

The Forests Dialogue
Intensively Managed Planted Forests – Phase 2 Dialogue

Background Paper

24 August 2015

Peter Kanowski

The Australian National University
peter.kanowski@anu.edu.au

1. Introduction

Planted forests, including those that are intensively-managed for wood production, continue to grow in both extent and significance. They currently provide a third of the world's industrial wood, a proportion likely to increase significantly in coming decades. They also have great potential to deliver environmental services and social benefits. However, many aspects of intensively managed planted forests (IMPF) have been and remain controversial, with concerns that associated environmental and social costs often outweigh economic and other benefits.

For these reasons, The Forests Dialogue (TFD) convened an international multistakeholder dialogue process about IMPF from 2006 – 2008¹. The process followed the usual TFD model: it was initiated by a Scoping Dialogue informed by a Background Paper², included three field dialogues (China, Indonesia, and Brazil), and concluded with publication of a *TFD Review*³. The Review identified “factors of critical importance” to successful IMPF projects and practice, and made recommendations for improving IMPF policy and practice (Tables 1 & 2).

Since 2008, a number of global reviews of IMPF have been published in the academic and civil society literature⁴, a number of other initiatives have explored issues relevant to IMPF, and relevant statements of principle and guidelines have been published. These include:

- the New Generation Plantations Platform (NGPP)⁵, managed by WWF International;
- related TFD dialogue processes and initiatives⁶, including those on Fuel, Food, Fibre and Forests (4Fs); Genetically-Modified Trees (GMT), Investing in Locally-Controlled Forestry (ILCF); and Understanding Deforestation-Free (UDF);
- the 3rd International Congress on Planted Forests⁷;
- various civil society initiatives, such as those facilitated by the Forest Peoples Programme, Global Justice Ecology Project, the International Union of Forest Research Organisations, and the World Rainforest Movement⁸;
- FAO's *Statement of Principles for Planted Forests*⁹, its *Voluntary Guidelines for Governance of Land Tenure*¹⁰, and its Committee on Food Security's *Principles for Responsible Investment in Agriculture and Food Systems*¹¹.

This Background Paper has been prepared as a contribution to discussion at a Scoping Dialogue convened by TFD to explore the value and focus of a possible second IMPF dialogue process. It is informed by a survey of IMPF stakeholder perceptions conducted by TFD in the first quarter of 2015¹², described in Section 3.

The paper briefly reviews key contexts relevant to IMPF; discusses developments since 2008 in relation to IMPF generally and to the factors and recommendations presented in Tables 1 and 2, drawing from survey responses; and suggests possible foci for future dialogue.

Table 1. Factors of “critical importance” to successful IMPF projects and practice

(Source: *TFD Review: intensively-managed planted forests*, 2008, pp 50-51)

- Good governance, to achieve socially-just and environmentally beneficial outcomes from economically-driven IMPF investments;
- High levels of corporate social responsibility on the part of IMPF businesses, particularly – but not only - where governance is weak;
- Respect for the rights of indigenous and local communities, based on recognition of the principle of free, prior and informed consent for activities affecting these rights
- Empowerment of the forest workforce, including small holders and outgrowers through:
 - maximizing formal contracts and employment for workers engaged in “regular” work;
 - promotion of self-organization for small growers and contractors, and
 - honouring ILO core labor standards;
- Effective integrated land-use planning – to protect areas of high conservation and cultural values, to integrate IMPF with other land uses and enterprises, and to mitigate against climate change;
- Establishing and enabling dialogue and conflict resolution processes that address the interests and concerns of stakeholders, and promote mutually-beneficial partnerships;
- Exploring and implementing models of IMPF-based development which give effect to these principles, for example as articulated by FAO for Responsible Management of Planted Forests.

Table 2. TFD IMPF Dialogue Recommendations

(Source: *TFD Review: intensively-managed planted forests*, 2008, pp 51-53)

Recommendation 1. National and sub-national governments should:

- recognise principles such as those enunciated by FAO for Responsible Management of Planted Forests,
- implement integrated land-use planning processes addressing all land uses relevant to IMPF development; these processes should recognise and address the rights and interests of all relevant stakeholders.

Recommendation 2. Institutions financing or underwriting IMPF investments should:

- implement the Equator Principles, which are currently applied in only a minority of cases;
- institute more effective due diligence for IMPF-related investments;
- co-invest with governments to develop good governance structures and build capacity;
- encourage the use of independent certification as a means to assess social and environmental performance of the investments they support.

Recommendation 3. Businesses engaged in IMPF activities should:

- be proactive in exercising their corporate social responsibilities, in particular to address gaps in government’s capacity and processes.

This would include, but not be limited to:

- responsible project planning, following a systematic approach [such as that outlined in Box 8];
- appropriate land use planning, comprising:
 - a thorough assessment of ecosystem services associated with the project – for example, through undertaking a Corporate Ecosystem Services Review;
 - land acquisition and management following the principle of FPIC, and with appropriate consultation with local communities and other stakeholders;
 - adopting a resource-prudent approach that matches investment in processing capacity to IMPF resource supply, rather than using it to leverage resource supply;
 - establishing effective stakeholder engagement and conflict resolution processes;
 - advocating for the necessary basic legal infrastructure for engagement with, and participation of, indigenous peoples and local communities, and IMPF-based labour.

Recommendation 4. Governments, agencies, businesses and individuals engaged in IMPF activities should:

- pursue models of IMPF-based development that share benefits and costs equitably. This means, but is not limited to:
 - restricting investments to those where social and environmental costs do not exceed benefits;
 - accepting that some landowners, including those with traditional rights, may choose not to engage in IMPF activities;
 - fostering partnerships between stakeholders that promote and enhance the sustainability – on each of economic, environmental and social terms - of IMPF projects;
 - committing to sustainable forest management, and its verification through credible certification schemes;
 - developing locally-appropriate resource supply and labour participation arrangements that respect relevant ILO core labour standards
 - building the capacity of local communities to benefit from IMPF activities on terms of their choice.

2. Key contexts – developments relevant to IMPF since 2008

This section overviews key developments relevant to IMPF globally since the completion of the first IMPF dialogue process, as context for subsequent discussion.

2.1 There continue to be major drivers favouring IMPF investment

The drivers of IMPF investment identified in the 2008 *TFD Review* – increasing consumption of wood products, decreasing supply from natural forests, technological change, and the economics of production systems – continue to favour investment in IMPF¹³. These drivers have been supplemented by others, such as international commitments to Zero Net Deforestation goals¹⁴, and to reducing greenhouse gas emissions through substitution of renewable for fossil fuel-derived energy sources¹⁵. The interactions between these and other drivers and constraints are complex and dynamic, as modelling such as that conducted for WWF's *Living Forests Report* demonstrates¹⁶.

2.2 The extent of IMPF and their significance continues to grow

The extent of planted forests has continued to increase, and was estimated by FAO's Global Forest Resources Assessment to be to 264 M ha in 2010, compared to 187 M ha in 2000¹⁷. Although there continues to be some definitional imprecision, the most-recent (2012) best estimate of the area of IMPF globally is 55 M ha¹⁸. These plantations are estimated to provide currently around one-third (520 M m³ annually) of global industrial wood supply. Projections suggest that the area of IMPF may increase by up to 75%, to c. 90 M ha, and annual production may nearly triple, to 1.5 B m³ annually, by 2050¹⁹.

As has been the case since the initiation of “fast-wood forestry” in the 1980s²⁰, most of the expansion in the area of IMPF has been and is projected to be in the global South, and be based on a relatively limited suite of increasingly-domesticated species and hybrids. The area of short-rotation tree crops grown for bioenergy has also increased in Europe and North America, and is expected to increase further in many countries²¹.

2.3 The extent and significance of other tree crops also continues to grow

Since 2000, the extent of oil palm plantations globally has more than doubled, to c. 16 M ha²². The expansion of oil palm has been greatest in SE Asia, but also significant in West Africa and Central and tropical South America; and has frequently been associated with ‘land grabbing’, itself often explicitly or implicitly encouraged by governments promoting corporate-led economic development²³. Other estate crops such as rubber have also expanded significantly in some regions (e.g. some Mekong countries), often in comparable ways and with comparable impacts to oil palm²⁴. One of the consequences of these expansions has been intensified competition for land, including for IMPF; most analyses suggest that the returns to smallholders from oil palm or rubber are superior to those they can generate from IMPF tree crops²⁵.

The considerable ENGO and civil society focus on the environmental impacts of oil palm and other agricultural commodities has led – amongst other outcomes – to the emergence of commitments by key actors to deforestation-free supply chains exemplified by the 2014 New York Declaration on Forests²⁶ and the Tropical Forest Alliance 2020²⁷.

2.4 The evolving role of forests in climate change mitigation and adaptation

The reduction of emissions associated with deforestation and forest degradation, and the maintenance and enhancement of forest carbon stocks through sustainable forest management and forest restoration, have assumed a central role in international climate change negotiations

since the UNFCCC CoP in Bali in 2007. While the focus of REDD+ has been on the conservation and better management of natural (especially tropical) forests, longer-term IPCC scenarios identify large-scale (re)afforestation and bioenergy use as important potential elements of mitigation options globally; the IPCC notes that afforestation remains one of the most cost-effective forestry mitigation options²⁸. This remains an area of active debate²⁹.

2.5 Stronger measures to address illegality in the wood supply chain

A range of measures have been introduced to promote legal and sustainable wood production and trade. These include national legality verification schemes; voluntary measures such as forest certification and the EU Voluntary Partnership Agreements; regulations such as those introduced by each of the European Union, USA and Australia to prohibit the importation of wood and wood products that are not sourced legally; and public procurement policies³⁰. While the focus of these measures has been on wood sourced from natural forests, there are a number of implications for wood from planted forests. One is for legality verification, a requirement that smallholders growers may have difficulty in meeting, even where their title to land and wood is unchallenged; a second is the probable increased demand for wood that is from verified legal sources, including from planted forests.

2.6 The expanding reach of certification

Forest management certification under the two principal global schemes, FSC and PEFC, has continued to expand. The area of FSC-certified plantation forest has increased to 15.6 M³¹ ha at the end of 2014; the extent of PEFC-endorsed certified forest has increased by 20% since 2008, but the area of PEFC-endorsed certified plantation forest globally is not reported³². While there continues to be substantial debate about issues of both principle and practice in relation to certification of plantations³³, there is also empirical evidence that certification of plantations can improve the environmental and social outcomes of plantation management³⁴.

2.7 The two GFCs

Both the Global Financial Crisis and the perception of a looming global food crisis impacted on the IMPF sector. Amongst other impacts, the former restricted new investments and expansion that might have otherwise taken place³⁵. The latter focused attention on the consequences for agricultural production of the imperatives of increased food production in the context of climate change³⁶, including the future of community livelihoods and local food security, smallholder production systems and their intersections with tree growing³⁷; prompted an ongoing debate about 'land sparing versus land sharing' strategies³⁸; and helped catalyse widespread agreement about the merits of a 'landscape approach'³⁹ to land use planning and management.

2.8 Technological change

A number of technological advances, beyond those associated generally with management and production systems, are of particular significance for the IMPF sector. The first is the development of easily-accessible real-time monitoring technologies and platforms, ranging from global-scale initiatives such as the World Resources Institute-led Global Forest Watch⁴⁰ to the use of drones for local monitoring by governments, business and civil society⁴¹. The second is a wide range of developments in wood-based biomaterials and biofuels, with profound implications for the forest industries and the wood production and value chains⁴².

The third is the continuing development of genetic modification technologies and their application in IMPF production systems⁴³. One of the most significant developments in this arena globally is the approval by Brazil's National Technical Commission on Biosafety (CTNBio) in April 2015 of the

world's first commercial deployment of genetically-modified (GM) eucalypts⁴⁴, a process which catalyzed protests and destruction of some GM trees⁴⁵, in the context of ongoing civil society resistance to the development and use of GM trees⁴⁶. This resistance is based on the organisations' perceptions that the use of GM trees will, as for other GM crops, inevitably lead to further intensification and commercialization of land use, reinforcing their concerns about the social impacts of IMPFs on local communities' and indigenous peoples' rights and livelihoods⁴⁷.

3. The 2015 TFD IMPF survey

In March 2015, TFD initiated a global stakeholder survey of perceptions of progress against the factors and recommendations (see Tables 1 and 2) identified by the 2008 *TFD Review*. A survey questionnaire, comprising 17 questions about respondents' perception of progress in terms of the factors and recommendations of the IMPF Review, was developed in conjunction with the TFD IMPF2 Advisory Group⁴⁸. Six questions asked respondents to score performance on a 5-point scale; 11 questions sought elaboration of the reasons for these responses, to identify enabling and constraining factors, and to identify examples of either positive achievements or problems. Responses were anonymous; participants were asked to self-identify with different IMPF actor groups, for analytical purposes.

After pilot testing in March 2015, and review and approval by the Australian National University Human Ethics Committee⁴⁹, 200 individuals globally were invited to participate in the survey. Those invited comprised participants in the first IMPF dialogue process and related TFD dialogues (see Introduction), those engaged centrally in activities of the New Generations Plantations Platform, and the lead authors of recent review or similar publications about IMPF. Those invited to participate spanned the diversity of interests in IMPF, and levels of engagement from local to global. The survey was internet-based, using Qualtrics software, in English or Spanish; it closed in mid-April 2015.

Fifty-five respondents (a 28% response rate) completed at least part of the survey; half (28) of these, in equal numbers, were from corporate forestry (14) or from non-governmental or community-based organisations (14). The other 27 respondents included researchers; consultants; and staff of national governments, international finance and philanthropic organisations, and small-medium enterprises. Half the respondents had participated in the TFD IMPF or related dialogues, and half had participated in other IMPF-related processes such as NGPP. Two thirds were engaged with forest certification processes.

Preliminary results from the survey are reported in a paper for the XIV World Forestry Congress⁵⁰; results are presented and discussed in more detail below.

4. Developments in relation to the “factors of critical importance to successful IMPF projects and practice” identified in the 2008 TFD Review

The “factors of critical importance to successful IMPF projects and practice” identified in the 2008 *TFD Review* (see Table 1), an overview of subsequent developments, and a précis of the views of respondents to the 2015 IMPF survey, are summarized in Table 3.

The 2015 IMPF survey questions asked for a rating of performance against each of these factors; the distribution of responses is shown in Figure 1.

Figure 1: Survey respondents’ assessments of progress against factors identified by the 2008 TFD IMPF Review as being critical for IMPF success (see Table 1)

| Factor identified in TFD IMPF Review | Assessment (% of respondents) | | | | |
|--|-------------------------------|----------------|-----------|-----------------|-----------------|
| | Markedly worse | Somewhat worse | No Change | Somewhat better | Markedly Better |
| Good governance. | 2 | 7 | 23 | 58 | 11 |
| High levels of corporate social responsibility by IMPF businesses. | 6 | 0 | 13 | 66 | 13 |
| Respect for the rights of indigenous and local communities, based on the principle of free, prior and informed consent | 4 | 2 | 17 | 67 | 11 |
| Empowerment of the forest workforce, including small holders and outgrowers. | 0 | 6 | 42 | 40 | 12 |
| Effective integrated land-use planning | 4 | 2 | 33 | 45 | 16 |
| Establishing and enabling dialogue and conflict resolution processes | 6 | 2 | 16 | 66 | 12 |
| Models of IMPF-based development which give effect to these principles. | 0 | 4 | 33 | 55 | 8 |

Note: Number of respondents to each question ranged from 49-55

Source: Kanowski & Dranzen 2015; see endnote 12

Table 3. Developments since 2008 in the “factors of critical importance to successful IMPF projects and practice” identified in the 2008 TFD Review

| Critical factor (2008 TFD Review) | General commentary (author) | Views of 2015 IMPF survey respondents |
|---|---|--|
| Good governance, to achieve socially-just and environmentally beneficial outcomes from economically-driven IMPF investments | Indicators of overall governance suggest little change in the levels of good governance in most countries, and those for countries in which IMPF are important span the range from poor to good ⁵¹ . While there continues to be a strong focus internationally and in many countries on good forest governance ⁵² , the quality of forest governance is similarly variable across countries in which IMPF are important. | 69% of respondents felt governance relevant to IMPF had improved since 2008; 23% felt there had been no change; 9% felt it was worse. Many respondents noted that assessments of governance were only meaningful on a country- or context-specific basis. Some felt that the strengthening of civil society and corporate initiatives and non-state governance mechanisms had allowed governments to step back from their responsibilities. |
| High levels of corporate social responsibility on the part of IMPF businesses, particularly – but not only - where governance is weak | Many major IMPF businesses have made public CSR commitments: for example, many are members of WBCSD’s Forest Solutions Group ⁵³ , and some are among the signatories to the New York Declaration on Forests. Empirical research suggests that, as in other sectors, forestry businesses can realize a range of benefits from pursuing higher levels of corporate social responsibility ⁵⁴ . | 79% of respondents felt levels of corporate social responsibility had improved since 2008; 13% felt there had been no change; 6% felt they were worse. Many respondents noted that there continued to be IMPF leaders and laggards, and that implementation in practice was often slower than boardroom-level commitments. A number of respondents noted the new sustainability commitments by major IMPF businesses based in Asia ⁵⁵ , and that – whilst welcome – these were not uncontroversial. |
| Respect for the rights of indigenous and local communities, based on recognition of the principle of free, prior and informed consent for activities affecting these rights | Rights-based issues remain of major concern to many civil society and institutional actors, and have been articulated in many fora and contexts ⁵⁶ - particularly but not only in the context of growing concern about ‘land grabbing’ and food security ⁵⁷ . | 78% of respondents felt respect for rights had improved since 2008; 17% felt there had been no change; 16% felt it was worse. However, many respondents felt that – as with CSR commitments – while awareness and rhetoric were greater, implementation often remained weak. A number of respondents identified grave human rights abuses that had been associated with some IMPF actors in some places. |

| Critical factor (2008 TFD Review) | General commentary (author) | Views of 2015 IMPF survey respondents |
|--|---|---|
| <p>Empowerment of the forest workforce, including small holders and outgrowers through:</p> <ul style="list-style-type: none"> ▪ maximizing formal contracts and employment for workers engaged in “regular” work; ▪ promotion of self-organization for small growers and contractors, and ▪ honouring ILO core labor standards | <p>The forest sector employment trends evident in 2008 continue in IMPF businesses, with downsizing of core staff and outsourcing of work to contractors. The level of engagement with and empowerment of smallholder tree growers remains mixed, with some successful examples⁵⁸, and many that are less so⁵⁹.</p> | <p>52% of respondents felt empowerment of the forest workforce and smallholders had improved since 2008; 42% felt there had been no change; 6% felt it was worse. Respondents noted that there were two different parts to this issue – issues for the workforce and contractors, and for smallholders (including outgrowers). A number of respondents felt that certification had helped businesses better address labour issues, primarily for employees but increasingly for contractors; but that major issues remained for contracted workers in many cases. In relation to smallholders, respondents identified both greater recognition and efforts to empower them by some IMPF businesses, but felt that progress was generally limited.</p> |
| <p>Effective integrated land-use planning – to protect areas of high conservation and cultural values, to integrate IMPF with other land uses and enterprises, and to mitigate against climate change</p> | <p>The ‘landscape approach’ has become central to the global discourse about land use and forests⁶⁰, but implementation of the concept remains limited.</p> | <p>61% of respondents felt effective integrated land-use planning had improved since 2008; 33% felt there had been no change; 6% felt it was worse. Respondents noted that there had been good progress in some geographies and for some IMPF businesses, but not in others, in respect to HCV areas and cultural values; and, more generally, that ‘true’ landscape approaches had yet to be embedded in many governments’ policies and business’ practices.</p> |

| Critical factor (2008 TFD Review) | General commentary (author) | Views of 2015 IMPF survey respondents |
|--|---|---|
| Establishing and enabling dialogue and conflict resolution processes that address the interests and concerns of stakeholders, and promote mutually-beneficial partnerships | A number of international IMPF-related dialogue and learning processes (eg New Generations Plantations Platform; related TFD initiatives – see Introduction) have progressed or been initiated since 2008, as have some national-level processes ⁶¹ . Forest certification has stimulated some conflict resolution processes to address issues in particular cases. Nevertheless, there remain high levels of conflicts over IMPF in some countries ⁶² . Some actors believe dialogue processes are inherently biased in favour of IMPF expansion ⁶³ . | 78% of respondents felt dialogue and conflict resolution processes had improved since 2008; 16% felt there had been no change; 8% felt they were worse. Respondents noted that, while there may have been progress in recognizing the importance of these issues, there was significant variation between and within countries. While many respondents recognized that progress had been made, a number also identified a growing gap between IMPF interests and civil society organisations representing rights holders. |
| Exploring and implementing models of IMPF-based development which give effect to these principles, for example as articulated by FAO for Responsible Management of Planted Forests | This factor is essentially one that integrates all those listed above. It has been pursued especially by learning and dialogue processes such as the New Generations Plantations Platform or the Brazilian Forest Dialogue. Implementation is best judged at the national and subnational, and individual IMPF business and ‘project’, levels. | 63% of respondents felt exploration and implementation of models of IMPF-based development had improved since 2008; 33% felt there had been no change; 4% felt they were worse. Respondents noted that, whilst principles such as those articulated by FAO or the TFD IMPF Review were helpful, most change was realized through well-conceived and implemented national policies, progressive businesses, and the power of markets and civil society demanding sustainable products and responsible business practices. |

5. Progress against 2008 TFD Review recommendations

This section is based on analysis of responses to the 2015 global survey (see Section 3), of perceptions of progress against the concluding recommendations of the 2008 TFD Review (Table 2). Survey respondents were asked both to assess post-2008 performance against these recommendations, and to elaborate on reasons for their assessment. Their assessments are summarized in Figures 2-5, and the results and respondents' explanations are discussed below.

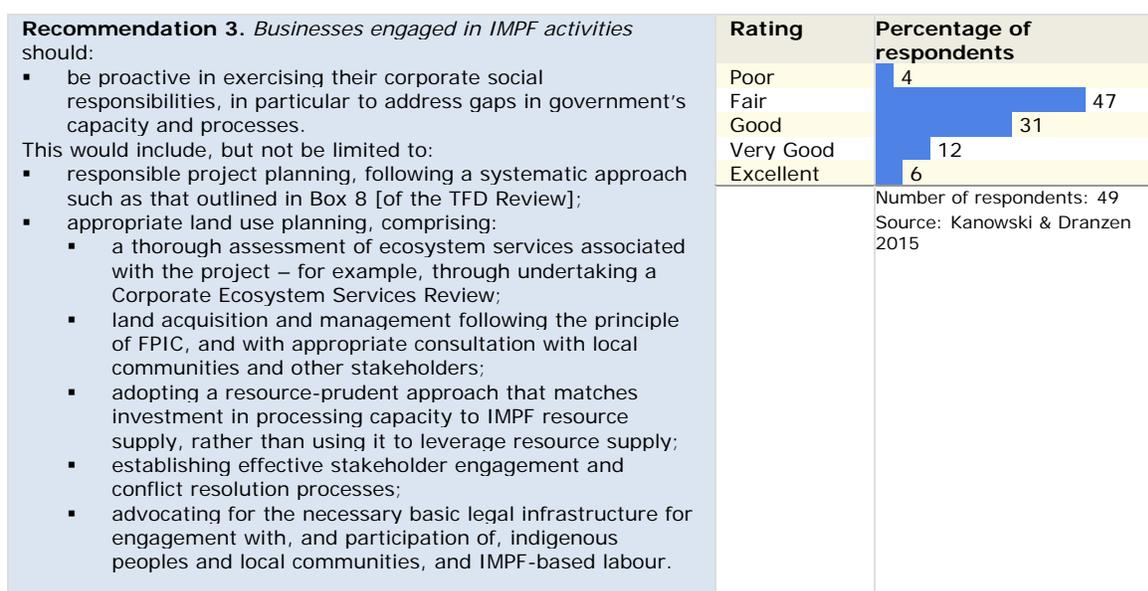
Figure 2: Survey respondents' assessment of post-2008 performance against 2008 TFD IMPF Review Recommendation 1, about governments.



Figure 3: Survey respondents' assessment of post-2008 performance against 2008 TFD IMPF Review Recommendation 2, about financing institutions.



Figure 4: Survey respondents' assessment of post-2008 performance against 2008 TFD IMPF Review Recommendation 3, about IMPF businesses.



The first three questions asked about the performance of governments, financing institutions and businesses. In all cases, the most common assessment – c. 50% of respondents – was “fair”, the second poorest category. A fifth of respondents felt that national and subnational governments were performing poorly; viz., in total, 70% of respondents felt that national and subnational governments were performing relatively poorly (i.e., less than “good”). In contrast, around a quarter of respondents felt that governments and financing institutions’ performance was ‘good’; nearly a third of respondents assessed businesses as performing in this category. The variation in responses reflects in large part the the significant regional, national and sub-national, and between-business variation in performance.

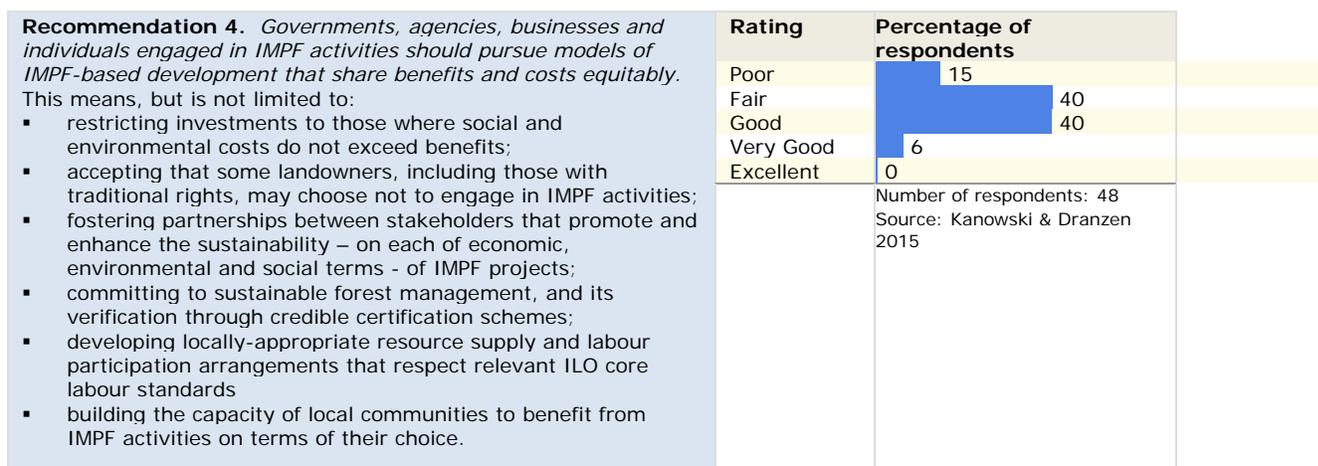
Respondents’ explanations in relation to the performance of government commonly noted that many governments lacked the commitment or capacity to implement integrated land use planning at appropriate levels, and many were skeptical that governments took much notice of internationally-agreed voluntary guidelines. Some respondents believed that more progress had been and would be made by effective partnerships between IMPF businesses, NGOs and local communities, and emphasized the desirability of bottom-up rather than top-down approaches to land use planning. Some respondents observed that planning processes still excluded local rights holders and women. There were also a number of more positive responses, identifying more inclusive and sophisticated processes in some countries and situations.

Many respondents’ explanations in relation to the performance of financing institutions suggested that these institutions were now more cognizant of expectations of sustainability for IMPF investments, and of criteria by which it might be assessed. Some noted that financing institutions’ focus in assessing investments was still biased towards economic criteria, that assessment of environmental performance had improved to ‘reasonable’ levels, but that assessment of social impacts was still ‘average to poor’. A number of respondents noted the enabling role of forest certification in this context. Considerable variation in the direct experience of respondents was evident here, as for other questions.

While a majority of respondents’ explanations about the performance of IMPF businesses suggested that these had made progress in some respects – for example, in awareness and articulation of CSR and sustainability commitments, and in planning, management and monitoring related to IMPF – many also noted that implementation was too-often lagging. Some respondents were much more critical, seeing businesses as remaining overly focused on only financial performance, and using CSR commitments and certification more for public relations than for real behavioural change. Some suggested that increased competition for land was forcing IMPF businesses to focus on consolidation, intensification and collaboration rather than on simple expansion; others noted significant differences between regions, and between leaders and laggards.

In relation to the fourth question, about models of IMPF development that share benefits and costs equitably, equal numbers of respondents – 80% in total – assessed performance as ‘fair’ or ‘good’. However, 15% assessed performance as poor, meaning that a slight majority assessed performance as less than ‘good’. The sentiment of many responses is reflected in comments of one respondent who observed that while “there has been some modest progress ... we also have not witnessed the general transformative changes embodied in the spirit and intent of these recommendations”.

Figure 5: Survey respondents’ assessment of post-2008 performance against 2008 TFD IMPF Review Recommendation 3, about equitable sharing of benefits and costs.



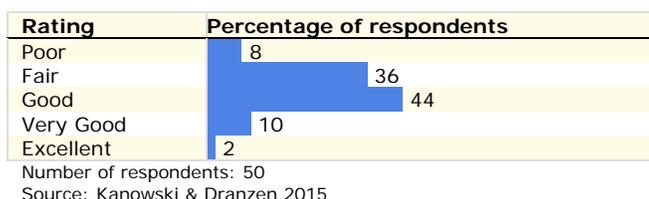
Some respondents attributed progress in relation to this recommendation to forest certification, and some referred to the benefits of learning about models from the New Generation Plantations Platform. Some also noted that there remained major challenges in many of the social dimensions of IMPF; one respondent gave the example of continuing exploitation of migrant labour in some IMPF operations.

6. IMPF sector performance, enabling and constraining factors, and important developments

Survey respondents were also asked to provide an overall assessment of IMPF sector performance against whatever criteria they considered most important, and to explain the reasons for their assessment; to discuss the factors that they saw as most enabling or constraining to better approaches and practices in the IMPF sector; to identify important new approaches, developments or technologies; and to identify any other issues of significance, and any illustrative examples. Responses to each of these sets of questions are summarized below.

Respondents’ overall assessment of IMPF sector performance is shown in Figure 6. Equal proportions of respondents (44% each) assessed performance as ‘less than good’ (viz. “poor” or “fair”) and “good”; 12% assessed performance as “very good” or “excellent”. Explanatory comments echoed those reported above, and frequently suggested that greatest progress had been made against environmental criteria. It was also commonly noted that while progress had been made in awareness of and commitments to environmental and social responsibility, “progress on the ground” had often been slow. One respondent’s characterization of “gradual evolution rather than radical transformation” in the sector was echoed in other words by many respondents; many respondents noted that there were laggards as well as leaders in the sector.

Figure 6: Respondents’ assessment for the question: “Against the criteria you consider most important, how does overall IMPF sector performance now compare to that 6 years ago?”



Some respondents felt that there was a now greater appreciation of the positive role that IMPFs could play in an increasingly resource-scarce world, but others were concerned about what they saw as diminishing common ground between IMPF businesses and civil society stakeholders, with the perverse outcome of driving IMPF investment to societies in which decision processes were “less open”. A number of respondents suggested that the global financial crisis had acted as a brake on levels and forms of expansion in the sector that would have delivered more negative than positive outcomes.

6.1 Enabling and constraining factors

These complementary questions generated both mutually-reinforcing and divergent responses, which are aggregated into the clusters below.

More effective engagement between key stakeholders, more assertive communities and greater public scrutiny, and community and market pressure for more responsible forest management, were frequently cited as key enabling factors. Conversely, respondents identified cases where these factors were lacking as typical of poor performance, and many were concerned about an overemphasis in IMPF companies on business as usual, and on delivering short-term returns to owners, as constraining commitments to and realization of more environmentally- and socially-sustainable outcomes. The lack of agreement about the rights of some actors, such as Indigenous and local communities, and of markets for environmental services, were noted as constraints in this context.

Good governance was universally identified as an important enabling factor, and various elements of poor governance – weak capacity for regulation and enforcement, corruption, bias towards vested interests, lack of transparency, and inadequate agency for marginalized groups – as constraining factors of central importance. Many respondents felt that good practice was not yet sufficiently embedded across the IMPF sector to overcome the constraints of poor governance, or to pressure laggards to improve. Others noted that poor governance and poor corporate behaviour were particular constraints to improving the situation of IMPF labour forces, particularly those hired by or as contractors.

Some respondents noted that general principles for good practice, such as those that emerged from international agencies or processes (including the TFD IMPF process), were inadequate to assist companies and other stakeholders address the realities of conflicts on the ground. Some suggested an unwillingness or inability, on the part of some IMPF actors, to listen to or learn from those with other perspectives was a significant constraint to resolving conflicts. There were divergent views about the value of the work done by various international agencies, with some respondents suggesting it had helped create awareness and momentum for change, and others suggesting that these institutions had failed to engage adequately or constructively with both corporations and smallholders. There was general concern that smallholders were still, in general, not benefitting sufficiently from IMPF research and development, or from IMPF-related institutional arrangements and partnerships.

Forest certification was seen to be playing both an enabling and constraining role, acting as a vehicle for positive changes in approaches and practices, but favouring large corporates and disadvantaging smallholders and communities engaged in tree growing. Some respondents felt there was too little flexibility in certification systems, with the consequence of discouraging plantation forestry. More generally, the lack of market incentives for better practices, and the challenges of implementing “landscape approaches”, were seen as real constraints.

IMPF production system sustainability challenges were identified by a number of respondents as actual and prospective constraints. These included the inadequate research and development base in some countries and regions to sustain and improve high levels of productivity; the longer-term sustainability of IMPF production on particular site types (e.g. those that are marginal for production; peat soils); the potential vulnerability of large-scale plantations with a limited genetic base to pests and disease; and the poor capture of productivity gains by smallholders. Other respondents noted how these challenges were being addressed in IMPF systems with which they were familiar.

6.2 Important new approaches, developments and technologies

The most important new approaches identified by respondents were further development and implementation of landscape approaches, in part as a means of effectively protecting HCV areas and other areas of significance; of earlier and more constructive forms of engagement between stakeholders, including in relation to FPIC principles; of collaborative monitoring of IMPF-related activities and transparent sharing of information; of mechanisms that better share benefits of IMPF-based development; and of engagement with the broader community, nationally and globally, to foster understanding and dialogue about the roles and contributions of IMPF to meeting global needs. Learning processes such as the New Generation Plantations Platform, and the value of certification, were mentioned as examples in this context.

A range of new technologies were nominated as important to improve the productivity and sustainability of IMPF, both of which were widely seen as fundamental to the future success of IMPF systems. These included landscape-level and IMPF planning, management and monitoring technologies, integrated through precision forestry systems; breeding and propagation technologies, including genetic modification; and processing and engineering technologies at various stages of development. A number of respondents noted that the benefits of new technologies could only be fully captured, and the sustainability of IMPF production systems best assured, if they were developed and implemented holistically in the context of adequate and adaptive research and development programs; these programs also needed to be embedded in approaches that addressed the wider context of and stakeholder interests in IMPF systems. Some respondents noted the potential disadvantages of new technologies for employment and thus for local communities, and were concerned that such technological advances could lead to social exclusion rather than social benefits.

6.3 Other issues identified by respondents

Survey respondents identified a range of other issues that they saw as important to the performance of IMPF. In some cases, these reiterated themes identified above: the fundamental importance of improving many elements of forest governance; of recognizing and respecting the rights of local and Indigenous peoples, and of groups marginalized in decision-making, including women; and of building their capacity and that of smallholders, and developing models that shared IMPF-related benefits more equitably, including through effective employment and outgrower schemes; and of improving participation and market access by smallholders.

A number of respondents argued that the future focus of IMPF should be on improving productivity and sustainability of the existing IMPF estate, rather than on expansion of that estate; on developing adaptation and resilience to climate change and variability; and emphasized that profitable sustainable production was at the core of any IMPF enterprise. Some saw a central role

for genetic modification technologies in realizing these goals; others expressed strong resistance to the use of genetically-modified trees.

A number of respondents argued that the focus of future work should embrace all plantation forests, not just IMPF, as all had a contribution to make to human wellbeing, and many issues associated with IMPF were also characteristic of other plantation forests. In this context, some suggested a greater emphasis on more diverse forms and management regimes for plantation forests, including greater heterogeneity of species and rotations. Some argued, as do others in civil society, that IMPF should not be classified as 'forests'; and that IMPF did not deliver environmental or social benefits, and so should not be the beneficiary of any public policy incentive mechanisms.

7. Possible foci for further dialogue about IMPF

This section draws from those above, and the outcomes of other recent initiatives such as those listed in the Introduction, to suggest key issues that could be foci for further dialogue about IMPF. A number of the proposed foci are interdependent, to varying degrees.

7.1 How should IMPF actors respond to the drivers of IMPF?

The interactions between the drivers of IMPF noted in Section 2.1 are – as mentioned there – complex and dynamic, and situated in similarly complex and dynamic contexts at scales from the global to the local, leading to a range of possible outcomes and futures. These have been explored in work such as that reported in the WWF *Living Forests Report*, through civil society initiatives such as those noted in Section 1, and in a range of studies such as those cited in (particularly) Sections 1 and 2 of this paper. There may be merit in exploring the commonalities and differences in IMPF stakeholders' views of how societies and IMPF actors should respond to these drivers, and the opportunities and challenges they present, in addition to exploring the more specific sets of issues, suggested below, that emerge from them.

7.2 Definitional issues, and the scope of dialogue

Some civil society actors are strongly of the view that "plantations are not forests", arguing that plantations – especially IMPF – do not have the characteristics nor deliver the benefits of natural and semi-natural forests, and have long been campaigning for definitions of "forests" to exclude plantations⁶⁴. Their arguments are given some weight by the apparent deliberate lack of clarity on the part of some governments and other actors (e.g. various certification bodies) in clearly identifying different categories of forest (e.g. natural, semi-natural, planted, plantation), notwithstanding the challenges of definitional clarity and consistency that have been discussed at length in various international fora and processes⁶⁵; and in reporting progress towards goals without differentiating the relevant categories of forests. Greater clarity about the form and purpose of different sorts of forests, whatever their character, would facilitate dialogue⁶⁶. In this context, it is also worth noting that, were plantations not classified as "forests" of some sort, it is most likely that they would be classified as a form of agriculture. It is also almost universally the case that agricultural land uses are more weakly-regulated than are forest land uses⁶⁷.

A number of survey respondents suggested that the scope of any future dialogue should extend to all "plantations", not just IMPF, arguing that issues of relevance to IMPF applied more broadly. While there are related definitional issues⁶⁸, such as the division between plantations and other forms of "planted forest", their argument nevertheless has merit. Any discussions around the issues of definition and scope might helpfully be situated in the broader discussion of plantation paradigms⁶⁹.

7.3 Governance systems to facilitate implementation of principles and practice

Many survey respondents identified the design and implementation of governance systems as central to realizing better outcomes from IMPF-based development. In addition to the generic principles of ‘good forest governance’⁷⁰, there are governance system design issues such as the form and mix of regulatory and market-based mechanisms, and the structure of institutions relevant to the forest sector. For example, many respondents identified the important role of forest certification in improving IMPF practice, but also noted constraints and sometimes perverse outcomes from aspects of current certification systems⁷¹.

A second aspect of governance likely to merit exploration is the suite of principles and voluntary guidelines relevant to IMPF that have been developed and promulgated by a number of organisations⁷², and their intersection with regulatory standards⁷³. These too are relevant to the responses of many survey respondents, who noted that, ‘while progress had been made in awareness of and commitments to environmental and social responsibility, “progress on the ground” had often been slow’ (Section 6). Exploration of the institutional barriers that prevent the translation of principles into practice is therefore an obvious topic for discussion. For example, are these barriers primarily within IMPF companies, or within the wider governance framework? Once identified, how can these be overcome?

7.4 Practical interpretation and implementation of the “landscape approach”

Many survey respondents, and the wider international discourse and literature, identify translation of the concepts and principles of the landscape approach into practice as a pressing and central issue. As evident from recent literature and experience of the topic⁷⁴, this implies a focus not just on the biophysical and spatial elements of land use planning and decision-making, but on the decision processes and their social basis. Such processes would provide, for example, a means of giving effect to the principle of FPIC, inclusivity and transparency.

7.5 Equitable and meaningful sharing of benefits from IMPF-based development

The majority of survey respondents reported that realizing the social benefits of IMPF-based development – in terms of employment and related arrangements, delivery of benefits to communities, and realisation of benefits by smallholders – was the area in which least progress had been made overall since 2008. There is now a growing body of knowledge about these issues and approaches to addressing them in the case of various agricultural production systems, including other tree crops⁷⁵.

7.6 Technology and sustainability

Continuing rapid technological change offers both opportunities and challenges to improving IMPF, as in other arenas of human endeavour. Many respondents identified the relationship between technological innovation – in terms of the use of appropriate and integrated, not just the introduction of “new”, technologies – and IMPF systems as fundamental to improving the sustainability of IMPF, and their capacity to deliver societal benefits. Some technologies – eg those associated with monitoring landscapes and forests – are not controversial; others, such as genetic modification of trees, are highly contested.

Acknowledgements

I thank respondents to the 2015 TFD IMPF survey for their time and informative responses; Erika Dranzen of Yale University for her assistance in developing, conducting and analyzing the survey, and in assembling and reviewing literature for this paper; and members of the TFD IMPF2 Advisory Group for their suggestions prior to the drafting of the paper, and for reviewing it. Opinions, errors and omissions remain my responsibility.

References

- ¹ The Forests Dialogue. 2008. Intensively Managed Planted Forests. <http://theforestdialogue.org/initiatives/IMPF>
- ² Kanowski, P. 2005. *Intensively managed planted forests*. Paper for *The Forests Dialogue*. <http://theforestdialogue.org/publication/intensively-managed-planted-forests-0>
- ³ Kanowski, P & Murray, H (Lead Authors). 2008. *TFD Review: intensively-managed planted forests*. <http://theforestdialogue.org/publication/tfd-review-intensively-managed-planted-forests>
- ⁴ Including: Barua, S.K. et al. 2014. Plantation vision: potentials, challenges and policy options for global industrial forest plantation development. *International Forestry Review* 16:117–127;
- Gerber, J.-F.O. 2011. Conflicts over industrial tree plantations in the South: Who, how and why? *Global Environmental Change* 21: 165–176;
- Kröger, M. 2014. The political economy of global tree plantation expansion: a review. *Journal of Peasant Studies* 41: 235–261;
- McDermott, C.L., 2012. *Plantations and communities: Key controversies and trends in certification standards*, Forest Stewardship Council. 31 p;
- Overbeek W. et al. 2012. An overview of industrial tree plantation conflicts in the global South. EJOIT Report No. 3. 100 p.
- ⁵ <http://newgenerationplantations.org>
- ⁶ <http://theforestdialogue.org/initiatives/4Fs>; <http://theforestdialogue.org/initiatives/GMT>; <http://theforestdialogue.org/initiatives/ILCF>; <http://theforestdialogue.org/initiative/understanding-deforestation-free-udf>
- ⁷ http://www.efiatlantic.efi.int/portal/events/past_events/2013/icpf/
- ⁸ <http://www.forestpeoples.org>, <http://www.iufro.org/science/task-forces/planted-forests/>, <http://globaljusticeecology.org>, <http://wrm.org.uy>
- ⁹ FAO. 2010. *Planted forests in sustainable forest management. A statement of principles*. www.fao.org/forestry/plantedforests
- ¹⁰ FAO. 2012. *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security*. www.fao.org
- ¹¹ Committee on Food Security. 2014. *Principles for Responsible Investment in Agriculture and Food Systems*. www.fao.org/cfs/cfs-home/resaginv/en/
- ¹² Preliminary results summarized by Kanowski, P and Dranzen, E. 2015. *Intensively managed planted forests: a global survey of stakeholder perceptions*. Paper to XIV World Forestry Congress, Durban, 7-11 September 2015.
- ¹³ for a summary of these and related issues, see – amongst others - *Summary Report of the 3rd International Congress on Planted Forests*. www.efiatlantic.efi.int/portal/events/past_events/2013/icpf/
- ¹⁴ see, eg, www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/07/New-York-Declaration-on-Forest—Action-Statement-and-Action-Plan.pdf; <http://www.tfa2020.com>
- ¹⁵ Sikkema, R. et al. 2014. Legal Harvesting, Sustainable Sourcing and Cascaded Use of Wood for Bioenergy: Their Coverage through Existing Certification Frameworks for Sustainable Forest Management. *Forests* 5: 2163–2211.
- ¹⁶ WWF International. *Living Forests Report*, Parts 1-5. wwf.panda.org/about_our_earth/deforestation/forest_publications_news_and_reports/living_forests_report/
- ¹⁷ See Szulecka et al. 2014. Paradigms in tropical forest plantations: a critical reflection on historical shifts in plantation approaches. *International Forestry Review* 16: 128–143.
- ¹⁸ Barua et al. 2014. *ibid*. Their study (Indufor 2012) reported the extent of “industrial fast-growing plantations”, defined as “intensively managed productive plantations”. This effectively corresponds to the 2005 IMPF Background Paper definition of IMPF as “plantation forests of relatively high productivity (a FAO working threshold of 14 m³/ha/yr was used in area estimates), in which the owner makes a sustained investment, over the life of the forest, to optimise returns from industrial wood supply.”
- ¹⁹ Barua et al. 2014. *ibid*.

-
- ²⁰ See Kanowski. 2005. *ibid*
- ²¹ See, eg, McKenney, D.W. et al. 2014. Enhancing the adoption of short rotation woody crops for bioenergy production. *Biomass and Bioenergy* 64: 363–366;
- Mayer, A. et al. 2015. Patterns of global biomass trade – Implications for food sovereignty and socio-environmental conflicts. EJOLT Report No. 20. 106 p. www.ejolt.org
- ²² Based on Table 1 in Potter, L. 2015. *Managing oil palm landscapes*. CIFOR Occasional Paper 122. www.cifor.org
- ²³ See, eg, GRAIN et al. 2014. The many faces of land grabbing. Cases from Africa and Latin America. EJOLT Report No. 10, 93 p. www.ejolt.org;
- Potter 2015. *ibid*.
- ²⁴ Ahrends, A. et al. 2015. Current trends of rubber plantation expansion may threaten biodiversity and livelihoods. *Global Environmental Change* 34: 48–58.
- ²⁵ e.g. Budidarsono S et al. 2012. *Socioeconomic Impact Assessment of Palm Oil Production*. Technical Brief No. 27, ICRAF South East Asia. www.worldagroforestrycentre.org
- ²⁶ <http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/07/New-York-Declaration-on-Forest-Action-Statement-and-Action-Plan.pdf>
- ²⁷ <http://www.tfa2020.com>
- ²⁸ IPCC WGIII-AR5. 2014. Summary for policymakers. 33 p. <http://mitigation2014.org>
- ²⁹ eg Lindenmayer, D.B. et al. 2012. Avoiding bio-perversity from carbon sequestration solutions. *Conservation Letters* 5: 28–36.
- Sedjo, R. & Tian, X. 2012. Does Wood Bioenergy Increase Carbon Stocks in Forests? *Journal of Forestry* 110(6): 304–311.
- ³⁰ Hoare, A. 2015. *Tackling Illegal Logging and the Related Trade*. Chatham House Report. 63 p.
- ³¹ FSC. 2014. Global FSC certificates: type and distribution. November 2014; FSC-certified plantation area was 12.6 M ha in February 2012; awaiting data for early 2009.
- ³² PEFC does not report certified area by forest type (correspondence with PEFC Secretariat, August 2015)
- ³³ eg Greenpeace. 2015. <http://m.greenpeace.org/international/en/mid/campaigns/forests/solutions/alternatives-to-forest-destruc/Weaker-Certification-Schemes/>;
- McDermott, C. 2012. *ibid*; Overbeek et al. 2012. *ibid*;
- Poynton, S. 2015. *Beyond Certification*, DoShorts
- ³⁴ eg Cabbage, F. et al. 2010. Impacts of forest management certification in Argentina and Chile. *Forest Policy and Economics* 12: 497–504.
- Tikina, A. & Innes, J. 2014. Certification of industrial forest plantations. In: Borges, J.G. et al (eds) *The management of industrial forest plantations*. Springer. 445-466;
- Tricalotis, M. 2015. Evaluating native and plantation forest certification schemes in Chile: beyond traditional forest governance. Unpublished PhD thesis, Australian National University.
- ³⁵ For a general discussion of IMPF-related investments, see: Cabbage, F. et al. 2014. Global timber investments and trends, 2005-2011. *New Zealand Journal of Forestry Science*, 44(Suppl 1): S7;
- Korhonen, J. et al. 2014. Factors driving investment in planted forests: a comparison between OECD and non-OECD countries. *International Forestry Review* 16: 67–77.
- ³⁶ e.g. Agrawal, A. et al. 2014. Governing agriculture-forest landscapes to achieve climate change mitigation. *Global Environmental Change* 29: 270–280;
- Campbell, B.M. et al. 2014. Sustainable intensification: What is its role in climate smart agriculture? *Current Opinion in Environmental Sustainability* 8: 39–43.
- ³⁷ eg Barr, C.M. & Sayer, J.A. 2012. The political economy of reforestation and forest restoration in Asia–Pacific: Critical issues for REDD. *Biological Conservation*, 154(C): 9–19.
- Pirard, R. & Mayer, J. 2008. Complementary labor opportunities in Indonesian pulpwood plantations with implications for land use. *Agroforestry Systems* 76: 499–511;
- Vermeulen, S. et al. 2012. Climate change, agriculture and food security: a global partnership to link research and action for low-income agricultural producers and consumers. *Current Opinion in Environmental Sustainability* 4: 128–133.
- ³⁸ eg Fischer, J. et al. 2014. Land Sparing Versus Land Sharing: Moving Forward. *Conservation Letters*, 7: 49–157; Paul, C. & Knoke, T. 2015. Between land sharing and land sparing – what role remains for forest management and conservation? *International Forestry Review* 17: 210–230.
- ³⁹ eg eg Holmgren, P. 2014. <http://blog.cifor.org/25318/is-the-landscape-approach-good-for-forests/>;
- Reed, J et al. 2014. What are “Integrated Landscape Approaches” and how effectively have they been implemented in the tropics: a systematic map protocol. *Environmental Evidence* 4(2): 1–7.

Sayer, J. et al. 2013. Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses. *PNAS* 110: 8349–8356.

⁴⁰ <http://www.globalforestwatch.org>

⁴¹ see, eg, <http://news.mongabay.com/2014/11/cargill-to-use-drones-to-monitor-zero-deforestation-commitment/>;

Paneque-Gálvez, J. et al., 2014. Small Drones for Community-Based Forest Monitoring: An Assessment of Their Feasibility and Potential in Tropical Areas. *Forests* 5: 481–1507.

⁴² for biomaterials, see, eg Novotny, M. and Laestadius, S. 2014. Beyond papermaking: technology and market shifts for wood-based biomass industries – management implications for large-scale industries. *Technology Analysis & Strategic Management* 26: 875-891.

Lindström, T. & Aulin, C., 2014. Market and technical challenges and opportunities in the area of innovative new materials and composites based on nanocellulose. *Scandinavian Journal of Forest Research* 29: 345–351.

for biofuels, see, eg: <http://www.upmbiofuels.com>

⁴³ See, amongst others, TFD GM Trees Dialogue. *ibid*;

Sonnino, A. 2015. Current Status of Biotechnology Development and Application in Forestry. International Symposium on Forest Biotechnology for Smallholders, Foz do Iguaçu, Paraná, Brazil, 19 - 22 May 2015. 33 p.

⁴⁴ <http://www.futuragene.com/FuturaGene-eucalyptus-approved-for-commercial-use.pdf>

⁴⁵ <http://globaljusticeecology.org/brazil-ctnbio-meeting-cancelled-futuragene-occupied/>

⁴⁶ See, eg, <http://stopgetrees.org/asuncion-declaration-rejects-ge-trees/>

⁴⁷ It was these concerns which led civil society organization to calls for TFD to initiate a further IMPF dialogue, to ascertain the extent to which IMPF actors were or were not responding to the conclusions and recommendations of the 2008 *TFD Review*.

⁴⁸ The Advisory Group is broadly representative of the diversity of interests in IMPF – see theforestdialogue.org/initiative/intensively-managed-planted-forests-2-impf2

⁴⁹ ANU Human Ethics Protocol 2015/031. services.anu.edu.au/research-support/ethics-integrity

⁵⁰ Kanowski & Dranzen 2015. *ibid*.

⁵¹ See, eg Worldwide Governance Indicators. <http://info.worldbank.org/governance/wgi/index.aspx#reports>;

Korhonen, J. et al. 2014. *ibid*.

⁵² Eg Rayner, J. et al. 2010 (Eds): *Embracing complexity: Meeting the challenges of international forest governance*. IUFRO World Series Volume 28. www.iufro.org

⁵³ <http://www.wbcds.org/work-program/sector-projects/sustainable-forest-products-industry.aspx>

⁵⁴ Tuppura, A. et al. 2015. Forest Certification and ISO 14001: Current State and Motivation in Forest Companies. *Business Strategy and the Environment*. doi: 10.1002/bse.1878

⁵⁵ See, eg, <https://www.asiapulppaper.com/sustainability/vision-2020>;

<http://www.aprilasia.com/en/sustainability/sustainability-policy>

⁵⁶ eg Action Aid et al. 2015. *Secure and equitable land rights in the post-2015 Agenda*. www.oxfam.org/en/research/secure-and-equitable-land-rights-post-2015-agenda-key-issue-future-we-want ;

Forest Peoples Program. 2014. *The Palangka Raya Declaration on Deforestation and the Rights of Indigenous Peoples*.

⁵⁷ eg FAO. 2012. *ibid*

⁵⁸ eg Boulay, A. et al. 2012. Drivers of adoption of eucalypt tree farming by smallholders in Thailand. *Agroforestry Systems* 84: 179–189;

Byron, N. in press *The Acacia Economy of Vietnam*. ACIAR, Canberra;

Sikor, T. 2012. Tree plantations, politics of possession and the absence of land grabs in Vietnam. *Journal of Peasant Studies* 39: 1077–1101;

⁵⁹ eg Byerlee, D. 2014. The Fall and Rise Again of Plantations in Tropical Asia: History Repeated? *Land* 3: 574–597;

Pokorny, B. et al. 2010. Smallholder plantations in the tropics – local people between outgrower schemes and reforestation programs. In: Bauhus, J. et al (Eds.). *Ecosystem Goods and Services from Plantation Forests*. Earthscan. 140-170.

⁶⁰ eg Holmgren, P. 2014. *ibid*;

Reed, J et al. 2014. *ibid*;

Sayer, J. et al. 2013. *ibid*.

⁶¹ eg Diálogo Florestal Brasil. . <http://www.dialogoflorestal.org.br/>

⁶² eg Eckerberg, K. & Sandström, C. 2013. Forest conflicts: A growing research field. *Forest Policy and Economics* 33(C): 3–7;

McDermott. 2012. *ibid*;

Overbeek et al. 2012. *ibid*;

Reyes, R. & Nelson, H. 2014. A tale of two forests: why forests and forest conflicts are both growing in Chile. *International Forestry Review* 16: 379–388.

⁶³ Overbeerk et al. 2012. *ibid.*

⁶⁴ see, eg wrm.org.uy/actions-and-campaigns/tell-the-united-nations-plantations-are-not-forests/;
www.timberwatch.org

⁶⁵ see eg FAO. 2010. *Global forest resources assessment 2010*. FAO, Rome. Chapter 5.

⁶⁶ see Batra, P. & Pirard, R. 2015. *Is a typology for planted forests feasible, or even relevant?* CIFOR Infobrief 121. 8 p.

⁶⁷ McDermott, C. et al. 2010. *Global environmental forest polices*. Earthscan.

⁶⁸ eg Batra & Pirard. *ibid.*

⁶⁹ Szulecka, J. et al. 2014. Paradigms in tropical forest plantations: a critical reflection on historical shifts in plantation approaches. *International Forestry Review* 16: 128–143.

⁷⁰ eg Kishor, N. and Rosenbaum, N.K. 2012. *Assesing and Monitoring Forest Governance: A user's guide to a diagnostic tool*. PROFOR.

⁷¹ As well as other wider critiques: eg Poynton. 2015. *ibid.*

⁷² eg FAO. 2010. *Planted forests in sustainable forest management*. *ibid*

⁷³ Masiero, M. et al. 2015. Standards and guidelines for forest plantation management: A global comparative study. *Forest Policy and Economics*, 53(C): 29–44.

⁷⁴ eg Agrawal, A et al. 2014. *ibid.*

Chavez-Tafur, J. & Zagt, R. (Eds). 2014. *Towards productive landscapes*, Tropenbos International.

Sayer and Maginnis. 2005. *Forests in landscapes*. Earthscan.

Reed et al. 2014. *ibid.*

Sayer et al 2013. *ibid.*

Winters, P. et al. 2015. Voluntary Certification Design Choices Influence Producer Participation, Stakeholder Acceptance, and Environmental Sustainability in Commodity Agriculture Sectors in Tropical Forest Landscapes. *Journal of Sustainable Forestry*, 34: 581–604.

⁷⁵ see, eg, Byerlee. 2014. *ibid.*

International Finance Corporation. 2015. *The Art and Science of Benefit Sharing in the Natural Resource Sector*.

International Finance Corporation, Washington.

Porkony ey al. 2010. *ibid.*