



The Forests Dialogue

TFD STEERING COMMITTEE 2011

George Asher

Lake Taupo Forest Trust—
New Zealand

Estebancio Castro Díaz

International Alliance of
Indigenous and Tribal Peoples
of the Tropical Forests (IAITPTF)

Marcus Colchester

Forest Peoples Programme

Minnie Degawan

KADIOAN—Philippines

Gerhard Dieterle

The World Bank

Gary Dunning

The Forests Dialogue

Peter Gardiner

Mondi

James Griffiths

World Business Council for
Sustainable Development

Jeannette Gurung

Women Organizing for Change in
Agriculture & NRM (WOCAN)

Peter Kanowski

Australian National University

Chris Knight

PricewaterhouseCoopers

Skip Krasny

Kimberly-Clark

Lars Laestadius

World Resources Institute

Joe Lawson

MWV

Stewart Maginnis

International Union for the
Conservation of Nature (IUCN)

Ruth Martínez

La Asociación Coordinadora
Indígena y Campesina de
Agroforestería Comunitaria
Centroamericana (ACICAFOC)

James Mayers, TFD Co-Leader

International Institute for
Environment and Development

Jan McAlpine

United Nations Forum on Forests

Herbert Pircher

Stora Enso

Miriam Prochnow

Apremavi—Brazil

Bob Ramsay

Building and Woodworkers
International (BWI)

Carlos Roxo, TFD Co-Leader

Fibra

Antti Sahi

International Family
Forests Alliance

Rod Taylor

WWF International

Emmanuel Ze Meka

International Tropical Timber
Organization (ITTO)

The Forests Dialogue Scoping Dialogue on Changing Outlooks on Food, Fuel, Fiber and Forests 1-3 June, 2011 | Washington D.C., United States Co-Chairs' Summary Report

By Jeannette Gurung, Skip Krasny, Herbert Pircher, and Rod Taylor

INTRODUCTION

The Forests Dialogue (TFD) organized a two-day scoping dialogue on Food, Fuel, Fiber and Forests¹ in Washington D.C., USA on 1-3 June 2011. The dialogue brought together thirty-six participants from diverse backgrounds, including forest (predominately) and food products companies, commodity roundtables, research institutes, and organizations representing government, conservation, landowners, labor, women, and Indigenous peoples. This dialogue was the first of TFD's new Initiative on Food, Fuel, Fiber and Forests (4Fs). The 4Fs Initiative is designed to:

- ➔ Provide thoughtful leadership, catalyze debate, and rally influential stakeholders around conserving forest values while meeting the growing global need for food, fuel, and fiber;
- ➔ Identify key global issues of land-use, trade, and lifestyle that warrant further dialogue at international or geographically specific levels; explore if and how these issues can be reconciled with local or national aspirations;
- ➔ Establish specific and practical steps forward on key issues; and prepare stakeholders involved in, or targeted by, dialoguing to pursue these steps.

The scoping dialogue was hosted by World Wildlife Fund (WWF) U.S., and sponsored by WWF International and the World Business Council for Sustainable Development (WBCSD).

BACKGROUND

One of the biggest challenges of the 21st Century is how to meet the needs of a growing human population and growing development pressures with the resources of a single planet. Key projections from influential models and reports forecast:

- ➔ Global population will surpass 9 billion by 2050;²
- ➔ Food supplies must expand 70 per cent by 2050;³
- ➔ Climate change will reduce crop yields in many countries;⁴

The Forests Dialogue, Yale University, 360 Prospect Street, New Haven, Connecticut, 06511, USA

O: +1 203 432 5966 F: +1 203 432 3809 W: www.theforestsdialogue.org E: info@theforestsdialogue.org

**4Fs DC DIALOGUE PARTNERS
AND DONORS:**



- ➔ Beyond 2030, food, fiber, and fuel production will compete intensively for limited land and water resources;⁵
- ➔ Demand for wood and fiber products will continue to increase;⁶
- ➔ Developing 100% renewable energy will require bio-energy production from an additional 250 million ha of crop and tree plantations by 2050, in addition to 4.5 billion m³ of wood;⁷
- ➔ Global warming can be kept below 2°C through strategies including reduced emissions from forestry and agriculture; the costs and investment needed are fairly low, but implementation will be challenging.⁸



A recent WWF report⁹ concluded that, with better governance, the world would have enough productive forest and land available for agriculture to meet current demand for food, fuel, and fiber without further conversion of forests. However, as we get closer to 2050, maintaining a “near zero” deforestation rate will require forestry and farming practices that produce more with less – less land, water, and pollution. It will also require new consumption patterns that meet the needs of the poor while eliminating waste and over-consumption by the affluent.

Besides WWF’s Living Forests Campaign, discussions within and outside of the forest sector are seeking solutions to the challenge outlined above. Many of these solutions were presented at the Scoping Dialogue. WBCSD’s Vision 2050 highlighted new and adapted policy frameworks and business solutions to ensure nine billion people can live within agricultural and forest limits.¹⁰ The recently published book *Timber* analyzed and identified the power of big retailers to influence supply chains and push for better forestry governance.¹¹ The Roundtable on Sustainable Biofuels is developing new sustainability standards and a certification system to promote the sustainable production of bio-fuels and bio-energy.¹² A recent study by the World Resources Institute’s (WRI) together with South Dakota State University and IUCN on behalf of the Global Partnership on Forest Landscape Restoration identifies global opportunities for restoring forests at a landscape level while fulfilling other land-use needs.¹³ Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN) emphasized the importance of, and obstacles to, the recognition of women stakeholders, awareness of their rights, and integration of their perspectives in discussion of the 4Fs.¹⁴

Building on existing discourse on the 4Fs, TFD’s scoping dialogue identified and explored key issues and fracture lines on the topic, and looked at how future dialogues and dialogue-linked actions can overcome these fracture lines.

KEY ISSUES

Many participants indicated that the time is ripe for cross-sectoral, multi-stakeholder discussion of the 4Fs. This topic can help bridge communication gaps between different sectors and serve as an umbrella for bringing together other important issues, including



Ruth Martínez

Free Prior and Informed Consent (FPIC) and Intensively Managed Planted Forests (IMPF). Discussion of the 4Fs demands a new landscape-level perspective, new decision-making models, and integrated systematic solutions. Below are some key crosscutting issues highlighted by dialogue participants as critical for 4Fs.

Global vision linked with local reality

By presenting multiple scenarios and their projected impacts, global land-use models can help decision-makers evaluate different options and link long-term visions with practical, short-term work plans; improved data sets can make the models more powerful. Some suggested that if land-use models included scenarios in which production forests are part of the solution, these models could facilitate 4F discourse between the environmental community and the private sector. The models could also help the forest products industry identify areas where sustainable forest management tools can deliver optimal land-use.

Global models should also be linked to local contexts such that location-specific data can be integrated into global land-use modeling. This modeling can then be used to inform local land-use decisions. Crowdsourcing was suggested as a way to gather local information where lacking. An incentive system could encourage countries to apply global models at the national level, and to contribute data to the improvement of modeling at a global level.

Social factors should be considered when using models to make land-use decisions. Extreme care is required to reconcile global-level vision with local perspective. The legitimate needs and wishes for self-determination and wellbeing of communities living, and directly dependent, on the land must be reflected in global vision.

Governance

WWF's Living Forest Report pointed out valuable forests are being "squandered" today due to poor governance. The contributing practices are poor forest management, inefficient livestock production, unregulated forest conversion, low-yield crop production, high-impact fuel wood collection, and failure to make productive use of idle, yet arable, degraded land.¹⁵ In addition, the frequent exclusion of women and laborers within the food and energy sectors as key stakeholders has limited the effectiveness of governance mechanisms.

To improve governance, one approach suggested is to identify areas where better governance can benefit both businesses and government officials, thus leveraging mutual interests to make change.

Waste Reduction

Waste exists on both the production and consumption sides of the supply chain. A recent study by FAO suggests that roughly one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year. In medium- and high-income countries, a significant portion of food is wasted at the consumption stage, meaning consumers discard food even if it is still suitable for human consumption. Significant losses also occur early in food supply chains in industrialized nations. In low-income countries, food is lost mostly during the early and middle stages of the food supply chain, with much less food wasted at the consumer level.¹⁶



Co-chair Herbert Pircher



l-r: Peter Dewees, Barbara Bramble and Duncan Pollards in breakout group discussion



Lars Laestadius

It is important to analyze where waste exists and identify approaches to reduce waste in the food, fuel, and fiber sectors. For example, investments in storage, transportation, and packaging methods can help reduce supply-side waste in the food industry.

Rights-based approaches

Strategies to reduce deforestation should protect hard-won rights to access and benefit-sharing, ensure traditional communities give Free Prior and Informed Consent (FPIC) to activities affecting their territories, and ensure communities receive fair compensation for conservation introduced for the global good. Secure land tenure can lay a good foundation for rights-based approaches and can help avoid a new round of land grabbing. Small landowners are easily marginalized by industrialized production due to the disproportionate influence of larger organizations in the global market. Policies should be put into place to protect small landowner rights and livelihood.

Value-based approaches

Not all land-use and consumption decisions are rationalized, and many are made based on individual values. It is important to look at values that underpin consumer behaviors and policies to understand key fracture lines on the 4Fs topic. For example, what are the values that underpin different views on population policies? What about different reactions towards climate change? What values cause different consumption patterns?

With a better understanding of different stakeholders' values, communication strategy can be developed based on differentiated stakeholder value propositions to engage more key stakeholders in the 4Fs issue. Areas of common interests can also be identified as the starting points for tackling the key fracture lines for 4Fs.

Communication

In order to advance multi-stakeholder, cross-sectoral dialogue, a focused communication strategy on the 4Fs is crucially important. Innovative communication tools like WWF's Living Forests Model can be used to communicate the impacts of business-as-usual to different stakeholders. A successful communication strategy can encourage participants to step outside their comfort zones and engage in a solution-oriented dialogue with stakeholders and sectors that are typically isolated from each other.

Technologies beyond intensification

New appropriate technologies that go beyond increased productivity are needed to:

- ➔ Facilitate communication and exchange of learning-experiences among sectors;
- ➔ Reduce waste throughout the supply chain;
- ➔ Monitor, report, and verify governance and implementation of policies related to land-use;
- ➔ Encourage people to prioritize sustainable land-use and change consumption patterns through new social networks tools.

It is important to think out-of-the-box and identify appropriate technologies for overcoming each fracture line related to the 4Fs topic.



Cassie Phillips

KEY FRACTURE LINES

With the above cross-cutting issues in mind, participants further highlighted and explored the following fracture lines on the 4Fs topic.

Is it possible to move incrementally towards a sustainable land-use vision, or are tectonic shifts from business-as-usual unavoidable?

Some think that incremental shifts in our current consumption and business models will be enough to meet the land-use challenges our planet faces. Others argue that we are underestimating the severity and urgency of the problems, and that incremental changes are far from adequate: Radical shifts from the business-as-usual model are needed to make sure that there will be enough land for food, fuel, fiber, and forests in the future.



George Asher

Complicating the situation, some argue that, although radical changes in our behaviors are needed, it is simply beyond human nature to proactively make radical changes. History has demonstrated human resistance to radical changes in social systems; only chronic disasters or crises that exceed adaptation capacity wake society and prompt radical transformation. Others believe that tactics exist to scale incremental changes up to transformational shifts. Some potential scale-up tactics include: leveraging Corporate Social Responsibility models to bring big changes to the business sector; applying soft and hard regulations to level the business “playing field,” not only within a sector but across sectors; leveraging big retailers to bring changes along the supply chain; providing incentives to promote sustainability in different industries while regulating and punishing unsustainable practices.



Co-chair Jeannette Gurung

Is it possible to do-it-all, or are trade-offs and prioritization of 4Fs unavoidable?

Some argue that it is a must to “achieve all”: control the world’s greenhouse gas emissions to a targeted level; protect biodiversity; maintain a sustainable ecosystem; reconcile the competitions among food, fuel, fiber, and forests; and feed the increasing world population. Others argue that the “do-it-all” mantra is too idealistic and prevents stakeholders from considering more practical approaches to the 4Fs issue. All stakeholders may need to wake up to the hard truth that we all must make sacrifices in order to feed the increasing world population and meet peoples’ basic needs. Politicians should consider, for example, that it is not currently possible to mitigate temperature rise to two degrees Celsius while increasing attention to and resources for climate change adaptation.



Peter Kanowski

If sacrifices must be made, what are the “must-haves” and what can be “traded-off”? Do we need to prioritize landuse among food, fuel, fiber and forests for the sustainable use of our limited land resources? If prioritization is needed, what will be the criteria and framework for prioritization to create a practical and optimal land-use scenario? And will different stakeholders with different priorities be able to compromise and reach consensus as to what the “optimal” land-use scenario is?

How can voluntary and mandatory approaches be combined to achieve sustainable land-use?

It is generally recognized that market forces alone don’t make for optimal land-use choices, partly due to inefficiencies and externalities. Better governance from both government and

corporations is central to the 4Fs issue. But questions remain: how do you harness both regulatory tools and markets synergistically? What types of voluntary approaches can be most effective? Will market approaches designed in the western world bring the appropriate changes to emerging economies? Are market-based standards more effective if set at very high levels along the supply-chain, or at levels that are more attainable in frontier regions with weak governance? How can political will be created to implement mandatory approaches?

Participants suggested that successful examples of utilizing both voluntary and mandatory approaches that brought positive change should be documented and studied to see if these successes can be duplicated elsewhere. There is a need for more cross-sectoral dialogues and knowledge sharing at national and sub-national levels among all key-stakeholders to catalyze cooperation among state and non-state actors and to create synergy among their efforts.

There are also diverse views on the distinct responsibilities of government and business in creating synergies between voluntary and mandatory approaches. Some argue for shared burdens: government should work on building accountability, addressing corruption, and developing new policy frameworks; businesses should share responsibilities to enhance governance by looking after internal governance, managing supply chains, advocating for government to improve government's performance, and offering capacity building/social services to local communities. Some think that more of the burden should fall on government, IGO, and NGO shoulders, and that the main responsibility of business is technology development, productivity improvement, and waste reduction.

Is bio-energy a threat or a solution to sustainable use of land?

Opponents of biofuels argue that allocating land for biofuel will tip the balance between food, fiber, and forests land-uses and, ultimately, lead to food scarcity and forest loss. Proponents of biofuels state that bio-energy is a type of renewable energy with layered benefits including local energy security, reduced emissions, re-use of waste products, and potentially vital income for rural populations.

Some argue that perverse market incentives skew the playing field, preventing biofuel from becoming more sustainable. One such example is US government subsidies for ethanol, which unfairly favors ethanol production over food production. If the right policies are in place, however, biofuels can be part of solutions promoting sustainable land-use. Some of the policies suggested include:

- ➔ Produce bio-fuels without conversion of forests and other ecosystems;
- ➔ Create incentives for advanced liquid biofuels ;
- ➔ Limit biomass-based energy plant sizes to ensure they fit local wood supply with efficient combined heat/power;
- ➔ Stop investments in infrastructure dedicated to first generation crop-based biofuels;
- ➔ Develop sustainability standards and certification for biofuels and bio-mass.

Is intensification technology a threat or a solution to sustainable use of land?

Intensification technologies can help address supply-side problems for 4Fs by increasing productivity, utilizing marginalized land, and adapting to predicted changes related to climate change (e.g. increases in temperature, droughts, outbreaks of pests, and shifts in ecosystems). Intensification technology is thus



Co-chair Skip Krasny

viewed by some as a key pathway towards reconciling the competition for land among food, fuel, and fiber while conserving the world’s remaining natural forests.

Others are concerned about bio-safety related to the use of Genetically Modified Organisms (GMOs) and fear that small landowners and traditional farming practices will be out-competed and displaced by high-tech industrialized production. Some also argue that intensification may not necessarily lead to less usage of land, as commonly believed, given that increased profitability brought by intensification will lead to more production of goods from increased demand.

Current scientific research does not help answer this question, as findings are divided. However, the precautionary principle provides reasonable grounds to limit the proliferation of intensification technology until new research provides enough information to support further decisions. Moreover, some case studies, especially concerning GM food, have cast more public suspicion over intensification technology and established the debate as a value issue instead of a technical issue

What’s the best approach towards sustainable land-use decision-making?

Traditionally, land-use planning is a primarily top-down decision-making process that does not involve all stakeholders. Some deem this type of top-down decision-making essential in the allocation of limited and geographically confined resources. Others think this approach inevitably impinges on local stakeholders’ rights. This argument manifests itself best in the debate between food security and food sovereignty: do population growth, urbanization, and climate change require centralized food resource reallocation to feed all people? How do we respect local community and indigenous peoples’ rights while feeding all? Are we imposing western values and practices onto others despite good intentions?

There is a strong call from dialogue participants for a new generation of land-use decision-making. This would take into account global priorities for land-use optimization while retaining local decision-making and participation of all key stakeholders. It would respect local groups’ rights, especially the rights of marginalized groups, including indigenous people, women and small landowners. It would involve negotiation amongst all stakeholders, facilitation from a trusted entity, and integration of different land-use needs. To make this type of bottom-up land-use decision-making possible, there must be a trusted governance structure that can fairly distribute benefits generated from optimized land-use to all stakeholders.

Barriers against realizing this new type of land-use decision-making processes, include the following:

- ➔ Social elements are not mainstreamed into land-use planning models and decision-making processes;
- ➔ Government interpretation of sovereignty often fails to recognize the right to self-determination for local peoples;
- ➔ Government and companies tend to sacrifice social justice for “fast solutions” for land-use allocations;



Jane Lister



Michael Obersteiner



Miriam Prochnow

- ➔ The lack of clear and secure land tenure systems for local stakeholders subjects them to unfair benefit distribution;
- ➔ Existing rights (e.g. Free Prior and Informed Consent) and regulations that facilitate local decision-making are poorly implemented.

Many people have been working on these challenges for decades. Viewing them within the 4Fs scope presents an opportunity for out-of-the-box, cross-sectoral, and holistic thinking that may give rise to innovations in governance that supports efficient and equitable use of scarce resources.

How do you drive big changes in consumption patterns for sustainable land-use?

Some argue that consumers should have the right to purchase whatever they want and can afford. With consumers' rights in mind, approaches to reduce consumption could include a media campaign for consumers to be more environmentally conscientious or the creation of systems (including certification) to provide consumers with more information for making better choices.

Perspectives on consumption patterns include: changing people's values and habits is a hard and slow process; sustainability is a complicated issue—even when consumers want to choose sustainable goods, they may not have access to information for making this choice; and if we do not change current global consumption patterns soon, then we won't have enough land to meet future demand for food, fuel, fiber, and forests. Due to the above facts, sustainability should be a “pre-competitive” issue, meaning producers and retailers should be responsible for changing their business models and making sure their products are sustainable; the choice should not be left to consumers. Sustainable consumption patterns can be encouraged by:

- ➔ “True pricing” of commodities: full environmental costs related with goods are reflected in the price;
- ➔ Supply Chain Management: applying high sustainability standards throughout the supply chain;
- ➔ Life Cycle Assessment studies.

Some argue that pressures from both the production and consumption sides are needed to bring fundamental changes in consumption patterns. But there are diverse views on which approach can be more effective and equitable. For example, reducing animal-based protein intake as modeled by WWF's Living Forest Model would require changing consumer values and will therefore be more difficult to be implemented as a “precompetitive” issue.

Another fracture line identified related to changing consumption patterns is the notion of “buy less”. Producers and retailers are more open to the push for “buy better” but are still reluctant to talk about the possibility of pushing consumers to “buy less”. Selling more products is a basic business objective, though sometimes businesses adopt a quality over quantity marketing strategy that means higher returns can be achieved with less volume.

Others question whether buying less reduces impact. This is illustrated by examples in the forestry sector: the forest industry argues that if the environmental community pushes for less wood demand, the price of wood will fall, reducing private landowner incentive to keep production forests standing. The ultimate outcome will be more deforestation. The forestry industry thus argues that the key solution to reducing consumption while



Participants in Plenary

protecting standing forests is not “buy less”, but improve governance in order to captures the “true cost” and “true benefits” of sustainably-managed wood and eliminate illegal logging. By capturing the true cost of wood, the market price is likely increase, leading demand to fall. Environmental groups argue, besides better governance, businesses are efficient in bringing changes and have a significant role to play in recognizing the need to “consume less”. Innovative business models that steer product portfolios towards being service-centric instead of material-centric can bring transformational change to global consumption patterns.

NEXT STEPS

Among the above key fracture lines, participants identified the following four areas where future multi-stakeholder dialoguing may advance solutions and bridge differences among stakeholders:

1. What are the principles for a new generation of land-use decision-making that includes negotiation with local stakeholders, integrated international and national priorities, and local aspirations from multiple sectors. Key features of such principles illustrated by dialogue discussions include:

- ➔ Protected, local livelihoods and rights of Indigenous peoples;
- ➔ Trusted governance structures that can deliver fair benefits to local stakeholders;
- ➔ Reconciliation of global, national and local priorities and needs;
- ➔ Ensured water, food and energy security;
- ➔ Maintenance of ecosystem services;
- ➔ As a pre-condition, high quality data and accurate land use projection models.

2. What are the opportunities and risks related to land-use intensification by advancing technology?

3. What are the key factors to help bring equity among different sectors and different stakeholders? Some examples illustrated by dialogue discussions include:

- ➔ “True Price” for commodities;
- ➔ Fungible markets for different ecosystem services.

4. How can consumption patterns be changed to meet societal needs while reducing our ecological footprint?

While the first two topics are areas in which TFD can leverage its network and capacity to convene future dialogues, participants noted that the latter two topics, while of fundamental importance, aren’t best suited as stand-alone dialogue topics. It was suggested that the latter two issues could instead be included under discussions of the first two topics. The key issues listed in the summary (including right-based approaches, governance and communication) were also identified as topics for further exploration.



l-r: Co-chair Rod Taylor and Duncan Pollard



Antti Sahi



David McLaughlin

Future dialogues could focus on a country where significant land-use competition already exist (e.g. Brazil or Indonesia), and thereby offer learning opportunities for reconciling competition among different land uses in practice. It will also be crucially important to include stakeholders beyond the fiber and forest sector, from the food, biomass, energy, and biofuel sectors; TFD will need to take initiative reaching out to platforms and organizations in these sectors. Some suggested fora include: World Water Forum, Rio2020; a joint event held by The Forest Day and The Agriculture Day at COP 17; IUCN World Conservation Congress; CBD COP 11; FAO agriculture conferences; and UNFF.

The dialogue ended with a strong call from participants for TFD and its network to carry on its 4Fs Initiative. WRI expressed strong interest in seeking future collaboration opportunities with TFD on this initiative.

ACKNOWLEDGEMENT

This summary draws on, and tries to do justice to, the work of many individuals involved in the TFD Scoping Dialogue held in Washington D.C., US, in June 2011. All participants in that dialogue are hereby heartily thanked. The dialogue would not be possible if not for the support of WWF US headquarters. Particular additional thanks go to Lindsey Blessum (WWF), Xiaoting Hou, Jaimini Parekh, and Lisa Obrien of TFD for organizing the event.

Co-chairs would like to thank Xiaoting Hou (TFD) for developing the first draft and leading the editing process of the document. James Griffiths (WBCSD), James Mayers (IIED), Jaimini Parekh(TFD) and Dylan Walsh provided useful edits and comments to the document.

The dialogue and this report are financially supported by WWF International and World Business Council for Sustainable Development (WBCSD).

PARTICIPANT LIST

George Asher	Lake Taupo Forest Trust
Joseph Bachman	Global Forest Partners
Barbara Bramble	Roundtable on Sustainable Biofuels (RSB)
Bruce J.Cabarle	World Wildlife Fund (WWF)
Estebancio Castro Díaz	International Alliance of Indigenous and Tribal Peoples of Tropical Forests (IAITPTF)
Kerry Cesareo	World Wildlife Fund (WWF)
Peter Dewees	World Bank
Christine Dragisic	Conservation International
Peter Gardiner	Mondi
James Griffiths	World Business Council for Sustainable Development (WBCSD)



Niger Sizer

Jeannette Gurung

Women Organizing for Change in Agriculture & Natural Resource Management (WOCAN)

Alyssa Johl

Center for International Environmental Law (CIEL)

Peter Kanowski

Australian National University

Chris Knight

PricewaterhouseCoopers (PwC)

Skip Krasny

Kimberly-Clark

Florian Kraxner

International Institute for Applied Systems Analysis (IIASA)

Lars Laestadius

World Resources Institute (WRI)

Joseph Lawson

MeadWestvaco Corporation (MWV)

Jane Lister

Liu Institute for Global Issues, University of British Columbia

Ruth Martínez

La Asociación Coordinadora Indígena y Campesina de Agroforestería Comunitaria Centroamericana (ACICAFOC)

James Mayers

International Institute for Environment and Development (IIED)

Jessica McGlyn

World Business Council for Sustainable Development (WBCSD)

David McLaughlin

World Wildlife Fund (WWF)

Michael Obersteiner

International Institute for Applied Systems Analysis (IIASA)

HK Jacob Pangkhua

Pangkhua Community Forum

Cassie Phillips

Weyerhaeuser

Herbert Pircher

Stora Enso Wood Supply

Duncan Pollard

Nestlé

Miriam Prochnow

Apremavi

Carlos Roxo

Fibria

Antti Sahi

Central Union of Agricultural Producers and Forest Owners (MTK)

Nigel Sizer

World Resources Institute (WRI)

Rod Taylor

WWF International

Ivan Torafing

Asia Pacific Indigenous Youth Network

Nathalie Walker

National Wildlife Federation

Daniel Zarin

Climate and Land Use Alliance (CLUA)



Group Discussion



James Griffiths



Peter Gardiner

ENDNOTE

1. “Fresh Water” was suggested by participants as fifth “F” that can be discussed along with the current 4Fs.
2. UN (2011); World Population Prospects. The 2010 Revision. United Nations Department of Economic and Social Affairs Population Division: New York, USA.
3. FAO (2009); How to Feed the World in 2050. FAO: Rome.
4. IFPRI (2009); Climate Change: Impact on Agriculture and Costs of Adaptation. International Food Policy Research Institute: Washington, D.C., USA.
5. FAO (2009) et al.
6. Dauvergne, P and Lister J (2011); Timber. Polity Press: Cambridge, United Kingdom. P.32
7. Singer, S (editor) (2011); The Energy Report: 100% renewable by 2050. WWF, Ecofys and OMA.
8. McKinsey & Company (2009); Pathways to a Low-Carbon Economy. Version 2 of the Global Greenhouse, Gas Abatement Cost Curve. McKinsey and Company.
9. Taylor, R (editor) (2011); Forests for a Living Planet, “Chapter 1: WWF Living Forests Report”. WWF International: Gland, Switzerland.
10. WBCSD (2010); Vision 2050: The New Agenda for Business. World Business Council for Sustainable Development: Geneva, Switzerland.
11. Dauvergne, P and Lister J (2011); Timber. Polity Press: Cambridge, United Kingdom.
12. Bramble, B (2011) Fuel and Forests, New pressures added to Food, Feed and Fiber [powerpoint slides]. Retrieved from The Forests Dialogue website:
<http://environment.yale.edu/tfd/dialogue/food-fuel-fiber-and-forest/4f-scoping-dialogue-in-washington-dc-1-3-june-2011/>
13. Laestadius L. et al (2010); A World of Opportunity: The World’s Forests from a Restoration Perspective.
<http://www.ideastransformlandscapes.org/resources/documents/>
14. Gurung, J. (2011); Women and 4Fs [powerpoint slides]. Retrieved from The Forests Dialogue website:
<http://environment.yale.edu/tfd/dialogue/food-fuel-fiber-and-forest/4f-scoping-dialogue-in-washington-dc-1-3-june-2011/>
15. Taylor, Op cit, p.18
16. FAO (2011), Global Food Losses and Food Waste: Extent, Causes and Prevention
17. The US Senate voted on 16June 2011 to end a \$6 billion subsidy for ethanol.
18. Advanced Biofuels are defined here as “high-energy liquid transportation fuels derived from: low nutrient input/high per acre yield crops; agricultural or forestry waste; or other sustainable biomass feedstocks including algae.”
19. Taylor, Op cit, p. 17

TFD is an autonomous unincorporated organization. TFD's Secretariat is hosted by Yale University. All inquiries should be directed to TFD at: tfd@yale.edu