?

Company Answer:

Company notes/assumptions/discussion points:

2.3 Bio safety issues - social, cultural

2.3.1 What public regulatory requirements cover your GMT developments and how is your compliance with these verified?

Company Answer:

Company notes/assumptions/discussion points:

### **3. Social and cultural issues**

3.1 Do you have any current policies which you think will prevent or mitigate the negative social impacts of GMT?

Company Answer:

Company notes/assumptions/discussion points:

3.2 Do you have any specially tailored policies on indigenous peoples, local communities, poor people, women or society at large?

Company Answer:

Company notes/assumptions/discussion points:

3.2-1 If so, can you share copies of these policies?

Company Answer:

Company notes/assumptions/discussion points:

3.3 Do you expect GMT to have positive benefits for indigenous peoples, local communities, poor people, women or society at large?

Company Answer:

Company notes/assumptions/discussion points:

3.4 What concrete plans do you have to make sure that GMT bring positive impacts?

Company Answer:

Company notes/assumptions/discussion points:

3.5 Do you have a policy not to develop GMT where indigenous peoples or local communities withhold their Free, Prior and Informed Consent?

Company Answer:

Company notes/assumptions/discussion points: